

APPENDIX

H

Outline construction environmental management plan

ALBURY TO ILLABO ENVIRONMENTAL IMPACT STATEMENT

ARTC

INLAND
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An Australian Government Initiative

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H1. Context

Inland Rail operates within the broader ARTC environmental management system. ARTC manages its environmental responsibilities and environmental performance by implementing an environmental management system that is consistent with the principles contained within the ISO 14000 series and standards.

The Inland Rail Environment and Sustainability Policy guides the planning, design and implementation of the Inland Rail Program. It outlines the organisation's commitment to effectively manage any risks that may lead to an impact on the environment during construction and operation of Inland Rail.

Consistent with this policy, ARTC has developed a Construction Environmental Management Framework (CEMF) to provide for a high standard of environmental performance during construction of all Inland Rail projects. In accordance with the framework, contractors will be required to develop, implement and maintain a Construction Environmental Management Plan (CEMP) that meets the requirements of the respective contract, the CEMF and the conditions of approval for the project. Construction is required to be completed in accordance with the most recent version of the CEMP approved by the relevant administering authority (where required).

The relationship between the CEMF, ARTC's and Inland Rail's corporate and program-level environmental documentation, and the CEMP is shown in Figure H-1.

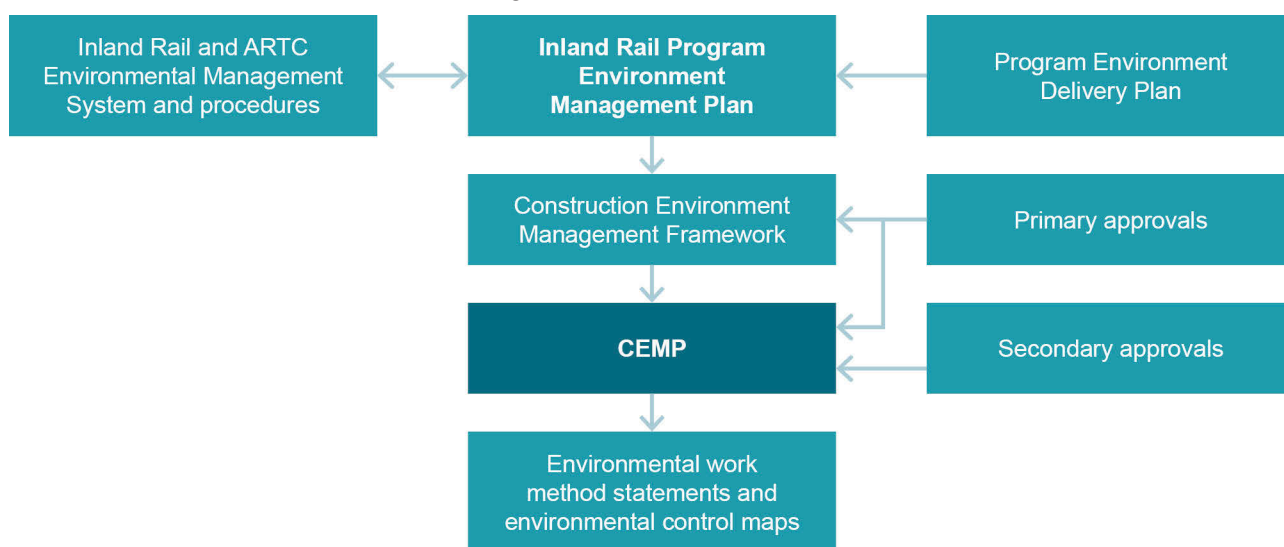


FIGURE H-1 ENVIRONMENTAL MANAGEMENT HIERARCHY

Outline Construction Environmental Management Plan

The management of environmental impacts during construction would be documented in the CEMP, to be prepared by the construction contractor(s). The CEMP would provide a centralised mechanism through which all potential construction-related environmental impacts would be managed. It would also provide the overall framework for the system and procedures to ensure that environmental impacts are minimised, and that legislative and approval requirements are fulfilled.

The CEMP would include detailed management plans (environmental sub-plans), which would detail how specific environmental issues are to be managed during construction in accordance with the mitigation measures provided in the EIS and the conditions of approval. It would be prepared in accordance with the Inland Rail CEMF and all relevant approvals for the proposal, and include:

- ▶ environmental obligations
- ▶ all applicable conditions of approval
- ▶ required licences, approvals and permits
- ▶ all applicable environmental assessment mitigation measures
- ▶ environmental aspects and impacts associated with project scope of works
- ▶ allocation and statement of ARTC and contractor obligations
- ▶ environmental management roles and responsibilities
- ▶ coverage of identified risks by environmental controls and mitigations
- ▶ environmental training needs
- ▶ obligations of reporting to ARTC
- ▶ emergency response incident management and non-compliance processes

- ▶ hold point list, as supplied by ARTC
- ▶ complaints and enquiries procedure
- ▶ incident and emergencies procedure
- ▶ document change/version control for the CEMP.

Contractors would develop and document a process of periodically reviewing the CEMP. The process would focus on identifying opportunities for continual improvement of processes and practices to ensure that the CEMP is relevant to contractors' activities. The process would address how legislative changes and environmental incident corrective actions will be addressed via an update to the CEMP. Any changes to the CEMP would be reported as part of contractors' monthly environmental reports.

Contractors would be required to submit a copy of the CEMP to Inland Rail for review prior to submission to regulatory authorities required by the applicable conditions of approval.

H1.1 Environmental performance

The management measures detailed in the CEMP would be monitored during construction to confirm their effectiveness and whether any additional measures are required. Site inspections would be regularly undertaken to check and update erosion and sediment control measures as necessary. Environmental site monitoring would also be undertaken to confirm project impacts and existing environmental values in accordance with monitoring commitments made in this document.

The CEMP would provide for an internal compliance monitoring program where the construction contractor(s) would periodically monitor and report on project performance against conditions of approval. Independent external audits would also be carried out in accordance with *ISO 19011:2003—Guidelines for Quality and/or Environmental Management Systems Auditing* (Standards Australia, 2003) every six months.

H1.2 Non-conformance and corrective action

For any environmental issues that arise, corrective and preventative actions must be implemented. Corrective and preventative actions might be developed to address issues or initiate environmental management improvement opportunities identified as a result of incidents, inspections and monitoring, and audit findings and other reviews.

The CEMP would document the corrective and preventative action procedures that will be implemented during construction of the project.

H1.3 Continual improvement

The CEMP and sub-plans would be reviewed and updated as required in response to audit findings, compliance monitoring results, incidents and inspections that identify corrective and preventative actions. This would include regular management reviews by the construction contractor(s) and an annual review conducted by the contractor(s) as part of the continual improvement process.

H1.4 Outline of related plans

The CEMP would comprise a main CEMP document, issue-specific sub-plans, activity-specific procedures and strategies, and site-based control maps. The CEMP, issue-specific sub plans and strategies/plans proposed to manage the impacts identified in the EIS (in accordance with the mitigation measures) are shown in Figure H-2.



FIGURE H-2 CONSTRUCTION PLANS AND STRATEGIES

An outline of the required sub-plans, and a guide to the general construction management measures required in each, is outlined in Table H-1 to Table H-12. The requirement to prepare these plans is specified by the mitigation measures in relevant EIS chapters, which have been compiled into Chapter 27: Approach to mitigation and management of the EIS. The conditions of approval may require different and/or additional matters to be addressed in the CEMP or sub-plans.

TABLE H-1 TRAFFIC AND TRANSPORT

Traffic and transport management sub-plan outline

Objectives	<ul style="list-style-type: none"> ▶ Ensure appropriate controls and procedures are implemented to minimise potential traffic, transport and access impacts ▶ Identify appropriate traffic management measures and establish a framework for coordinating their implementation ▶ Maintain network safety, journey times and congestion at acceptable levels ▶ Ensure access to properties are maintained
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Traffic and transport management sub-plan outline

Purpose and requirements	<p>The plan will detail processes and responsibilities to minimise traffic and access delays and disruptions, and identify and respond to changes in road safety.</p> <p>The plan will be prepared in consultation with Transport for NSW, relevant councils, and public transport/bus operators (as relevant).</p> <p>The plan will include measures to:</p> <ul style="list-style-type: none"> ▶ identify haulage routes and access points ▶ identify and manage diversionary routes for motorists, cyclists and pedestrians maintain access to individual residences, public transport services and infrastructure, services and businesses, and for livestock across the proposal site ▶ identify alternative routes for construction traffic activities in the event roads are closed by relevant authorities ▶ communicate changes in traffic conditions and access arrangements with relevant stakeholders ▶ provide safe routes for pedestrians and cyclists during construction ▶ minimise the number of changes to road users' travel paths ▶ manage the movements of construction-related traffic to minimise traffic and access disruptions in the public road network ▶ manage temporary access arrangements where required ▶ provide a mechanism for the monitoring, review and amendment of the plan.
Relevant guidelines and standards	<p>The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:</p> <ul style="list-style-type: none"> ▶ <i>Roads Act 1993</i> (NSW) ▶ Traffic control at work sites (Roads and Maritime Services, 2018b) ▶ AS 1742.3–2009: <i>Manual of uniform traffic control devices–Traffic control for works on Roads</i> (Standards Australia, 2009c)
Example management measures	<p>Management measures to be included in the plan and implemented during construction will include (but not be limited to):</p> <ul style="list-style-type: none"> ▶ adequate road signage will be provided to inform drivers and pedestrians of the work, timing and alternative access arrangements ▶ heavy vehicle movements will be minimised during peak traffic times ▶ measures to manage traffic flows around the area affected by construction will be provided, including required regulatory and directional signposting, line marking, variable message signs, and all other necessary traffic control devices ▶ consultation with relevant road authorities regarding the potential for preventative road improvements to be undertaken prior to construction to minimise potential road damage ▶ adequate signage for road and pedestrian diversions will be provided, clearly articulating alternative routes ▶ designated queuing and idling areas will be determined near work areas to minimise disruption to the local community ▶ appropriate controls will be established where vehicles are required to cross footpaths to access construction sites. This may include manual supervision, physical barriers or temporary traffic signals as required ▶ construction vehicles will park within the construction compound where practicable ▶ timing of deliveries accessing the site will be programmed to ensure there is sufficient space within the proposal site to accommodate deliveries.
Related strategies, plans or requirements (see Chapter 9: Transport and traffic)	<ul style="list-style-type: none"> ▶ Road safety audits ▶ Road Dilapidation Report ▶ Construction Traffic, Transport and Access Management Plans for each enhancement site

TABLE H-2 HERITAGE

Heritage management sub-plan outline

Objectives	<ul style="list-style-type: none"> ▶ Ensure appropriate controls and procedures are implemented during construction to avoid or minimise potential adverse impacts on items of Aboriginal and non-Aboriginal heritage value ▶ Avoid accidental impacts on Aboriginal and non-Aboriginal heritage items ▶ Maximise worker's awareness of Aboriginal and non-Aboriginal heritage
Purpose and requirements	<p>The plan will detail processes, responsibilities and measures to manage heritage (Aboriginal and non-Aboriginal) and minimise the potential for impacts during construction. It will provide the framework and mechanisms for the management and feasible and reasonable mitigation of potential heritage impacts.</p> <p>The plan will be prepared in consultation with the stakeholders (such as registered Aboriginal parties, Heritage NSW and local councils)), where relevant. It will:</p> <ul style="list-style-type: none"> ▶ identify heritage items within/in the vicinity of the proposal site ▶ include outcomes of further surveys during detailed design ▶ include appropriate controls and procedures to avoid or minimise potential adverse impacts to heritage along the proposal site and comply with all relevant legislation and other requirements. This includes: <ul style="list-style-type: none"> ▶ measures to protect sites close to the proposal site from inadvertent impacts and ▶ plans and installation procedures for fencing and protective coverings ▶ heritage awareness and management training for construction workers and supervisors involved in site works ▶ details regarding the conservation and curation of any artefacts recovered during works ▶ describe the procedures for the reinstatement of areas of non-Aboriginal heritage value that would be temporarily impacted by construction ▶ describe the procedures to manage unexpected items of potential heritage significance or human remains ▶ provide a mechanism for the monitoring, review and amendment of this plan.
Relevant guidelines and standards	<p>The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:</p> <ul style="list-style-type: none"> ▶ <i>National Parks and Wildlife Act 1974</i> (NSW) ▶ <i>Heritage Act 1977</i> (NSW) ▶ <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents</i> (DECCW, 2010a) ▶ <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW</i> (DECCW, 2010b) ▶ <i>Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW</i> (OEH, 2011b) ▶ <i>Aboriginal Cultural Heritage Standards and Guidelines Kit</i> (NPWS, 1997) ▶ <i>Historical Archaeology Code of Practice</i> (Heritage Office, 2006) ▶ Policy Directive: Exhumation of Human Remains (NSW Health, 2013) ▶ <i>Manual for the identification of Aboriginal remains</i> (DEC, 2006b) ▶ <i>Skeletal Remains: Guidelines for Management of Human Skeletal Remains</i> (NSW Heritage Office, 1998b).

Heritage management sub-plan outline

Example management measures	<p>Management measures to be included in the plans and implemented during construction will include (but not be limited to):</p> <ul style="list-style-type: none"> ▶ all identified items within and in the immediate vicinity of the proposal site will be marked on the environmental control maps, site plans, fenced off where appropriate, and avoided ▶ works will not destroy, modify or otherwise physically affect any heritage items, including human remains, outside of the construction boundary through demarcation, identification and training ▶ identified Aboriginal items will be avoided and protective measures implemented to ensure no disturbance of such objects including delineating and marking areas as no-go zones for earthworks, excavations and stockpile sites ▶ any non-Aboriginal heritage items not impacted by the works will be retained and protected throughout construction by demarcation, identification and training ▶ construction activities will be conducted in a manner to minimise the potential for vibration impacts in accordance with mitigation measures ▶ heritage awareness training will be provided for contractors prior to commencement of construction works to ensure understanding of potential heritage items that may be impacted during the proposal, and the procedure required to be carried out in the event of discovery of heritage materials, features or deposits, or the discovery of human remains ▶ a safe keeping place for any artefacts recovered during construction will be identified in consultation with the Registered Aboriginal Parties ▶ consultation will be ongoing with Registered Aboriginal Parties during construction.
Related strategies, plans or requirements (see Chapter 11: Non-Aboriginal heritage)	<ul style="list-style-type: none"> ▶ Non-Aboriginal heritage interpretation strategy ▶ Archival photographic recording ▶ Archaeological research design ▶ Unexpected finds procedure

TABLE H-3 SOCIAL IMPACT

Social impact management plan outline

Objectives	<ul style="list-style-type: none"> ▶ Ensure appropriate controls and procedures are implemented to minimise potential impacts on members of the community and enhance community benefits ▶ Identify appropriate management measures and establish a framework for coordinating their implementation ▶ Monitor and report on delivery of management measures ▶ Ensure mitigation and enhancement measures are effective, and/or support identification of corrective actions to improve their effectiveness
Purpose and requirements	<p>The plan will detail processes, responsibilities and measures to manage potential social impacts that may arise during the construction of the proposal.</p> <p>The plan will be prepared in consultation with relevant stakeholders and community groups (as appropriate) and will include management and mitigation related to:</p> <ul style="list-style-type: none"> ▶ workforce management ▶ housing and accommodation ▶ local business and industry ▶ cultural heritage ▶ health and community wellbeing ▶ community and stakeholder engagement. <p>The plan will include specific measures to manage social impacts associated with the proposal.</p>
Relevant guidelines and standards	<p>The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:</p> <ul style="list-style-type: none"> ▶ <i>Social Impact Assessment Guideline for State Significant Projects</i> (DPIE, 2021) ▶ <i>Social Impact Assessment Scoping Tool</i> (DPE, 2017b) ▶ <i>Environmental Planning and Impact Assessment Practice Note: Socio-Economic Assessment</i> (RMS, 2013).

Social impact management plan outline

Related strategies, plans or requirements (see Chapter 13: Social, Chapter 14: Economic)	▶ Inland Rail Communications and Engagement Strategy
	▶ Australian Industry National Framework 2001
	▶ Regional Planning Policies and Strategies
	▶ Traffic and transport management sub-plan
	▶ Out-of-hours work protocol
	▶ Communication management plan
	▶ Inland Rail Australian Industry Participation Plan
	▶ Workforce management plan
	▶ Temporary workforce accommodation plan

TABLE H-4 CONSTRUCTION NOISE AND VIBRATION

Construction noise and vibration management sub-plan outline

Objectives	<ul style="list-style-type: none"> ▶ Minimise potential adverse noise and vibration impacts on the environment and community ▶ Minimise unreasonable noise and vibration impacts on receivers ▶ Avoid structural damage to buildings or heritage items as a result of construction vibration
Purpose and requirements	<p>The plan will detail processes, responsibilities and measures to manage noise and vibration and minimise the potential for impacts during construction. It will provide the framework and mechanisms for the management and feasible and reasonable mitigation of potential noise and vibration impacts.</p> <p>The plan will be prepared in consultation with the EPA, where relevant. It will:</p> <ul style="list-style-type: none"> ▶ ensure compliance with the Inland Rail NSW Construction Noise & Vibration Management Framework ▶ identify noise and vibration performance criteria ▶ confirm sensitive receivers and features in the vicinity of the proposal site ▶ include standard and additional mitigation measures from the <i>Interim Construction Noise Guideline</i> (DECC, 2009), where relevant ▶ include protocols that will be adopted to manage works required outside standard construction hours, in accordance with relevant guidelines including for management of respite periods ▶ include specific measures to manage noise within compounds ▶ describe the processes that will be adopted for carrying out location and activity specific noise and vibration impact assessments to assist with the selection of appropriate mitigation measures ▶ include details for ongoing consultation with receivers and procedures for handling complaints ▶ include measures to manage vehicle movements outside standard construction working hours ▶ provide a mechanism for the monitoring, review and amendment of this plan.
Relevant guidelines and standards	<p>The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:</p> <ul style="list-style-type: none"> ▶ Inland Rail NSW Construction Noise and Vibration Management Framework ▶ <i>Interim Construction Noise Guideline</i> (DECC, 2009) ▶ Road Noise Policy (DCCW, 2011) ▶ <i>Assessing Vibration: A Technical Guideline</i> (DEC, 2006a) (AVaTG) ▶ <i>German Standard DIN 4150-3 Structural Vibration—Part 3: Effects of vibration on structures</i> (German Institute for Standardization, 2016) ▶ <i>British Standard BS 7358-2: Evaluation and measurement for vibration in buildings. Part 2: Guide to damage levels from ground-borne vibration</i> (British Standard, 1993) ▶ <i>AS 2436-2010 Guide to noise and vibration control on construction, demolition and maintenance sites</i>
Example management measures	<p>Management measures to be included in the plan and implemented during construction will include (but not be limited to):</p> <ul style="list-style-type: none"> ▶ noise levels will be a consideration during the selection of plant and equipment. Where identified as necessary, equipment noise controls may will be required to assist with meeting the required criteria ▶ work will be undertaken during standard hours where reasonable and feasible ▶ where out of hours work cannot be avoided, noisy work will be scheduled for less sensitive time periods ▶ all site workers will be informed of the potential for noise and vibration impacts upon sensitive receivers and will take practical and reasonable measures to minimise noise during activities

Construction noise and vibration management sub-plan outline

	<ul style="list-style-type: none"> ▶ quieter and less vibration emitting construction methods will be used where reasonable and feasible ▶ loading and unloading of materials/deliveries will occur as far as possible from sensitive receivers, and preferably during standard construction hours ▶ materials dropped from heights into or out of trucks will be minimised ▶ no plant or equipment will be left idling when operating near sensitive receivers ▶ specific consultation will be undertaken with potentially impacted sensitive receivers prior to commencement of vibration generating activities, and throughout the construction phase, with regards to potential detectable vibration levels. Where required, specific work practices or scheduling arrangements will be considered to minimise potential impacts on the sensitive receivers ▶ in cases where noise or vibration levels are identified as likely exceeding applicable criteria. Modification or substitution of work methods will be undertaken where practicable, including but not limited to: <ul style="list-style-type: none"> ▶ works programming assessments ▶ selective use of enhanced equipment/plant ▶ noise barriers or earthen bunds ▶ the provision of respite periods ▶ equipment/plant substitution ▶ use of horns, bells, beepers and other audible signals will be minimised as much as practicable. Where safety issues can be adequately managed, tonal reversing beepers will be replaced by broadband squawkers ▶ construction works will only be undertaken during approved working hours, unless otherwise permitted by the EPL ▶ simultaneous operation of noisy plant within range of sensitive receivers will be avoided, as far as practicable.
Related strategies, plans or requirements (see Chapter 15: Noise and vibration)	<ul style="list-style-type: none"> ▶ Construction noise and vibration impact statements ▶ Inland Rail NSW Construction Noise and Vibration Management Framework ▶ Out-of-hours work protocol ▶ Building condition surveys

TABLE H-5 BIODIVERSITY

Biodiversity management sub-plan outline

Objectives	<ul style="list-style-type: none"> ▶ Ensure controls and procedures are implemented during construction to avoid, minimise or manage potential adverse impacts on biodiversity within and adjacent to the proposal site (terrestrial and aquatic) ▶ Retain and protect existing flora and fauna habitat as far as practicable ▶ Appropriately manage the spread of weeds and plant pathogens
Purpose and requirements	<p>The plan will detail processes, responsibilities and measures to assess, monitor, minimise and mitigate biodiversity impacts. It will detail how construction impacts on terrestrial and aquatic flora and fauna will be mitigated, managed and monitored.</p> <p>The plan would include:</p> <ul style="list-style-type: none"> ▶ impact minimisation ▶ fauna crossing structures ▶ pre-clearance surveys ▶ managing biodiversity impacts during construction ▶ rehabilitation of disturbed areas ▶ unexpected finds procedure implementation ▶ measures to manage biosecurity risks in accordance with the <i>Biosecurity Act 2015</i> (NSW) ▶ measures to reduce the risk of aquatic fauna mortality/injury.

Biodiversity management sub-plan outline

Relevant guidelines and standards	<p>The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:</p> <ul style="list-style-type: none"> ▶ <i>Biodiversity Conservation Act 2016</i> (NSW) ▶ Biodiversity Conservation Regulation 2017 ▶ <i>Biosecurity Act 2015</i> (NSW) ▶ <i>National Parks and Wildlife Act 1974</i> (NSW) ▶ <i>Fisheries Management Act 1994</i> (NSW) ▶ <i>Environmental Protection and Biodiversity Conservation Act 1999</i> (Cth) ▶ <i>Why do Fish need to Cross the Road? Fish Passage Requirements for Waterway Crossings</i> (Fairfull and Witheridge, 2003). ▶ <i>Policy and Guidelines for Fish Habitat Conservation and Management Update</i> (DPI, 2013c)
Example management measures	<p>Management measures to be included in the plan and implemented during construction will include (but not be limited to):</p> <ul style="list-style-type: none"> ▶ detailed design and construction will seek to further avoid or minimise the need to further impact or disturb native vegetation, fauna habitat and riparian habitat, as far as reasonably practicable ▶ vegetation clearing will be limited to the minimum necessary to construct the proposal and allow for its effective operation ▶ identify and locate habitat features onsite, and mark those to be protected during clearing ▶ clear vegetation so as not to mix topsoil with debris and to avoid impacts on surrounding native vegetation ▶ priority weeds will be managed in accordance with the <i>Biosecurity Act 2015</i>. Weeds of national significance will be managed in accordance with the <i>Weeds of National Significance: weed management guides</i> (DEH, 2004) ▶ investigate establishing glider poles on each side of the rail corridor at Billy Hughes bridge enhancement site to improve Squirrel Glider habitat connection between patches of remnant vegetation ▶ pre-clearance surveys will be carried out prior to construction by a suitably qualified ecologist in accordance with the Biodiversity Management Sub-plan. This will include: <ul style="list-style-type: none"> ▶ inspections of structures that provide potential microbat habitat. If bats are identified roosting in these structures, individuals will be excluded from this habitat ▶ native aquatic fauna salvage in watercourses of residual pools within 50 m of construction. All salvaged aquatic fauna will be relocated to similar habitat nearby ▶ exclusion areas will be established and maintained around native vegetation and riparian vegetation to be retained, particularly areas of biodiversity value adjoining the proposal site that are located in close proximity to work areas ▶ construction workforce will be supplied with sensitive area maps (showing clearing boundaries and exclusion zones), including updates as required ▶ disturbed areas outside the operational footprint (such as compounds and temporary work areas) would be rehabilitated following the completion of construction work ▶ a species unexpected finds procedure will be implemented if threatened ecological communities, flora and fauna species, not assessed in the biodiversity assessment, are identified in the proposal site ▶ after completion of the construction phase, aquatic habitat features such as woody debris, instream aquatic macrophytes, rocks and boulders, will be reinstated within watercourses in the construction footprint ▶ management measures to manage impacts to aquatic ecology, including monitoring of changes in salinity in affected waterbodies resulting from altered groundwater flows ▶ culverts and bridges on ephemeral watercourses would be installed when the watercourse is dry and construction activities would cease prior to any rainfall. A silt curtain is to be available on site in the event of rainfall and installed around the work area on the same side of the bank to avoid obstruction of fish passage (DPI, 2013c) ▶ measures to manage the risk of accidental spills, including requirement of spill kits to be kept onsite for works within 100 m of a watercourse
Related strategies, plans or requirements (see Chapter 16: Biodiversity)	<ul style="list-style-type: none"> ▶ Fauna Design Guidelines for the Inland Rail Project ▶ ARTC Biodiversity Offset Delivery Strategy—New South Wales ▶ Rehabilitation strategy

TABLE H-6 FLOOD AND EMERGENCY

Flood and emergency response sub-plan outline

Objectives	<ul style="list-style-type: none"> ▶ Appropriate controls and procedures are implemented during construction activities to avoid or minimise impacts due to the occurrence of emergency situations including flooding and inundation, bushfires, fires and explosions
Purpose and requirements	<p>The plan would include measures, process and responsibilities to minimise the potential impacts of construction activities on flood and fire behaviour as far as practicable.</p> <p>The plan would be developed in consultation with TfNSW, local councils, emergency services and key affected landholders/managers and would include:</p> <ul style="list-style-type: none"> ▶ measures to manage flood risks during construction ▶ measures to address flood recovery during construction ▶ measures to minimise impacts during emergency situations ▶ appropriate monitoring strategies following floods to verify design performance and impact predictions ▶ flood warning and evacuation procedures for emergency management of flooding up to the probable maximum flood event ▶ details of traffic management measures to be implemented during emergencies ▶ response and recovery arrangements ▶ effective communication systems/channels in the event of an emergency ▶ training programs to ensure that all staff are familiar with the plan.
Relevant guidelines and standards	<p>The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:</p> <ul style="list-style-type: none"> ▶ <i>Rural Fires Act 1997</i> (NSW) ▶ <i>Public Health Act 2010</i> (NSW) ▶ <i>Water Management Act 2000</i> (NSW) ▶ Council floodplain risk management plans ▶ <i>Managing the Floodplain: A Guide to Best Practice in Flood Risk Management in Australia, Handbook 7</i> (Australian Institute for Disaster Resilience, 2017)
Example management measures	<p>Management measures to be included in the plan and implemented during construction will include (but not be limited to):</p> <ul style="list-style-type: none"> ▶ in the case of an emergency plant or equipment will be moved out of the immediate area if necessary, if safe to do so ▶ a competent person will be placed at the designated meeting point to guide emergency services. ▶ first aid facilities will be located in every work vehicle and in the site offices ▶ firefighting equipment will be located in every work vehicle and in the site offices ▶ all works involving potential ignition sources will be subject to a risk assessment or ban on total fire ban days ▶ develop protocols for equipment and materials that can be removed from the proposal site during a flood event where reasonable and feasible ▶ NSW State Emergency Services will be notified of any partial or total road closures during construction because of the proposal with the Flood and Emergency Response Plan detailing any impacts on existing flood conditions in relation to flood evacuation routes ▶ the design of watercourse crossings will continue to be refined and implemented to minimise the potential impacts on water quality ▶ the project boundary requirements defined for the project will allow sufficient room for provision of temporary and permanent erosion and sediment control measures/pollution control measures, where required based on consideration of overland flow paths and flood risk Dial-Before-You-Dig searches and non-destructive digging will be carried out to identify the presence of underground utilities ▶ first response capabilities, including fire extinguishers, water carts and hoses will be assessed and provided at enhancement sites during construction, where needed.
Related strategies, plans or requirements (see Chapter 18: Hydrology, flooding and water quality, Chapter 24: Hazards)	N/A

TABLE H-7 SOIL AND WATER

Soil and water management sub-plan outline

Objectives	<ul style="list-style-type: none"> ▶ Appropriate controls and procedures are implemented during construction activities to avoid or minimise erosion and sedimentation impacts ▶ Minimise potential impacts on water quality in surrounding watercourses ▶ Minimise potential impacts associated with salinity or acid sulfate soils
Purpose and requirements	<p>The plan will detail processes, responsibilities and measures to manage potential soil and water quality impacts during construction, including potential impacts associated with stockpile management, saline soils and acid sulfate soils.</p> <p>The plan will include a detailed list of measures that will be implemented during construction to minimise the potential for soil and water impacts, including:</p> <ul style="list-style-type: none"> ▶ allocation of general site practices and responsibilities ▶ material management practices ▶ stockpiling and topsoil management, including prompt stabilisation of spoil mounds and treatment of dispersive soils in mounds (for example, through mixing of gypsum) ▶ surface water and erosion control practices that take into account site-specific soil types ▶ a contingency procedure to ensure potential impacts to water quality and aquatic ecology are minimised in case of unexpected rainfall during works in dry watercourses
Relevant guidelines and standards	<p>The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:</p> <ul style="list-style-type: none"> ▶ <i>Water Management Act 2000</i> (NSW) ▶ <i>Water Act 1912</i> (NSW) ▶ <i>Water Management (General) Regulation 2018</i> ▶ <i>Protection of the Environment Operations Act 1997</i> (NSW) ▶ <i>Managing Urban Stormwater—Soils and Construction, Volume 1</i> (Landcom, 2004), <i>Volume 2C Unsealed roads</i> (DECC, 2008a) and <i>Volume 2D</i> (DECC, 2008b) (the Blue Book) ▶ <i>Guidelines for controlled activities on waterfront land</i> (DPI, 2012b) ▶ <i>Technical Guideline: Temporary stormwater drainage for road construction</i> (RMS, 2011) ▶ <i>Acid Sulfate Soils Assessment Guidelines (Acid Sulfate Soils Management Advisory Committee (ASSMAC), 1998a)</i> ▶ <i>Acid Sulfate Soil Manual</i> (ASSMAC), 1998b) ▶ <i>Waste Classification Guidelines—Part 4: Acid Sulfate Soils</i> (EPA, 2014b) ▶ <i>ARTC Contamination, Spoils and Waste Management Strategy</i> ▶ <i>Water Act 2007</i> (Cth) ▶ <i>Murray–Darling Basin Plan 2012</i> (MDBA, 2012) ▶ <i>National Water Quality Management Strategy</i> (ANZECC/ARMCANZ, 2018) ▶ <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality</i> (ANZG, 2018)
Example management measures	<p>Management measures for soil and water to be included in the plan and implemented during construction will include (but not be limited to):</p> <ul style="list-style-type: none"> ▶ sediment and erosion control devices will be installed to minimise mobilisation and transport of sediment in accordance with the Blue Book ▶ no stockpiles of materials or storage of fuels or chemicals would be located within high/medium flood risk areas or flow paths ▶ maintenance and checking of the erosion and sedimentation controls will be undertaken on a regular basis and any subsequent records retained. Sediment will be cleared from behind barriers/sand bags on a regular basis as required and all controls will be managed to ensure they work effectively at all times ▶ the area of exposed surfaces will be minimised. Disturbed areas will be stabilised progressively to ensure that no areas remain unstable for any extended length of time ▶ soil and sediment that accumulates in erosion and sediment control structures will be reused where practicable during site reinstatement, unless it is contaminated or otherwise inappropriate for reuse ▶ work will cease where practicable during heavy rainfall events when there is a risk of sediment loss off site or ground disturbance due to waterlogged conditions ▶ sediment traps or filters will be used to target the removal of sediments, located at all discharge locations and appropriately maintained ▶ water collected in sediment basins will be re-used during construction or be directed as 'overflow' using flow distributors (and scour protection) to nearest existing drainage line emergency spill procedures will be developed to avoid and manage accidental spillages of fuels, chemicals, and fluids during construction

Soil and water management sub-plan outline

- ▶ construction works within and/or next to the watercourses and drainage lines will be minimised as much as feasibly possible to minimise disturbance of sediments in or near the waterway
- ▶ visual monitoring of local water quality (i.e. turbidity, hydrocarbon spills/slicks) will be undertaken on a regular basis to identify any potential spills
- ▶ where practicable, culverts and bridge piers will be installed when the waterway is dry
- ▶ where practical, vegetation clearing and ground disturbing works will be staged sequentially/across the proposal to minimise areas exposed to erosion and sediment risk
- ▶ discharge to surface water would be undertaken in accordance with the environment protection licence for construction of the proposal and would consider the hydrological attributes of the receiving waterbody
- ▶ testing for acid sulfate soils will be carried out where potential for ASS has been identified prior to any ground disturbance. Any ASS encountered will be managed in accordance with *Acid Sulfate Soils Manual* (ASSMAC, 1998b) and the *Waste Classification Guidelines—Part 4: Acid Sulfate Soils* (EPA, 2014b)
- ▶ salinity management measures including (but not limited to):
 - ▶ inform of the incidence, risks and mitigation strategies for salinity for the project. The plan would include at a minimum:
 - general salinity management principles (water cycle management, groundwater management, soil management, vegetation management)
 - relevant results obtained from site specific field investigation at the high risk sites
 - classification of the soils by the salinity hazard at various depth and the aggressivity of the soil conditions to building products
 - consider surface or subsurface drainage and methods to mitigate risks of exacerbating local salinity
 - include strategies to minimise environmental risk including minimising erosion hazard or leaching of salts to local waterways, and distribution of saline soils at the site surface.

Related strategies, plans or requirements (see Chapter 18: Hydrology, flooding and water quality, Chapter 19: Groundwater, and Chapter 20: Soils and contamination)

- ▶ Erosion and sediment control plans
- ▶ Surface water monitoring framework, including water quality and watercourse stability monitoring
- ▶ Spill response procedure

TABLE H-8 GROUNDWATER

Groundwater management sub-plan outline

Objectives	<ul style="list-style-type: none"> ▶ Appropriate controls and procedures implemented during construction activities to avoid or minimise impacts on the groundwater environment ▶ Monitor the effectiveness of mitigation and management measures applied during the construction phase of the proposal
Purpose and requirements	<p>The following would be included in the plan to minimise the potential for groundwater impacts, including:</p> <ul style="list-style-type: none"> ▶ list details of the groundwater monitoring network, frequency of monitoring and test parameters ▶ be based on baseline studies developed for the proposal (this EIS) and establish baseline monitoring reports (proposed) ▶ contain procedures for the documentation and reporting of results ▶ list key risks and potential impacts ▶ provide details for the disposal, treatment or reuse of extracted groundwater ▶ provide details on legal and licensing requirements ▶ include requirements for training, inspections, corrective actions, notification and classification of environmental incidents, record keeping, monitoring and performance objectives for handover on completion of construction.

Groundwater management sub-plan outline

Relevant guidelines and standards	<ul style="list-style-type: none"> ▶ <i>Water Management Act 2000</i> (NSW) ▶ NSW Government Groundwater Policy Framework Document (DLWC), 1997a), which includes: <ul style="list-style-type: none"> ▶ <i>NSW Groundwater Quality Protection Policy</i> (DLWC, 1998) ▶ <i>NSW Groundwater Dependent Ecosystems Policy</i> (DLWC, 2002a) ▶ <i>NSW Groundwater Quantity Management Policy</i> (DLWC, 1997b)
Example management measures	<p>Management measures to be included in the plan for groundwater would include (but not be limited to):</p> <ul style="list-style-type: none"> ▶ groundwater monitoring to be completed in accordance with the groundwater monitoring program outlined ▶ as far as practicable, detail design will limit the depth of excavation required, including but not limited to Pearson Street bridge and Kemp Street bridge enhancement sites ▶ drainage measures would be maintained where required to manage ongoing groundwater seepage ▶ as far as practicable, detailed design should limit the extent and depth of soil retaining walls ▶ appropriate drainage measures should be installed at the base of cuts and along high-walls to manage groundwater seepage, in the unlikely event that they be encountered at specific sites ▶ use of appropriate piling construction methodologies that results in negligible groundwater take for bridge foundations, such as the use of a tremie system ▶ if excavations unexpectedly intersect the water table, the potential impacts would be assessed by a hydrogeologist and additional management measures implemented as required ▶ groundwater take to be appropriately licensed where exemptions do not apply ▶ if a registered bore is accidentally damaged during construction and cannot be used for its intended purpose (monitoring), make good arrangements will apply, such as replacement, subject to discussion with the registered owner ▶ in the unlikely event that the minimal impact considerations are permanently exceeded for a water supply bore following construction, make good provisions would apply.
Related strategies, plans or requirements (see Chapter 19: Groundwater)	<ul style="list-style-type: none"> ▶ Groundwater monitoring program ▶ Spill response procedure ▶ Dewatering protocol

TABLE H-9 CONTAMINATION AND HAZARDOUS MATERIALS

Contamination and hazardous materials sub-plan outline

Objectives	<ul style="list-style-type: none"> ▶ Appropriate controls and procedures are implemented during construction activities to avoid or minimise impacts due to leaks and spills or the handling of hazardous materials ▶ Minimise potential impacts associated with encountering contaminated soils
Purpose and requirements	<p>The plan will detail processes, responsibilities and measures to manage potential contamination impacts during construction, including potential impacts associated with the presence of existing contamination and the handling and storage of hazardous materials and dangerous goods.</p> <p>The plan will include a detailed list of measures that will be implemented during construction to minimise the potential for contamination impacts, including:</p> <ul style="list-style-type: none"> ▶ allocation of general site practices and responsibilities ▶ hazardous materials and dangerous goods management practices ▶ procedures to be undertaken during demolition of structures ▶ spill/incident management procedures. <p>An unexpected finds procedure will be prepared as part of the plan and outline the activities to be undertaken in the event that previously undetected contamination is identified, which will include making the site safe, carrying out an assessment of the finds, and managing the finds based on the results of the assessment.</p>

Contamination and hazardous materials sub-plan outline

Relevant guidelines and standards	<p>The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:</p> <ul style="list-style-type: none"> ▶ <i>Protection of the Environment Operations Act 1997</i> (NSW) ▶ <i>Contaminated Land Management Act 1997</i> (NSW) ▶ <i>Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites</i> (EPA, 2020b) ▶ <i>Contaminated Sites: Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997</i> (EPA, 2015) ▶ <i>Waste Classification Guidelines</i> (EPA, 2014b) ▶ ARTC Contamination, Spoils and Waste Management Strategy ▶ National Environmental Protection (Assessment of Site Contamination Measure) 1999 (NEPM) (NEPC, 2013) ▶ <i>Guidelines for the Assessment, Remediation and Management of Asbestos—Contaminated Sites in Western Australia</i> (WA Department of Health, 2009).
Example management measures	<ul style="list-style-type: none"> ▶ Management measures to be included in the plan and implemented during construction will include (but not be limited to): ▶ spill kits will be maintained onsite at all times ▶ machinery will be checked daily to ensure that no oil, fuel or other liquids are leaking. ▶ refuelling of plant and equipment will be undertaken within designated areas with appropriate controls ▶ vehicle wash down and/or cement truck washout will occur in a designated bunded area or offsite ▶ storage of hazardous materials, and refuelling/maintenance of construction plant and equipment, will be undertaken in clearly marked designated areas that are designed to contain spills and leaks ▶ storage of hazardous materials and dangerous goods will be undertaken in accordance with all relevant Australian Standards and regulatory requirements ▶ transport of dangerous goods will be undertaken in accordance with the Dangerous Goods (Road and Rail Transport) Regulation 2009 and the Australian Code for the Transport of Dangerous Goods by Road and Rail (National Transport Commission, 2020) ▶ in the event that indicators of contamination are encountered during construction (such as odours or visually contaminated materials), work in the affected area will cease immediately, and the procedures detailed in the unexpected finds procedure will be implemented ▶ the unexpected finds procedure will include the following general approach: <ul style="list-style-type: none"> ▶ site workers will make the area safe, stop work, and notify the construction supervisor, who will quarantine/fence the area, notify staff on-site and the project manager ▶ the project manager or their representative will notify an appropriately qualified environmental consultant who will carry out an assessment of the nature and extent of the unexpected contamination ▶ remediation will be undertaken as required and as advised by the environmental consultant ▶ works may only recommence at the site after approval has been obtained by the environmental consultant and the project manager ▶ validation of the remediation will be carried out to assess the success of the remediation works. ▶ awareness training will be provided for all onsite staff to assist in the identification of potentially contaminated material. ▶ waste classification in accordance with NSW EPA (2014). ▶ reuse of spoil in accordance with The Australian Rail Track Corporation Excavated Material Order 2020.
Related strategies, plans or requirements (see Chapter 20: Soils and contamination)	<ul style="list-style-type: none"> ▶ Spill response procedure ▶ Unexpected finds protocol ▶ Hazardous materials surveys ▶ Waste management sub-plan

TABLE H-10 AIR QUALITY

Air quality management sub-plan outline

Objectives	<ul style="list-style-type: none"> ▶ Minimise gaseous and particulate pollutant emissions from construction activities as far as feasible and reasonable ▶ Identify and control potential dust and air pollutant sources
Purpose and requirements	<p>The plan will detail processes, responsibilities and measures to manage air quality and minimise the potential for impacts during construction.</p> <p>The plan will be prepared in consultation with relevant government agencies (as appropriate) and will include management and mitigation related to:</p> <ul style="list-style-type: none"> ▶ spoil handling ▶ machinery operating procedures ▶ soil treatments ▶ stockpile management ▶ haulage ▶ dust suppression ▶ monitoring. <p>The plan will include specific measures to manage air quality within the multi-function compounds, temporary workforce accommodation and borrow pits.</p>
Relevant guidelines and standards	<p>The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:</p> <ul style="list-style-type: none"> ▶ <i>Protection of the Environment Operations Act 1997 (NSW)</i> ▶ <i>National Environment Protection (Ambient Air Quality) Measure 2021</i> ▶ <i>National Environment Protection (Air Toxics) Measure 2011</i> ▶ <i>Approved Methods for Modelling and Assessment of Air Quality in NSW 2016</i>
Example management measures	<p>Management measures to be included in the plan and implemented during construction will include (but not be limited to):</p> <ul style="list-style-type: none"> ▶ undertake daily onsite and offsite inspections to monitor dust and record inspection results ▶ strictly limit vehicle movement to designated areas ▶ turn off idling plant and trucks when not in use ▶ apply water sprays during earthworks, as required ▶ stabilise all disturbed areas and stockpiles as soon as is practicable ▶ limit clearing extents to the minimum required for construction works ▶ use water sprays or carts to manage dust during the handling of ballast materials ▶ maintain and operate all equipment and vehicles in accordance with the manufacturer's instructions.
Related strategies, plans or requirements (see Chapter 22: Air quality)	N/A

TABLE H-11 SUSTAINABILITY

Sustainability management plan outline

Objectives	<ul style="list-style-type: none"> ▶ Outlines the requirements and identified sustainability initiatives that guide the reference design, detailed design, construction and operation of the proposal ▶ Ensures the design, construction and operation of the proposal pursues an 'Excellent' rating against version 1.2 of the Infrastructure Sustainability Council of Australia 'Infrastructure Standard' rating scheme (ISCA, 2018)
Purpose and requirements	<p>The plan will:</p> <ul style="list-style-type: none"> ▶ detail targets for safety, local employment, materials, waste, procurement, ecological connectivity, greenhouse gas emissions and climate resilience in line with the Inland Rail program level objectives and targets ▶ establish the roles, responsibilities and resourcing requirements for the embedding of sustainability throughout the design, procurement and construction of the proposal ▶ document the process for the identification, assessment and implementation of sustainability initiatives and opportunities ▶ document the process to be used to manage the assessment, monitoring and review of sustainability against achieving the requirements of an 'Excellent' measured against the IS rating scheme ▶ outline the documentation and reporting requirements necessary to demonstrate how sustainability has been incorporated into the proposal during construction.
Relevant guidelines and standards	<p>The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:</p> <ul style="list-style-type: none"> ▶ Infrastructure Sustainability Technical Manual (Version 1.2) (ISCA, 2018) ▶ Infrastructure Sustainability Scorecard Version 1.2 (ISCA, 2020 release) ▶ Inland Rail Environment and Sustainability Policy (ARTC, 2018) ▶ Inland Rail Sustainable Procurement Policy (ARTC, 2020a) ▶ Inland Rail Sustainability Strategy (ARTC, 2020b).
Example management measures	<p>Management measures to be included in the plan and implemented during design and construction will include (but not be limited to):</p> <ul style="list-style-type: none"> ▶ monitoring, review, audits and reporting requirements ▶ key task requirements, and at what milestone they are required ▶ descriptions of the approach to weightings assessment, base case and IS credits.
Related strategies, plans or requirements (see Chapter 21: Sustainability)	<ul style="list-style-type: none"> ▶ Inland Rail Environment and Sustainability Policy (ARTC, 2018) ▶ Inland Rail Sustainable Procurement Policy (ARTC, 2020a) ▶ Inland Rail Sustainability Strategy (ARTC, 2020b) ▶ ARTC's sustainability framework for Inland Rail

TABLE H-12 WASTE

Waste management sub-plan outline

Objectives	<ul style="list-style-type: none"> ▶ Implement the waste management hierarchy of avoidance, minimisation, reuse, recycling and disposal ▶ Minimise waste generation and maximise reuse as far as practicable ▶ Maximise awareness of waste and resource use management issues
Purpose and requirements	<p>The plan would cover waste types, estimated quantities for management, excavated material management and mitigation strategies as well as contingencies for any unexpected waste volumes that may arise throughout construction of the proposal.</p> <p>The plan will include:</p> <ul style="list-style-type: none"> ▶ expected waste types and volumes ▶ proposed waste reuse, recovery and recycling and disposal measures ▶ specific measures to manage vegetation waste ▶ procedures for managing office and proposal waste materials including separation, treatment and disposal in accordance with relevant guidelines ▶ the process for identifying waste reuse sites including approval requirements ▶ procedures for the identification, handling and disposal of hazardous materials including potential asbestos waste ▶ waste tracking, record keeping and reporting requirements, including the implementation of a waste register.
Relevant guidelines and standards	<p>The plan will be prepared in accordance with relevant legislation, guidelines and standards, including:</p> <ul style="list-style-type: none"> ▶ <i>Protection of the Environment Operations Act 1997</i> (NSW) ▶ <i>Protection of the Environment Operations (Waste) Regulation 2014</i> ▶ <i>Waste Avoidance and Resource Recovery Act 2001</i> (NSW) ▶ <i>Waste Classification Guidelines</i> (NSW EPA, 2014b) ▶ ARTC's Sustainability Framework for Inland Rail ▶ ARTC Contamination, Spoils and Waste Management Strategy ▶ <i>NSW Waste Avoidance and Resource Recovery Strategy 2014–21</i> (NSW EPA, 2014a) ▶ <i>National Environment Protection (Movement of Controlled Waste between States and Territories) Measure 1998</i> (NEPC, 1998) ▶ <i>NSW Sustainable Design Guidelines Version 4.0</i> (TfNSW, 2017b).
Example management measures	<p>Management measures to be included in the plan and implemented during construction will include (but not be limited to):</p> <ul style="list-style-type: none"> ▶ waste management strategies will be implemented in accordance with the <i>Waste Avoidance and Resource Recovery Act 2001</i> management hierarchy ▶ colour-coded waste segregation bins will be located at key construction compounds where practicable, to facilitate segregation and prevent cross contamination ▶ resource management hierarchy principles will be followed: <ul style="list-style-type: none"> ▶ avoid unnecessary resource consumption as a priority ▶ avoidance is followed by resource recovery (including reuse of materials, reprocessing, recycling and energy recovery) ▶ disposal is undertaken as a last resort ▶ waste segregation bins/stockpiles will be located at various locations within the proposal site, if space permits, to facilitate segregation and prevent cross contamination ▶ trees and weed free plant material will be mulched or chipped on site and used in landscaping where practicable to stabilise disturbed soils ▶ identify recycled materials (such as recycled aggregates in road pavement and surfacing; steel with recycled content) for use in construction or operation of the proposal where they are cost, quality and performance competitive.
Related strategies, plans or requirements (see Chapter 23: Waste and resource management)	<ul style="list-style-type: none"> ▶ Sustainability management plan ▶ Contamination and hazardous materials sub-plan