



APPENDIX B9

Other Management Measures Plan

The Northern Road Upgrade

Between Mersey Road and Eaton Road

November, 2018

Document control

File name	CEMP_Other management measures.doc
Report name	The Northern Road Upgrade Between Mersey Road and Eaton Road: Other Management Measures Plan
Revision number	0

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Revision history

Revision	Date	Description	Reviewed by
0	2/11/18	Issued for Construction	
B	5/10/2018	Response to Comments	
A	22/08/18	Initial for review	

Distribution of controlled copies

Copy no.	Issued to	Version
1	Roads and Maritime	A
2	Roads and Maritime	B
3	Roads and Maritime	C
4		0

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Glossary / Abbreviations

Term	Expanded text
AFMP	Ancillary Facilities Management Plan

Term	Expanded text
CCS	Community Communication Strategy
CEMP	Construction Environmental Management Plan
CMS	Complaints Management System
CoA	Condition of approval
CCLP	Construction Community Liaison Management Plan
CFFMP	Construction Flora and Fauna Management Sub Plan
CMS	Complaints Management System
CSSI	Critical State Significant Infrastructure
CSWMP	Construction Soil and Water Management Sub Plan
CTMP	Construction Traffic Management Plan
CWEMP	Construction Waste and Energy Management Sub Plan
DoEE	Commonwealth Department of the Environment and Energy
DoI	Department of Industry
DP&E	NSW Department of Planning and Environment
DPI	Department of Primary Industries
EIS	Environmental Impact Statement
EMS	Environmental Management System
Environmental aspect	Defined by AS/NZS ISO 14001:2015 as an element of an organisation's activities, products or services that can interact with the environment
Environmental impact	Defined by AS/NZS ISO 14001:2015 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects
Environmental incident	An unexpected event that has, or has the potential to, cause harm to the environment and requires some action to minimise the impact or restore the environment
Environmental objective	Defined by AS/NZS ISO 14001:2015 as an overall environmental goal, consistent with the environmental policy, that an organisation sets itself to achieve
Environmental objective	Defined by AS/NZS ISO 14001:2015 as an overall environmental goal, consistent with the environmental policy, that an organisation sets itself to achieve
Environmental policy	Statement by an organisation of its intention and principles for environmental performance
Environmental Representative (ER)	A suitably qualified and experienced person independent of project design and construction personnel employed for the duration of construction. The principal point of advice in relation to all questions and complaints concerning environmental performance
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
EWMS	Environmental Work Method Statements
Federal-CoA	Condition of the Federal Department of the Environment and Energy Approval Decision

Term	Expanded text
GEJV	Georgiou and Ertech Joint Venture
NSW-CoA	Condition of the NSW DP&E Infrastructure Approval
NSW Infrastructure Approval	The Infrastructure Approval for the Northern Road Upgrade issued by the New South Wales Government on 30 th May 2018
OEH	NSW Office of Environment and Heritage
OACEMP	Overarching Construction Environmental Management Plan
PIRMP	Pollution Incident Response Management Plan
Project, the	The Northern Road Upgrade Between Mersey Road and Eaton Road
REMM	Revised Environmental Management Measure as provided in the Final EIS / SPIR
RFS	Rural Fire Service
Roads and Maritime, RMS	NSW Roads and Maritime Services
SEARs	Secretary's Environmental Assessment Requirements
Secretary	Secretary of the NSW Department of Planning and Environment (or delegate)
SES	State Emergency Services
SME	Small to Medium Enterprise
SPIR	Submissions and Preferred Infrastructure Report
TNR	The Northern Road
TFB	Total Fire Bans
UDLP	Urban Design and Landscape Plan

1 Introduction

1.1 Context

This document forms part of the Construction Environmental Management Plan (CEMP) for The Northern Road Upgrade between Mersey Road and Eaton Road (the Project). The Project is being delivered by Georgiou Ertech Joint Venture (GEJV). An overview of the Project is shown on Figure 1.

An Overarching Construction Environmental Management Plan (OACEMP) has been prepared by Roads and Maritime to address the State and Federal conditions of approval (CoA) and environmental management measures listed in The Northern Road Upgrade – Mersey Road, Bringelly to Glenmore Parkway, Glenmore Park NSW Environmental Impact Statement / Commonwealth Draft Environmental Impact Statement (EIS) as amended by The Northern Road Upgrade – Mersey Road, Bringelly to Glenmore Parkway, Glenmore Park Submissions and Preferred Infrastructure Report (SPIR), Roads and Maritime specifications and all applicable legislation..

This document addresses the conditions of approval (CoAs), revised environmental management measures (REMMs) and Roads and Maritime QA Specification G36 requirements that have not been captured by the CEMP sub-plans. This document addresses CoAs, REMMs and Roads and Maritime QA Specification G36 requirements within the following areas:

- Socio-economic and land use.
- Visual impact.
- Utilities and services.
- Hazards and risks.
- Cumulative impacts.

1.2 Consultation

Consultation between GEJV and Roads and Maritime, stakeholders, the community and relevant agencies during the construction of the Project will occur as required. The process for the consultation will be documented in GEJV's Construction Community Liaison Plan which has been developed in accordance with the Community Communication Strategy (CCS).

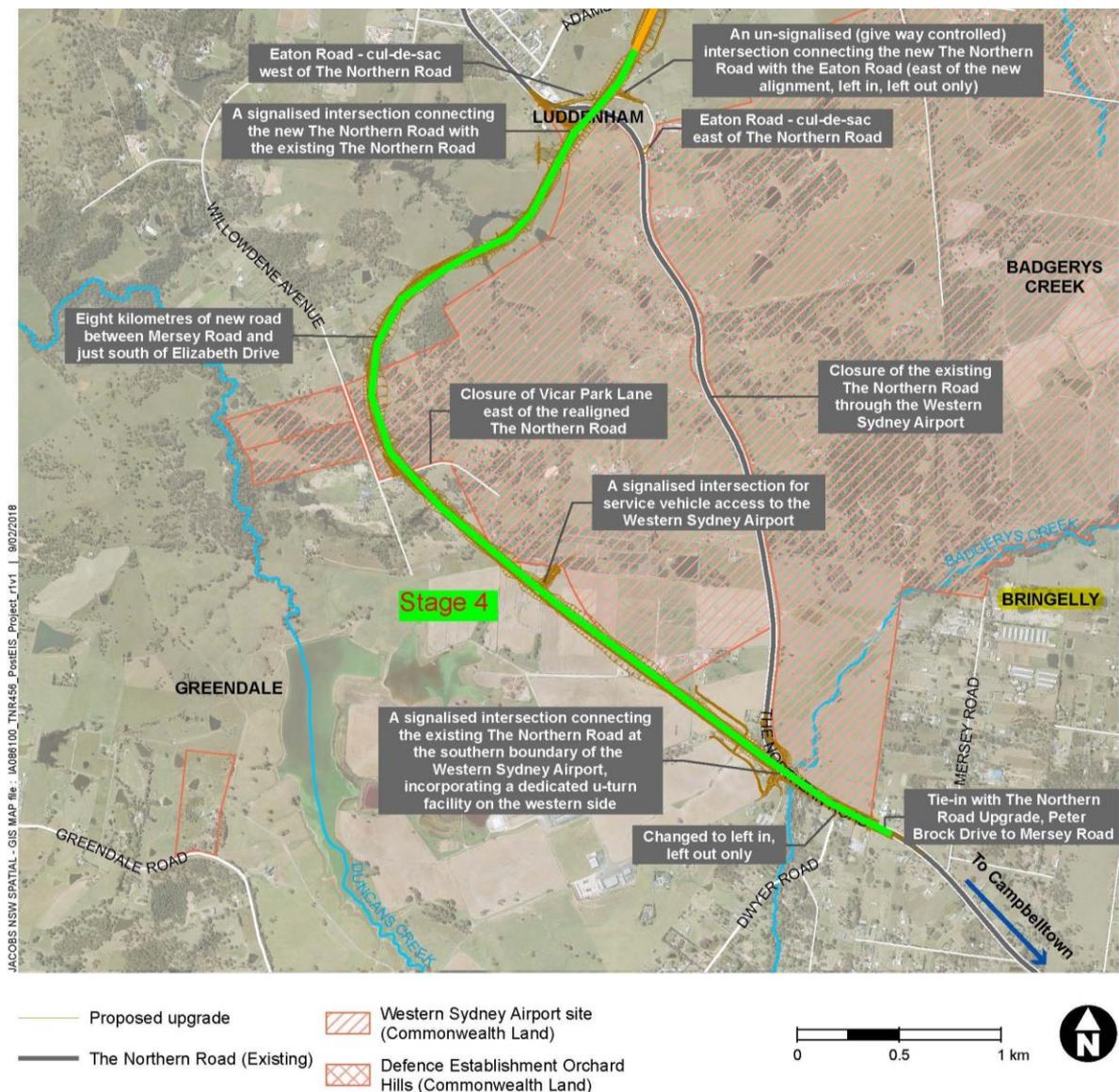
Specific consultation requirements under the EIS and SPIR for the other measures identified in the REMMs are provided in Table 1-1.

Table 1-1: Consultation requirements identified in the EIS and SPIR

REMM	Consultation requirements identified in the EIS and SPIR
SE-7	Undertake property adjustments and relocation of infrastructure (for example, fencing, dams, property access) in consultation with the property owner.
SE-9	On-going consultation with local business owners, including owners of agricultural businesses, located close to construction works about the timing, duration and likely impact of construction activities on their business operations would be carried out.

REMM**Consultation requirements identified in the EIS and SPIR**

SE-10	Relocate and/or remove farm infrastructure, including farm dams, as required and in consultation with affected land owners.
SE-19	Strategies to address impacts to utilities would be developed in consultation with utility providers during detailed design and during construction of the project.
CI-1	Consultation would be undertaken with local communities potentially affected by the impacts of multiple projects in addition to the project

**Figure 1: Overview of the Project**

2 Environmental mitigation and management measures

The State (NSW-CoA) and Federal (Federal-CoA) conditions of approval relevant to this document are listed in Table 2-1. A cross reference is also included to indicate where the condition is addressed in the project management documents.

REMMs and Roads and Maritime QA Specification requirements related to socio-economic and land use issues, visual impacts, utilities and services issues, hazards, risks and cumulative impacts that have not been addressed in the CEMP sub-plans are outlined in Table 2-2 to Table 2-5, including a reference to where each REMM or Roads and Maritime QA Specification G36 requirement is addressed in the project management documents.

2.1 Conditions of approval

Table 2-1: Conditions of approval relating to property and land use, and utilities and services

CoA	Condition requirement	When to implement	Responsibility	Reference
Property and land use				
NSW-CoA E39	The CSSI must be constructed in a manner that minimises intrusion and disruption to agricultural operations/activities in surrounding properties (e.g. stock access, access to farm dams, etc.), unless otherwise agreed by the landowner.	Construction	Roads and Maritime Project Manager GEJV Project Manager	CEMP section 4.1
NSW-CoA E42	Prior to commencement of any works, a suitably qualified person must undertake building and structure condition surveys of all buildings and structures identified in the documents listed in Condition A1 as being at risk of damage. The results of the surveys must be documented in a Building Condition Survey Report for each building and structure surveyed. Copies of Building Condition Survey Reports must be provided to the landowners of the buildings and structures surveyed and, if agreed by the landowner, the relevant Council within three weeks of completing the surveys, and no later than one month prior to the commencement of works.	Pre-Construction	GEJV Project Engineer	CEMP section 2.2

CoA	Condition requirement	When to implement	Responsibility	Reference
NSW-CoA E43	After completion of the works, condition surveys of all buildings and structures for which pre-Construction condition surveys were undertaken in accordance with Condition E42 of this approval must be undertaken by a suitably qualified person. The results of the surveys must be documented in a Building Condition Survey Report for each building surveyed. Copies of Building Condition Survey Reports must be provided to the landowners of the buildings surveyed and, if agreed by the landowner, the relevant Council within three weeks of completing the surveys, and no later than three (3) months following the completion of works.	Post-Construction	GEJV Project Engineer	CEMP section 2.2
NSW-CoA E44	Any damage caused to property as a result of the CSSI must be rectified or the landowner compensated, within a reasonable timeframe, with the costs borne by the Proponent. Note: This condition is not intended to limit any claims that the landowner may have against the Proponent.	Post-Construction	Roads and Maritime Project Manager GEJV Project Manager	GC21 contract
Utilities and services				
NSW-CoA E66	Utilities, services and other infrastructure potentially adversely affected by the delivery of the CSSI must be identified before works affecting them commence, to determine the requirements for access to, diversion protection, and/or support of such services.	Pre-Construction Construction	GEJV Utility Works Coordinator	Utility Management Plan

CoA	Condition requirement	When to implement	Responsibility	Reference
NSW-CoA E66 (ctd)	The relevant owner and/or provider of services must be consulted to make suitable arrangements for access to diversion, protection, and/or support of the affected infrastructure as required.	Pre-Construction Construction	GEJV Utility Works Coordinator GEJV Community Relations Manager	Utility Management Plan Community Communication Strategy (CCS)
	The Proponent must ensure that disruption to any service is minimised and be responsible for advising local residents and businesses affected before any planned disruption of service occurs.	Construction	GEJV Utility Works Coordinator GEJV Community Relations Manager	Utility Management Plan CCS

2.2 Revised environmental management measures

Table 2-2: Socio-economic REMMs

ID	Measure / requirement	When to implement	Responsibility	Reference
General socio-economic impacts				
SE-1	<p>A Draft Community Involvement Plan would be prepared to guide community engagement during construction of the project and would be updated throughout construction. Communication would be with the local community, stakeholders and the wider region.</p> <p>The Draft Community Involvement Plan includes:</p> <ul style="list-style-type: none"> • Guiding principles overall approach to community and stakeholder involvement • A comprehensive list of identified stakeholders • A register of specific issue communications strategies • Requirements for the project regarding access to information, complaints and inquiries procedures and community consultation • A range of communication tools applicable to the project • Contact names and details • Complaints procedures. 	Construction	GEJV Community Relations Manager	<p>CEMP Appendix B12 (GEJV Construction Community Liaison Plan (CCLP))</p> <p>This plan;</p> <p>Section 3.2</p> <p>Section 3.3</p>
Property acquisition				
SE-7	Undertake property adjustments and relocation of infrastructure (for example, fencing, dams, property access) in consultation with the property owner.	Pre-construction Construction	GEJV Project Manger GEJV Community Relations Manager	Approved Property Adjustment Plan CCLP
Business and economic activity				
SE-9	On-going consultation with local business owners, including owners of agricultural businesses, located close to construction works about	Construction	GEJV Community Relations Manager	CCLP This plan;

ID	Measure / requirement	When to implement	Responsibility	Reference
	the timing, duration and likely impact of construction activities on their business operations would be carried out.			Section 3.2 Section 3.3
SE-10	Relocate and/or remove farm infrastructure, including farm dams, as required and in consultation with affected land owners.	Construction	GEJV Project Manager GEJV Community Relations Manager	CCLP This plan; Section 3.2 Section 3.3
SE-11	Maintain a business impact risk register to identify and manage the specific impacts associated with construction related works for individual businesses.	Construction	Roads and Maritime Community and Stakeholder Engagement Advisor	Roads and Maritime Risk Register
Impacts to utilities				
SE-19	Strategies to address impacts to utilities would be developed in consultation with utility providers during detailed design and during construction of the project.	Detailed design Pre-construction, Construction	GEJV Utility Works Coordinator, GEJV Community Relations Manager	Utilities Management Plan CCLP

Table 2-3: Lighting and visual impact REMMs

ID	Measure / requirement	When to implement	Responsibility	Reference
Lighting impacts				
UD-2	The design of temporary lighting must avoid unnecessary light spill on adjacent residents or sensitive receivers and be designed in accordance with AS 1158.1-1986.	Construction	Foreman, Site Engineer	Ancillary Facilities Management Plan (AFMP)
Visual impacts from construction sites				
UD-3	Consider the provision of barriers to screen views from visually sensitive nearby areas such as rural dwellings, residential and recreational areas.	Construction	Foreman, Site Engineer	Ancillary Facilities Management Plan (AFMP)
UD-4	Contain construction activities within the construction works zone boundary and occupy the minimum area practicable for limiting impacts on adjoining areas, including the extent of native vegetation clearing.	Construction	Foreman, Site Engineer	Ancillary Facilities Management Plan (AFMP) CEMP Appendix B2 – Construction Flora and Fauna Management Sub Plan (CFFMP)
Visual impacts as a result of vegetation loss				
UD-5	Construction programming must show how progressive rehabilitation of disturbed areas would be undertaken to minimise the duration and extent of temporary visual and landscape character impacts and to minimise soils exposure and the potential for erosion and dust generation.	Construction	Construction Manager	Construction Program CFFMP
UD-6	Existing trees to be retained within construction areas are to be identified, protected and maintained in accordance with AS4970 Trees on Development Sites, or as otherwise directed by a qualified ecologist or arborist.	Construction	Construction Manager	CFFMP

Table 2-4: Hazard and risk REMMS and G36 requirements

ID	Measure / requirement	When to implement	Responsibility	Reference
General hazards and risks				
HR-1	<p>Hazard and risk management planning would be incorporated throughout the CEMP, which may include items such as:</p> <ul style="list-style-type: none"> • Details of the hazards and risks associated with construction activities • Risk management measures, including those identified in Chapters 7 and 8 of this EIS • Procedures to comply with all legislative and industry standard requirements • Contingency and emergency response plans, as required • Site-specific Work, Health and Safety plans and activity specific Safe Work Method Statements <p>Training for all personnel (including subcontractors) in site inductions, including the recognition and awareness of site hazards and the locations of relevant equipment to protect themselves and manage any spills.</p>	Construction	Construction Manager, Supervisor, Superintendent	<p>CEMP sections 4.3.1, 5.3, 5.6</p> <p>CEMP Sub Plans and PIRMP</p>
Fire Safety				
HR-7	<p>Measures to mitigate and manage bushfire would be developed and included as part of site-specific hazard and risk management measures within the CEMP.</p> <p>The road is to be designed with consideration to the requirements of the <i>Planning for Bush Fire Protection 2006</i>.</p>	Construction	Supervisor Superintendent	<p>Health and Safety Management Plan</p> <p>CRAW</p> <p>Section 5.4 of this plan</p> <p>Emergency Management Response Plan</p>
G36 4.5	<p>The requirements of the <i>Rural Fires Act 1997</i> (NSW), and the <i>Local Government Act 1993</i> (NSW) and the NSW Rural Fire Service publication "Equipment & Machinery Use in Bushfire Prone Areas", which is available at: http://www.smartersafety.com.au/media/0240_SafetyAlert-</p>	Construction	Supervisor, Superintendent	<p>Section 5.4 of this plan</p> <p>Emergency Management Response Plan</p>

ID	Measure / requirement	When to implement	Responsibility	Reference
	<p>Equipment and machinery use in bushfire prone areas.pdf will be complied with.</p> <p>Fire fighting equipment will be provided as required for the safety of persons and property.</p> <p>All items of plant used during proclaimed high fire danger periods that could discharge sparks will be fitted with spark arresters.</p> <p>Cutting, welding, grinding or other activities likely to generate fires in the open on days will not be undertaken when a total fire ban is proclaimed.</p> <p>Training will be provided to all personnel in fire prevention, fire safety and basic firefighting skills where there is a risk of fire being caused by work such as welding, thermal or oxygen cutting, heating or other fire producing or spark producing operations or when burning off is proposed. All personnel and vehicles involved in such activities will be provided with firefighting equipment.</p> <p>Stage specific measures to mitigate and manage bushfire risks will be provided in the Contractor's CEMP.</p> <p>There will be no disposal of cleared and grubbed vegetation by burning off.</p>			

Table 2-5: Cumulative impacts REMMs

ID	Measure / requirement	When to implement	Responsibility	Reference
CI-1	Consultation would be undertaken with local communities potentially affected by the impacts of multiple projects in addition to the project	Construction	Roads and Maritime Community and Stakeholder Engagement Advisor, GEJV Community Relations Manager	CCLP CEMP Section 5.5

3 Compliance management

3.1 Roles and responsibilities

GEJV's Project Team organisational structure and overall roles and environmental responsibilities are outlined in Section 5.1 of the CEMP.

The Utility Works Coordinator is responsible for planning and scheduling the utility adjustment work, including any temporary utility adjustments that may be required to accord with the construction/traffic staging. The program allows for any construction times required by the utility owner, including lead times required for design review and approvals, procurement and delivery of components, shutdown notification periods, scheduled cutover periods, etc.

3.2 Communication

Roads and Maritime has prepared a CCS in accordance with the requirements of NSW-CoA B1 that documents the approach to stakeholder and community communications for the Project. The CCS identifies opportunities and tools for providing information and consulting with the community and stakeholders during the construction of the Project. GEJV will support the delivery of the CCS and has developed a Construction Community Liaison Plan (Appendix B12) to align with the CCS.

All site personnel will participate in induction training that will include community involvement obligations.

3.2.1 Communication with Utility Owners

The Utility Works Coordinator is responsible for organising start-up meetings with each utility owner to confirm their requirements and obtaining their concurrence to the utility adjustment works, and to coordinate the utility adjustment works, including those carried out directly by the utility owner, with the other Project works.

The Utility Works Coordinator will provide Roads and Maritime with the proposed agenda (detailed and utility owner specific) for the start-up meetings with each utility owner and the dates when those meetings are scheduled at least five days before each meeting is scheduled to be held.

The Utility Works Coordinator will convene and attend regular meetings (at least fortnightly unless approved otherwise by Roads and Maritime) with each utility owner to coordinate and assess the progress of the work. The Utility Works Coordinator will invite the Roads and Maritime Project Manager (or delegate) to the meetings. The meetings will be held at locations determined by each utility owner. The Utility Works Coordinator will record the minutes of these meetings and distribute them to all attendees and the Roads and Maritime Project Manager within three working days after the meeting.

3.3 Complaints management

Roads and Maritime has developed a Complaints Management System (CMS) to document the overall approach to complaints management for the Project. GEJV will adopt the requirements of the CMS, including reporting requirements. The CMS includes a Complaints Register which will record the details of all complaints relating to the Project.

Further detail about the CMS is provided in Section 5.5.3 of the CEMP.

3.4 Training

Details regarding staff induction and training are outlined in Section 5.3 of the CEMP. Information about training for specific environmental issues is provided in the CEMP sub-plans.

3.5 Monitoring and inspections

Requirements and responsibilities in relation to monitoring and inspections, additional to those identified in Section 2 of this document, are documented in Section 6 of the CEMP. Information about monitoring and inspections for specific environmental issues is provided in the CEMP sub-plans.

3.6 Auditing

Audits (both internal and external) will be undertaken to assess the effectiveness of environmental management measures, compliance with these measures, conditions of approval and other relevant approvals, licenses and guidelines.

Audit requirements are detailed in Section 6.4 of the CEMP.

3.7 Non-conformances

A non-conformance is the failure or refusal to comply with the requirements of Project system documentation. Any member of the GEJV Project Team may raise a non-conformance or improvement opportunity.

Where a non-conformance is detected, the process described in Section 6.6 and Appendix A9 of the CEMP will be implemented. The Quality Plan describes the process for managing non-conforming work practices and initiating corrective/preventative actions or system improvements in accordance with the process outlined in Section 6.6.1 of the CEMP.

3.8 Reporting

Reporting requirements and responsibilities are documented in Section 6.5 of the CEMP. Information about reporting for specific environmental issues is provided in the CEMP Sub Plans.

GEJV will maintain accurate records substantiating all Construction activities associated with the Project or relevant to the conditions of approval, including measures taken to implement REMMS identified in this document. Records will be made available to the DP&E and DoEE upon request, within the timeframe nominated in the request.

4 Review and improvement

4.1 Continuous improvement

Continuous improvement will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets. The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of environmental management and performance
- Identify environmental risks not already included in the risk register
- Determine the cause or causes of non-conformances and deficiencies
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies
- Verify the effectiveness of the corrective and preventative actions
- Document any changes in procedures resulting from process improvement
- Make comparisons with objectives and targets.

GEJV is responsible for ensuring Project environmental risks are identified and included in the risk register and appropriate mitigation measures implemented throughout the Construction of the Project as part of the continuous improvement process. The process for ongoing risk identification and management during Construction is outlined in Section 4.3 of the CEMP.

4.2 Update and amendment

The processes described in Section 6.8 of the CEMP may result in the need to update or revise this document. This will occur as needed.

Any revisions to this document will be in accordance with the process outlined in Sections 1.6 and 6.8 of the CEMP.

A copy of the updated document and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure - refer to Section 6.7.2 of the CEMP.

5 CoA Other Management Measures

5.1 NSW-CoA E39, E40, E41 Agricultural Land

The Project, is constructed in a greenfield area of existing agricultural land. Project conditions NSW-CoA E39, E40 and E41 require that the Project is constructed to minimise disruption to local agriculture. Measures will include, but not limited be to:

- Place stock proof fences to exclude stock from the Construction area. This will take place prior to major earthworks.
- After discussion with the farmers at agreed times allow stock controlled access to pastures on the other side of the Construction corridor. The access gates will be agreed upon and earthmoving activities cease in the area until the stock are across the Construction corridor.
- Relocate and/or remove farm infrastructure, including farm dams, as required and in consultation with affected land owners.
- Liaise with farmers in regards to dewatering of dams for relocation (if possible) to existing farm dams.
- If requested by a landowner(s), GEJV will engage a suitably qualified and experienced independent agricultural expert, to assist in identifying management measures
- undertake relocation of infrastructure (for example, fencing, dams, property access) in consultation with the property owner.
-

5.2 NSW-CoA E42, E43 and E44 Building Condition Survey

GEJV has contracted a qualified building surveyor to undertake building condition surveys that have been identified in the EIS and SPIR as being at risk of damage from Construction activities.

The building surveyor will report survey results of each building as a standalone report with accompanying photographs as evidence. GEJV will provide a copy of the report to the landowner and Roads and Maritime. If the landowner consents, the report will be sent to Liverpool City Council and Penrith City Council, as relevant, within three weeks of the report's completion.

5.3 NSW-CoA E66 Utilities and Services

GEJV will conduct a services search prior to earthworks. The risk areas for services will be identified and the services search will be conducted with non-destructive ground penetration (for example a sucker truck). Services located will be identified to reduce the risk of service damage and disruption to residents and businesses. The highest risk areas are at the northern and southern tie-ins with the existing The Northern Road.

Under the Roads and Maritime notification guidelines and the GEJV CCLP, the community will be consulted if property access, diversions and/or service protection is required.

Consultation will be undertaken with the service provider prior to any disruption of the service and the community will be notified prior to any disruption within the service provider guidelines timeframe and the GEJV CCLP process.

The GEJV Services Senior Project Engineer (SPE) will develop strategies with the utility providers to address potential impacts from utility disruption during Construction of the Project.

5.4 Fire Safety

The Project is being Constructed in a rural area and there is a possibility of grassfires to prevent fires originating from Construction-related operations and manage fires generated from other sources, GEJV has developed strategies to manage the risk from fire, as listed below:

- Advise the local Rural Fire Service (RFS) in regards to the Project and provide traffic control plans and inform the RFS of any road/lane closures to the existing road
- No hot works will take place without a hot works permit approved by the Superintendent or their delegate.
- Hot work permits to be only valid for one day
- No hot works will be undertaken during total fire bans (TFB)
- Plant that may cause sparking (for example, slashing) will not be operated during a TFB.
- There will be equipment for fighting fires on site at all times during Construction (for example water carts and / or Furphy trailer with firefighting pump)
- All plant and light vehicles on site will have fire extinguishers
- GEJV will assess the requirement for firefighting training for nominated staff
- Cutting, welding, grinding or other activities likely to generate fires in the open on days will not be undertaken when a total fire ban is proclaimed
- There will be no disposal of cleared and grubbed vegetation by burning off.

The risk of fire to safety, materials and the environment has been addressed in the construction risk assessment workshop (CRAW).