



Hume Highway Southern Alliance Knox Road Site Compound

ENVIRONMENTAL MANAGEMENT PLAN

- IN90304-000-PL-EW-0015-D
- March 2008

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HUME HIGHWAY SOUTHERN ALLIANCE

PO Box 5126 MSMSC
LAVINGTON NSW 2708

100 Christie Street,
St Leonards, NSW



A Team consisting of RTA, Abigroup and SKM
to duplicate the Hume Highway from Woomargama to Table Top

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Electronic	A/Construction Manager	October 2007	Courtney Hoops
Electronic	Environment & Sustainability Manager	October 2007	Jo Moss
Electronic	Environmental Construction Manager	October 2007	John Turville
Electronic	RTA	October 2007	Michial Sutherland per Brooke Rzeszkowski
Electronic	EMR	October 2007	Toby Hobbs
Electronic	Environmental Compliance Manager	October 2007	Claire O 'Keefe

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1. Introduction

1.1 Background to the project

This Environmental Management Plan for the site compound at Knox Road provides a system and procedures to ensure that the Southern Alliance establishes and maintains best practice controls to manage potential environmental impacts during the duration of the construction of the compound and the ongoing operation of the site.

The Southern Alliance is committed to providing the services it offers in a manner that conforms to the contractual requirements and to all relevant regulatory and legislative requirements. To achieve this, the Southern Alliance will plan, implement and control an integrated management system that facilitates the management of the environmental aspects of the site compound

1.2 Purpose and Scope

This Environmental Management Plan (EMP) establishes the environmental management procedures and controls to be followed by all personnel involved in the construction and ongoing operation of the Knox Road site compound. Relevant control measures, compliance requirements and management measures have been included.

This EMP has been developed by the Hume Highway Southern Alliance (HHSA). Compliance with the requirements of this plan, and any required amendments is the responsibility of the HHSA.

It is important to note that this EMP needs to relate to practices, protocols and procedures contained within the Construction Framework EMP (CFEMP) prepared for the HHSA in managing and minimising environmental impacts associated with the construction of the proposed alignment.

1.3 Structure of the EMP

The EMP has been developed in accordance with the requirements of *NSW Government Environmental Management Systems Guidelines – November 1998*. The structure is as follows

Section 1	Introduction
Section 2	Description of the site and the proposed activities
Section 3	Roles and Responsibilities
Section 4	Monitoring, Inspection, Auditing & Reporting
Section 5	Training
Section 6	Incident Management & Complaints
Section 7	Site Specific Environmental Aspects, Impacts & Controls
Section 8	Environmental Control Plans

This EMP is considered a dynamic document and will be reviewed by the HHSa when necessary to reflect changes in the projects and outcomes of the site audit. As such, the EMP has been designed to be amended at any time and reflects the mitigation measures and practices outlined in the Review of Environmental Factors titled Establishment and Operation of Site Compound – Hume Highway (HW2), Mullengandra approved by the RTA.

Any revisions will be approved by the HHSa Environment and Sustainability Manager, and recorded on the Document Status and History section at the beginning of this document.

2. Site Description & Activities

2.1 Location

The site compound is located within the Table Top to Woomargama Hume Highway Duplication Project, located between the proposed Woomargama Bypass section of the Hume Highway to the north, and the connecting section of recently constructed Albury –Wodonga Hume Highway bypass to the south. The site is located at Knox Road on the North Western side of the existing Highway. The Compound is required for the duplication and upgrade of the Hume Highway.

The site is approximately 2.85 ha in area and the majority of the site is situated on relatively level ground. The nearest residents to the site compound are located approximately 350 m away. Access to the site will be from the existing Hume Highway via Knox Road with access from both the north and south bound lanes.



Figure 2.1: Location of proposed compound (orange circle)

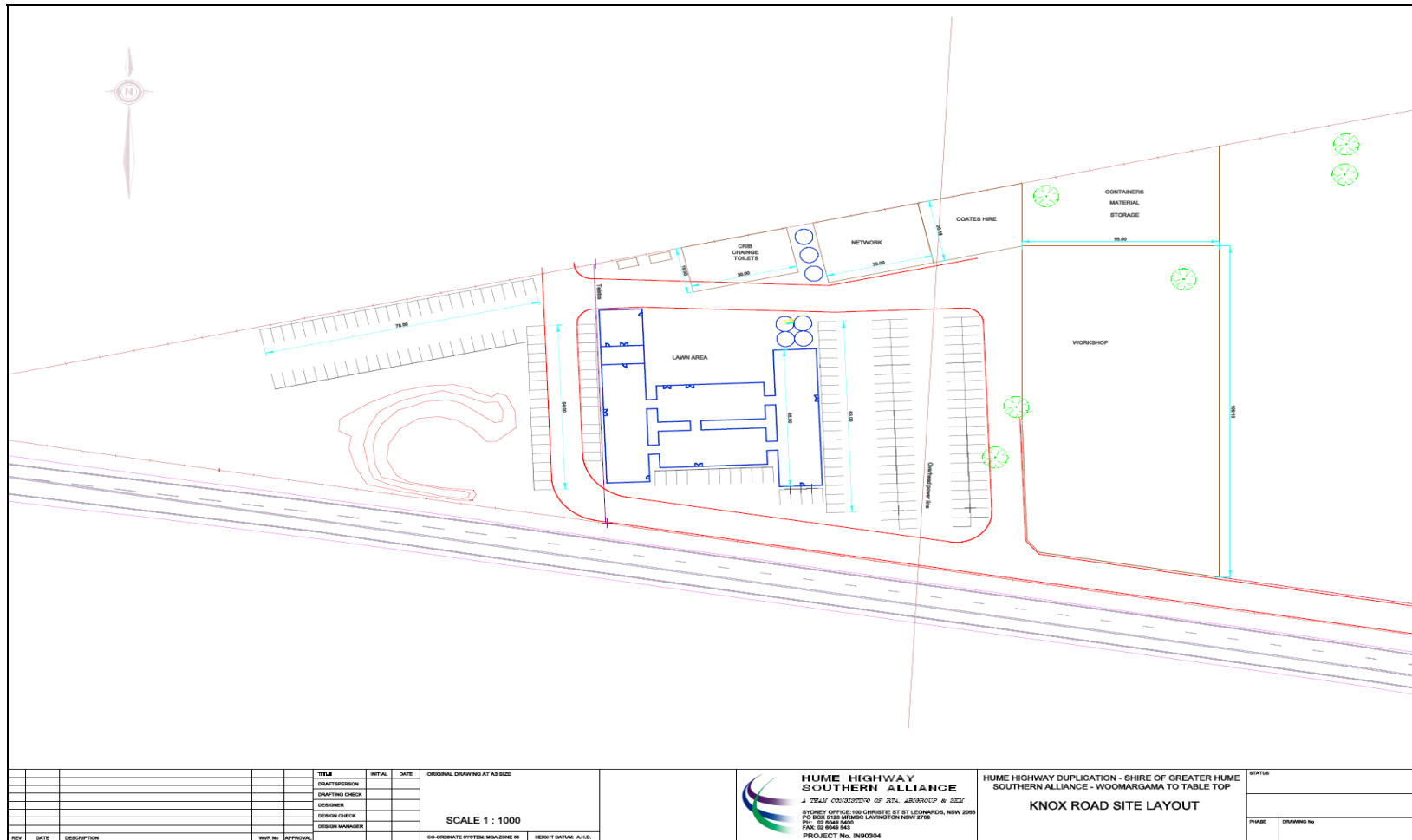


Figure 2.2: Knox Road site layout

2.2 Activities

The activities covered by this EMP can be divided into the following stages:

- Stage 1 Establishment of site – fencing, access, utility installations incl. water;
- Stage 2 Clearing and levelling of the site
- Stage 3 Establishment of site offices, site workshop and related facilities (related facilities include car parking areas, storage areas, recreational areas, ablution areas, etc.)
- Stage 4 Ongoing site operation and maintenance
- Stage 5 Decommissioning and rehabilitation of the site upon completion of the project.

This site compound would provide full site services, including:

- An office and meeting sheds for site personnel;
- Amenity shed and first aid facilities;
- Steel storage containers for light equipment and tools;
- A site workshop;
- Curing compound (resin yard);
- Community display centre;
- A small plant compound;
- Materials and fuel storage areas; and
- Parking areas for construction personnel vehicles.

Additional likely uses of the site include:

- stockpiling small amounts of road construction materials such as road base or topsoil; and
- an area dedicated for use as a vehicle washdown area. In this regard, it is noted that no concrete batching or crushing or grinding activities would occur at this site.

These facilities would require connection to electricity, optic fibre and water supply. Fencing, with security points to control access, would enclose the site compound.

Establishment of the site compound would entail the following activities:

- Removal of the grassed vegetation and minor levelling of the site;
- Placement of appropriate erosion and sedimentation control measures;

- Placement and compaction of a gravel base;
- Bitumen sealing of high use areas (roads and carparks);
- Erection of perimeter fencing;
- Placing of temporary work / amenity sheds;
- Connection of sheds to electricity and communications networks;
- Establishment of sewerage treatment facilities; and
- Construction of a sealed and bunded area to locate a small refuelling area.

2.3 Sustainability

Ecologically sustainable development (ESD) has been targeted as a specific objective for the design, construction and operation of the site compound with particular attention focusing on sustainable water use within the site compound and the design and construction of the site compound.

2.3.1 Sustainable Water Use

The Hume Highway Southern Alliance realises the scarcity of water resources within the South Western slopes of NSW and is aiming to achieve best practice management in terms of sustainable water use within the site compound. The following initiatives have been initiated and are proposed to be implemented so that (providing there is sufficient rainfall) the HHSA does not intend to draw on town water supplies for regular water use (except in an emergency);

- Four water tanks (@ 25,000lts each) are to be installed for potable water supply (any overflows of water will drain off site);
- Sewage system will be installed that is fed using all “greywater” produced on site and the waste water derived from the sewage system is used for dust suppression and reuse purposes such as on-site irrigation; and
- Run-off from the site into existing dam/ sedimentation pond could be reused for dust suppression.

Essentially all water collected and used on site will be reused so that no water will be wasted.

2.3.2 Sustainable Design for Site Compound

The site compound has incorporated passive solar principles and other ESD inclusions into the design of the compound. These include:

- Building orientation – the positioning of the buildings on site will orientate in a northerly direction to capture solar gains through the winter and to minimise east/ west sun entering the building during the summer period;
- Blinds and awnings (where practicable) are to be fitted to all windows;
- Lighting – T5 lighting fixtures will be installed that will allow for an energy saving of @ 35%, providing greater luminous efficacy, a 12,000 hour life, less maintenance costs and less units needed to be installed;

- Air-conditioning – Mitsubishi inverter multi-split system air-conditioners will be installed within the office building as opposed to individual air-conditioning units, thus significantly reducing energy consumption;
- The main kitchen and landscaped outdoor area have been created to give staff a dedicated area to socialise, take meal breaks and to encourage interaction between the various Alliance team members;
- Hot water will be supplied by solar panels servicing showers, dishwasher, kitchen sink and hand basins;
- An energy saving boiling/chilling water unit will be installed in the main kitchen eliminating the need for bottled water machines;
- All other kitchen facilities will have energy saving boiling units installed beneath their respective sinks;
- Additional crib and toilet facilities at the workshop area will be self sufficient in terms of water use.

3. Roles and Responsibilities

Responsibilities assigned to the respective individuals within the Hume Highway Southern Alliance construction and environmental teams have been outlined within Section 3.2 of the Construction Framework EMP (IN90304-000-PL-EW-0003). This section deals exclusively with the respective foremen on site responsible for the following three areas:

- Workshop – Workshop Foreman
- Compound – Compound Foreman
- Curing Compound – Concrete Foreman

The respective foremen will be tool-boxed on the requirements of this Site Compound EMP and will be each given a hard copy for their records. Regular reporting to the Environmental Construction Manager will form part of their overall responsibilities on site.

3.1 Workshop Foreman

The Southern Alliance's Workshop Foreman is responsible for maintenance of all Hume Highway Southern Alliance vehicles and machinery associated with the construction of the highway and the safe and environmentally responsible storage and handling of hazardous substances such as hydrocarbons and related workshop items such as degreasers, coolants and solvents.

The workshop foreman is responsible for the environmental practices undertaken by his/her staff in the performing of their operations within the workshop.

Environmental practices the workshop foreman will undertake include:

- Collection and appropriate disposal of waste oils and solvents;
- Management of bunded areas to ensure their integrity is maintained;
- Safe and responsible handling and storage of fuels on site;
- Responsible recycling and disposal of materials as they enter and leave the workshop compound;
- Incorporation of innovative ideas for managing the workshop compound.

3.2 Compound Foreman

The Compound Foreman is accountable for the efficient operation and management of the compound including waste and water management, site supervision, supplies storage and to ensure that safe visitor access is always adhered to.

The Compound Foreman will be responsible for the sustainable use of water on site and to ensure that water is available for the needs of the site compound. This role is responsible for the efficient operation and maintenance of the wastewater system being designed and implemented by the Hume Highway Southern Alliance in an attempt to reuse all water captured and stored on site. Refer to Section 2.3 for a detailed explanation of the sustainable water and construction initiatives to be implemented within the site compound.

3.3 Concrete Foreman

The Concrete Foreman will be responsible for the construction, operation and maintenance of the Curing Compound (resin yard) – refer to Appendix B for the location of the resin compound. This compound will be constructed according to EPA (DECC) guidelines on bunding and spill management which stipulates that the bund be designed and constructed to contain 120% of the volume of the storage tanks contained on site within the curing compound.

Using bunding is only one way to minimise the risk of liquids entering the environment. All employees working with bunds should know how to:

- do regular inspections of valves, pumps, pipes and hoses
- use preventive maintenance
- use standard operating procedures in the event of an on-site or off-site emergency
- isolate a tank or bund
- use fire-fighting equipment
- stop substances entering the environment once they have escaped.

It will be the responsibility of the Concrete Foreman to ensure effective maintenance of the bund and that the operators utilising the resin and curing tanks are trained in how to dispense material from the resin tanks in an environmentally responsible manner.

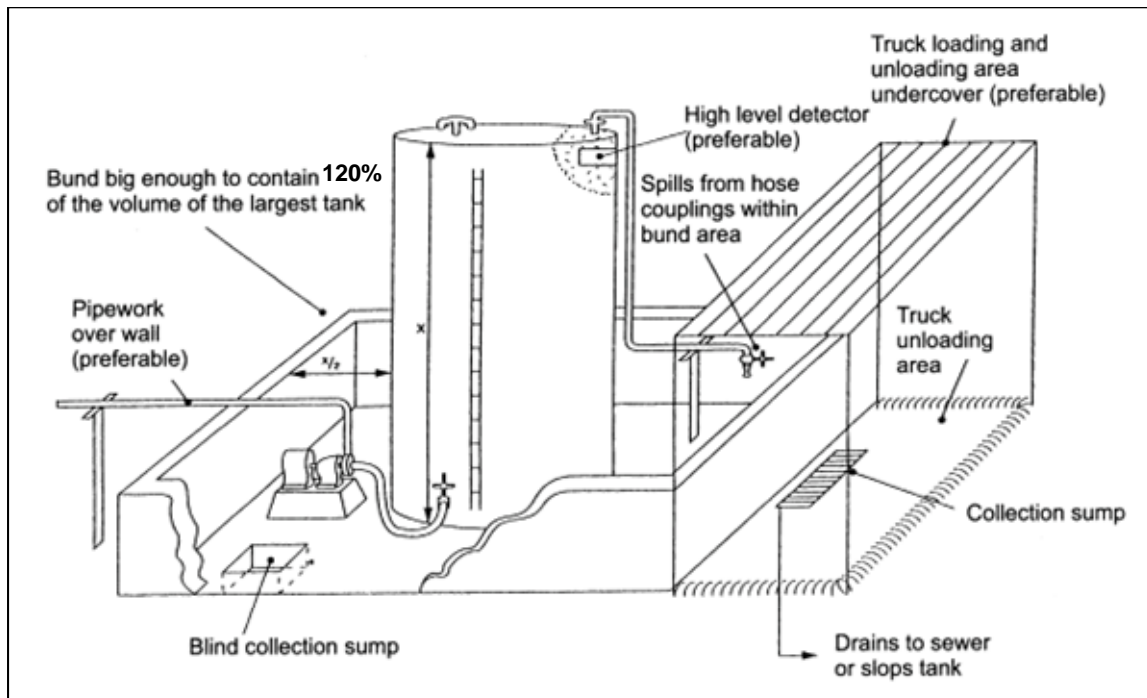


Figure 3.1: Schematic of a typical bunded facility (taken from EPA's bunding and spill management guideline - <http://www.environment.nsw.gov.au/mao/bundingspill.htm>)

4. Monitoring, Inspection, Auditing & Reporting

4.1 Environmental Monitoring

Environmental monitoring requirements for the project are included in the relevant Environmental Control Plans. Suitably trained staff will undertake monitoring.

4.2 Site Inspections

Monitoring of the site compound will be conducted through the fortnightly site inspection checklist (Refer to Appendix A) by each of the respective foremen responsible for the areas of workshop, curing compound and site compound.

The Environmental Officers will carry out regular site walkover inspections to ensure that established standards of environmental control are being maintained by all on-site personnel in accordance with this EMP. A formal inspection of erosion and sediment controls will be undertaken at least on a weekly basis and after all rainfall events (>20mm in 24 hours). All site inspections will be recorded.

Other aspects of environmental management will be formally assessed every fortnight using the Environmental Inspection Checklist (Appendix A). Records of inspections shall be distributed to the Environmental Construction Manager and records retained. Daily informal inspections will also be undertaken with observations etc, during the construction phase.

If deficiencies in site environmental controls are detected, the Environmental Compound Inspection Checklist will be completed, detailing deficiencies and priorities and responsibilities for rectification. This checklist will require sign-off from the Environmental Construction Manager once the measures are completed satisfactorily.

5. Training

It is the responsibility of the Hume Highway Southern Alliance to provide appropriate training to ensure staff responsible for activities that are likely to have an impact on the environment are competent in performing their functions. A specific tool box talk on the requirements of this EMP will be delivered to those with designated responsibilities for the site compound activities. All relevant personnel will be made aware of:

- the importance of conformance with the environmental procedures and with the requirements of the EMP;
- the significant environmental impacts, actual or potential, of their work activities and the environmental benefits of improved personal performance;
- their roles and responsibilities in achieving conformance with the EMP, including emergency preparedness and response procedures; and
- the potential consequences of departure from specified operating procedures;
- their liabilities under environment protection legislation.

On site training is an ongoing activity which will be supplemented by additional training as determined by the HHSA Environmental Team. Toolbox meetings will be utilised to pass on information relating to new or changed work procedures, safe work methods, emergency procedures, inspection and testing requirements etc. Induction training will be documented and recorded by the nominated HHSA personnel.

6. Incident Management & Complaints

6.1 Complaints

Any complaints received from any government agencies, interest groups or the general public shall be considered respectfully and appropriate action taken. The HHSA shall maintain a Complaints Register. All complaints received shall be referred to the Stakeholder and Community Manager, who shall direct an appropriate course of action relating to the complainant's concerns. The Complaints Register shall be retained on site throughout the duration of the compound operation.

6.2 Incidents

All environmental incidents will be reported to the Environmental Construction Manager who will then formally record the incident as per the procedure listed in the CEMP. The Manager will then make a decision based on the seriousness of the incident whether to report the incident immediately to the appropriate regulatory authorities.

Details of incident investigation and remedial actions shall be retained by the HHSA.

If an incident is considered minor, details of the incident will be reported in the Project Monthly Report.

7. Site Environmental Aspects, Impacts & Controls

Presented in the table below are the significant site environmental aspects, impacts and risks associated with the project.

Definitions

Environmental Aspect: Element of activity that can interact with the environment

Environmental Impact: Any change to the environment wholly or partially resulting from an environmental aspect

Risk: High – Immediate action required to address impact, action plans and management responsibility specified

Risk: Moderate – manage by specific monitoring or response procedures, with management responsibility specified

Risk: Minor – Manage through routine procedures, unlikely to need actions

Risk: Negligible – Unlikely to have any significant impact on the environment, no action required

Environmental Aspect	Environmental Impact	Risk	ECP Reference
Air Emissions	Potential for dust generation from removal of vegetation, plant movements and use of cement. Exhaust emissions from plant & equipment.	Minor	ECP 1 Air Quality
Water Quality & Erosion & Sedimentation Control	Potential for sediment to impact off-site waterways and land if not properly managed.	Moderate	ECP 2 Water Quality & Sedimentation & Erosion Control
Flora & Fauna	Land used for farming. No threatened species identified or likely to exist on site.	Negligible	ECP 3 Flora and Fauna
Waste & Hazardous Substances	Minimal impact as volume of waste material generated is moderate. Potential risk from improper storage of hazardous substances. Potential risk from spills and leaks from use of plant & equipment.	Moderate	ECP 4 Waste Management ECP 7 Hazardous Substances
Noise	Noise from plant and equipment impacting on nearby residents Traffic movement not regarded to be significant.	Moderate	ECP 5 Noise & Vibration
Heritage	Site has been assessed by the HHSA Archaeologist and has been deemed not to be an area of Heritage significance.	Negligible	ECP 6 Heritage

Environmental Aspect	Environmental Impact	Risk	ECP Reference
General and Community	Anticipated that the compound will have no direct impact on the community, no access though private land is required, compound is located in rural environment with nearest residence located approximately 350m away	Moderate	ECP 7 General and Community

8. Environmental Control Plans (ECP)

The ECPs contained for this site are divided into the following categories:

- ECP 1 Air Quality
- ECP 2 Water Quality, Groundwater, Sedimentation & Erosion Control
- ECP 3 Flora and Fauna
- ECP 4 Waste Management
- ECP 5 Noise and Vibration
- ECP 6 Heritage
- ECP 7 Hazardous Substances/ Dangerous Goods
- ECP 8 General and Community

Within each category, three primary phases of activity have been identified in accordance with the sequence of operations. These are:

- Construction
- Ongoing operation of site
- Decommissioning and rehabilitation

The Control Plans detail:

- Environmental Aspects and Impacts
- Risk Events
- Objectives
- Targets
- Compliance Requirements
- Control Measures and Safeguards.

The sources for all actions in the Environmental Control Plans have been attributed where applicable.

Note:

M2TT MCoA – Ministers Conditions of approval for Mullengandra to Table Top

8.1 ECP 1 Air Quality

Aspect	Air Quality		
RISK EVENT(S):	Failure of plant and equipment emission controls Adverse weather conditions (wind)		
IMPACT:	Pollution levels (from exhaust fumes and dust) above acceptable standards Complaints received from the community.		
OBJECTIVE(S):	Ensure airborne dust and plant emissions are not a nuisance to site workers and any other receptors		
TARGETS:	Minimisation of dust generation All measured plant and equipment emissions to meet regulatory requirements No complaints		
COMPLIANCE	<i>Protection of the Environment Operations Act 1997</i> (including Clean Air Act & Regulations) M2TT MCoA 38		
MONITORING	Inspections of plant/ equipment e.g. for smoky exhaust Visual monitoring of site to detect excessive dust generation Air quality complaints Fortnightly checklist – Appendix A		
CONTROL MEASURES AND SAFEGUARDS	SOURCE	RESPONSIBILITY/ SIGNOFF	TIMING/ FREQUENCY
Dust			
Site disturbance as a result of vehicle and machinery movements & stockpile area will be minimised and confined to allocated areas	Best Practice	Foreman/ Environmental Officer	Construction & rehabilitation
Remove mud from wheels and bodies of all equipment before they enter public roads	Best Practice	All vehicle/ plant operators Foreman	Construction & rehabilitation
Trucks entering and leaving the premises that are carrying dust generating loads must be covered at all times except during loading and unloading	Best Practice	Foreman/Environmental Officer	Construction & rehabilitation
Use gravel to stabilise access areas and hardstand area	Best Practice	Foreman/ Leading Hand	Construction & rehabilitation
During periods of strong winds, re-program dusty construction activities if necessary	Best Practice	Foreman/Leading Hand	Construction & Rehabilitation

CONTROL MEASURES AND SAFEGUARDS	SOURCE	RESPONSIBILITY/ SIGNOFF	TIMING/ FREQUENCY
Use water to dampen cleared areas and stockpiles at regular intervals	Best Practice	Foreman/Leading Hand	Construction & rehabilitation
Plant/ Equipment Emissions			
Ensure all equipment used on site is well maintained and not excessively smoky	Best Practice	Foreman	Construction & rehabilitation
Ensure machinery or plant is not left running idle when not in use	Best Practice	All plant operators	Construction & rehabilitation
Other Emissions			
No burning of materials on site at any time	Best Practice	Foreman/ Environmental Officer	Construction & rehabilitation

8.2 ECP 2 Water Quality, Groundwater, Sediment & Erosion Control

Aspect	Water Quality, Groundwater, Sedimentation and Erosion Control		
RISK EVENT(S):	Sediment control structure failure Chemical & fuel spills and overflow of any bunded areas Adverse weather conditions (rain) Release of polluted water into nearby waterways from runoff sedimentation		
IMPACT:	Damage to flora, fauna and habitats Contamination of water bodies		
OBJECTIVE(S):	Ensure water quality is not affected as a result of construction activities, and ongoing operation of the site and that legislative requirements are met.		
TARGETS:	Storage of all chemicals and fuel in designated bunded and lined areas No water quality complaints All erosion/ sediment controls maintained and functional.		
COMPLIANCE MEASURES	<i>Protection of the Environment Operations Act 1997</i> M2TT MCoA 58, 60, 62, 63, 65 Blue Book Vol. 1, <i>Soils & Construction-Managing Urban Stormwater</i> , 4 th Edition, March 2004 (NSW Dept. of Housing,)		
MONITORING	Fortnightly checklist (Appendix A) Sediment basins to monitored as per the Soil and Water Management Plan - weekly and after rainfall inspections of sedimentation & erosion control measures		
CONTROL MEASURES AND SAFEGUARDS	SOURCE	RESPONSIBILITY/ SIGNOFF	TIMING/ FREQUENCY
Erosion & Sedimentation Control			
Prepare and implement a specific erosion and sediment control plan(s) for the site – refer to ESCP, Appendix B.	Best Practice (Blue Book Vol. 1)	Environmental Construction Manager	Pre-construction
Select stockpile areas to reduce potential for run off.	Best Practice	Foreman/Environmental Officer	Pre-Construction
Select area for drains and utilise the existing dam for a sediment basin. The dam is of sufficient size to reduce risk overflow/ runoff of dirty water during rain events. The location of this dam is included on the erosion and sedimentation control plan.	Best Practice	Foreman/Environmental Officer	Pre-Construction

CONTROL MEASURES AND SAFEGUARDS	SOURCE	RESPONSIBILITY/ SIGNOFF	TIMING/ FREQUENCY
Silt fences/ sand bags will be installed where required down gradient of disturbed areas, base of embankments, existing drainage lines, earthworks, stockpiles, and in areas where energy dissipation is required.	Best Practice	Foreman/ Environmental Officer	Pre-Construction & ongoing operation of site.
Erosion and sediment control measures not to be removed until disturbed areas have been stabilised	Blue Book Vol 1	Foreman/Environmental Officer	Pre-Construction & ongoing operation of site.
Water Management			
Locate sanitary facilities where spillage could not cause direct pollution of a water body.	Best Practice	Design Team	Construction & rehabilitation
Sediment basin to be managed according to best practice soil/water management and discharge requirements.	Best practice (Blue Book, Volume 1)	Environmental Construction Manager	Construction & rehabilitation
Chemicals & Fuels			
Storage of hazardous liquids, including fuels and oils, within an impervious bunded area, sufficient to contain at least 120% of the volume of the largest container	EPA Guidelines	Workshop Foreman/ Environmental Officer	Construction & ongoing operation of site.
Spill kits will be maintained on site at all times	Best Practice	O,H & S, Environmental Team	Construction & rehabilitation
Any spills or pollution incident will be reported to Environmental Construction Manager	Best Practice	All	Construction & rehabilitation
Any pollution incident will be reported to EPA	POEO Act	Environmental and Sustainability Manager	Construction & rehabilitation

8.3 ECP 3 Flora and Fauna

Aspect	Flora and Fauna		
RISK EVENT(S):	Impact to threatened flora and fauna species Proliferation of noxious weeds on site		
IMPACT:	Damage to flora, fauna and habitats		
OBJECTIVE(S):	Ensure local and regional biodiversity is not affected as a result of construction activities, and ongoing operation of the site and that legislative requirements are met.		
TARGETS:	Negative impacts on biodiversity Minimisation of weeds within the site		
COMPLIANCE MEASURES	<i>Protection of the Environment Operations Act 1997</i> M2TT MCoA 52, 53.		
MONITORING	Fortnightly checklist – Appendix A – <i>to be completed by the Compound Foreman only</i>		
CONTROL MEASURES AND SAFEGUARDS	SOURCE	RESPONSIBILITY/ SIGNOFF	TIMING/ FREQUENCY
Fauna			
Ensure that no native fauna is impacted during construction	Best Practice	Environmental Construction Manager	Pre-construction
The trees to be retained on the site will be checked for any signs of fauna inhabiting these trees	Best Practice	Environmental Construction Manager	Pre-construction
If fauna are found inhabiting vegetation on site, they will be relocated to an appropriate nesting place nearby.	Best Practice	Environmental Construction Manager	Pre-construction
Provide local habitat through native tree and shrub plantings for native fauna in establishing the site compound	Best Practice	Foreman/Environmental Officer	Pre-Construction
Flora			
Only those trees and shrubs necessary to be removed for establishment of the site compound will be removed.	Best Practice	Foreman/Environmental Officer	Pre-Construction

CONTROL MEASURES AND SAFEGUARDS	SOURCE	RESPONSIBILITY/ SIGNOFF	TIMING/ FREQUENCY
Retained trees will be afforded adequate protection in terms of root compaction and impacts to limbs and branches of the tree	Best Practice	Foreman/ Environmental Officer	Pre- Construction
Stockpiles would not be located within 10m of the any trees retained adjacent to the site compound and machinery would not be operated within 10m of any retained trees	Best Practice	Foreman/ Environmental Officer	Pre- Construction
Noxious weeds (Paterson's Curse) will be sprayed and/or removed from the site prior to commencing construction.	Best Practice	Foreman/ Environmental Officer	Pre- Construction
The presence and abundance of weeds will be monitored periodically during the course of construction and occupation of the site.	Best Practice	Foreman/ Environmental Officer	Pre- Construction & ongoing operation of site.
The site will be rehabilitated to its present state on decommissioning of the site compound.	Best Practice	Foreman/Environm ental Officer	Pre- Construction & ongoing operation of site.

8.4 ECP 4 Waste Management

Aspect	Waste Management		
RISK EVENT(S):	Littering or dumping of unwanted waste. Excessive waste generation.		
IMPACT:	Pollution incident off-site Illegal disposal of waste material Waste of resources		
OBJECTIVE(S):	Best practice to be adopted to achieve waste minimisation and reduction in all stages of the project. Prevent pollution and damage to the environment. Protect the safety and health of employees and the public.		
TARGETS:	Wastes will be collected and disposed off site in a manner approved by the relevant authorities. To maximise the recycling of all waste material generated on site. Inert waste, e.g. demolition material, concrete, trees, bitumen etc will be recycled or reused whenever possible or disposed of as landfill in a licensed site.		
COMPLIANCE	<i>Waste Avoidance and Resource Recovery Act 2001</i> M2TT MCoA 85 Guidelines on the Classification of Liquid and Non-Liquid Waste		
MONITORING	Fortnightly checklist – Appendix A Waste Register		
CONTROL MEASURES AND SAFEGUARDS	SOURCE	RESPONSIBILITY	TIMING/ FREQUENCY
Biodegradable products to be used wherever possible	Best Practice	Site Team	On going site operation
All rubbish shall be placed in containers and disposed of or emptied off-site at approved disposal facilities. No packets, tins, oil filters, rags etc shall be left on the ground	Best Practice	Site Team	Construction and ongoing operation of the site.
Recycling bins (co-mingled bins and paper/cardboard skip) provided on site will be checked regularly and disposed of on an as needs basis.	Best Practice	Compound Foreman	Construction and ongoing operation of the site.
Appropriate segregation of waste material to be regularly monitored by the Compound Foreman to ensure that the waste stream is being managed according to the Construction Waste Management Plan IN90304-000-PL-EW-0012	Best Practice	Compound Foreman	Construction and ongoing operation of the site.

8.5 ECP 5 Noise & Vibration

Aspect	Noise and Vibration		
RISK EVENT(S):	Plant and equipment operation Failure of construction noise controls Working outside approved hours Adverse weather conditions (wind)		
IMPACT:	Noise levels above acceptable standards Complaints from surrounding residences		
OBJECTIVE(S):	Ensure noise levels are not a health danger to employees or nearby residents.		
TARGETS:	Use best practice measure to reduce impacts of equipment noise Noise at nearest classroom or residence to meet agreed limits Construction activities to be confined to agreed working hours unless precluded by specific incidents or approvals. No complaints received from adjoining properties or from statutory authorities.		
COMPLIANCE	Best practice measures to minimise equipment noise M2TT MCoA 28, 30 Personal safety measures shall be implemented wherever noise exceeds 85Db (A).		
MONITORING	Complaints Database Fortnightly site inspection checklist – Appendix A Inspection of plant noise control measures		
CONTROL MEASURES AND SAFEGUARDS	SOURCE	RESPONSIBILITY/ SIGNOFF	TIMING/ FREQUENCY
Noise			
Ensure plant equipment is fitted with appropriate silencers maintained in an efficient condition.	Best Practice	Environmental Team	Pre-construction, construction and rehabilitation
Construction activities are limited only to: <input type="checkbox"/> 7:00am to 7:00pm Monday – Friday <input type="checkbox"/> 7.00am to 4.00pm Saturdays <input type="checkbox"/> Emergency work only on Sunday and Public Holidays. Work outside these hours will be limited only to staff working in the offices or work required for emergency purposes.	Ministers Conditions of Approval	Environmental Construction Manager	Pre-construction, construction and rehabilitation

CONTROL MEASURES AND SAFEGUARDS	SOURCE	RESPONSIBILITY/ SIGNOFF	TIMING/ FREQUENCY
Residents notified of work to be conducted.	Best Practice	Community and Stakeholder Manager	Pre-construction
All noise complaints to be recorded and actioned.	Best Practice	Community and Stakeholder Manager	Pre-construction, construction phase and continual operation of the site
Routine inspections and maintenance of plant and equipment will include noise control measures.	Best Practice	Environmental and OH&S Officers	Pre-construction, construction and rehabilitation
Ensure traffic movement is kept to a minimum.	Best Practice	Compound Foreman	Construction Phase

8.6 ECP 6 Heritage

Aspect	Heritage		
RISK EVENT(S):	Impact to cultural heritage items (Indigenous and non-indigenous) Failure to report evidence of cultural heritage items on site		
IMPACT:	Damage to heritage items		
OBJECTIVE(S):	Ensure heritage items are not impacted and if any suspected items are discovered, then they will be reported to the Environmental Construction Manager		
TARGETS:	Negative impacts on heritage items		
COMPLIANCE MEASURES	<i>National Parks & Wildlife Act 1974</i> <i>Heritage Act 1977</i> M2TT MCoA 48 & 49		
MONITORING	Fortnightly checklist – Appendix A – <i>to be completed by the Compound Foreman only</i>		
CONTROL MEASURES AND SAFEGUARDS	SOURCE	RESPONSIBILITY/ SIGNOFF	TIMING/ FREQUENCY
Heritage			
Compound establishment will not commence until Heritage clearance has been obtained	Best Practice	Environmental Construction Manager	Pre-construction
The compound will only be established within the specific area identified through the heritage clearance process.	Best Practice	Environmental Construction Manager	Pre-construction
Should Aboriginal and non-Aboriginal heritage items be uncovered during construction works, all works in the vicinity of the discovery would cease and the Environmental Construction Manager would be contacted. Works would not re-commence until appropriate clearance has been received by DECC and the RTA Aboriginal Heritage Advisor.	Best Practice	Environmental Construction Manager	Pre-construction

8.7 ECP 7 Hazardous Substances & Dangerous Goods

Aspect	Hazardous Substances and Dangerous Goods		
RISK EVENT(S):	Uncontrolled release of contaminants Fire or explosion		
IMPACT:	Pollution incident		
OBJECTIVE(S):	Ensure that all hazardous substances and dangerous goods are adequately and safely stored and handled in accordance with appropriate safe work practices. To prevent any contamination of site work areas, adjoining property and ecosystems by chemicals and fuel used on the site.		
TARGETS:	No hazardous or dangerous material will be permitted to pollute adjacent watercourses No emergency situations or property damage are to be caused by the poor storage or inappropriate use of flammable or explosive materials No health issues are to arise because of the inappropriate use of hazardous or dangerous materials		
COMPLIANCE	<i>Environmentally Hazardous Chemicals Act 1985</i>		
MONITORING	A register of Dangerous Goods/ Hazardous Substances on site is to be maintained by the OH&S Team Material Safety Data Sheets (MSDS) are to be maintained by the OH&S team. Inspection of plant and equipment to include potential leaks Fortnightly checklist – Appendix A		
CONTROL MEASURES AND SAFEGUARDS	SOURCE	RESPONSIBILITY	TIMING/ FREQUENCY
Provide bunded and impervious storage areas for fuels and chemicals. Storage shall be in accordance with AS1940 – <i>Storage and Handling of Flammable and Combustible Liquids</i> . Bunded areas shall have a storage capacity of 120% of the volume of the largest container stored	EPA guidelines	Environmental Construction Manager/Concrete Foreman	Pre-construction, construction phase & continual operation of the site
Ensure refuelling and servicing, or any other activity that may result in the spillage of a chemical, fuel or lubricant is undertaken in a manner that avoids contamination of a waterway.	Best Practice	All site personal	Construction & continual operation of the site
Emergency procedures shall be displayed in prominent positions within the site working areas. All staff to be familiar with the location and contents of the emergency procedures.	Best Practice	Environmental and OH & S Teams	Construction & ongoing site operation

CONTROL MEASURES AND SAFEGUARDS	SOURCE	RESPONSIBILITY	TIMING/ FREQUENCY
Spill kits will be maintained on site at all times, and personnel trained in its use, and disposal requirements for items used to clean up spills.	Best Practice	Environmental and OH&S Teams	Construction & ongoing operation of the site
Drip trays to be provided under stationery equipment such as generators to capture potential leaks.	Best Practice	All construction personal	Construction and continual phase of site operation

8.8 ECP 8 General and Community

Aspect	General and Community		
RISK EVENT(S):	Direct or indirect impacts on the community and other stakeholders		
IMPACT:	Socio-economic impacts on external stakeholders		
OBJECTIVE(S):	To minimise impacts to the community and other external stakeholders		
TARGETS:	No impacts to nearby residents – to be measured as number of complaints per year		
COMPLIANCE	M2TT MCoA 5,6		
MONITORING	Community Complaints Register Fortnightly checklist – Appendix A		
CONTROL MEASURES AND SAFEGUARDS	SOURCE	RESPONSIBILITY	TIMING/ FREQUENCY
No access to the area would occur through privately owned property.	Best Practice	Environmental Construction Manager	Pre-construction, construction phase & continual operation of the site
Notification would be provided to nearby residences, a least one week prior to the commencement of construction works.	Best Practice	Community and Stakeholder Manager	Construction & continual operation of the site

Appendix A – Checklists

- Site Compound Environmental Inspection Checklist



SITE COMPOUND ENVIRONMENTAL INSPECTION CHECKLIST

N/A	Items	Satisfactory		Action Priority			Brief description of action if required and who is responsible for action	Initial and date for close out of actions
		Yes	No	1 <24h	2 <3day	3 <7day		
WASTE								
<input type="checkbox"/>	Segregation of waste	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	Site litter/ general waste/ cigarette butts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	Contaminated soil/ waste segregated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	Waste oil stored/ disposed of appropriately	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	Waste bins covered/ lids and not overflowing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	Batteries disposed of appropriately	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
FUEL TANKS								
<input type="checkbox"/>	Spills/ stains	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	Bund integrity with no accumulated water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	Hoses/ valves/ nozzle not leaking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	Drip tray for fuel transfer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	High level detector	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
CURING COMPOUND								
<input type="checkbox"/>	Bund integrity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	High level detector	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	Hoses/ valves not leaking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Other items	Priority	Actions required	Closed

Appendix B – Soil and Water Management

- Erosion Sediment Control Plan