Environment  
Construction Method Statement #7  

F3 Interchange  

HEA-CMS-GL-ENV-007-00-02  

<table>
<thead>
<tr>
<th>Scope</th>
<th>This Environmental Construction Method Statement describes the environmental management measures to be applied to the early works associated with the F3 Interchange. Due to pending approval for design changes along the F3 alignment, the changed locations for the construction compounds and grout batching plant, a future revision of this ECMS will be undertaken to incorporate environmental management measures associated with these works. This ECMS does however provide a general description of all works associated with the F3 Interchange.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/s</td>
<td>F3 Interchange (STA -800 to 400)</td>
</tr>
<tr>
<td>Timing</td>
<td>Pre-construction, construction &amp; post-construction</td>
</tr>
<tr>
<td>Minister’s CoAs</td>
<td>CoA 30</td>
</tr>
</tbody>
</table>
This ECMS covers the early works for the construction of the F3 Interchange. This includes the following activities:

- Site clearing within the approved project boundary for the F3 Interchange
- Widening of existing tracks and construction of new access tracks for site entry for mine void treatment

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:
Table of Contents

1 Introduction ..................................................................................................................................1

1.1 ECMS overview ...................................................................................................................2

1.2 ECMS attachments ..............................................................................................................2

1.3 Key reference documents to ECMS .....................................................................................2

2 Scope of works ............................................................................................................................5

2.1 Overview of all F3 activities .................................................................................................5

2.2 Scope of works relevant to this revision of the ECMS ..........................................................6

2.3 Construction of Site Accesses – Newcastle Link Rd and F3 .................................................6

2.4 Grout batching plant (commencing Feb 2011) ......................................................................7

2.5 Mine void treatment .............................................................................................................7

2.6 Newcastle/Branxton to Sydney on-ramp (commencing Feb 2011) ........................................7

2.7 Bridge Construction (commencing Mar 2011) .....................................................................8

2.8 Newcastle Link Road Upgrade (commencing Feb-Mar 2011) ..............................................9

2.9 Earthworks (commencing in Feb-Mar 2011) .......................................................................9

2.10 Hours of operation ............................................................................................................9

2.11 Out of hours .......................................................................................................................9

2.12 Site Compounds (commencing Feb 2011) ...................................................................... 10

2.13 Site rehabilitation and restoration ................................................................................... 10

3 Key roles and responsibilities .....................................................................................................10

4 Statutory requirements and approvals ........................................................................................11

4.1 Revision of ECMS to reflect licence conditions ................................................................12

4.2 ECMS consultation process .............................................................................................12

4.3 Minister’s Conditions of Approval ...................................................................................12

5 Monitoring and inspection ........................................................................................................14

6 Revisions ..................................................................................................................................14

7 Document control ....................................................................................................................15

8 Attachments .............................................................................................................................15

  Attachment A ..........................................................................................................................1

  Environmental Control Plan ....................................................................................................1

  Attachment B ..........................................................................................................................2

  Indicative Construction Schedule .........................................................................................2
**LIST OF TABLES**

Table 1.1: Relevant CEMP sub-plans .................................................................3
Table 1.2: Additional relevant references ...........................................................4
Table 4.1: Legislation and statutory obligations ................................................11
Table 4.2: Matrix of Minister’s Condition of Approval 30 .................................12
1 Introduction

This Environmental Construction Method Statement (ECMS) outlines all works associated with the pre-construction, construction and post construction considerations of the F3 Interchange. This ECMS provides specific management measures for the early works associated with the F3 Interchange.

As the construction compounds, grout plant and the specific design changes relevant to the F3 areas are subject approval, these aspects of works cannot commence until DECCW approval is awarded and EMR certification of the revision of this ECMS.

This version of the ECMS does however describe all activities in broad terms. This document:

- incorporates the relevant Ministers Conditions of Approval, Aug 2007, the modification, June 2010, and the Environmental Protection Licence (no:13296), July 2010
- 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 Environmental Management Plan),
- incorporates the management measures from the relevant CEMP sub-plans, including the post-planning approval revisions;
- management requirements as outlined in the, Dept of Industry and Investment NSW (formerly NSW Fisheries and DPI), DECCW, and RTA 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 ECMS #1: General Construction will be required for all construction sites. This activity specific ECMS provides specific requirements for the construction of the F3 Interchange.

The F3 ECMS will also need to be used in conjunction with the following:

- ECMS 2: Clearing and Topsoil Management
- ECMS 3: Construction Site Compound
- ECMS 5: Access Tracks
- ECMS 6: Treatment of Mine Voids
- ECMS 8 – Temporary Waterway Crossings

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

Attachment A of this ECMS contains an Environmental Control Plan (ECP). The ECP contains:

- Specific tables with environmental management measures; and a
- Cadastral and air photo base of the F3 with an overlay of site boundary, vehicle routes, flora and fauna, aboriginal and historical heritage and environmental controls.

Attachment B of this ECMS contains the indicative construction schedule.

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.

As detailed drawings are progressed for areas covered within this ECMS, further ESCPs will be developed.

Following approval of the F3 design changes and the subsequent revision of this ECMS, the revised ECMS will include Progressive Erosion and Sediment Control Plans (PESCP) for:

- Grout batching plant
- Construction Compound

1.3 Key reference documents to ECMS

The development of this ECMS has been guided by detailed management plans and reports prepared for the project’s Construction Environmental Management Plan (CEMP). Impacts and mitigation measures from these plans and reports that are relevant to the F3 Interchange works have been incorporated into this ECMS. The relevant CEMP sub-plans listed in Table 1.1 and the specific references relevant to the F3 Interchange works are listed in Table 1.2. The documents will be referred to as needed for specific information for day-to-day worksite activities.
<table>
<thead>
<tr>
<th>Issue</th>
<th>Relevant Plan(s) (note document numbering may change as plans are updated).</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise &amp; vibration (incl. blast management)</td>
<td>Construction Noise &amp; Vibration Sub Plan HEA-PL-GL-NVP-001-00-02&lt;br&gt;Construction Noise and Vibration Impact Statement A: Batching Plant and Equipment Compounds (Appendix A) HEA-PL-GL-NVP-001-A</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.&lt;br&gt;Note: as location of F3 work sites are subject to design change, an additional study is being prepared.</td>
</tr>
<tr>
<td>Flora &amp; Fauna Visual</td>
<td>Flora and Fauna Management Sub Plan (incl Landscape Master Plan) HEA-PL-GL-FFP-001-00</td>
<td>Provides details of the location of sensitive environment, including EECs and management measures to prevent construction encroachment.&lt;br&gt;Note: as location of F3 work sites are subject to design change, an additional study is being prepared.</td>
</tr>
<tr>
<td>Soil and water quality</td>
<td>Soil &amp; Water Management Sub Plan HEA-PL-GL-SWP-00-00&lt;br&gt;Landscape Management Sub Plan HEA-PL-GL-LMP-001-00-02&lt;br&gt;Spoil Management Sub Plan HEA-PL-GL-SHP-001-00</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>Land contamination</td>
<td>Hazard &amp; Risk Management Plan HEA-PL-GL-HRP-001-00</td>
<td>Provides details of the assessment of contamination.</td>
</tr>
<tr>
<td>Heritage</td>
<td>Aboriginal Cultural Heritage Management Sub Plan HEA-PL-GL-IHP-001-00&lt;br&gt;Historical Heritage Management Sub Plan HEA-PL-GL-HHP-001-00</td>
<td>Provides details of the location known and potential of archaeological sites and heritage sites as well as management measures to prevent damage or destruction.&lt;br&gt;Note: as location of F3 work sites are subject to design change, an additional study is being prepared.</td>
</tr>
<tr>
<td>Air Quality</td>
<td>Construction Air Quality Management Plan HEA-PL-GL-AQP-001-00</td>
<td>Provides details on the location of sensitive receivers, air quality impacts from construction works and mitigation strategies and measures.&lt;br&gt;Note: Location of dust deposition gauge is subject to design change.</td>
</tr>
<tr>
<td>Waste</td>
<td>Waste Management &amp; Re-Use Sub Plan HEA-PL-GL-WMP-001-00</td>
<td>Provides details on the waste strategies and management measures to maximise reuse, minimise waste generation and ensure lawful disposal where required.</td>
</tr>
<tr>
<td>Issue</td>
<td>Relevant Plan(s)</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-----------------</td>
<td></td>
</tr>
</tbody>
</table>
| Erosion and Sediment Control & basins | *Managing Urban Stormwater: Soil and Construction*, Volume 1  
| Waterways crossings - legal requirements | *Policy and Guidelines for Fish Friendly Waterway Crossings*. NSW Fisheries, November 2003  
| Classification and required crossing structures | *Policy & Guidelines – Aquatic Habitat Management and Fish Conservation – NSW Fisheries 1999* |
| Consistency Review | Currently two Consistency Review Reports are being developed for the F3 Interchange works and once completed and approved, will be incorporated into this ECMS. |

As in the development of the CEMP, all relevant RTA 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 describes all construction works for the F3 Interchange for the construction of the 13 km expressway project from the Newcastle Link Road interchange with the F3, through to Buchanan.

Additional management requirements associated with the construction compounds, grout batching plant and areas associated with the route design changes, will be incorporated into this ECMS once approved through either the Consistency Review Reports (with DECCW approval) or Risk Assessments (with RTA approval).

Construction of the F3 Interchange will require the following activities:

- All works associated with the preparation and construction of the F3 Interchange from the roundabout at the intersection of Newcastle Link Road with Cameron Park Drive to the western side of the F3 Freeway west of the Minmi Creek crossing.
- All on/off ramps requiring upgrade and/or construction for the purposes of the project.
- Nine bridges – eight new and one upgraded.
- Construction compounds (2-3 compounds).

2.1 Overview of all F3 activities

The F3 area along the Hunter Expressway alignment is illustrated in ECMS 1, Appendix B in the ECMS Overview Map. A detailed map of works at the F3 is provided in this ECMS as Attachment A.

The F3 Interchange is a large component of the HEA project and it is anticipated that construction works will be ongoing at this location for approximately two years. Due to the complexity of this area of the project, the construction of the F3 Interchange will be undertaken in a number of stages, roughly aligned into the following areas of work:

Note: as indicated below some aspects of the works are subject to approval of the design change from the EA and as such will be described in greater detail in the next revision of this ECMS.

1. Construction of temporary site access points on Newcastle Link Road and within the median of the F3.
2. Establishment of grouting batch plant on site (design change from EA).
3. Mine void treatment to stabilise the areas under the bridges (new and existing) at the interchange.
4. Upgrade and construction of the Newcastle/Branxton to Sydney on-ramp to the F3 Freeway. (where Branxton to Sydney ramp merge –this is a design change)
5. Upgrade and construction of the new Sydney to Newcastle/Branxton off-ramp from the F3 Freeway.(design change up to where it meets the main alignment)
6. Bridge Construction.(BW004 –design change, however eastern abutment and the interchange Branxton to Sydney ramp expected to be within the existing footprint)
7. Widening and upgrade of Newcastle Link Road between the F3 and existing roundabout. (some of the footprint has change, however western end unchanged)
8. Construction of new mainline roadway from the F3 to just west of Minmi Creek.(bridges changed and ramp location over Minmi Creek have changed)
Permanent sediment control basins will be installed prior to commencement of topsoil stripping and as part of the earthworks phase. Temporary erosion and sedimentation controls shall be installed prior to construction when permanent measures cannot be installed. Each of the work areas are described in more detail below.

Note: This ECMS does not include mine void treatment required in the vicinity of the F3 Interchange or the associated grout batch plant and facilities. For details concerning mine void treatment and the batch plant, refer to ECMS 6 – Mine Void Drilling and Grouting (HEA-CMS-GL-ENV-006-01-00 or updated version).

2.2 Scope of works relevant to this revision of the ECMS

This revision of the ECMS covers the early works required to commence in January 2011. They include the following activities:

- Site clearing within the approved project boundary for the F3 Interchange
- Widening of existing tracks and construction of new access tracks for site entry for mine void treatment

2.3 Construction of Site Accesses – Newcastle Link Rd and F3

(commencing Jan 2011)

Two main site access points will be constructed to allow access to the work areas – one within the F3 median itself and one on Newcastle Link Road. The works associated with the F3 median are subject to a risk assessment and thus RTA approval will be sought prior to commencement.

The F3 median access involves the construction of temporary deceleration and acceleration lanes within the F3 median, plus the installation of temporary concrete barriers on the shoulder of the F3 to protect workers during construction of the bridge piers and the mine void filling works. Construction of the temporary deceleration and acceleration lanes and installation of barriers has to be undertaken at night during lane closures of the F3 itself. It is an RTA requirement for this project that lane closures on the F3 not be effected during daylight hours, hence the construction works are required to take place at night.

This work will include typical road construction activities, such as traffic control, excavation, pavement construction and mobile cranes to place the concrete barriers. Night works also require the use of lighting plants for work area lighting. Once the site access to the F3 median is complete, all construction works (and mine void filling works) within the median can be done during normal daylight working hours.

The site access on Newcastle Link Road (including the existing Sydney-Newcastle off ramp) will provide long term safe access to the construction site to the west of the F3. This involves re-aligning traffic, temporary asphalt, installation of temporary concrete barriers, revised line marking, saw cutting and/or milling the existing asphalt and demolition of part of the existing median barrier on the existing bridge and Newcastle Link Road.

As most of the work on Newcastle Link Road will be in very close proximity to live traffic, the majority of the access point construction work will be at night time under lane closures. Night works also require the use of lighting plants for work area lighting. Once the access point has been constructed, it will allow safe access to all works to the west of the F3 during normal daylight working hours.
This work area is located within the existing footprint and is approximately 1km from the nearest residence. See section 2.11 for out of hours works and the Environmental Control Plan, Attachment A for the notification and management measures.

2.4 Grout batching plant (commencing Feb 2011)

A grout batching plant and associated sheds and amenities is required for the supply of grout for mine void stabilisation works. The grout batching plant will be located on the eastern side of the Newcastle to Sydney on ramp as shown in Attachment A. The location is contained within an area already assessed for the project however some clearing will be required. A design refinement consistency assessment has been prepared to ensure the requirements of MCoA 129 are met.

The general requirements for the grout batching plant and associated controls are covered in ECMS #6 - Mine Void Drilling and Grouting (HEA-CMS-GL-ENV-006-00-01). An access will be required to access the grout plant by construction vehicles. The access will utilise existing an existing property access within the adjacent Cameron Park Industrial Estate via Stenhouse Drive. The Local Authority has advised that they have no objection to this access and the use of Stenhouse Drive within the industrial estate as an access point to the grout plant area. The power line easement through this area will also be utilised as a parking area for the F3 Interchange construction workforce to minimise clearing in the area. The car parking area has been assessed in the Consistency Review Report currently being prepared for the grout batching plant.

As the grout batching plant is subject to the approval of the Consistency Review Report, approval regarding out of hours works will also be sought as part of this submission.

2.5 Mine void treatment

The mine void drilling and grouting required around the F3 Interchange is covered under ECMS 6 – Mine Void Drilling and Grouting (HEA-CMS-GL-ENV-006-00-01) which will be updated to include the works in this location.

2.6 Newcastle/Branxton to Sydney on-ramp (commencing Feb 2011)

The existing Newcastle-Sydney onramp will need to be rebuilt and a new section added to take traffic from Branxton to Sydney. During this construction work, the existing ramp will be closed and all traffic will be diverted via Cameron Park Drive to the onramp at George Booth Drive. The existing ramp will be closed for around 6 months while the new ramp is being built, after which the new ramp will be opened to the public.

Works include significant excavation (for the Branxton-Sydney section) and embankment construction as the level of the existing ramp has to be raised to suit the new road alignment. As the existing ramp will be closed to traffic, the majority of the works will be constructed during normal daylight working hours. Installation of concrete barriers, line marking, sign installation and other activities associated with the traffic switches will need to be conducted at night.

As the new road alignment is over the current ramp but is actually cut into the existing ramp, the new road alignment requires this ramp to be closed for around 9 months and Sydney-Newcastle traffic diverted off at George Booth Drive. Detours will be implemented in consultation with the RTA and local council. Prior to this, the two bridges over the F3 Freeway and the new cut and cover tunnel (bridge 5) under the new main alignment will be constructed and the pavement to those bridges completed.
All new construction works on the new ramp will be done off line and during normal working hours. Installation of concrete barriers, line marking, sign installation and other activities associated with the traffic switches will need to be conducted at night. This work is not expected to generate any audible noise at the nearest sensitive receivers.

2.7 Bridge Construction (commencing Mar 2011)

Works at the F3 Interchange will require the construction of eight (8) new bridges and upgrading the existing bridge over the F3. Four are concrete girder bridges, Bridge 4 and Bridge 6 are steel girder bridges (depending on design development) and Bridge 5 will be a cut and cover underpass under the future main alignment of the Hunter Expressway with precast bridge planks forming the roof of the underpass.

Piling is required for each of the bridges at the F3 Interchange. All piling is bored piling and ranges in size from 0.75m diameter up to 2.5m diameter. Central piers and headstocks will be constructed within the F3 median for bridges 2, 3 and 4. Bridge 4 has two additional piers, one near the F3 northbound shoulder and the other near the eastern abutment of the existing NLR bridge. The other bridges are all single span bridges with either standard concrete abutments or reinforced earth wall abutments.

Note that most concrete will be made on site at the project’s structural concrete batching plant (adjacent to the main project office compound), delivered in concrete agitators and will be placed using the normal methods (concrete vibrators, concrete pumps and so on). Some concrete placement will be required at night during road closures, particularly for the bridges over the F3 (bridges 1, 2, 3 & 4). As some components of bridge construction are subject to the approval of the Consistency Review Report, approval regarding out of hours works will also be sought as part of this submission.

Girders will be manufactured off site and will need to be transported to the site and then lifted into place with cranes ranging in size from 200t hydraulic cranes potentially up to a 750t crawler crane. Transport of the bridge girders will be at night under specific transport permits, as the girders range from around 12m through to 50m in length. The longer girders will be transported individually due to their length and weight and will be transported to site at night due to the traffic permit restrictions. Steel girders will be up to 50m long, up to 3.2m wide and weigh up to 100t each. There will be around 16 deliveries of steel girders to site. The majority of the concrete girders will be around 35-38m long, up to 2.7m wide and weigh up to around 80t. There will be around 14 concrete girders delivered. Bridges 4 and 6 also require a precast slab system to be lifted into place once the main bridge girders have been erected.

Girders, precast slabs, precast barriers and anti-throw screens for Bridges 2, 3 and 4 will need to be placed out of hours as the F3 Freeway will need to be partially closed to traffic during this work. One carriageway (side) of the Freeway will be closed at a time with traffic diverted to the other side via the centre median cross-over points. Once the girders have been lifted into place, decking and drainage will be installed followed by erection of safety screens and barriers.

The remaining bridges can be constructed away from traffic and will all be done during normal daylight working hours.

The bridges over Minmi Creek all have piled abutments with reinforced earth walls and are all single span bridges. Exclusion zones, which are ‘male only sites’ due to aboriginal heritage significance, apply around the Minmi Creek area and are marked on the ECP in Appendix A. All works around the Minmi Creek area will be managed to avoid impacts on the grinding grooves, stone arrangements and the weirs within the creek exclusion area.
Due to the exclusion zones, all construction work will be done outside the exclusion zones except where agreed for specific activities by the Awabakal Local Aboriginal Land Council (ALALC). The tops of some of the trees within the Minmi Creek exclusion area will have to be trimmed where the bridge will be, so specific methods and access for this work will be agreed with the ALALC.

2.8 Newcastle Link Road Upgrade (commencing Feb-Mar 2011)

Newcastle Link Road (NLR) will be widened, re-aligned and most of the existing pavements re-constructed to take the traffic for the new Hunter Expressway. Works will include significant traffic staging, connecting to and extending existing drainage lines under NLR, construction of new pavements both off-line from traffic (behind temporary concrete barriers), pavement construction at night under lane closures, installation of concrete barriers and signage for traffic switches at night and general earthworks activities (excavation and compaction).

The Traffic staging will affect both directions along NLR from the existing roundabout all the way to the F3. The existing drainage lines will need to be extended or re-laid, which will require saw cutting the existing pavements to access the pipes. Along the northern edge of NLR between the existing Beresfield-Newcastle ramp and the existing roundabout, the road pavement will be rehabilitated – the old pavement will be milled and the pavement will be built up with new material and resurfaced. See section 2.11 for details on out of hours works.

2.9 Earthworks (commencing in Feb-Mar 2011)

There are a number of large earthworks operations associated with the on and off ramps and bridge abutments, including:

- 120,000 cubic metres of cut for the Sydney to Newcastle/Branxton off ramp
- 90,000 cubic metres of cut for the Sydney to Newcastle off ramp
- 20,000 cubic metres of cut for the Newcastle Link Road
- 30,000 cubic metres of cut for the Branxton to Sydney on-ramp to the F3 Freeway
- 100,000 cubic metres of fill and reinforced earth backfill materials around the bridge abutments (primarily near Minmi Creek), a large quantity of which will be imported

All erosion and sediment control for earthworks activities will be managed in accordance with the relevant sub-plans identified in Table 1.1. A combination of temporary and permanent control measures (such as permanent sediment basins) will be used during construction.

2.10 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

2.11 Out of hours

Out of hours work will be required for a number of project components such as lifting in the girders for the bridges over the F3 Freeway, pavement construction works or other works where working in close proximity to live traffic. Where working in close proximity to traffic, activities are typically only
permitted at night when traffic levels are low. A number of activities are approved out of hours based on the assessment in the NVMSP (July 2010), Appendix A and the description of the activities in section 7.3 & 7.4. These activities are:

- Concrete paving
- Asphalting, Traffic Control, Signage, Line Marking (for Traffic switches)
- Saw cutting of concrete pavements
- Concrete batching plant and grout batching plant production
- Material delivery for concrete and grout batching plant production

Impacts on the nearest sensitive receivers for the F3 are located at Seahampton. Appendix A of the NVMSP assessed the noise impacts for the construction of:

- Main bridges and intersection; and
- Main carriageway

The maximum anticipated noise exceedance for evening and nighttime works is 4 dBA, based on the nearest receiver at 580m from F3 HEA works.

Due to the F3 design changes and therefore the revised location of work sites, further assessment of impact at the nearest sensitive receivers will be determined as part of the Consistency Review Report. Any noise generating activities not assessed as part of the NVMSP, and not permissible under the EPL s3.2 will require assessment to determine whether audible at the nearest sensitive receiver during evening and night time operations. When exceedances are anticipated, a written approval will be sought from DECCW prior to commencement of out of hours works.

2.12 Site Compounds (commencing Feb 2011)

A small site compound will be located adjacent to the grout batch plant, which will include meal rooms, change and toilet facilities to accommodate between 30-60 staff. An assessment against the MCoA 129 will be incorporated into Consistency Design Review.

A small construction compound will also be located to the west of the F3. This will include meal rooms, change and toilet facilities for workers in that area. This compound will be located within the footprint of the new road and will be relocated as required to fit in with the construction sequence without requiring additional clearing. An assessment against the MCoA has been undertaken for the Consistency Review Report, and will be incorporated into the revised ECMS.

An additional construction compound may also require for median works of the F3 for a maximum of 20 people. An assessment against the MCoA will be undertaken, and incorporated into the revised ECMS when necessity is confirmed.

2.13 Site rehabilitation and restoration

Rehabilitation for the grout batching plant site and any compound site(s) will be undertaken on completion of works. Where possible, the rehabilitation strategy adopted for the site will seek to improve on the current condition of the area; however, this will depend on future use of the 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>NSW Dept of Industry and Investment</td>
<td>As a Part 3A project, rather than permit requirements, approval is required for the following:</td>
<td>Dredging, reclamation or blockage of creek flows (this includes placing of silt fences in creeks) (Note: RTA must notify Minister for Primary Industries under Part 7 (div 3) the Fisheries Management Act 1994)</td>
</tr>
<tr>
<td></td>
<td>• Dredging or reclamation (s.201) • Blockage of fish passage(s.219)</td>
<td></td>
</tr>
<tr>
<td>NSW Dept of Industry and Investment</td>
<td>MCoA -Consultation</td>
<td>Construction of temporary platforms for piles and pier construction in creeks</td>
</tr>
<tr>
<td>NSW Dept of Industry and Investment</td>
<td>MCoA -Consultation</td>
<td>Design and timing of bridge construction</td>
</tr>
<tr>
<td>NSW Dept of Industry and Investment, Dept of Planning</td>
<td>MCoA -Approval</td>
<td>Earthen platforms or placing of fill in creeks</td>
</tr>
<tr>
<td>Dept of Planning</td>
<td>MCoA -Comply with Blue Book: Managing Urban Stormwater: Soil and Construction</td>
<td>Design and construction of waterway crossing and erosion sediment control structures</td>
</tr>
<tr>
<td>DECCW</td>
<td>Environmental Protection Licence - POEO Act 1997</td>
<td>Discharge from sediment basins Impact on waterways Noise criteria</td>
</tr>
<tr>
<td>DECCW, Dept of Planning</td>
<td>Approval as per MCoA -60</td>
<td>To clear areas that exceed project limits</td>
</tr>
<tr>
<td>DECCW</td>
<td>Licence to harm or pick threatened species, populations or ecological communities or damage habitat</td>
<td>Clearing or disturbed areas threatened species, populations, or EEC Seed and cutting collection</td>
</tr>
<tr>
<td>NSW Heritage Council</td>
<td>NSW Heritage Act 1977: s139 excavation permit s146 notice of relic discovery</td>
<td>Excavation near a heritage item</td>
</tr>
</tbody>
</table>
Regulator | Licence/Approval etc | Relevant works
--- | --- | ---
DECCW | National Parks and Wildlife Act 1974: s87 / s90 Aboriginal Heritage Impact Permit | Construction works near an aboriginal sites

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

Relevant details of the HEA Environmental Protection Licence:13296 have been incorporated into the ECP of this ECMS. Up-to-date copies of this licence will be made available to all site personnel.

### 4.2 ECMS consultation process

Consultation for the project has been undertaken with agencies and stakeholders including:

- Department of Planning
- DECCW
- Lake Macquarie City Council
- Industries and Investment NSW
- Utility providers
- Local Aboriginal Land Councils

Consultation has been undertaken with Department of Industries and Investment NSW, regarding design and timing of bridge construction over Minmi Creek.

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>
<thead>
<tr>
<th>Reference</th>
<th>MCoA 30 Requirement</th>
<th>ECMS Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Proponent shall prepare Construction Method Statements (CMS) identified in the CEMP required by Condition 24. CMSs must be certified by the EMR as being in accordance with the Conditions of Approval and all undertakings made in the EIS, Representations Report and the Approved CEMP.</td>
<td>Page 2</td>
<td></td>
</tr>
<tr>
<td>Each CMS shall include, but not be limited to:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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The Proponent shall prepare Construction Method Statements (CMS) identified in the CEMP required by Condition 24. CMSs must be certified by the EMR as being in accordance with the Conditions of Approval and all undertakings made in the EIS, Representations Report and the Approved CEMP.
## Reference

<table>
<thead>
<tr>
<th>MCoA 30 Requirement</th>
<th>ECMS Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>i construction activities and processes associated with the relevant construction</td>
<td>Section 2. Scope of works &amp; Attach. B.</td>
</tr>
<tr>
<td>site(s), including staging and timing of the proposed works;</td>
<td></td>
</tr>
<tr>
<td>ii specific hours of operation for all key elements including off-site movements;</td>
<td>Section 2 Scope of Works Section 2.11 Out of Hours</td>
</tr>
<tr>
<td>iii cover specific environmental management objectives and strategies for the</td>
<td>Environmental Control Plan at Attachment A - will cover relevant issues</td>
</tr>
<tr>
<td>environmental system elements and include, but not be limited to:</td>
<td></td>
</tr>
<tr>
<td>• noise and vibration;</td>
<td>Attach A-ECP &amp; ECMS#1</td>
</tr>
<tr>
<td>• air quality;</td>
<td>ECP &amp; ECMS#1</td>
</tr>
<tr>
<td>• water quality;</td>
<td>ECP &amp; ECMS#1</td>
</tr>
<tr>
<td>• erosion and sedimentation;</td>
<td>ECP &amp; ECMS#1</td>
</tr>
<tr>
<td>• access and traffic;</td>
<td>ECP &amp; ECMS#1</td>
</tr>
<tr>
<td>• property acquisition and/or adjustments</td>
<td>CEMP</td>
</tr>
<tr>
<td>• heritage and archaeology</td>
<td>ECP &amp; ECMS#1</td>
</tr>
<tr>
<td>• flora and fauna</td>
<td>ECP &amp; ECMS#1</td>
</tr>
<tr>
<td>• groundwater</td>
<td>CEMP</td>
</tr>
<tr>
<td>• acid sulfate soils</td>
<td>ECMS for bridge over Wallis Creek</td>
</tr>
<tr>
<td>• spoil stockpiling and disposal</td>
<td>ECP &amp; ECMS#1</td>
</tr>
<tr>
<td>• waste/resource management</td>
<td>ECP &amp; ECMS#1</td>
</tr>
<tr>
<td>• weed management</td>
<td>ECP &amp; ECMS#1</td>
</tr>
<tr>
<td>• flooding and stormwater control</td>
<td>ECP &amp; ECMS#1</td>
</tr>
<tr>
<td>• geotechnical issues</td>
<td>CEMP</td>
</tr>
<tr>
<td>• visual screening</td>
<td>CEMP</td>
</tr>
<tr>
<td>• landscaping and rehabilitation</td>
<td>ECP &amp; ECMS#1</td>
</tr>
<tr>
<td>• safety, hazards and risk</td>
<td>ECP &amp; CEMP</td>
</tr>
<tr>
<td>• energy use</td>
<td>CEMP</td>
</tr>
<tr>
<td>• resource use and recycling</td>
<td>ECP &amp; ECMS#1</td>
</tr>
<tr>
<td>• utilities</td>
<td>CEMP</td>
</tr>
<tr>
<td>iv address, but not be limited to:</td>
<td></td>
</tr>
<tr>
<td>a. identification of the statutory and other obligations which the Proponent is</td>
<td>Section 4. Statutory requirements and approvals</td>
</tr>
<tr>
<td>required to fulfil during project construction, including all approvals and</td>
<td></td>
</tr>
<tr>
<td>consultations/agreements required from other authorities and stakeholders,</td>
<td></td>
</tr>
<tr>
<td>and key legislation and policies which control the Proponent's construction of</td>
<td></td>
</tr>
<tr>
<td>the project;</td>
<td></td>
</tr>
<tr>
<td>b. measures to avoid and/or control the occurrence of environmental impacts;</td>
<td>Environmental Control Plan - Attachment A</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference</td>
<td>MCoA 30 Requirement</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>c.</td>
<td>measures (where practicable and cost effective) to provide positive environmental offsets to unavoidable environmental impacts; The key environmental offsets related to the worksite will be realised during the post construction rehabilitation.</td>
</tr>
<tr>
<td>d.</td>
<td>definition of the role, responsibility, authority, accountability and reporting of personnel relevant to compliance with the CMS;</td>
</tr>
<tr>
<td>e.</td>
<td>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;</td>
</tr>
<tr>
<td>f.</td>
<td>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 (eg. frequency and location);</td>
</tr>
<tr>
<td>g.</td>
<td>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;</td>
</tr>
<tr>
<td>h.</td>
<td>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;</td>
</tr>
<tr>
<td>i.</td>
<td>steps the Proponent intends to take to ensure that all Plans and Sub Plans are being complied with;</td>
</tr>
<tr>
<td>j.</td>
<td>consultation requirements with relevant government agencies and utility/service providers; and,</td>
</tr>
<tr>
<td>k.</td>
<td>community consultation and notification strategy (including local community, businesses, relevant government agencies, and all relevant Councils), and complaint handling procedures.</td>
</tr>
<tr>
<td></td>
<td>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</td>
</tr>
</tbody>
</table>

5 Monitoring and inspection

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

6 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.
7 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 the electronic project management system, *Keystone*.

8 Attachments

Attachment A – Environmental Control Plan

Attachment B – Indicative Construction Schedule
Attachment A

Environmental Control Plan
Attachment B

Indicative Construction Schedule