27 DRAFT ENVIRONMENTAL MANAGEMENT PLAN

27.1 INTRODUCTION

27.1.1 PURPOSE OF THIS EMP

This Environmental Management Plan (EMP) forms a part of the Wandoan Coal Project (the Project) environmental impact statement (EIS). While it is intended that the EMP will contain sufficient information to essentially stand alone, the EIS may be consulted for more detail (if required).

This EMP will describe how the potential environmental impacts associated with the construction and operation of the proposed western coal seam methane (CSM) water supply pipeline (proposed pipeline), proposed as an option to supply water from the Spring Gully Reverse Osmosis Plant to the Project, will be managed. Compliance with the EMP will ensure the operation is conducted in accordance with relevant Environmental Protection Policy (EPP) requirements, the standard criteria as outlined in Schedule 3 of the *Environment Protection Act 1994* (EP Act), current best practice environmental management for the pipeline industry and the principles of ecologically sustainable development. By doing so, the objective of the EP Act can be achieved.

The Environmental Protection Agency's (EPA) guideline Preparing environmental management plans, and the Australian Pipeline Industry Association Ltd's Code of environmental practice: onshore pipelines were consulted during preparation of this EMP.

27.1.2 PROJECT OVERVIEW

The proposed infrastructure includes a 100 km (approximately) pipeline from the Spring Gully CSM field to the raw water storage pond on the Project mining lease application (MLA) areas.

The Project area is located in a landscape that has been highly modified by past land uses including agriculture (i.e. grazing and cropping). Vegetation in the southern portion of pipeline area is therefore highly fragmented and relictual (i.e. less than 10% retained). The hydrology on the area is dominated by a number of north flowing ephemeral creeks.

The proposed pipeline will generally be buried, with a single pump station located at the Spring Gully CSM field. The majority of the proposed pipeline will be constructed using a section trench and backfill method over a period of approximately nine months. The proposed maximum width of the construction corridor would be 50 m along the entire route to allow construction activities to be carried out in a safe and effective manner. Rehabilitation activities will be undertaken along the corridor at the completion of construction works, leaving a 20 m wide easement including access track adjacent to the pipeline remaining cleared to provide sufficient room for use by security and maintenance vehicles.

The Proponent for the Project is the Wandoan Joint Venture (WJV), which includes Xstrata Coal Queensland Pty Ltd (75%), ICRA Wandoan Pty Ltd (12.5%), and Sumisho Coal Australia Pty Ltd (12.5%). A copy of the WJV's sustainable development policy is provided in Figure 27-1-V2.3. Note that figures with numbering ending in V2.3 refer to figures contained in Volume 2, Book 3 of the EIS.

27.1.3 PIPELINE ROUTE

The proposed route of the pipeline is shown in Figure 27-2-V3.3. The location of construction access tracks will be determined during detailed design. This figure will be updated to show the location of access tracks prior to the commencement of construction.

27.2 EMP OUTLINE

The EMP is intended to be a dynamic document that identifies potentially significant environmental impacts and provides practical and feasible methods to manage and minimise those impacts.

The EMP is structured as a series of action plans covering the environmental aspects of the project. Each action plan of the EMP identifies potential environmental impacts and details controls and actions to be implemented to reduce the potential for environmental impacts, and corrective actions to be undertaken if an undesired impact were to occur. The structure of each action plan is as follows:

- each **action plan** is divided into early works, construction, operation and maintenance phases
- the **operational policy** which applies to the action plan is described
- the **performance criteria** for each action plan is stipulated
- the **implementation strategies** to achieve the performance standards are nominated
- the **monitoring and auditing procedures** to assess performance are described
- the procedure for **reporting** of monitoring and auditing results is described
- the **corrective action** or choice of corrective action is identified.

The content of this EMP will be incorporated into a Construction EMP for the pipeline to be prepared by the Principal Contractor.

27.2.1 ROLES AND RESPONSIBILITIES

The WJV is responsible for implementing the EMP for the whole project and ensuring compliance with the performance criteria of the EMP, including ensuring appropriate corrective actions are implemented when applicable.

In order for the EMP to operate effectively, specific roles and responsibilities need to be clearly defined. These will be determined by the WJV General Manager, whose overall responsibilities with respect to environmental management include:

- inclusion of the EMP in contractual documents for all work to be undertaken by contractors

- ensuring all contractors comply with the requirements of the EMP and nominate an Environmental Site Representative with the necessary authority
- overall planning to ensure operations are conducted with due regard to all statutory requirements
- audit and review of the EMP in order to certify that work is compliant with the requirements of the EMP
- management of Proponent staff and contractors to ensure compliance with specified control measures and management requirements
- notification of Proponent staff and contractors with respect to any changes or amendments to the EMP or related procedures.

27.2.2 PERFORMANCE CRITERIA

Relevant and measurable performance criteria are necessary to allow the effectiveness of the EMP to be assessed.

27.2.3 REPORTING

The relevant reporting structure will be included in site environmental training and induction and will be clearly displayed, along with contact names and numbers.

In the event of an incident that causes, or is likely to cause, environmental harm (as defined in the EP Act, immediate action will be taken to minimise the effects of the incident. As soon as is reasonably practicable, the details of the incident and corrective actions taken will be reported to EPA.

27.2.4 COMPLAINTS AND INCIDENTS PROCEDURE

A Complaints and Incidents Procedure will be established and implemented. A Complaints and Incidents Register will be used to record the details of all environmental incidents and complaints received. The information recorded will include the following, as a minimum:

- time, date, name and contact details of the complainant (or location of incident)
- reason(s)/circumstances leading to complaint or incident
- investigations undertaken and results
- corrective action(s) identified, including program for implementation
- date(s) completed.

At all times, complainants will be treated courteously and complaints will be resolved as quickly as possible. The complainant will be contacted within 24 hours of receipt of the complaint and will be kept informed of the progress of any subsequent investigation and corrective action(s).

27.2.5 ENVIRONMENTAL MONITORING AND AUDITING

Monitoring and auditing are key activities of the EMP and measures actual performance against targets to establish whether performance criteria are being met.

General environmental monitoring of construction activities will be carried out regularly (e.g. weekly) to identify issues which may result in non-compliance with the EMP or statutory requirements.

All monitoring will be conducted by suitably qualified and experienced personnel. Should the results of monitoring or site inspections indicate that the relevant performance criteria have not been achieved, corrective action must be implemented to rectify the situation. Details must be included in the Complaints and Incident Register.

In the event that site inspections indicate any non-conformances with the requirements of the EMP, a non-conformance notice will be issued and details will be included in the Complaints and Incident Register.

Formal audits relating to compliance with the EMP and statutory requirements will be undertaken at least every two months and audit teams should include appropriately experienced internal or external personnel. Each audit will result in an Audit Report that clearly outlines any non-conformance or non-compliance situations identified. A copy of the Audit Report will be provided to the Project Proponent within two weeks of the audit.

The auditor will be responsible for determining the severity of non-compliances and may instruct work to cease until the non-compliance has been rectified.

Corrective actions will be identified and implemented in response to the findings of the Audit Report.

Copies of Audit Reports and details of any subsequent corrective actions should be available for inspection, upon request by the administering authority.

27.2.6 ENVIRONMENTAL TRAINING

All staff and contractors will receive induction training about the general requirements of the EP Act and their specific duties and responsibilities associated with the EMP. At a minimum, the induction will address the following:

- 'general environmental duty' and 'duty to notify environmental harm' (s319 and s320 of EP Act, respectively)
- secific environmental risks identified for the project
- requirements of the EMP
- emergency contact information.

In addition, environmental issues will be reinforced at regular opportunities such as 'tool-box meetings' and at 'pre-start work meetings'.

27.2.7 REVIEW AND UPDATE

The EMP is intended to be dynamic and should be reviewed as often as necessary in accordance with changes to:

- selected technologies or equipment
- operational activities
- the legislative environment and/or approval conditions
- improvements in best practice environmental management

- corrective actions implemented as a result of complaints, incidents or non-conformance situations
- Audit Report recommendations.

In particular, it is essential that the EMP be refined once the locations of the pipeline and access tracks are fully defined and any further field assessment as part of the supplement to the EIS, or during detailed design, have been undertaken.

27.2.8 LEGISLATIVE REQUIREMENTS

The EMP will be implemented in accordance with relevant legislation, codes of practice, guidelines and standards. Legislative and other requirements will need to be revised in response to changes in environmental legislation and/or environmental management procedures and policies of the Principal or Contractor.

The legislation and standards provided in Table 27-1 should be used as the basis of decision making and complaint resolution in respect of the EMP.

Table 27-1: List of legislative requirements, standards and guidelines

Issue	Legislation, standards and guidelines
Approvals	*Environment Protection and Biodiversity Conservation Act 1999 (Cwth)* *Integrated Planning Act 1997* *State Development and Public Works Organisation Act 1971* *Transport and Infrastructure Act 1994* *Mineral Resources Act 1994* *Environmental Protection Act 1994* Environmental Protection Regulation 1998 Taroom Planning Scheme Murilla Planning Scheme Taroom Shire Local law No. 21 (Roads) Murilla Shire Local Laws Chapter 12 Bridges and Culverts Murilla Shire Local Law No 13 (Control of Pests) Murilla Shire Local Law No 16 (Blasting Operations) Murilla Shire Local Law No 21 (Roads).
Land use and contaminated land	*Environmental Protection Act 1994* Draft Guidelines for the assessment and management of contaminated land in Queensland (May 1998) *Integrated Planning Act 1997* *Land Protection (Pest and Stock Route Management) Act 2002* *Land Act 1994*
Geology, mineral resources, overburden and soils	Soil Erosion and Sediment Control — Engineering Guidelines for Queensland Construction Sites — IE Australia, 1996 (or subsequent updates) State Planning Policy 1/92 — Development and the Conservation of Agricultural Land
Groundwater	*Water Act 2000* Great Artesian Basin Water Resource Plan (Surat North Management Area (20)) *Environmental Protection Act 1994* Environmental Protection (Water) Policy 1997

Issue	Legislation, standards and guidelines
Water	*Water Act 2000* *Environmental Protection Act 1994* Environmental Protection (Water) Policy 1997 Water Quality Sampling Manual — Department of Environment and Heritage 1995 EPA Water Quality Sampling Manual Soil Erosion and Sediment Control — Engineering Guidelines for Qld construction sites — IE Aust 1996 *Nature Conservation Act 1992* Australian and New Zealand Guidelines for Fresh and Marine Water Quality, ANZECC, 2000
Traffic and transport`	*Transport Infrastructure Act 1994*
Air quality	*Environmental Protection Act 1994* Environmental Protection (Air) Policy 1997 AS 3580 — Methods of sampling and analysis of ambient air National Environment Protection Council, National Environment Protection Measures for Ambient Air Quality
Noise	*Environmental Protection Act 1994* Environmental Protection (Noise) Policy 1997 AS 2436 — Guide to noise control on construction, maintenance and demolition sites AS 1055.1/2: 1997— Acoustics — Description and management of environmental noise Noise Measurement Manual Department of Environment and Heritage 1995 (or latest release) EPA Noise Measurement Manual 2000 Ecoaccess Guideline: Planning for noise control User's guide to the Environment Protection (Noise) Policy Environmental Protection Agency 1997
Ecology	*Environment Protection and Biodiversity Conservation Act 1999 (Cwth)* *Water Act 2000* *Fisheries Act 1994* *Nature Conservation Act 1992* Nature Conservation (Wildlife) Regulation 2006 *Animal Care and Protection Act 2001* *Vegetation Management Act 1999* Vegetation Management Regulation 2000 *Agricultural Chemicals Distribution Control Act 1966* *Land Protection (Pest and Stock Route Management) Act 2002*
Waste management	Environmental Protection Act 1994 Environmental Protection (Waste) Policy 1997 Environmental Protection Regulation 1998 Environmental Protection (Waste Management) Regulation 2000
Cultural Heritage matters	*Queensland Heritage Act 1992* *Integrated Planning Act 1997* *Land Protection (Pest and Stock Route Management) Act 2002* *Land Protection (Pest and Stock Route Management) Regulation 2003* *Environment Protection and Biodiversity Conservation Act 1999* *Environment and Heritage Legislation Act (No 1) 2003* *Australian Heritage Council Act 2003*

Issue	Legislation, standards and guidelines
	Coroners Act 2003 *Native Title Act 1993 (Cwth)* *Native Title (Queensland) Act 1993* *Aboriginal Cultural Heritage Act 2003* *Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cwth)*
Hazard and risk	*Coal Mining Safety and Health Act 1999* *Workplace Health and Safety Act 1995* *Explosives Act 1999* *Dangerous Goods Safety Management Act 2001* *Transport Infrastructure Act 1994* *Transport Infrastructure (State-controlled Roads) Regulation 2006* *Environmental Protection Act 1994* *Petroleum and Gas (Production and Safety) Act 2004* AS 4360: Risk Management
Health and safety	*Workplace Health and Safety Act 1995* *Explosives Act 1999* *Dangerous Goods Safety Management Act 2001* *Coal Mining Safety and Health Act 1999* *Petroleum and Gas (Production and Safety) Act 2004* Code of Practice for Management of Hazardous Substances at Work 1989 AS 1940 Storage and handling of flammable and combustible liquids AS 2187: Explosives – Storage, Transport and Use AS 4360:2004 Risk Management AS 4801: Occupational health and safety management system — specification with guidance for use

27.3 ENVIRONMENTAL MANAGEMENT STRATEGIES

Environmental management strategies for aspects potentially impacted by the construction and operation of the proposed western water supply pipeline are contained in the action plans attached in Sections 27.3.1 to 27.3.16.

The information presented in these action plans has been sourced from the relevant EIS chapters and associated technical reports, and the Code of Environmental Practice: Onshore Pipelines (the Australian Pipeline Industry Association Ltd 2005).

27.3.1 CONTAMINATED LAND ACTION PLAN

Objectives	▪ To ensure that pipeline construction, operation and maintenance activities avoid existing contaminated land and do not result in contamination. ▪ To minimise contamination impacts to land, surface water and groundwater.
Performance criteria	▪ No land or water contamination within or adjacent to the pipeline construction corridor. ▪ No significant change in quality of groundwater as a direct result of on-site activities.
Environmental aspects	▪ Soils, surface water and groundwater in the vicinity of the pipeline.

	▪ Oils, greases and chemicals used during construction and maintenance. ▪ Saline CSM water.
EARLY WORKS	
Actions/controls	▪ Conduct site inspections of properties along proposed pipeline easement identified in the EIS as potentially containing land contamination. ▪ Based on the results of the site inspection, conduct targeted soil sampling programs where required, and formulate mitigation measures.
Monitoring	None required.
Corrective action	None required.
Responsibility	Proponent.
Reporting	Contaminated land site assessment.
CONSTRUCTION	
Actions/controls	▪ The contents of this plan will be communicated to all contractors and staff via the site induction. ▪ No on-site fuel storage. ▪ Refuelling of vehicles via fuel trucks to occur away from the road side to reduce the risk of a vehicle accident. ▪ Refuelling of vehicles via fuel trucks to occur away from drainage channels and waterways. ▪ Refuelling trucks will be equipped with spill response kits. ▪ Appropriate spill kits will be available on site in case of fuel or chemical spills. ▪ Develop and implement waste disposal protocols. ▪ Significant vehicle maintenance is only to be undertaken at a suitable location as specified in the construction management plan. ▪ Operate and store machinery and potentially contaminating equipment on adjacent weathered rocks rather than directly over the alluvium where possible. ▪ Minimise the amount of potential contaminants stored on site. ▪ Securely store potential contaminants (e.g. bunded and weatherproof chemical storage areas).
Monitoring	▪ Weekly inspection of all work areas to detect any chemical/oil/hazardous materials spills. ▪ Weekly inspection of spill containment equipment. ▪ Should a contaminant release incident occur with potential to impact on land, surface water or groundwater, undertake monitoring as required for relevant indicator parameters. ▪ If groundwater bores are present in close proximity to construction works and are considered to be at risk from contamination as a result of pipeline construction or operation activities, undertake periodic monitoring and analysis.
Corrective action	▪ Immediately contain source of spill and deploy containment measures. ▪ Clean up soil contamination or spillage immediately (disposal only by an appropriately licensed contractor). ▪ Effect repairs to spill kits immediately. ▪ Immediately notify the EPA/Local Council if a significant spill occurs with potential to cause environmental harm.

	▪ Consult with EPA and NRW to facilitate groundwater remediation if groundwater contamination is confirmed.
Responsibility	Construction contractor
Reporting	▪ Weekly reporting commensurate with inspections throughout the construction period of the Project. ▪ Record details of incident(s) in Complaints and Incident Register.
OPERATION AND MAINTENANCE	
Actions/controls	▪ Pumps will be fitted with a low pressure cut-out control system in the event of a pipe section failure.
Monitoring	▪ As part of the regular inspection and maintenance program.
Corrective action	▪ Conduct prompt maintenance to repair any leaks or spills identified. ▪ Clean up soil contamination or spillage as soon as practicable (disposal only by an appropriately licensed contractor). ▪ Effect repairs to spill kits immediately. ▪ Immediately notify the EPA/Local Council if a significant spill occurs with potential to cause environmental harm. ▪ If significant contamination of groundwater is suspected as a result of operational activities (e.g. a spill), consult with EPA and NRW to facilitate a groundwater monitoring program, and conduct groundwater remediation if groundwater contamination is confirmed.
Responsibility	Operations contractor
Reporting	▪ Maintenance records. ▪ Inspection records. ▪ Record details of incident(s) in Complaints and Incident Register.

27.3.2 SITE PREPARATION AND REHABILITATION ACTION PLAN

Objectives	▪ To minimise the area of clearing and general disturbance. ▪ To ensure the post construction landform is (geotechnically) stable. ▪ To encourage establishment of permanent and stable vegetation cover in areas disturbed for the construction of the pipeline. ▪ To ensure that water quality downstream of the construction work area is maintained and not adversely affected as a result of the construction works.
Performance criteria	▪ Site returned to a condition similar to that prior to construction. ▪ no ongoing erosion or land degradation following completion of construction
Environmental aspects	▪ Soils, surface water and vegetation in the vicinity of the Pipeline.
EARLY WORKS	
Actions/controls	▪ During detailed design, locate site access via existing roads and tracks where practicable. ▪ During detailed design, locate new access tracks away from areas with dispersive clays where practicable. ▪ During detailed design, design landforms to reflect the original topography. ▪ Design access and construction tracks with a cross fall and incorporate adequate drainage and surface water control

	strategies/devices to prevent erosion. ▪ During detailed design, minimise the size of construction works areas in steep terrain wherever possible to avoid excessive earthworks and land disturbance and limit the potential for slope instability. ▪ During detailed design, stage vegetation clearing and development to minimise the area of land which is subject to disturbance activities at any one time. ▪ During detailed design, where practicable, design works to retain existing vegetation within the proposed pipeline easement. ▪ During detailed design, plan appropriate locations and size of areas required for stockpiling. ▪ Pre-determine volumes and sources of construction material at the planning and design phase. ▪ During detailed design, where possible, locate material stockpiles and laydown areas within areas which have already been disturbed and are clear of vegetation.
Monitoring	None required
Corrective action	None required
Responsibility	Proponent
Reporting	Detailed design
CONSTRUCTION	
Actions/controls	▪ The contents of this plan will be communicated to all contractors and staff via the site induction. ▪ Provide construction works personnel with training regarding minimising land disturbance and need for erosion and sediment control. ▪ Retain existing soil conservation measures such as contour banks, or reinstate following construction works. ▪ Implement appropriate site drainage, sediment and erosion controls prior to, or as soon as possible, following the removal of vegetation. Maintain as required to control surface runoff from all disturbed areas. ▪ Locate infrastructure, parking and laydown areas at sites with minimal slope. ▪ Construct hardstands out of erosion resistant material. ▪ Bund all stockpiles. Short term stockpiles may be bunded by sediment fencing, while long term stockpiles should have measures such as earthen bunds. ▪ Drainage works are to be installed to divert overland flow, from upslope of the long term stockpile areas, away from and around the stockpiles. Sediment traps or similar features will need to be installed downslope of stockpiles to prevent eroded sediment entering waterways. ▪ Where appropriate, plant long-term (greater than 3 months) stockpiles of topsoil with vegetation to minimise entrainment of soil particles into the air and minimise erosion through raindrop impact. ▪ Compact fill around the pipeline to at least the density of the surrounding soil material, and leave the filled trench slightly higher than the natural landsurface to minimising ponding or infiltration around the pipe. ▪ Fully cap all dispersive soils along the corridor with at least 0.2 m of non-dispersive topsoil. Deeper topsoil depths have the potential to store rainwater and reduce infiltration into dispersive subsoils.

	▪ Manage the final landsurface to prevent the ponding of water on Teviot, Pamaroo or Limewood soils, to reduce the potential for infiltration into subsoils. ▪ The topsoil of Teviot is saline and generally should not be used as a topsoil layer in rehabilitation. Where suitable supply of other topsoil is available, this should be used in preference to Teviot, or Teviot soil mixed with this soil. Salt tolerant vegetation species may be required for rehabilitation on Teviot topsoils. ▪ Bury the (saline) subsoils of Cheshire, Teviot and Woleebee, Limewood, Wondolin, Glenarden and Pamaroo below the rooting depth of plants. ▪ Rip the top layer of soil in previously compacted areas that are to be rehabilitated (e.g. trench edges, access tracks, stockpile and layover areas). Ripping the top layer of soil breaks down the soil structure, and as a result protection of these areas from re-compaction (i.e. vehicles or grazing animals) after ripping is required to allow the soil structure to reform. ▪ Select appropriate earthmoving machinery (i.e. light weight vehicles with large wheel/track size) to reduce compaction of topsoil. ▪ Strip topsoil and stockpile separately during clearing for reuse in site rehabilitation. ▪ Store topsoil in stockpiles no more than 3 m high to retain seed germination potential. ▪ Store topsoil for the shortest period practicable, and where possible reuse within 6 months of stripping to maximise the viability of the seed bank in the soil. ▪ Reuse topsoil in the general area from which it was stripped. ▪ Spread topsoil to a depth of approximately 0.2 m during site rehabilitation. ▪ Where appropriate, install control measures such as fencing on newly topsoiled areas to exclude vehicle or stock access until a vegetation cover has established. ▪ Conduct rehabilitation works on a progressive basis, including progressive revegetation of disturbed areas. ▪ Sow all disturbed areas with an appropriate mix of species (i.e. pasture seed on farm lands through which the pipeline passes, native seed in road reserve areas and tube stock in creek and drainage line crossings). ▪ Where practicable, mulch vegetation removed for construction works and stockpile for subsequent use in rehabilitation. ▪ Store topsoils and subsoils excavated from the trench in separate stockpiles. ▪ Excavated topsoils and sub soils will be replaced in the trench according to the order in which they were removed (i.e. subsoils initially followed by a cover of topsoil). ▪ Reinstate local landform features, such as gullies and drainage lines as part of rehabilitation works.
Monitoring	▪ Monitoring for occurrence of erosion. ▪ Monitoring of landform stability and vegetation cover, weeds, etc. ▪ Monitoring for the development of tunnel erosion should be undertaken 3 monthly for 12 months following the completion of construction.
Corrective action	▪ Where monitoring programs indicate that rehabilitation is failing, rehabilitation maintenance works will be implemented in a timely manner.

	▪ Rehabilitation activities to be undertaken in areas where unplanned damage to vegetation or landforms result from construction activities.
Responsibility	Construction contractor
Reporting	Weekly reporting commensurate with inspections throughout the construction period of the Project.
OPERATION AND MAINTENANCE	
Actions/Controls	▪ For ease of access to the pipeline in case of emergency repair, the easement will be maintained with vegetation at ground and shrub layers only. Large trees will not be allowed to establish in the pipeline easement. ▪ Weed management will be undertaken as specified in Chapter 17a Terrestrial Ecology.
Monitoring	▪ Monitoring of the rehabilitation maintenance works to ensure that maintenance works are successful. ▪ Once rehabilitation is deemed to be successful, the pipeline easement will be subject to regular vegetation inspection and maintenance activities.
Corrective action	Where monitoring programs indicate that rehabilitation is failing, rehabilitation maintenance works will be implemented in a timely manner.
Responsibility	Operations contractor
Reporting	Inspection records

27.3.3 WATER MANAGEMENT ACTION PLAN

Objectives	To minimise impacts at watercourse crossings
Performance criteria	No impacts at watercourse crossings
Environmental aspect	Permanent and ephemeral creeks including (but not limited to) Dogwood Creek, Wieambilla Creek, Wallan Creek, Bottle Tree Creek and Drillham Creek.
EARLY WORKS	
Actions/controls	▪ Consult with DNRW/DPI&F to ensure that the proposed construction methods are appropriate at each watercourse crossing. ▪ Consult with DNRW/DPI&F to ensure that design factors will be suitable to minimise potential impacts. ▪ Obtain approvals required under the Water Act 2000 for watercourse crossings. ▪ Ensure design at watercourse crossings minimise the potential for scour to occur at the pipeline. ▪ Incorporate shut down mechanisms into the pipeline design for use in the event that failure of the pipeline occurs. ▪ Equip scour outlets with a cam-loc coupling to allow the pipe to be dewatered to a water truck.
	▪ Incorporate spill containment at each of the scour outlet locations to ensure that any spills during pump out of water are contained and not released to the surrounding environment.
Monitoring	None required
Corrective Action	Modifications to design factors and construction methods based on consultation with DNRW and DPI&F.

Responsibility	Proponent
Reporting	Water Act approval application
CONSTRUCTION	
Actions/Controls	▪ The contents of this plan will be communicated to all contractors and staff via the site induction. ▪ Plan construction activities at waterway crossings to coincide with dry periods or low flow periods (autumn and winter months) where possible. ▪ Should it be necessary to construct the pipeline across a watercourse that is not dry, contain the water by a levee and construct the pipeline in the minimal time possible to ensure minimal disturbance to the watercourse. If necessary, other construction techniques such as directional drilling will be adopted. ▪ Segregate material excavated from within watercourses so that, for example, material from the creek bed and topsoil from the banks does not mix. Reinstate this material in its natural position. ▪ Do not store construction materials within the channel of watercourses. ▪ Restrict movement of construction vehicles, plant and personnel within the channel and banks of watercourses. ▪ Store chemicals and fuels in bunded areas in accordance with relevant standards. ▪ Training of construction employees to implement spill response procedures and implement, maintain and be aware of sediment and erosion control measures and requirements. ▪ Mitigation measures required during hydrostatic testing include: ‣ testing a maximum length of pipeline of 1 km at a time ‣ using potable standard water during the tests to minimise impacts to waterways should leaks or failure be identified ‣ cease testing immediately if leak(s) detected ‣ capture water from each test for dust suppression for the pipeline construction, reuse in further tests or for construction water at the mine site
Monitoring	▪ Weekly monitoring of erosion and erosion and sediment control measures implemented within the work areas. ▪ Water quality monitoring ▪ Training register
Corrective action	Modification of existing, or implementation of additional mitigation measures if necessary.
Responsibility	Construction contractor
Reporting	Weekly reporting commensurate with weekly inspections
OPERATION AND MAINTENANCE	
Actions/controls	▪ Inspect watercourse crossings for signs of scour and erosion following periods of heavy rainfall. If necessary, carry out rehabilitation works to prevent erosion along the pipeline route. ▪ Any water collected during pipe dewatering will be trucked to the mine site for release into the collection pond or water storage dam (if of a suitable water quality), or disposed of to the tailings dam. ▪ The small amounts of water that are likely to spill during scour outlet pump out will be left to evaporate from the containment structure. ▪ Conduct regular maintenance and monitoring of the pipeline to minimise the potential for pipeline leaks or ruptures to occur.

Monitoring	▪ Continuous monitoring of flows and regular inspection of the pipeline condition.
Corrective action	▪ Maintenance activities based on monitoring results. ▪ If necessary, carry out rehabilitation works to prevent erosion along the pipeline route.
Responsibility	Operations contractor
Reporting	Inspection records Maintenance records

27.3.4 WATER QUALITY ACTION PLAN

Objectives	▪ To minimise the potential for soil loss and degradation. ▪ To prevent adverse impacts on water quality.
Performance criteria	▪ No Project-related deterioration in water quality in the creeks and drainage lines in the vicinity of the Project area. ▪ No sediment released off-site. ▪ No sediment entering a waterway or drainage line. ▪ No off-site erosion. ▪ No long term increase in erosion potential as a result of the Project.
Environmental aspects	▪ Permanent and ephemeral creeks including (but not limited to) Dogwood Creek, Wieambilla Creek, Wallan Creek, Bottle Tree Creek and Drillham Creek. ▪ Dispersive (sodic) and sandy topsoils, as are located throughout the majority of the pipeline construction area.
EARLY WORKS	
Actions/controls	Prepare an Erosion and Sediment Control Plan in accordance with Soil Erosion and Sediment Control; Engineering Guidelines for Queensland (Institution of Engineers, 1996) prior to the commencement of any construction activities specifying the locations and types of erosion and sediment control measures to be used and in which locations. Measures listed under the construction section of this action plan should be included in the Plan.
Monitoring	None required
Corrective Action	None required
Responsibility	Construction contractor
Reporting	Erosion and Sediment Control Plan for approval by the Proponent.
CONSTRUCTION	
Actions/controls	▪ The contents of this plan will be communicated to all contractors and staff via the site induction. ▪ Install erosion and sediment controls in accordance with the Erosion and Sediment Control Plan ▪ Divert clean surface runoff away from disturbed areas. ▪ Stockpile excavated materials away from gullies and drainage lines. ▪ Clearly identify the areas required to be disturbed to ensure that land disturbance and vegetation clearance is minimised. ▪ Plan construction works to minimise the length of time that soils are disturbed and ensure prompt revegetation of areas as soon as works are complete.

	▪ Limit vegetation clearing and disturbance (including grass cover) to the minimal amount required for Project works. ▪ Confine traffic to defined roads and access tracks. ▪ Install water control and sediment containment measures to all soils that will be trafficked or compacted during construction. ▪ Install erosion and sediment control measures on disturbed slopes. This is especially important for soils with dispersive subsoils. ▪ Direct water runoff around or away from disturbed areas using diversion bunds and catch drains as appropriate. ▪ Avoid exposure of alkaline or sodic subsoils (e.g. Cheshire, Woleebee, Rolleston, Teviot, Limewood, Wondolin, Eumamurrin, Glenarden, Retro, Nimitybelle) where possible, otherwise limit to the minimal amount of time practicable. ▪ Do not leave alkaline or sodic subsoils exposed on the surface for extended periods. Cover these soils with topsoil or other material. ▪ Direct run-off from exposed subsoil to sedimentation basins. ▪ Revegetate exposed soils as soon as practical after works have been completed.
Monitoring	▪ Weekly (at minimum) visual inspection of sediment and erosion control measures. ▪ Visual inspection of sediment and erosion control measures following heavy rain events. ▪ Weekly visual inspection of trench and water management infrastructure for erosion. ▪ Continue erosion monitoring until the vegetation cover has become fully established.
Corrective action	▪ Remediate erosion as soon as practicable. This may include levelling the eroded area, capping with non-dispersive topsoil, application of seed and applying erosion control measures to prevent water impacting the site. ▪ Rehabilitation activities to be undertaken in areas where unplanned damage to vegetation or landforms results from construction activities.
Responsibility	Construction contractor
Reporting	Throughout the construction period of the Project
OPERATION AND MAINTENANCE	
Actions/controls	▪ Refer to Sections 27.3.2 Site Rehabilitation and 27.3.8 Ecology - Terrestrial
Monitoring	▪ Rehabilitation monitoring to be undertaken for a period post-construction. ▪ Water quality monitoring for appropriate suite of parameters to be undertaken if rehabilitation works fail and erosion and sedimentation is evident.
Corrective action	▪ Additional site preparation and rehabilitation works to be undertaken should initial rehabilitation works fail and impact to water quality through erosion and sedimentation is continuing.
Responsibility	▪ Operations contractor
Reporting	▪ In the event of an incident ▪ Maintenance records ▪ Inspection records

27.3.5 TRAFFIC AND SAFETY ACTION PLAN

Objectives	To facilitate a safe work area in which traffic movements to, from and throughout the work areas are undertaken in a safe manner.
Performance criteria	▪ Safe flow of traffic both to, from and throughout the work areas. ▪ Implement traffic controls around work areas where necessary to ensure safe environment is created for road users and construction workers alike. ▪ Minimise hazards and nuisance which may be created by heavy machinery traffic to the work area and along haulage routes.
Environmental aspect	▪ Local roads ▪ Site access roads
EARLY WORKS	
Actions / controls	▪ Negotiations with local and state government to utilise local and state government controlled road reserves for the pipeline alignments where applicable. ▪ Negotiate access through private property where required. ▪ Consult landholders prior to access for construction of the pipeline. ▪ If required, obtain Heavy Vehicle Permits prior to commencement of equipment and transport and construction. ▪ Develop and implement a site Traffic and Access Management Plan specifying the locations and types of traffic management measures to be used and in which locations. Measures listed under the construction section of this action plan should be included in the Plan.
Monitoring	▪ None required
Corrective action	▪ None required
Responsibility	▪ Proponent/construction contractor
Reporting	▪ Heavy vehicle permit application. ▪ Traffic and Access Management Plan for approval by the Proponent.
CONSTRUCTION	
Actions / controls	▪ The contents of this plan will be communicated to all contractors and staff via the site induction. ▪ All drivers and operators will retain the appropriate licence for the class of vehicle being used. ▪ Staff will be made aware of weed dispersal issues throughout the area as detailed in Section 27.3.9. ▪ Implement appropriate traffic management measures where pipelines are constructed in close proximity to roads or are required to cross roads. ▪ Installation of appropriate signage in accordance with the Workplace *Health and Safety Act 1995* will be undertaken to provide adequate control of the work site and associated access roads. ▪ Restrict speed limits within and adjacent to work areas to reflect the surrounding environment and to limit dust suppression. ▪ Reduce heavy vehicle movements during the school bus route operational hours. ▪ Ensure vehicles do not exceed standard vehicle weights. ▪ Provide the workforce with appropriate induction training and regular reinforcement of rules and policies.

Monitoring	▪ Safety and traffic issues will be monitored. ▪ Complaints regarding vehicle access and traffic issues to be monitored. ▪ Training register
Corrective action	▪ Should a valid complaint be received, it will be investigated immediately and corrective actions taken within an appropriate timeframe. ▪ Review Traffic Management Plan if justified complaints are received or safety is compromised by actual incident or near miss.
Responsibility	Construction Contractor
Reporting	Reporting to be undertaken throughout construction period.
OPERATION AND MAINTENANCE	
Actions/controls	▪ Only authorised vehicles may access private properties during maintenance activities. ▪ Maintenance vehicles will only utilise and remain within specifically constructed and dedicated maintenance tracks. ▪ restrict speed limits on maintenance tracks to reflect the surrounding environment. ▪ Maintenance vehicles must undertake appropriate weed washdown procedures prior to accessing properties (refer Section 27.3.9).
Monitoring	▪ Monitor all complaints
Corrective Action	▪ Should a valid complaint be received, it will be investigated immediately and corrective actions taken within an appropriate timeframe.
Responsibility	Operations contractor
Reporting	None required

27.3.6 AIR QUALITY ACTION PLAN

Objectives	▪ To prevent dust and other atmospheric emissions generated by construction activities from causing a hazard or nuisance to nearby sensitive receptors. ▪ To comply with the *Environmental Protection Act 1994* and the *Environmental Protection (Air) Policy 1997*.
Performance criteria	▪ Dust levels remain well below the EPP (Air) goals for annual TSP, PM10 and dust deposition at sensitive receptors (e.g. residences). ▪ No complaints received relating to dust.
Environmental aspects	▪ Residences in the vicinity of the pipeline corridor and access tracks.
EARLY WORKS	
Actions/Controls	▪ Where possible, access tracks are to be located at least 500 m from sensitive receptors (e.g. residences).
Monitoring	▪ None required
Corrective Action	▪ None required
Responsibility	▪ Proponent
Reporting	▪ None required

CONSTRUCTION	
Actions/controls	▪ The contents of this plan will be communicated to all contractors and staff via the site induction. ▪ Use water sprays during excavation when sensitive receptors are located within 500 m of the pipeline corridor. ▪ Rehabilitate and/or apply ground surface cover (e.g. mulch) to disturbed areas as soon practicable following trench refill. ▪ Water access roads as necessary. ▪ Limit vehicle speed to 10 km/hour on cleared access tracks adjacent to residences. ▪ Truck loads that have the potential to create dust will be covered or dampened prior to transportation. ▪ Ensure water supply for dust generation does not lead to soil contamination (e.g. saline water or contaminated waste water). ▪ Burning of cleared vegetation or other waste materials will only be carried out on site when all other preferred options (eg. storage or reuse) are not feasible and in compliance with local fire authority. Cleared vegetation will be mulched, left in situ or removed.
Monitoring	▪ Daily visual inspection for dust generation. ▪ Opportunistic visual inspections during windy conditions for dust generation. ▪ Visual inspections in response to a complaint.
Corrective Action	▪ Application of ground surface cover (e.g. mulch) to disturbed areas. ▪ Application of water spray. ▪ Review water spray procedures and amend if required (e.g. frequency of watering or conditions under which watering is required).
Responsibility	Construction contractor
Reporting	▪ Record of inspections. ▪ Complaints and Incident Register. ▪ Throughout the construction period of the Project.
OPERATION AND MAINTENANCE	
Actions/controls	▪ Airborne dust generated by maintenance activities will be suppressed by successful rehabilitation or covering of disturbed ground surface.
Monitoring	▪ Visual inspections in response to a complaint.
Corrective action	▪ Application of ground surface cover (e.g. mulch) to disturbed areas. ▪ Application of water spray.
Responsibility	Operations contractor
Reporting	▪ In the event of a complaint associated with the generation of excessive dust, a report will be prepared detailing the complaint, corrective action and further monitoring required to minimise the potential for further complaints.

27.3.7 NOISE ACTION PLAN

Objectives	▪ Minimise noise impacts at sensitive receptors (e.g. residences and public places).
Performance criteria	▪ No noise-related complaints from sensitive receptors.
Environmental aspects	▪ Residences in the vicinity of the pipeline corridor and access tracks.
EARLY WORKS	
Actions/controls	▪ Consider the need for an acoustic enclosure around the pump station at Condamine Power Station based on detailed design.
Monitoring	None required
Corrective action	None required
Responsibility	Not applicable
Reporting	None required
CONSTRUCTION	
Actions/controls	▪ The contents of this plan will be communicated to all contractors and staff via the site induction. ▪ Permission will be sought from the administering authority to conduct construction activities during all hours. However if noise monitoring indicates that Project construction activities will or are likely to cause audible noise at a sensitive receptor, relevant Project construction activities will not be undertaken during the following hours (as per Section 6W of Environmental Protection Regulation 1998): ‣ on a Sunday or Public holiday at any time, unless after consultation and agreement has been made with appropriate government authorities and property owners ‣ on a Saturday or business day before 6:30 am or after 6.30 pm ▪ Recommendations given in AS 2438 “Guide to noise control on construction, maintenance and demolition sites”, 1981 will be evaluated and implemented where applicable. ▪ All machinery on site to be maintained regularly and in good working order to minimise noise generation. ▪ Undertake a community consultation program to inform the nearby residences and the local community when excessive noise impacts or noise impacts outside standard work hours are planned to occur.
Monitoring	▪ Weekly inspection for excessive noise generation. ▪ Opportunistic inspections for excessive noise generation. ▪ Inspections in response to a complaint.
Corrective action	▪ The Contractor will instigate mitigation measures (commensurate with noise impact occurring and complaint) to ensure noise levels are reduced to acceptable levels.
Responsibility	Construction contractor
Reporting	▪ Throughout the construction period of the Project. ▪ Records of weekly inspections.
OPERATION AND MAINTENANCE	
Actions/controls	None required
Monitoring	None required

Corrective action	None required
Responsibility	Operations contractor
Reporting	None required

27.3.8 TERRESTRIAL ECOLOGY ACTION PLAN

Objectives	To minimise impacts to native flora and fauna.
Performance criteria	▪ No clearing of destruction of vegetation outside that required for Project works. ▪ No injury of death of native animals resulting from Project works. ▪ No impacts on threatened flora or fauna other than that authorised under project approvals.
Environmental aspect	Terrestrial flora and fauna inhabiting pipeline corridor and surrounding environment.
EARLY WORKS	
Actions/controls	▪ Revisit and revise this action plan based on conditions imposed by DEWHA for the *Environment Protection and Biodiversity Conservation Act 1999* referral. ▪ Complete further surveys in the pipeline corridor area to account for a seasonal component in the survey and to ensure all proposed construction areas are assessed. ▪ During detailed design, endeavour, where possible, to locate ancillary areas and infrastructure to avoid impacts to areas of sensitive biodiversity. ▪ Prepare a Weed Management Plan, with a particular focus on declared weed species. ▪ Develop a vegetation offset program in consultation with EPA and DEWHA. ▪ Prior to commencement of construction activities, obtain all applicable licenses, approvals and permits (e.g. fauna handling and removal, vegetation clearing, etc). ▪ Prepare a Biodiversity Management Plan prior to the commencement of any construction activities, specifying the locations and types of flora and fauna management measures to be used and in which locations. Measures listed under the construction section of this action plan should be included in the Plan.
Monitoring	Training register
Corrective action	None required
Responsibility	Construction contractor Proponent
Reporting	Biodiversity Management Plan for approval by the Proponent.
CONSTRUCTION	
Actions/controls	▪ The contents of this plan will be communicated to all contractors and staff via the site induction. ▪ Provide training to construction workers regarding threatened species policy, procedures and management. ▪ If possible, minimise clearing activities in fauna nesting and breeding seasons. ▪ Select previously cleared sites for activities such as construction materials laydown areas and hardstand areas.

	▪ Conduct pre-clearing survey and fauna rescue. ▪ Clearly delineate or temporarily fence off vegetation to be retained prior to any commencement of clearing works or construction activities. ▪ Avoid disturbance of vegetation of known native fauna habitat wherever practicable. Where clearing of significant habitat is necessary, fauna will be flushed or removed prior to clearing. ▪ Preserve all large mature trees where possible, including those not already identified as environmentally sensitive, particularly in areas where they may be located near the fringes of the construction corridor. ▪ Have a trained environmental specialist to provide advice with clearing activities. ▪ In the event of sick, injured or orphaned native animals being located during clearing activities, the Queensland Parks and Wildlife Service is to be contacted and appropriate arrangements made. ▪ Retain and salvage vegetation on site for use in erosion control and site rehabilitation purposes. ▪ Retain and use suitable felled timber materials for on-site fauna habitat. ▪ Undertake a certified washdown of vehicles prior to commencing work on the site and prior to moving to weed free areas. ▪ Prior to the commencement of works each morning, all open trenches should be inspected for wildlife such as lizards, which should be removed from the trench.
Monitoring	▪ Implement a fauna monitoring program to ensure the effectiveness of mitigation measures. ▪ Rehabilitation monitoring to be undertaken throughout construction and for a period post-construction.
Corrective action	▪ Updates/changes to mitigation measures if impacts to fauna species are suspected based on fauna monitoring results. ▪ Rehabilitation activities to be undertaken in areas where unplanned damage to vegetation or landforms result from construction activities.
Responsibility	Construction contractor
Reporting	Appropriate reporting (to be detailed in the Flora and Fauna Management Plan) to be undertaken throughout construction period.
OPERATION AND MAINTENANCE	
Actions/controls	Any construction tracks not to be used for ongoing maintenance access will be rehabilitated/allowed to regenerate.
Monitoring	Rehabilitation monitoring will be conducted during operation of pipeline.
Corrective action	Additional rehabilitation activities will be undertaken in areas where regrowth is deemed unsuccessful or weed infestation is observed.
Responsibility	Construction contractor
Reporting	Appropriate reporting (to be detailed in the Biodiversity Management Plan) to be undertaken throughout operational period.

27.3.9 AQUATIC ECOLOGY ACTION PLAN

Objectives	To minimise impacts to aquatic ecology.
Performance criteria	▪ No Project-related deterioration in water quality in the creeks in the vicinity of the Project area. ▪ No fish kills.
Environmental aspect	Aquatic flora and fauna inhabiting nearby natural waterways.
EARLY WORKS	
Actions / controls	▪ Preparation of an Biodiversity Management Plan prior to the commencement of any construction activities specifying the locations and types of flora and fauna management measures to be used and in which locations. Measures listed under the construction section of this action plan should be included in the Plan.
	▪ Prior to commencement of construction activities, obtain all applicable licenses and permits associated with fauna handling and construction works in aquatic environments.
Monitoring	None required
Corrective action	None required
Responsibility	Construction contractor
Reporting	Biodiversity Management Plan for approval by the Proponent
CONSTRUCTION	
Actions / controls	▪ The contents of this plan will be communicated to all contractors and staff via the site induction. ▪ Provide training for staff regarding management and maintenance of waterways during earthworks. ▪ Provide training to staff regarding threatened species policy and procedures. ▪ Implement procedures for the prevention and management of fuel or chemical spills as detailed in Section 27.3.1. ▪ Implement stormwater, erosion and sediment controls as detailed in Section 27.3.4. ▪ Capture and translocate fish and turtles stranded due to project activities following the DPI&F Fish Salvage Guidelines. ▪ After construction, implement rehabilitation activities to protect the water quality and ecosystem health of nearby waterways including: ‣ using erosion control matting in ditches and drainage lines running from all cleared areas, especially on slopes and levee banks. ‣ forming contour banks or ditches across cleared slopes to direct runoff towards surrounding vegetation and away from creeks. ‣ rehabilitating riparian vegetation and the bed and bank structure such that original dimensions and shape of the creek are achieved including bank re-contouring with stabilisation methods (crib walls or soil wraps) where appropriate. ‣ replacing aquatic habitat structures within the channel.

Monitoring	▪ Water quality monitoring to be undertaken throughout construction and for a period post-construction. ▪ Maintain a training register.
Corrective action	▪ Rehabilitation activities to be undertaken in areas where unplanned damage to creek or drainage lines results from construction activities. ▪ In the event of a fuel or chemical spill, a spill kit is to be used to clean up the area immediately followed by lodgement of an incident report. ▪ Immediately notify the EPA/Local Council if a significant spill occurs with potential to cause environmental harm.
Responsibility	Construction contractor
Reporting	▪ Reporting required throughout the construction period. ▪ Training register ▪ Incident and near miss reporting.
OPERATION AND MAINTENANCE	
Actions/controls	▪ No discharge of pipeline testing effluent to natural waterways. ▪ Storage of the water supplied by the southern CSM pipeline will be designed to prevent release of water to natural waterways. ▪ The pipeline should be regularly inspected and maintained to minimise risks of leaks from the pipeline that may impact surrounding natural waterways.
Monitoring	Water quality monitoring
Corrective action	Conduct prompt maintenance to repair any leaks or spills identified.
Responsibility	Operations contractor
Reporting	▪ Maintenance records ▪ Inspection records

27.3.10 WASTE MANAGEMENT ACTION PLAN

Objectives	▪ To minimise waste generation on site. ▪ To minimise the impacts of waste materials on the environmental values of the surrounding environment.
Performance criteria	▪ No deterioration in the visual amenity in the vicinity of the pipeline caused by waste materials. ▪ No deterioration in surface water or groundwater quality in the vicinity of the pipeline caused by waste generation/ effluent release.
	▪ Development and implementation of a waste tracking system that complies with EPA waste tracking requirements.
Environmental aspects	▪ Visual amenity of the pipeline corridor from nearby residences, roads and public areas. ▪ Air, surface water, groundwater and soil quality in the vicinity of the pipeline.
EARLY WORKS	
Actions/controls	Preparation of a Waste Management Plan that identifies waste streams and relevant storage/disposal requirements.
Monitoring	None required
Corrective action	None required

Responsibility	Proponent
Reporting	None required
CONSTRUCTION	
Actions / controls	▪ The contents of this plan will be communicated to all contractors and staff via the site induction. ▪ Segregate suitable felled timber materials and retain on site for reuse as fauna habitat. ▪ Retain and mulch vegetation on site for use in erosion control and site rehabilitation purposes. ▪ Reuse soil and green waste for rehabilitation works. ▪ Remove all other waste materials from site. ▪ Waste materials reused or recycled where possible. ▪ All hazardous materials disposed of to an appropriately licenced facility. ▪ Make chemical spill kits available on site in case of fuel spills. ▪ Capture water generated by pipeline testing for commissioning, and reuse for dust suppression for the pipeline construction, reuse in further tests or for construction water at the mine site. ▪ Conduct any major equipment maintenance and repairs off site.
Monitoring	▪ Waste tracking ▪ Waste audits ▪ Visual inspections
Corrective action	▪ Review waste management procedures and amend to further minimise wastes (waste avoidance and additional opportunities for re-use/recycling).
Responsibility	Construction contractor
Reporting	Waste records throughout duration of construction phase including types, quantity and disposal records.
OPERATION AND MAINTENANCE	
Actions / controls	▪ All waste materials removed from site. ▪ Waste materials reused or recycled where possible. ▪ All hazardous materials disposed of to an appropriately licenced facility. ▪ Collection and re-use of effluent generated by pipeline testing following maintenance works. ▪ Conduct any major equipment maintenance and repairs off site.
Monitoring	▪ Waste tracking ▪ Waste audits ▪ Visual inspections
Corrective action	▪ Review waste procedures and amend to further minimise wastes (waste avoidance and additional opportunities for re-use/recycling). ▪ Review staff training
Responsibility	Operations contractor
Reporting	▪ Waste records throughout duration of operational phase including types, quantity and disposal records. ▪ Waste tracking reports.

27.3.11 VISUAL AMENITY ACTION PLAN

Objectives	To minimise impacts on visual amenity from the viewpoint of residences, roads and other public areas.
Performance criteria	Any deterioration of the visual aesthetics at sensitive locations adjacent to the pipeline construction will be minimised.
Environmental aspect	Residences, roads and public areas in the vicinity of the pipeline corridor.
EARLY WORKS	
Actions/Controls	During detailed design, consider and select appropriate stockpile and machinery/vehicle, materials layover areas.
Monitoring	None required
Corrective Action	None required
Responsibility	Proponent
Reporting	None required
CONSTRUCTION	
Actions/Controls	▪ The contents of this plan will be communicated to all contractors and staff via the site induction. ▪ Minimise the length of time of construction in areas visible from residences. ▪ Minimise and stage vegetation clearing within the easement to that width and section which is necessary for pipeline installation. ▪ Maintain all active work areas, stockpile/layover areas and site office compounds in a tidy and orderly manner. ▪ Where there are long and sensitive views along easements, where possible 'feather' the easement edge to prevent hard and regular edges to clearings. ▪ Commence rehabilitation works as soon as possible after pipeline construction works are completed in each section. ▪ Conduct rehabilitation works as detailed in Section 27.3.2. ▪ Should cultural planting, such as along driveways need to be removed, such plantings should be re-established in close proximity based on mutual agreement with the relevant land owner. ▪ Where construction works are in close proximity to a residence and visual amenity impacts result, landscape plantings should be carried out adjacent to the affected viewing area to provide screening of the construction area.
Monitoring	▪ Weekly monitoring of visual amenity impacts at both active work areas and all stockpile/layover areas. ▪ Complaints and Incident Register to be maintained detailing complaints received and actions taken to minimise visual amenity impacts. ▪ Visual inspections in response to a complaint.
Corrective action	▪ Advise and consult with affected property owners to implement corrective action acceptable to both parties, where practicable.
Responsibility	Construction contractor
Reporting	▪ Complaints and Incident Register ▪ Records of inspections ▪ Throughout construction period of the Project.

OPERATION AND MAINTENANCE	
Actions/controls	▪ Evaluate success of landscaping and visual treatments in mitigating visual impacts. ▪ Evaluate success of site rehabilitation in mitigating visual impacts.
Monitoring	Visual inspections in response to a complaint.
Corrective Action	Reinstate landscaping or rehabilitation works which have failed or are degraded.
Responsibility	Maintenance contractor
Reporting	In response to a complaint.

27.3.12 CULTURAL HERITAGE (INDIGENOUS) ACTION PLAN

Objectives	To avoid adverse impacts to indigenous cultural heritage sites, places, artefacts or materials.
Performance criteria	No impacts to cultural sites, artefacts, places or materials.
EARLY WORKS	
Actions/controls	▪ Undertake surveys in consultation with the Traditional Owner Field Officers of the Iman People #2. ▪ Prepare a Cultural Heritage Management Plan (CHMP) (as per s.87 of the Aboriginal Cultural Heritage Act 2003). ▪ Develop the necessary procedures to ensure implementation of the CHMP.
Monitoring	Monitoring to be undertaken in accordance with the CHMP.
Corrective action	None required
Responsibility	Proponent
Reporting	As per CHMP.
CONSTRUCTION	
Actions/controls	▪ The contents of this plan will be communicated to all contractors and staff via the site induction. ▪ At all times, operations associated with the Project will be conducted in accordance with the Duty of Care Guidelines (2004), pursuant to s.28 of the Aboriginal Cultural Heritage Act 2003 (DNRW, 2008b). ▪ The CHMP will be adhered to throughout the construction phase of the project. ▪ All contractors and staff are to be provided with a Cultural Heritage induction. ▪ Exclusion zones in relation to culturally significant areas will be communicated to all staff and contractors. ▪ If surface or buried material of archaeological or cultural significance is uncovered during construction: › all work at the location must cease and reasonable efforts to secure the site should be made. Work can continue at an agreed upon distance from the site. Note that the material will not be removed or disturbed further but barriers or temporary fences may be erected as a buffer around the remains if required.

	‣ notify the Cultural Heritage Coordination Unit – Department of Natural Resources and Water or police, as appropriate.
Monitoring	Monitoring to be undertaken in accordance with the CHMP.
Corrective action	The treatment of any discovered cultural resources will be made in consultation with the relevant traditional owners and the Department of Natural Resources and Water.
Responsibility	Construction contractor
Reporting	▪ A detailed report of any artefacts located during construction will be provided to the Department of Natural Resources and Water. ▪ Reporting to be undertaken in accordance with the CHMP.
OPERATION AND MAINTENANCE	
Actions/controls	▪ During maintenance operations, monitoring of the ground surface where disturbance is required should be undertaken. ▪ Maintenance crews should be aware of the potential for artefacts during patrols. ▪ If any artefacts are found, work will cease immediately and advice sought from the Cultural Heritage Coordination Unit – Department of Natural Resources and Water. ▪ Adhere to the requirements of the Cultural Heritage Management Plan where applicable.
Monitoring	None required
Corrective action	Corrective action will be determined by the maintenance contractor in conjunction with the Department of Natural Resources and Water.
Responsibility	Operations contractor
Reporting	Reporting will be prepared in accordance with the CHMP and directions from the Department of Natural Resources and Water.

27.3.13 CULTURAL HERITAGE (NON-INDIGENOUS) ACTION PLAN

Objectives	To avoid adverse impacts to cultural and historic heritage sites.
Performance criteria	No impacts to cultural and historic heritage sites.
Environmental Aspects	Non-Indigenous cultural heritage.
EARLY WORKS	
Actions/Controls	▪ Develop Cultural Heritage (Non-indigenous) Management Plan to record and manage any non-indigenous cultural heritage items that may be identified during the planning of the development or during construction
Monitoring	None required
Corrective Action	None required
Responsibility	Proponent
Reporting	Cultural Heritage (Non-indigenous) Management Plan

CONSTRUCTION	
Actions/controls	▪ The contents of this plan will be communicated to all contractors and staff via the site induction. ▪ Follow procedures in Cultural Heritage (Non-indigenous) Management Plan for recording and managing any non-indigenous cultural heritage items that may be identified during construction.
Monitoring	Monitoring during clearing activities to identify items or places likely to be of non-indigenous cultural heritage significance.
Corrective action	None required
Responsibility	Contractor
Reporting	▪ Report any archaeological artefacts uncovered during works that are deemed significant to the Environmental Protection Agency. ▪ Report per Cultural Heritage (Non-indigenous) Management Plan.

27.3.14 SOCIAL ACTION PLAN

Objectives	To minimise disruption to landholders and third parties.
Performance criteria	No significant impacts on social values due to pipeline construction.
Environmental aspects	Nearby residences and the general public.
EARLY WORKS	
Actions/controls	▪ Conduct consultation with adjacent landowners and the surrounding community relating to project activities, particularly in relation to potential interruptions to farming activities and changes to property access requirements. ▪ Prepare a Traffic and Access Management Plan as detailed in Section 27.3.5. ▪ Prepare detailed Construction Management Plans with appropriate monitoring guidelines to decrease construction impacts such as noise and dust. ▪ Consideration of the potential impacts associated with housing the construction workforce by choosing accommodation options located in or around the pipeline alignment.
Monitoring	▪ None required
Corrective action	▪ None required
Responsibility	▪ Construction contractor ▪ Proponent
Reporting	▪ Construction Management Plans for approval by the Proponent.
CONSTRUCTION	
Actions/controls	▪ Actions and controls relating to traffic management as detailed in Section 27.3.5. ▪ Actions and controls relating to dust management as detailed in Section 27.3.6. ▪ Consultation with adjacent landowners and the surrounding community in relation to construction activities.
Monitoring	▪ Feedback from local residents. ▪ Monitoring/auditing noise and dust generation.

	▪ Complaints and Incident Register
Corrective action	Potential for modifications to construction activities / times based on monitoring results and community feedback.
Responsibility	Construction contractor
Reporting	▪ Community notification of project works. ▪ Complaints and Incident Register
OPERATION AND MAINTENANCE	
Actions/controls	Provide residents with information regarding planned maintenance activities where required.
Monitoring	None required
Corrective Action	None required
Responsibility	Maintenance contractor
Reporting	Landowner notification prior to land access for maintenance.

27.3.15 HAZARD AND RISK ACTION PLAN

Objectives	To minimise risks posed to the human, social and biophysical environment in the locality by all activities associated with the construction of the pipeline.
Performance criteria	▪ No incidents involving the project workforce. ▪ No incidents involving the general public. ▪ No land or water contamination within or adjacent to the pipeline construction corridor. ▪ Any incidents responded to in prompt and efficient method.
Environmental aspects	▪ Construction and operation workers and the general public. ▪ Air, surface water, groundwater and soil quality in the vicinity of the pipeline.
EARLY WORKS	
Actions/controls	▪ Develop awareness program of the importance of safe road use behaviours, and training programs for construction personnel. ▪ Provide workforce with awareness training regarding venomous snakes and biting insects, areas and times they are most likely to be encountered, and how to react and provide first aid treatment. Provide work teams with appropriate first aid equipment to treat bites. ▪ Develop an Emergency Response and Action Plan.
Monitoring	Maintain a training register for all employees.
Corrective action	None required
Responsibility	▪ Construction contractor ▪ Proponent
Reporting	▪ Training register ▪ Emergency Response and Action Plan submitted to Proponent for approval.

CONSTRUCTION	
Actions/controls	▪ The contents of this plan will be communicated to all contractors and staff via the site induction. ▪ Keep local communities informed of work in progress. ▪ Provide appropriate traffic control personnel and/or devices for all work within road reserves as detailed in Section 27.3.6. ▪ Prevent unauthorised access to excavations and any other hazardous areas during construction. ▪ Keep any works that can not be secured easily in a safe state with appropriate signage and/or fencing or guarding. ▪ Transport all dangerous goods during construction in accordance with the current Australian Code for the Transport of Dangerous Goods. ▪ Locate temporary fuel storage tanks away from watercourses and drainage paths, and provide secondary containment through self bunded tanks or with external bunding designed in accordance with AS1940-2004, as detailed in Section 27.3.1. ▪ Maintain appropriate procedures and equipment to manage leaks and spills of all dangerous goods used during construction.
Monitoring	▪ Auditing
Corrective action	▪ Review incident and near miss response, to identify and manage hazards/risks and update training/procedures.
Responsibility	▪ Construction contractor
Reporting	▪ Incident and near miss reporting.
OPERATION AND MAINTENANCE	
Actions/controls	▪ Educate work teams regarding the need to check for dangerous wildlife during pipeline inspections. ▪ Ensure the integrity of the pipeline is maintained, and shut down if a major failure occurs.
Monitoring	▪ Auditing
Corrective action	▪ Incident and near miss response plan to identify and manage hazards/risks and update training/procedures.
Responsibility	▪ Maintenance contractor
Reporting	▪ Incident and near miss reporting.

27.3.16 HEALTH AND SAFETY ACTION PLAN

Objectives	▪ To identify and minimise the health and safety risks associated with construction, operation and maintenance of the pipeline.
Performance criteria	▪ No health and safety impacts to workers or general public due to construction, operation and maintenance of the pipeline.
Aspects	▪ Construction and operation workers and the general public.
EARLY WORKS	
Actions/controls	▪ None required
Monitoring	▪ None required
Corrective action	▪ None required

Responsibility	▪ Proponent
Reporting	▪ None required
CONSTRUCTION	
Actions/controls	▪ The contents of this plan will be communicated to all contractors and staff via the site induction. ▪ Induction training for all staff in health and safety policies and procedures. ▪ Minimise dust exposure of project personnel by promptly rehabilitating disturbed areas once pipe laying is complete, watering disturbed areas, roads and stockpiles and providing employees with personal protective equipment (PPE) to limit dust inhalation. ▪ Manage the effects of heat by providing suitable working environments, equipment and protective clothing and training workers in the signs and symptoms of heat effects/dehydration. ▪ Limit exposure of workers to noise by using equipment that complies with relevant emission standards, and encouraging the use of suitable PPE where high noise levels can not be prevented. ▪ Keep local residents aware of any changes expected in traffic during the construction period. ▪ Implement procedures and rules for use of equipment and safe driving on site, including speed limits and standard vehicle safety fittings to reduce the likelihood of collision. ▪ Site induction and driver training programs to ensure vehicles are driven in a safe manner and that site driving rules are understood. ▪ Undertake vehicle inspection checks as part of the construction phase regular maintenance program. ▪ No explosives will be stored at pipeline construction sites. ▪ Implement confined space procedures to be followed by anyone entering a confined space.
Monitoring	▪ Auditing ▪ Maintain a training register
Corrective action	Incident and near miss response plan to identify and manage hazards/risks and update training/procedures.
Responsibility	Construction contractor
Reporting	▪ Incident and near miss reporting. ▪ Training register
OPERATION AND MAINTENANCE	
Actions/controls	▪ Store dangerous goods in accordance with relevant standards. ▪ Implement procedures and rules for use of equipment and safe driving on site, including speed limits and standard vehicle safety fittings to reduce the likelihood of collision. ▪ Site induction and driver training programs to ensure vehicles are driven in a safe manner and that site driving rules are understood.
Monitoring	▪ Auditing
Corrective action	▪ Review incident and near miss response plan to identify and manage hazards/risks and update training/procedures.
Responsibility	▪ Operations contractor
Reporting	▪ Incident and near miss reporting.