Environment
Construction Method Statement #4

Concrete Production and Delivery (Batch plant)

HEA-CMS-GL-ENV-004-00-02

<table>
<thead>
<tr>
<th>Scope</th>
<th>This Construction Method Statement describes the environmental management measures to be applied to the establishment and operation of concrete batching plants and concrete delivery.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/s</td>
<td>Various sites</td>
</tr>
<tr>
<td>Timing</td>
<td>Pre-construction and construction</td>
</tr>
<tr>
<td>Minister’s COAs</td>
<td>CoA 30</td>
</tr>
</tbody>
</table>
This Construction Method Statement describes the environmental management measures to be applied to the establishment and operation of concrete batching plants and concrete delivery.

\10.10.25.35\Data\HEA\01Environment\01_09_ECMS\04_BatchPlant\WorkingDocuments\HEA-CMS-GL-ENV-004-00-01_BatchPlant.doc

<table>
<thead>
<tr>
<th>Approval</th>
<th>Name</th>
<th>Position</th>
<th>Signed/Approved</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Kristopher Hincks</td>
<td>Senior Environmental Coordinator</td>
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<td></td>
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<td></td>
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<td>Final approval</td>
<td>Peter Chatburn</td>
<td>Alliance Project Manager</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**EMR Certification**

I have reviewed this ECMS and find it to be in accordance with the relevant Conditions of Approval and all relevant undertakings made in the EIS, Representations Report and the approved CEMP.

__________________________
Signed: 
Environmental Management Representative

__________________________
Date: 

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1 Introduction

This Environmental Construction Method Statement (ECMS) documents the requirements for works associated with the pre-construction, construction and post construction considerations of concrete batching plants. This document:

- addresses the requirements of the Minister’s Condition of Approval 30 for the Hunter Expressway project,
- reflects the requirements of the Hunter Expressway Alliance (HEA) environmental management system (as detailed in the Construction Framework Environmental Management Plan),
- incorporates the management measures from the relevant sub-plans and DPI, Fisheries and RMS guidance documents and
- describes the environmental management measures relating specifically to the construction activities and potential environmental issues.

This ECMS has been prepared as a practical environmental management tool for use by all HEA personnel and subcontractors and incorporates the assessment of the environmental and community risks for these works. The specific environmental and community management controls developed and detailed in the ECMS, include the following key information:

- Key site and management personnel - responsibilities and contact details.
- Operating hours.
- Construction details – activities, staging and schedule.
- Objectives and targets – monitoring requirements, criteria and procedures.
- Action tables/plans – inspection and test plans with actions, responsibilities, training, timing, reporting, monitoring/auditing and checklists.
- Site Drawings - Site layout, monitoring locations, erosion controls, noise barriers, discharge points and limits of clearing.

1.1 ECMS overview

The General Construction ECMS 1 will be required for all construction sites.

This activity specific ECMS provides only specific requirements for concrete production and delivery. When constructing and operating concrete batching plants, this ECMS will need to be used in conjunction with ECMS 1: General Construction which will apply for the non-specific requirements for the site.

The Site Supervisor in consultation with the QA Manager will determine which ECMSs are required for each work site. Refer to the overview map contained in ECMS #1 for an overview of all ECMSs.

1.2 ECMS attachments

The ECMS site-specific Environmental Control Plans (ECPs) include site-specific drawings on a cadastral and air photo base with site boundary overlain, general traffic controls and site-specific environmental management action tables. ECPs are to be read/implemented in conjunction with the ECMS document and relevant reference documents and are for day-to-day reference for managing activities on the individual sites. The ECPs have been designed as A3 and/or A1 drawings for attachment to site shed walls.
This ECMS includes the following:

- Attachment A – Environmental Control Plan.
- Attachment C – Batching plant first flush system.
- Attachment D – Environmental Update 12 – Concrete Batch Plant Sites.

Attachment B contains the erosion and sediment control measures and drainage for the two concrete batching plants near the Project Office and the east bound rest area respectively. Each concrete batching plant will require a first flush system flow system as indicated in Attachment C to ensure wastewater is diverted, captured, treated and reused to prevent release to local waterways. The specific control measures for the operation of a concrete batching plant are provided in Attachment D.

### 1.3 Key reference documents to ECMS

The development of this ECMS has been guided by detailed management plans and reports to develop appropriate mitigation measures for managing the environment impacts associated with batching plants. The relevant CEMP sub-plans listed in Table 1.1 and the specific references relevant to batching plants as listed in Table 1.2, will be referred to as needed for specific information for day-to-day worksite activities.

**Table 1.1: Relevant CEMP sub-plans**

<table>
<thead>
<tr>
<th>Issue</th>
<th>Relevant Plan(s)</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise &amp; vibration (incl. blast management)</td>
<td>Construction Noise &amp; Vibration Sub Plan</td>
<td>Provides a comparison of measured background noise levels at sensitive receivers vs. predicted noise impacts, duration of impacts from site works and traffic, physical and site management measures to minimise impacts and compliance monitoring program.</td>
</tr>
<tr>
<td></td>
<td>Construction Noise and Vibration Impact Statement A: Batching Plant and Equipment Compounds (Appendix A) HEA-PL-GL-NVP-001-A</td>
<td></td>
</tr>
<tr>
<td>Flora &amp; Fauna Visual</td>
<td>Flora and Fauna Management Sub Plan (incl Landscape Master Plan)</td>
<td>Provides details of the location of sensitive environment, including EECs and management measures to prevent construction encroachment.</td>
</tr>
<tr>
<td>Soil and water quality</td>
<td>Soil &amp; Water Management Sub Plan</td>
<td>Provides details of the physical and management controls for surface runoff, erosion and sedimentation control, incident response and details of the compliance monitoring program.</td>
</tr>
<tr>
<td></td>
<td>Landscape Management Sub Plan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spoil Management Sub Plan</td>
<td></td>
</tr>
<tr>
<td>Land contamination</td>
<td>Hazard &amp; Risk Management Plan</td>
<td>Provides details of the assessment of contamination.</td>
</tr>
<tr>
<td>Heritage</td>
<td>Aboriginal Cultural Heritage Management Sub Plan</td>
<td>Provides details of the location known and potential of archaeological sites and heritage sites as well as management measures to</td>
</tr>
</tbody>
</table>
### Issue | Relevant Plan(s) | Details
---|---|---
Historical Heritage Management Sub Plan | | prevent damage or destruction.
Air Quality | Construction Air Quality Management Plan | Provides details on the location of sensitive receivers, air quality impacts from construction works and mitigation strategies and measures.
Waste | Waste Management & Re-Use Sub Plan | Provides details on the waste strategies and management measures to maximise reuse, minimise waste generation and ensure lawful disposal where required.

### Table 1.2: Additional relevant references

<table>
<thead>
<tr>
<th>Issue</th>
<th>Relevant Plan(s)</th>
</tr>
</thead>
</table>
- Appendix B: Ecological Assessment of the Proposed Compound Site and Batch Plant, Parsons Brinkerhoff, July 2010.  
- Appendix C: Draft Aboriginal Cultural Heritage and Archaeological Survey and Assessment of the Hunter Expressway Alliance Project Office Compound and Batch Plant, near Buchanan, New South Wales, Umwelt, July 2010.  
Includes specifications for: roadbase, select fill, bedding material and drainage medium |
| Concreting -Best Practice Guideline | Best Practice Guideline for Concreting Contractors, DECCW, Nov 2004 |

As in the development of the CEMP, all relevant RMS Specifications were incorporated in the development of the Environment Construction Method Statements.

Refer to the General Construction ECMS, Table 1.3 for specific work instructions developed for the CEMP and subplans as relevant to construction works and environmental management.
2 Scope of works

This ECMS covers the establishment and operation concrete batching plants for concrete production and delivery as required for the construction of the 13 km expressway project from the Newcastle Link Road interchange with the F3, through to Buchanan.

2.1 Overview of activities

A concrete batching plant is required for the supply of concrete during the construction program. The main concrete batching plant is located at approximate chainage 6800 adjacent to the site office.

A second concrete batching plant is required for pavement construction as part of finishing works. It will be located in the east bound ‘rest area’ at alignment chainage 7400:8000.

The main concrete batching plant has been established within an existing 1.2h cleared area on a site leased from a privately owned rural property used for cattle grazing and poultry. The batching plant site was a former quarry that has been highly disturbed as a result of previous excavations. The site is disused by the landowner and is surrounded by a large patch of remnant vegetation which separates it from the construction compound.

The location for the paving batch plant is on disturbed land used previously by the Alliance to assist in construction of the Expressway. Locating the batch plant on land adjoining the Expressway formation will minimise the need to use main arterial routes and reduce interaction with public road users for the production and placement of necessary concrete material to complete the Hunter Expressway.

Note: the grout batching plant is covered under the Mine Void Drilling and Grouting ECMS #6 (HEA-CMS-GL-ENV-006-00-01).

2.2 Concrete production and delivery

The main concrete batching plant will be near the Project Office in Buchanan as identified in Attachment A. A consistency assessment was prepared for this site which included an assessment against MCoA 129 and additional environmental assessment.

The paving concrete batching plant will be located in the east bound rest area as identified in Attachment A. A consistency assessment was prepared for this site which included an assessment against MCoA 129.
### 2.3 Key elements of the batching plants

The following table provides a general description of the construction activities relevant to the establishment and operation of the two concrete batching plants in the Buchanan area, as per Attachment A.

**Table 2.1: Construction and operation of the main concrete batching plant**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-construction</strong></td>
<td>Main batching plant</td>
</tr>
<tr>
<td></td>
<td>• Survey and fencing of remnant vegetation and cattle fencing</td>
</tr>
<tr>
<td></td>
<td>• Site induction</td>
</tr>
<tr>
<td>Paving batching plant</td>
<td>Main batching plant</td>
</tr>
<tr>
<td></td>
<td>• Survey</td>
</tr>
<tr>
<td></td>
<td>• Site induction</td>
</tr>
<tr>
<td><strong>Site establishment</strong></td>
<td>Main batching plant</td>
</tr>
<tr>
<td></td>
<td>• Installation of fencing around the batching plant site boundary.</td>
</tr>
<tr>
<td></td>
<td>• Minor clearing and grubbing works</td>
</tr>
<tr>
<td></td>
<td>• Installation of sediment controls (including the installation of a waste detention basin in the north western corner of the site).</td>
</tr>
<tr>
<td>Paving batching plant</td>
<td>Main batching plant</td>
</tr>
<tr>
<td></td>
<td>• Installation of sediment controls (including the installation of a waste detention basin in the north western corner of the site).</td>
</tr>
<tr>
<td><strong>Earthworks</strong></td>
<td>Strip topsoil (if present), levelling and grading of site</td>
</tr>
<tr>
<td></td>
<td>Placement of fill and hardstand materials for hardstand areas</td>
</tr>
<tr>
<td><strong>Establishment of batching plant facilities</strong></td>
<td>Assembly of site sheds, offices and establishment of staff car park</td>
</tr>
<tr>
<td></td>
<td>Installation of site facilities and services (electricity, water and communications)</td>
</tr>
<tr>
<td></td>
<td>Power installation will run parallel to the construction access road along 4 poles placed in the road corridor. Power for the paving batching plant will be provided by a portable genset</td>
</tr>
<tr>
<td></td>
<td>Install material conveyors, batching plant silos, hoppers, testing lab, curing shed and car park</td>
</tr>
<tr>
<td></td>
<td>Establish of stockpile areas and truck washdown area</td>
</tr>
<tr>
<td></td>
<td>Establish clean water diversions</td>
</tr>
<tr>
<td></td>
<td>Establish first flush system and wastewater retention basin/system</td>
</tr>
<tr>
<td><strong>Access roads</strong></td>
<td>Main batching plant</td>
</tr>
<tr>
<td></td>
<td>Widening of existing access track from George Booth Drive and to site.</td>
</tr>
<tr>
<td></td>
<td>Access road will be at max. 10m wide and will be spray sealed.</td>
</tr>
</tbody>
</table>
### Activity

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paving batching plant</td>
</tr>
<tr>
<td>• Widening of existing ramp onto the main alignment</td>
</tr>
<tr>
<td>Batching plant operational activities</td>
</tr>
<tr>
<td>• Truck and agitator washdown</td>
</tr>
<tr>
<td>• Dewatering</td>
</tr>
<tr>
<td>• Recycling waste concrete</td>
</tr>
</tbody>
</table>

### 2.4 Batching plant facilities

The main and paving batching plants will be approximately 1.2 and 1 hectares in area respectively and will accommodate the following facilities:

- A concrete batching plant.
- A 400 kw generator.
- A concrete silo.
- Five 15 metre by 15 metre aggregate bins.
- Two storage containers for additives.
- On-site parking for approximately 30 vehicles.
- Sediment pond.

The soil and concrete testing lab and the curing shed will be located at the Project Office site.

### 2.5 Batch plant access

Access to the main batching plant will be from:

1. George Booth Drive to the south via a new construction access road around the perimeter of remnant vegetation.
2. Existing unsealed accesses track which leads to the Project Office and HEA road corridor to the north.

A description of access road widening and measures to minimise impacts from road access and the historic cutting of the Richmond Vale railway corridor is covered in ECMS 3 Site Construction Compound, section 2.4 and in Attachment A.

The paving batching plant will accessed from the main alignment through an existing access track.

### 2.6 Batching plant process

A wet mix mixer plant will be installed consisting of aggregate bins with associated weigh hoppers, conveyors, cement silos, a mixer, and an office (batch hut). Up to five aggregate stockpiles will be established on the ground in proximity to the plant. Each stockpile will cover an area of approximately 15 metres by 15 metres. Aggregates will be stockpiled to a height of approximately 3 metres.

The plant would also include two storage containers, each 6 m x 3 m for concrete additives, including air entraining agent and water reducing agent.

Two water tanks will be located in proximity to the batch plant. A slump testing area, a small storage and laydown (hardstand) and an ablution facility will be at the site. The site will store a self-bunded...
twin skin tank for the storage of diesel and a self-bunded tank for the storage of various oils. The workshop, soil and testing lab will be located at the Project Office site.

On-site parking will be provided for approximately 30 vehicles in the vicinity of the workshop. The batch plant and workshop will be floodlit at night for security reasons. A 1.8 metre high fence will also be erected around the perimeter for security purposes. A septic effluent disposal system will be installed to manage domestic wastewater generated on site.

2.7 Concrete waste solids reuse
Concrete waste solids will be removed routinely from the settlement pits and reused, primarily for roadbase and fill during construction and finishing works. Where concrete solids cannot be reused, excess concrete will be allowed to settle and then disposed of at a licensed waste facility that accepts, ‘General Waste (non-putrescibles)’.

There will be no disposal of concrete wastewater to sewer, soil, waterways or drains. Agitator trucks transporting concrete will be washed out at the concrete batching plant, unless the distance from the concrete batching plant would lead to the impairment of operation of the agitator truck. Where site washout is required of concrete laden equipment, vehicles or machinery, a geotextile lined ditch will be constructed in accordance with the ‘Best Practice Guideline for Concreting Contractors’, DECCW, Nov 2004 (refer Attachment E for an extract of the guideline).

2.8 Water capture, use and reuse
Water saving measures will include:

- Use of a high pressure, low volume nozzle for wash down operations in the truck wash bay.
- Siphoning off water capture in the sediment basin for washdown operations.

2.9 Hours of operation
Normal construction hours apply to the activities included in this ECMS. These hours are:

- Monday to Friday  7:00 am – 6:00 pm
- Saturdays:  8:00 am – 1:00 pm
- Sundays & Public Holidays – no work

The batching plants will be required for the duration of the Stage 2 construction works which is expected to be for approximately 2.5 years.

Out of hours work may be required for a number of project components such as pre-cast beams and large bridge pours. As per the EPL:32965, out of hours work can be undertaken for dust suppression. With the storage and handling of raw materials for concrete production it is likely that dust suppression will be required in high wind conditions at the batching plant. Out of hours work, shall be carried out in accordance with the Project EPL (section 3.2), and the Noise and Vibration Management Plan.

2.10 Site rehabilitation and restoration
The condition of the batching plant sites is currently highly disturbed as a result of previous earthworks. Therefore, the final rehabilitation strategy for the batching plant sites will be negotiated with the land owners. Where possible, the rehabilitation strategy adopted for the sites will seek to improve on the current condition of the area; however, this will depend on the land owner’s plans for this parcel of land.
3 Key roles and responsibilities

Refer to the ‘General Construction ECMS #1 for roles and responsibilities for key personnel.
4 Statutory requirements and approvals

A summary of the key statutory requirements and approvals for the works are detailed in the table below. This is followed by a table with provisions for legislative breaches.

Table 4.1: Legislation and statutory obligations

<table>
<thead>
<tr>
<th>Regulator</th>
<th>Licence/Approval etc</th>
<th>Relevant works</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dept of Planning</td>
<td>MCoA - Comply with Blue Book: <em>Managing Urban Stormwater: Soil and Construction</em></td>
<td>Design and construction of waterway crossing and erosion sediment control structures</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Licence - POEO Act 1997</td>
<td>Discharge from sediment basins</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Impact on waterways</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Noise criteria</td>
</tr>
<tr>
<td>OEH, Dept of Planning</td>
<td>Approval as per MCoA -60</td>
<td>To clear areas that exceeds project limits</td>
</tr>
<tr>
<td>OEH</td>
<td>Licence to harm or pick threatened species, populations or ecological communities or damage habitat</td>
<td>Clearing or disturbed areas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>threatened species, populations, or EEC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Seed and cutting collection</td>
</tr>
<tr>
<td>NSW Heritage Council</td>
<td>NSW Heritage Act 1977: s139 excavation permit</td>
<td>Excavation near a heritage item</td>
</tr>
<tr>
<td></td>
<td></td>
<td>s146 notice of relic discovery</td>
</tr>
<tr>
<td>OEH</td>
<td>National Parks and Wildlife Act 1974: s87 / s90 Aboriginal Heritage Impact Permit</td>
<td>Construction works near an aboriginal sites</td>
</tr>
</tbody>
</table>

Note: Refer also to Table 3.5 in the CEMP for further information on the consultation with external stakeholders.

4.1 Revision of ECMS to reflect licence conditions

The EPA's Environmental Protection Licence:32965 has been incorporated into this ECMS. Up-to-date copies of the licence are available on the web-based document management system Keystone and as a hard copy at the main site compound (held by the Project Environmental Manager).

4.2 ECMS consultation process

Consultation for the project has been undertaken with agencies and stakeholders including:
Consultation has been undertaken with Coal and Allied Pty Ltd (the owner of land affected by the construction access road) and Energy Australia (the easement owner to which the construction access road will traverse). Consent from these stakeholders has been obtained prior to construction of the Structures batch plant on the Holmes property.

The property owner has been consulted regarding the location of the cattle proof fencing and cattle crossing. Further requirements resulting from the consultation process are contained in the ECMS 3, Attachment A, under ‘Landuse and Property’.

The Paving concrete batch plant shall be located within the Project corridor. Ongoing consultation during the works covered under this ECMS will be undertaken with relevant stakeholders where changes to works occur under this ECMS.

Any further updates to the ECMS requires EMR endorsement and a summary of changes and updates will be provided to the public for their information, and a full copy of the ECMS be made available on the internet, following EMR endorsement.

4.3 Minister’s Conditions of Approval

Minister’s Condition of Approval 30 is reproduced in the following table with cross reference to where the condition is addressed in this ECMS or other project management documents.

Table 4.2: Matrix of Minister’s Condition of Approval 30

<table>
<thead>
<tr>
<th>Reference</th>
<th>CoA 30 Requirement</th>
<th>ECMS Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>i</td>
<td>construction activities and processes associated with the relevant construction site(s), including staging and timing of the proposed works;</td>
<td>1. Introduction and 2. Scope of works</td>
</tr>
<tr>
<td>ii</td>
<td>specific hours of operation for all key elements including off-site movements;</td>
<td>2.7 Hours of Operation</td>
</tr>
<tr>
<td>iii</td>
<td>cover specific environmental management objectives and strategies for the environmental system elements and include, but not be limited to:</td>
<td>Environmental Control Plan at Attachment A - will cover relevant issues</td>
</tr>
<tr>
<td></td>
<td>• noise and vibration;</td>
<td>✓ &amp; ECMS#1</td>
</tr>
</tbody>
</table>
### Hunter Expressway Alliance

**ECMS - Concrete Production and Delivery (Batch plant)**

#### Reference

- air quality;
- water quality;
- erosion and sedimentation;
- access and traffic;
- property acquisition and/or adjustments
- heritage and archaeology
- flora and fauna
- groundwater
- acid sulfate soils
- spoil stockpiling and disposal
- waste/resource management
- weed management
- flooding and stormwater control
- geotechnical issues
- visual screening
- landscaping and rehabilitation
- safety, hazards and risk
- energy use
- resource use and recycling
- utilities

#### CoA 30 Requirement

- air quality; ✓ & ECMS#1
- water quality; ✓ & ECMS#1
- erosion and sedimentation; ✓ & ECMS#1
- access and traffic; ECMS#1
- property acquisition and/or adjustments CEMP
- heritage and archaeology ✓ & ECMS#1
- flora and fauna ✓ & ECMS#1
- groundwater CEMP
- acid sulfate soils ECMS for bridge over Wallis Creek
- spoil stockpiling and disposal ✓ & ECMS#1
- waste/resource management ✓ & ECMS#1
- weed management ECMS#1
- flooding and stormwater control ✓ & ECMS#1
- geotechnical issues CEMP
- visual screening CEMP
- landscaping and rehabilitation ✓ & ECMS#1
- safety, hazards and risk CEMP
- energy use CEMP
- resource use and recycling ✓ & ECMS#1
- utilities CEMP

#### IV. Statutory requirements and approvals

- a. Identification of the statutory and other obligations which the Proponent is required to fulfil during project construction, including all approvals and consultations/agreements required from other authorities and stakeholders, and key legislation and policies which control the Proponent’s construction of the project;

- b. Measures to avoid and/or control the occurrence of environmental impacts;

- c. Measures (where practicable and cost effective) to provide positive environmental offsets to unavoidable environmental impacts;

- d. Definition of the role, responsibility, authority, accountability and reporting of personnel relevant to compliance with the CMS;

- e. Site specific environmental management techniques and processes for all construction processes which are important for the quality of the environment in respect of permanent and/or temporary works;

- f. Site specific monitoring, inspection and test plans for all activities and environmental qualities which are important to the environmental management of the project, including performance criteria, tests, and protocols (e.g. frequency and location);
g. locational details of important elements such as temporary noise barriers; portable offices and amenities; truck, plant and materials storage; access locations; provision of site hoardings etc;

h. environmental management instructions for all complex environmental control processes which do not follow common practice or where the absence of such instructions could be potentially detrimental to the environment;

i. steps the Proponent intends to take to ensure that all Plans and Sub Plans are being complied with;

j. consultation requirements with relevant government agencies and utility/service providers; and,

k. community consultation and notification strategy (including local community, businesses, relevant government agencies, and all relevant Councils), and complaint handling procedures.

Specific requirements of the main environmental system elements referred to in (iii) shall be as required under the conditions of this approval and/or as required under any licence or approval. All CMS shall be made publicly available.

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### Table 4.3: Matrix of Minister’s Condition of Approval 129 as applied to the main (Structures) batching plant

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Compliance with the criteria</th>
<th>Compliant</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Be located more than 100 metres from a waterway.</td>
<td>The site is located approximately 350 metres to the west of Surveyors Creek and approximately 580 metres to the south of the farm dam.</td>
<td>Yes</td>
</tr>
<tr>
<td>b) Have ready access to the road network.</td>
<td>The site is readily accessible from George Booth Drive via an existing unsealed access track and a cleared electricity easement. Minor works would be required to be undertaken on George Booth Drive to improve the safety of the proposed access road.</td>
<td>Yes</td>
</tr>
<tr>
<td>c) Do not cause exceedance of the maximum native vegetation clearing limit specified under condition 60 of the Conditions of Approval.</td>
<td>The proposal could result in 0.13 hectares of native vegetation to be cleared from the subject site (i.e. total clearing for the construction compound, batching plant and associated access roads). The clearing of this vegetation would not result in more than 182 hectares of native vegetation to be cleared for the Hunter Expressway project in its entirety.</td>
<td>Yes</td>
</tr>
<tr>
<td>d) Be located on relatively level land.</td>
<td>The site is located on relatively level land that has an average slope of less than 5%. Local variations in the ground level occur throughout the site due to previous earth works; however, these variations in ground level would be levelled out during the site establishment works.</td>
<td>Yes</td>
</tr>
</tbody>
</table>
e) Be separated from the nearest residences by at least 200 metres (or at least 250 metres for a temporary batching plant and stockpiling sites).

The site is located approximately 800 metres from the closest residential receiver.

Compliant: Yes

f) Be above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented.

The site is located above the 20 ARI flood level.

Compliant: Yes

g) Shall not unreasonably affect the land use of adjacent properties.

The closest adjacent property to the batching plant is located directly adjacent to the southern boundary of the site (owned by Coal and Allied). The current land use of this property comprises undeveloped bushland. The batching plant would not impact on the current function of this property.

Land use of adjacent properties located to the north, east and west of the site would not be affected by the batching plant due to the large offset distance between these properties and the site. Similarly, adjacent agricultural land located within the property would not be impacted due to the extent of remnant vegetation that buffers this land use from the site.

Compliant: Yes

h) Provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours.

The site would allow for sufficient storage of raw materials to minimise the number of deliveries required outside standard construction hours.

Compliant: Yes

i) Shall not impact on heritage sites beyond those already impacted by the project.

No Aboriginal or historic heritage items would be impacted by the batching plant.

Compliant: Yes

Table 4.4: Matrix of Minister’s Condition of Approval 129 as applied to the paving batching plant

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Compliance with the criteria</th>
<th>Compliant</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Be located more than 100 metres from a waterway.</td>
<td>Surveyors Creek is more than 500 metres from the proposed site</td>
<td>Yes</td>
</tr>
<tr>
<td>b) Have ready access to the road network.</td>
<td>existing access via George Booth Drive and constructed access is available via HEA Junction no: 4.</td>
<td>Yes</td>
</tr>
<tr>
<td>Criteria</td>
<td>Compliance with the criteria</td>
<td>Compliant</td>
</tr>
<tr>
<td>----------</td>
<td>---------------------------------------------------------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>c)</td>
<td>Do not cause exceedance of the maximum native vegetation clearing limit specified under condition 60 of the Conditions of Approval.</td>
<td>No vegetation clearing would be required for use of the site.</td>
</tr>
<tr>
<td>d)</td>
<td>Be located on relatively level land.</td>
<td>Land previously levelled at commencement of construction activities of the Hunter Expressway.</td>
</tr>
<tr>
<td>e)</td>
<td>Be separated from the nearest residences by at least 200 metres (or at least 250 metres for a temporary batching plant and stockpiling sites).</td>
<td>The nearest residence is more than 1200 metres from the proposed site.</td>
</tr>
<tr>
<td>f)</td>
<td>Be above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented.</td>
<td>Located upslope of the Expressway formation.</td>
</tr>
<tr>
<td>g)</td>
<td>Shall not unreasonably affect the land use of adjacent properties.</td>
<td>Situated entirely within the project footprint.</td>
</tr>
<tr>
<td>h)</td>
<td>Provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours.</td>
<td>The site would allow for sufficient storage of raw materials to minimise the number of deliveries required outside standard construction hours.</td>
</tr>
<tr>
<td>i)</td>
<td>Shall not impact on heritage sites beyond those already impacted by the project.</td>
<td>Site has been previously heavily disturbed, is deemed low risk of encountering Aboriginal heritage items or objects and is located within Project’s Section 90 consent area.</td>
</tr>
</tbody>
</table>
5 Site induction and training
Refer to the General Construction ECMS #1 for induction and training details.

6 Monitoring and inspection
Refer to the Environmental Control Plan, Attachment A for details on monitoring and inspection.

7 Revisions
Revisions to the ECMS will be made as required and changes will be endorsed by the EMR as required.

The current copy of this ECMS is kept at the worksite and at the HEA Project Display Office following EMR endorsement (where they may be viewed on request) and a summary of the update provided to community members for their information via the HEA Project Display Office.

8 Document control
Project document control is detailed in the PMP and project filing and numbering is defined in procedure HEA-MP-GL-OPS-002-00. When the document is reviewed a new revision number is assigned by the Environment Manager.

The current revision of the ECMS will be available and displayed in site offices for ongoing implementation and amendment as conditions or approval change. The documents will be saved in electronic project management system, Keystone.
9 Attachments

Attachment A – Environmental Control Plan.
Attachment B – Progressive Erosion and Sediment Control Plan – main batch plant site
Attachment C – Batching plant first flush system
Attachment D – Environmental Update 12 – Concrete Batch Plant Sites
Attachment E - Environmental best practice for concrete washout
Attachment A

Environmental Control Plan
Attachment B

Progressive Erosion and Sediment Control Plan – Batch Plant
The potential exists for additional controls to be installed or for nominated controls to be modified to better suit site conditions, with approval from Environmental Manager and Soil Conservationist.

The area is placed on a natural high point of the topography; therefore, no clean water diversions are required. The area is slightly depressed and therefore a natural bund occurs, preventing any dirty water running off site. The area will be tiered into two levels to facilitate safe site movements and run off.

Dirty runoff into sediment basin or contamination capture pond will be maximised through trafficable diversion drains.

The potential for all access roads and batch plant floor to be paved will be investigated.

All roads to be constructed will slope away from the adjacent clean water drain. If unplanned, off-shoots (mitre drains) from the road to adjacent grassed area will be constructed to minimise catchment size and control road run-off.

An overflow channel will be constructed between the contamination capture pond and adjacent sediment basin. Water draining from the batching area (located on the upper tier) will be directed to the contamination pond, water from the access road and storage areas will be directed into the sediment basin. All water collected in both will be re-used in concrete batching.

All shown basins will be sized as per Blue Book for inclusion on the Environmental Protection License. All controls will be installed and maintained as per the Blue Book.

Legend:

- Access Road
- Sediment Basin
- Clean Water Drain
- Contamination Capture Pond
- Off-shoots
- Dirty water diversion drain
- Natural drainage direction
All dirty water around the batch plant is directed into the Settling System. This Settling system acts as a first flush system as well (Wedge Pit).

The first flush system works by capturing the dirty water runoff for a 10mm rainfall event (3500 litres).

If the wedge pit overtops water is directed into an overflow cut diversion drain that flows into the sediment pond.

All site water from the storage area will be directed into the sediment pond.

As the batch plant area is situated in a cut, clean water is directed around the site via a large diversion bund.

All shown basins will be sized as per Blue Book for inclusion on the Environmental Protection License. All controls will be installed and maintained as per the Blue Book.
Attachment C

Batching plant first flush system
Notes on First Flush System:
1. All dirty water around the batch plants is directed into the Settling System. This Settling system acts as a first flush system as well.
2. The first flush system works by capturing the dirty water runoff for a 10mm rainfall event (5,600 litres). However, this system has the capability to capture a 55mm rainfall event (31,000 litres) assuming the wedge pit valve is closed and the pit is full and both containers are full but not overflowing. If the wedge pit is not full then the first flush capacity is increased.
3. After the system if "full", the water banks up the inlet channels to the point that it starts to overflow at the bypass point.
4. All clean water falling on the site is diverted around settling tanks and into the Batch Plant Dam.
5. The second settling tank has an additional capacity of...
Attachment D

Environmental Update 12 - Concrete Batch Plant Sites
INTRODUCTION

The Protection of the Environment Operations Act 1997 (POEO Act) sets out requirements for protecting the environment from pollution. The HEA and its contractors therefore have a legal obligation to ensure adequate management of concrete operations and prevent contaminated materials entering waterways.

Thiess currently hold Environmental Protection Licences for the operation of concrete batching plants. These licences shall be available to site staff and kept at the batch plant premises (as well as on the HEA document management system).

The following summary information is applicable to HEA batch plant sites:

SURFACE WATER MANAGEMENT

1. Clean water diversion (bunds or drains) shall be installed to prevent off site water coming onto the batch plant site.

2. A First Flush (rainfall capture) System shall be installed - Refer to First Flush for Batch Plant Layout Sheet (to be displayed at each of the HEA batch plants)

3. A three bay Water Retention System (WRS) shall be provided to catch and control water run-off from the batch plant area. The water shall be reused for batching by pumping out of the most downstream holding tank and back into the batch plant water supply tank. This shall be undertaken after overnight settling has occurred.

4. Capacity to capture (at least) a 10mm rainfall event shall be maintained at all times. Prior to predicted, large rainfall events (e.g. greater than 30mm), additional capacity in the WRS should be provided via increased dewatering to the batching water tank.

5. At no time shall water from the WRS be pumped offsite.
WASTE CONCRETE MANAGEMENT

1. Concrete waste excavated from the wedge pit shall be positioned for drying immediately next to the wedge pit. Once dry it can be transferred to an appropriate storage location (refer to First Flush for Batch Plant Layout Sheet), prior to disposal or re-incorporation into road construction materials.

2. All agitators loaded at the batch plant shall washout directly into the wedge pit.

BASIN MANAGEMENT

1. After a rainfall event, all end of line sediment basins/dams are to be restored to their required capacity within 5 days (see water level marker install at each basin). This should be undertaken via using the water for batching operations, and to fill water carts in the first instance. If the capacity can not be restored via these methods within 3 days, treatment, testing and releasing of the water will be necessary.

Contact Environment Staff prior to releasing water offsite from batching plants.

Figure 3: Water sprinkler systems assist in reducing dust issues

For more information or to report a spill, please contact the Environment Team

<table>
<thead>
<tr>
<th>Name</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracey Doczy (Manager)</td>
<td>0439 300 118</td>
</tr>
<tr>
<td>Erran Woodward (Officer)</td>
<td>0437 343 178</td>
</tr>
<tr>
<td>Chris Cooper (Officer)</td>
<td>0417 464 111</td>
</tr>
<tr>
<td>Adam Noonan (Officer)</td>
<td>0402 825 885</td>
</tr>
</tbody>
</table>
Attachment E

Environmental Best Practice for Concrete Washout
Figure 1  Establishing a concrete wash-down area on-site

- Wash-down area on-site located away from stormwater lines and pits
- Wash-down area clearly signposted
- High pressure, low volume spray nozzle
- Straw bale filter, preferably wrapped with geotextile filter fabric
- Plastic safety cap
- Bales embedded 100 mm into the ground and held in place with star pickets
- Geotextile fabric lined ditch allows soak away