



SA Water Major Framework Partner

Water Civil Framework

McConnell Dowell Management System

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

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Rev	Date	Description	Author	Reviewer	Approver
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8	25 October 2024	Removal of reference to site roster, updated the SAW Heritage Finds Procedure, reference made to regulated and significant trees as per new regulations, reference process of cultural heritage monitors on site, general review	N. Herbert ; A Kordahi; S. McMaster; J. Adams	SA Water	M. Doyle

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1 ABBREVIATIONS, TERMS AND DEFINITIONS

A comprehensive list of definitions, interpretations and acronyms can be found in the Head Contract. Words and phrases defined or referred to in the Head Contract have the same meaning when used in this plan and other management plans.

Any additional definitions, interpretations and acronyms that are specific to the Project, or to this plan, and that are not found in the Head Contract, are listed in the table below:

Table 1-1: Abbreviations, Terms and Definitions

Term/Abbreviation	Definition
CEMP	Contractor's Environmental Management Plan
CEP	Construction Execution Procedure
CMO	HSEQ compliance database software (CMO stands for Compliance Management Organisation, however only the acronym CMO is used in reference to the software)
Contractor	McConnell Dowell Diona Joint Venture (MDJV)
PDT	Planning Delivery Together
EMS	Environmental Management System
EPA	Environment Protection Authority
EPI	Environmental Protection Instructions
ERP	Emergency Response Plan
ESCOSA	Essential Services Commission of South Australia
ESG Framework	Environmental, Social and Governance Framework
ESOP	Environmental Standard Operating Procedure
EXCO	Executive Committee
Framework	The multiple projects and the overarching agreement under which those projects will be delivered
Head Contract	Means the Framework Agreement in place between SA Water and MDJV
HSE	Health, Safety and Environment
HSELT	Health, Safety and Environmental Leadership Team
HSEQ	Health, Safety, Environment and Quality
INR	Improvement Notification Report
IWP	Initial Works Package
JSEA	Job Safety and Environmental Analysis
LRQA	An organisation that is a participant of the United Nations Global Compact and adheres to its principles-based approach to responsible business.
MDJV	McConnell Dowell Diona Joint Venture
MFP	Major Framework Partner
MMS	McConnell Dowell Management System
NGER	National Greenhouse and Energy reporting Scheme
PMC	Project Management Committee (McConnell Dowell Diona Joint Venture (MDJV) Leadership Team)
SA Water / SAW	South Australian Water Corporation
SDS	Safety Data Sheet
SDGs	United Nations Sustainable Development Goals

Term/Abbreviation	Definition
SCAP	State Commission Assessment Panel
SEP	Site Environmental Plan
SWMS	Safe Work Method Statement

2 PROJECT DESCRIPTION

The SA Water model Delivering Capital Together was set up to create deep and long-lasting partnerships with industry specialists through a new framework model. This includes three Major Framework Partners (MFPs) working collaboratively with SA Water to plan and deliver work, supported by a management structure with shared risk and responsibility. This change is considered essential for improving outcomes for SA Water customers and maintaining low and stable water prices over time.

The delivery model streamlines how SA Water manages its assets, from planning to delivery, supported with transparent and agile procurement and commercial processes, increased capability from its supply partners and simplified transactions. It is founded on good governance as it retains and develops the contract management capability within its business.

SA Water and its major framework partners work collaboratively to achieve a long-term, partnership approach, working together to consistently deliver excellent capital program outcomes to 2024 that represent value for money for its customers. This relationship is set to continue during the RD24 regulatory period, which entails collaboration for the following four financial years, until June 2028.

SA Water's MFP's seek to be equally cognisant of their commitment to customers and be willing to work alongside them, as it invests to support how they deliver outcomes for more than 1.7 million people.

From its MFP's SA Water expects a high performing collaborative cultural mindset, willingness to learn and grow together in the effective planning, management and delivery of major projects and capital investment decisions across South Australia. This means that together with the MFPs it jointly develops greater alignment and integration in decision making information and performance management.

When it comes to reputation, customers and the community do not see the difference between SA Water and its MFP's. SA Water expect that the MFP's adopt the approach that at the heart of reputation management is cohesive, consistent, and systematically applied principles and practises. With this approach to our business practise communications, customer and stakeholder management are reputation building for SA Water and are an expectation for the entire MFP teams to adopt into their daily practice. Done right, this builds on achieving excellent customer outcomes for SA Waters customers.

Partners are joining with SA Water and its corporate culture which will be enabled with a One Team, One Brand approach.

To achieve this change, SA Water is placing a strong focus on cultural alignment. By working together, we will be culturally integrated, through the effective onboarding and induction of new people to the planning and delivery of the program and projects.

The procurement of all required services for the capital delivery model is delivered through a staged procurement process focusing separately on each of the key service components.

The table below provides an overview of the main procurement processes required in the Delivering Capital Together model:

Table 2-1: Delivering Capital Together Model

Procurement Process	High Level Scope
Major Framework Partners	- Three multi-disciplinary design and construction partners. - Services supporting the delivery of the RBP20 Capital Plan; with extension of the Services for the 2024-2028 Regulatory Business Period (RBP24).

	• Providing capital planning and delivery services including project, program, and construction delivery capability. • Providing program leadership capability aimed at bringing supplier capability into the Program Leadership Team (PLT) to assist SA Water in achieving outstanding customer outcomes. • Delivering 70 to 80 per cent of capital plan (anticipated) under incentivised contracting arrangements.
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The following key asset types form the largest component of the capital intervention planned under the Major Frameworks in the Water Portfolio:

- Water Earth Bank Storages;
- Water Pump Stations;
- Water Storage Tanks;
- Water Treatment Plants;
- Water Supply Networks;
- Major Pipelines and Trunk Mains; and
- Water Control Valve Installations.

3 MANAGEMENT SYSTEM

The McConnell Dowell Diona Joint Venture (MDJV) will operate under the McConnell Dowell Management System (MMS) which is a certified ISO 9001:2015 integrated management system.

The MMS contain all plans, policies, procedures, guidelines, forms and tools to provide a framework mechanism for implementation activities.

For the MDJV to perform at a high standard and to industry best practice throughout the delivery of the project, this plan, together with the management plans listed in Figure 3-1, will be used on the project to plan, document, monitor, control, audit and verify that the Joint Ventures (JV's) operations and finished products are in compliance with the following:

- Applicable statutory Acts, regulations, guides and codes of practice;
- Head Contract; and
- Applicable Australian and international standards, guides and codes.

The MMS documents are stored on SharePoint, the web-based document control system used by MDJV. It provides a structured environment for locating and using documents, as well as managing the change and approval process. Project documentation will be shared and made available to external parties and stakeholders as per contractual requirements or as necessary through the collaborative electronic documentation management system nominated by SA Water and the Major Framework Partners (Aconex). Other integrated systems to be used by the MDJV include Workbench and CMO.

The management plans are documented to include additional management procedures that are considered critical in achieving the project objectives and are written to address resources and issues requiring greater detail for implementation at project level than that provided in corporate procedures.

The plans provide a detailed description of how MDJV plans to carry out the works in accordance with the requirements of the Head Contract.

All project plans are required to be submitted to either the Framework Manager, Project Management Committee (PMC) or SA Water for review and authorisation prior to controlled distribution.

The requirements set out in the plans are minimum requirements for the project and they are not to be decreased or otherwise reduced in any subsequently amended versions of the plans, unless an approval is sought from the relevant plan approver.

The project plans will be controlled throughout the duration of the Head Contract and will cease being controlled once the project has reached completion.

The list of project plans and approvers can be found in the figure below.

McConnell Dowell Diona Joint Venture Management Plans

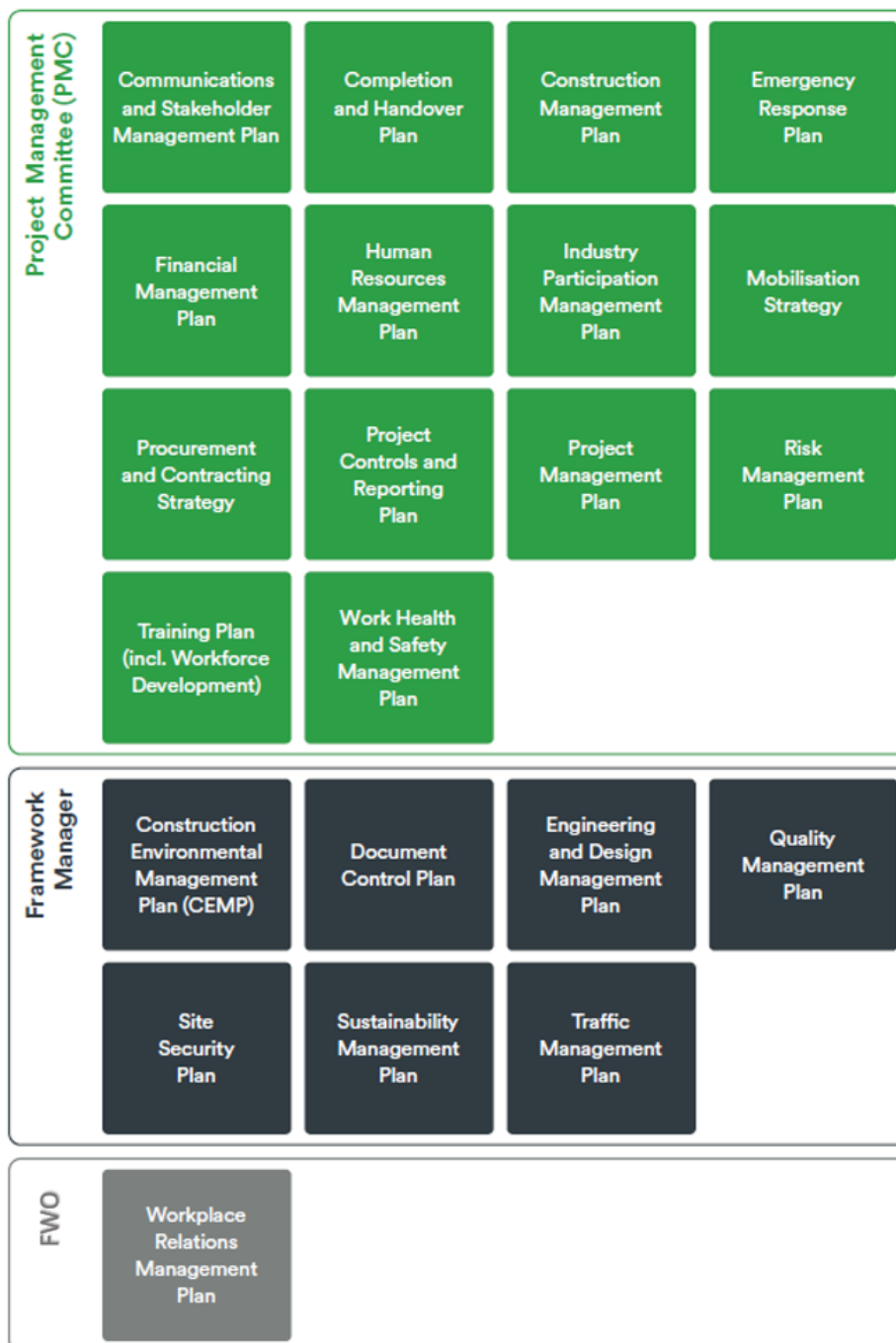


Figure 3-1: Management Plans

4 PURPOSE OF THE PLAN

4.1 Plan Purpose

This Construction Environmental Management Plan (CEMP) is part of the suite of documents required for Project activities as outlined in Project Management Plan – SA Water Version 4.2 22/11/19 and has been developed in accordance with ISO 14001:2015. In 2020, SA Water commenced a four-year regulatory period and within this has a large capital works program to be delivered following approval by ESCOSA (Essential Services Commission of South Australia). This works was subsequently extended for an additional 4 years from July 1st 2024. The delivery model used by SA Water to support the delivery of the capital program as shown below and this delivery plan will outline how this delivery model will be applied within this model.

The purpose of this CEMP is to:

- Achieve the Delivering Capital Together stated environmental objectives and targets.
- Ensure legal and contractual compliance.
- Outline procedures for the management of environmental protection issues relevant to the activities being performed.

The CEMP is the primary document for managing potential environmental risks and opportunities specific to the Program during the works. This CEMP is the overarching document and is to be read in conjunction with project specific Construction Environmental Management Sub-Plans, if developed for specific environmental and heritage sensitivities for selected project sites. Examples of such sub-plans include a:

- Cultural Heritage Management Plan,
- Sediment, Erosion and Drainage Management Plan,
- Dewatering Management Plan, and
- Dredge Management Plan etc.

This CEMP must also be read in conjunction to Site-specific Environmental Plans (SEPs), that are developed for the construction phase of individual projects.

The Project Specific CEMP, associated sub-plans (if developed) and SEPs, outline environmental requirements and relevant legislation and approvals relevant to each package. It provides the framework for identifying environmental aspects and impacts associated with the works and a framework for managing the environmental controls and processes implemented by MDJV personnel, subcontractors and consultants in carrying out their respective responsibilities in relation to the Project.

It is the responsibility of the Client (SA Water) to obtain environmental and heritage approvals (with the exception of Earthworks Drainage and Dredging Approvals, which is the responsibility of MDJV) – MDJV will assist SA Water in sourcing and drafting documentation where appropriate. An approvals work flow is currently under development between the MFPs and SA Water, to clearly outline the roles and responsibilities with regards to the approval process. MDJV will track the status of approvals per output in a register (HSEQ-ENV-REG303-GEN-2910) which is updated on a regular (usually monthly) basis. This allows the MDJV team to determine if all environmental and heritage approvals are obtained prior to commencement of construction works on site.

4.2 Plan Scope

In development of this CEMP the following considerations have been incorporated:

- External and internal issues
- Compliance obligations
- Organisational units, functions and physical boundaries
- Activities and services
- Authority and ability to exercise control and influence.

The scope of works in relation to the MDJV is outlined in Section 2.

4.3 Plan Authorisation and Approval

The Environmental Management Representative (EMR) is responsible for the review and distribution of this Plan and ensuring it is fully implemented. This Plan will be introduced to all MDJV staff and workforce through general introductions to the management systems for the MDJV during Project inductions.

All personnel employed on the Project shall perform their duties in accordance with the requirements of this Plan and comply with system and project-specific procedures.

4.4 External and Internal Issues

The external and internal issues are identified as having a specific interest in the Project, with particular interest in its environmental management. Refer to **Table 4-1**.

Table 4-1: Internal and External Issues

External / Internal	Factor	Bias	Risk / Opportunity	Consequence	Control / Mitigation	Monitoring & Review Mechanism
Internal	Technological	Positive	The company currently have adequate technical knowledge and resources to continuously deliver the projects	Not Applicable	Not Applicable	Not Applicable
Internal	Leadership	Negative	Delegating authority to the project Environmental Advisor and not taking ownership	Senior management not accountable for the environmental management system (EMS)	Senior management ensure that measurement of effectiveness of leaders is tied to the effectiveness of the EMS	- Management review meetings - Review KPIs (HSE and SAW KPIs)
Internal	Resourcing	Negative	Lack of competency of personnel involved with construction	More frequent and severe environmental incidents	Define the skill and knowledge required for each job	- CVs - Qualification / training certificates - Competency matrix - Position Descriptions
Internal	Resourcing	Negative	Inadequacy of personnel to perform the work	Personnel overloaded with work	Determine the required number of personnel at tender stage and project commencement	Internal audits

External / Internal	Factor	Bias	Risk / Opportunity	Consequence	Control / Mitigation	Monitoring & Review Mechanism
Internal	Operating	Negative	Environmental management system not followed	- Non-conformances - Delays in construction - Additional costs	- Ensure inspection are undertaken weekly across MDJV, and monitoring plans are developed where required - Regular monitoring as per monitoring requirements (e.g. as outlined in a project specific, event specific Water Discharge Permit).	- Non-conformance reports - Management review meetings
Internal	Operating	Negative	Customer dissatisfaction	- Future work - Project takeover - Loss of revenue	Ensure customer requirements are met	- Customer satisfaction surveys - Management review meetings - Internal audits
External	Supply Chain	Negative	- Failure to conform to requirements - Supply delays	- Loss of customer satisfaction - Production delays - Non-conformances	- Requirements clearly stated in the contracts - Perform audits / inspections on suppliers based on risk profile to the project - Incoming material inspections - Part B sub-contractor assessment	- Supplier audits - Supplier monitoring reports - Material receipt inspection reports

External / Internal	Factor	Bias	Risk / Opportunity	Consequence	Control / Mitigation	Monitoring & Review Mechanism
External	Legal	Negative	New standards/regulatory requirements	- Increased costs - Additional requirements missed out - Non-compliance due to new regulations	- Monitor changes to standards via SAI Global web site - Change management process - Review environmental legal and other requirements - Registration to regulator updates	- Internal audits - Regular reviews of legislation requirements at a project level
External	Customer	Positive	Company EMS is third-party certified to ISO 14001:2015	Not Applicable	Not Applicable	Not Applicable
External	Customer	Negative	Not meeting expectations of the contract	- Noncompliance with contract requirements. - Environmental incidents due to not addressing site specific aspects	- Contract compliance table within all project CEMPs - Internal and external review process	- SA Water KPI system - Internal audits - Framework reviews
External	Customer	Negative	Shifting expectations/project deliverables scope creep	- Wasted resources/cost during project planning phases - Additional requirements added at later stage resulting in additional risks	Clear understanding of customer's requirements and priorities and potential changes	Regular project reviews with customer/stakeholder

External / Internal	Factor	Bias	Risk / Opportunity	Consequence	Control / Mitigation	Monitoring & Review Mechanism
External	Public	Negative	- Causing a nuisance to neighbours/ broader community - Impacts to vegetation	- Complaints to MDJV, SA Water or regulatory - Fines and warnings from regulator - Impact to company's image - Impact to SA Water's profile - Delayed approvals, negative media	- Complaints management procedure within CEMP - Proactive management and mitigation measures to reduce the likelihood of complaints	- Review of complaints register - Internal audits - Weekly environmental inspections for MDJV as a project - Community surveys
External	Public	Negative	- Causing an impact to a neighbouring property as a result of the project activities - Interfering with Water supply - Contamination of water supply	- Fines from the regulator - Cost for rectification/ rehabilitation of the impact caused - Impact to company/ SA Water profile - Loss of water / amenity to Business / resident - Inability to use water	- Complaints management procedure within CEMP - Proactive management and mitigation measures to reduce the likelihood of complaints - Adhere to SA Water Operational Services and SAW isolation processes and procedures - Inductions - Training	- Review of complaints register - Internal audits - Weekly environmental inspections for MDJV as a project
External	Regulator	Negative	- Unapproved activities inconsistent with relevant legislation - Contamination of waters from unauthorised release	- Fines and/ or stop work orders - Impacted regulator/ company relationships	- Approvals register - Review record environmental legal and other requirements - Risk management process	- Internal audits - Regular reviews of legislation requirements at a project level

External / Internal	Factor	Bias	Risk / Opportunity	Consequence	Control / Mitigation	Monitoring & Review Mechanism
External	Local Council	Negative	- Additional pressure on local infrastructure - Impacts to vegetation	- Increase pressure on local landfill due to inappropriate waste management - Reduced capacity of water/ sewer/ stormwater infrastructure as a result of the project works - Impact to local roads due to increased short-term traffic - Delay approvals, negative media	- Early involvement with key stakeholders - Approvals register including local council permit requirements - Waste management procedures - Keep Council abreast of tree removals planned and additional ones that may be required	- Waste management records - Approvals register - Internal audit - Weekly environmental inspections for MDJV as a project - Feedback from Community survey (if received)

4.5 Interested Parties

The following interested parties are identified as having a specific interest in the Program, with particular interest in its environmental management:

Table 4-2: Interested Parties

Interested Parties	Key Stakeholder	Requirements	Monitoring & Review Mechanism
External providers	- Cultural Heritage specialist - Flora and Fauna specialist - Contamination specialists - Various subcontractors (as required)	- Subject matter advice on key environmental aspects - Technology support - Timely approvals	- Defined in documented contract agreements of external providers - Supplier / subcontractor / consultant audits
Customer	- SAW - SAW Client Organisational Partners including KBR and Aurecon - SAW Customers (users)	- Compliance with regulatory, contract and project specific requirements - Response to complaints - Proper communication channels	- Defined in documented information of - Management Review meetings - Internal audits - Non-conformance reports and register

Interested Parties	Key Stakeholder	Requirements	Monitoring & Review Mechanism
Statutory & Regulatory Bodies	- South Australian Environment Protection Authority (SA EPA) - Department for Environment and Water (DEW) - Department for Infrastructure and Transport (DIT) - Landscape Boards (Green Adelaide etc) - Primary Industry and Regions South Australia (PIRSA) - Dept of Climate Change, Energy, the Environment and Water - SA Health - Native Vegetation Council of SA - Local Council - Indigenous land councils and corporations - Planning and Land Use Service	- Complying with the statutory and regulatory requirements as defined from time to time - Local community complaints	- Defined in project documented information - Management Review meetings - Internal audits - Complaints register - Weekly environmental inspections for MDJV as a project - Formal feedback from SCAP to PMC
Public	- Neighbouring land uses - Landowners - Road users - General public & SAW customers	- Safety and environmental compliance of the project - Does not cause an environmental nuisance - Minimises vegetation removals as far as practicable	- Defined in project documented information - Inspection and test plans, inspection checklists and test reports - Internal audits - Weekly Inspections for MDJV as a project
Employees	MDJV staff and contractors	- Management support - Communication of project / system requirements	- Project training register - Daily pre-starts and toolbox records
Certification Body	LRQA	The environmental management system developed based on MMS is being is complied with.	Certification audits

Interested Parties	Key Stakeholder	Requirements	Monitoring & Review Mechanism
Competitors	Tier 1, 2 and 3 competitors	Provide challenges to our ability to deliver projects	Internal audits to ensure Major Framework Partners are providing equal or better products to customers than that of the competitors.
Supply Chain	Suppliers	- Procurement of local services - Social Procurement	- RFQ templates and evaluation criteria include local content and other social aspects - Measure social procurement spend

Consultation to understand the needs and expectations of these interested parties will be developed as required. The requirements of interested parties will be monitored and reviewed to ensure that these requirements are being met.

4.6 Environmental Context

The environmental context for upcoming works in relation to key environmental elements is currently unknown due to the nature and variety of works to be undertaken. Many of the Water Civil Program outputs for RD24 are yet to be scoped and investigated to appreciate the existing environmental conditions and key issues.

These issues will be reflected in Construction Execution Plans (CEPs), SEPs and through the output specific HSEQ Risk Register. As a minimum, the following environmental aspects will be addressed in these output specific documents:

- Air quality
- Aboriginal and European Heritage
- Fauna and flora
- Noise and vibration
- Resource use and waste
- Soils and contamination
- Surface water
- Groundwater
- Weeds, pests and pathogens (*Phytophthora* and *Phylloxera*)
- Hazardous substances
- Fire management
- Water quality, sediment erosion and drainage

5 ENVIRONMENTAL MANAGEMENT APPROACH

5.1 Environmental Leadership and Commitment

MDJV undertakes a reflective, resourceful, inclusive and flexible approach to environmental management and leads by example in ensuring that statutory and contractual requirements are met and positive environmental performance is maximised.

Our approach to environmental leadership is underpinned by our ISO 14001 certified Environmental Management System (EMS) that forms part of MDJV Integrated Management System (IMS).

In line with the requirements of ISO 14001, MDJV Leadership Team (PMC), McConnell Dowell's Executive Committee (EXCO), are committed to review and endorse this document as part of a broader review of the MMS every 12 months. This process ensures top management (Both PMC and MCD EXCO):

- Take accountability for the effectiveness of the environmental management system;
- Make certain that environmental objectives are established and are compatible with the strategic direction and the context of the organisation; and
- Ensure the integration of the environmental management system requirements into the organisation's business processes.

5.2 Environmental Policies

The McConnell Dowell (HSEQ-ENV-POL001-GEN-GRP) and Diona (CDC-POL-HS001) environmental policies are endorsed by top level management and included in Appendix A. These Policies document the level of commitment to positive and proactive environmental performance for all activities.

The Environmental Policies (APPENDIX A: ENVIRONMENTAL POLICIES) makes the following key commitments:

- Visible and demonstrated environmental leadership.
- Promoting innovative thinking and practices to achieve positive environmental outcomes.
- Compliance with applicable environmental obligations.

- Monitoring environmental performance and seeking continual improvement.
- Prevention of pollution and minimising environmental impacts.

5.3 Sustainability Policy

MDJV have also established a Sustainability Policy (HSEQ-ENV-POL002-GEN-GRP), which is endorsed by top level management. The policy outlines MDJV's commitment to one of our five core values – sustainability. It is also included in APPENDIX A: ENVIRONMENTAL POLICIES.

The Sustainability Policy makes the following key commitments:

- Business sustainability leadership through professionalism, competence and industry participation.
- Client and community protection through an uncompromising commitment to safety, quality and the environment.
- Team growth through sharing and collaboration and business growth through partnerships, market knowledge, innovation and adaptability.
- Client and community sustainability through long term relationships and acting today with the future in mind.
- Actively encouraging continual improvement and promoting innovation, adaptability and resilience.
- Consideration of the appropriate use of materials, including water and energy, and the resulting generation of waste and carbon emissions in all our activities. Understanding and reducing our carbon, energy, materials and water footprints.
- Promotion of sustainable construction practice, including the prevention and mitigation of environmental pollution, climate change adaptation, the efficient and sustainable use of resources and the principles of inclusion, engagement, equality and diversity.

MDJV is further committed to support the outcomes of the sustainable development goals (Figure 5-1) through the SAW KPI initiatives.



Figure 5-1: Sustainable Development Goals

5.4 Environmental and Sustainability Objectives

MDJV design and construction methodology will be undertaken to maximise the achievement of the following objectives:

- Minimise the generation of greenhouse gases, associated with the construction, operation and maintenance of the asset (including maximising energy efficiency);

- Apply the principles of the waste hierarchy (avoid, reduce, reuse, recycle and recover) to maximise waste avoidance and diversion from landfill;
- Minimise use of mains water during the construction and operation of the asset through demand reduction use of rainwater and recycled water;
- Prevent pollution of land and waters;
- Avoid acid sulphate soils where possible or mitigating impacts;
- Avoid mobilisation of contaminants and where feasible, remediate contaminated land on the Site;
- Minimise the destruction or disturbance of native flora and amenity vegetation;
- Eliminate proclaimed pest plants and environmental weeds;
- Protection of fauna and fauna habitat,
- Minimise any adverse noise and vibration impacts to sensitive receivers and the general community; and
- Minimise vibration impacts on adjacent structures.

Further Framework-wide objectives are outlined in section 7.6.

5.5 ESG Framework

A new ESG (Environmental, Social and Governance) Framework was rolled out (Figure 5-2) for 2024. The Environmental section of this Framework is covered under this plan (CEMP).

A reporting platform was updated for 2024, to track progress against the Environmental requirements on a monthly basis in the Health, Safety and Environmental Leadership Team (HSELT) meeting.



Environment

Carbon & Our Environment

ESG FY24 KPIs



FY24 KPIs	Achievement	Comments	Cost
5% reduction in carbon intensity from FY23 BU baselines.		Scope 1 and 2 CO2 emissions data reported and assured. Carbon intensity graphs to be part of automated reporting. Carbon zero roadmap elements built into tenders and budgets	project
>95% completion of mandatory employee environmental training module on Litmos		Training monitored as part of Safety Capacity Index education KPI. >95% of mandatory training completed by SLT-1 and above employees within 60 days of start date.	nil
ESG (carbon, waste, water) reduction initiatives are considered at tender, costed and included in tender review packs, and report the proposition in the tender Gold Review Pack.		Engineering and design considers climate change and adaptation measures for all tenders – high risk climate change addressed in the design solution at tender and delivery, providing options that can be offered to the Customer.	project
An average of 2 active initiatives per project to improve resources efficiency. Includes potable water consumption and renewable energy.		HSEQ in each BU to confirm initiatives per project in place and include in Acuite reporting. Include cost in tender if possible	project
>90% of construction and demolition waste diverted from landfill where available		Not possible to achieve 100% due to lack of recycling facilities in all locations. Increase project recycled content where possible – include in bid	project



Governance

Conduct & Compliance

ESG FY24 KPIs



FY24 KPIs	Achievement	Comments	Cost
>95% completion of mandatory ESG training by SLT-1 and above		>95% completion of mandatory training by SLT-1 and above	nil
100% BU financial statutory accounts and tax returns completed/ lodged on time		Commitment to compliance with finance regulations and tax laws in all jurisdictions - timely lodgement of unqualified statutory financial accounts and tax reporting in compliance with all local jurisdiction regulations. No major non-conformances from audits.	nil
Project sustainability/ESG management plan template developed and put into MMS for use by all new projects		Project sustainability/ESG management plan template developed and put into MMS for use by all new projects from 1 st January 2024	nil
100% MMS compliance audit targets met.		MMS auditing in place by all functions including an audit schedule.	nil
>95% completion of Annual Code of Business Conduct pledge		>95% completion of mandatory training by employees within 60 days of employment start date. Tip Offline matters escalated and resolved in timely manner.	nil



Social

Our Community & People

ESG FY24 KPIs



FY24 KPIs	Achievement	Comments	Cost
100% Safety Capacity Index KPIs met or exceeded. 100% Safety Capacity Index reporting by BUs.		Safety Capacity Index reporting to move to automated reporting during FY24.	nil
>90% project social procurement and local supply chain targets met or exceeded (subject to external labour pressures). One CSR initiative per project		Targets to be determined from Client requirements and included in tender preparation. Additional targets may be included in the ESG offer within the tender pack. One CSR initiative per project supporting the local community	project
Develop Diversity Charter and strategy		Develop and implement a Diversity Charter and strategy to support Year on Year improvements in gender and diversity composition of the company workforce at all levels. KPIs to be set for FY24.	nil
Reconciliation Action Plan accredited at 'Innovate' level by Reconciliation Australia. First Nations policy issued by each business unit Mana whenua and tangata whenua involvement by 100% NZ projects and offices.		Movement of Reconciliation Action Plan to 'Innovate' level. First Nations policy developed for each business unit All projects and offices demonstrate te reo Maori progress and tangata whenua interaction. Data captured as positive in CMO	?
>95% completion of Social & Broader Outcomes training module by SLT-1 and above.		Social & Broader Outcomes training module developed and completed by >95% of SLT-1 and above employees.	nil

Figure 5-2: ESG Framework for 2024

6 ROLES AND RESPONSIBILITIES

Protection of the environment is the responsibility of all individuals and organisations involved with the SA Water model (Delivering Capital Together).

All personnel will be made aware of environmental issues associated with the SA Water model (Delivering Capital Together) and their responsibilities through training and awareness methods detailed in Section 8.3.

The Organisational Chart for each SA Water model (Delivering Capital Together) sub-project describes the organisational structure for environmental management in Project delivery.

The roles and responsibilities of personnel specifically responsible for implementation of this document are summarised in Table 6-1 below. Note: role responsibilities for specific environmental operational controls are also set out in the site-specific Sub-Plans where these are required to be developed. Future sub-plans may be developed in response to an identified high environmental risk, regulatory or client requirement.

Table 6-1: Roles and Responsibilities

Role	Responsibilities
Framework Manager	• Promote at all times the company's policies, procedures and standards relating to environmental management and ensure that they are complied with. • Ensure sufficient resources are available to achieve the policy, objectives and targets and that those resources have sufficient skills to conduct the roles competently. • Report performance on a regular basis to internal and external stakeholders. • Report significant incidents internally and externally as required by law and Contract Conditions. • Provide leadership to MDJV in relation to environmental management.
Delivery Manager	• Overall environmental performance of the individual works package. • Ensure the works package achieves legislative compliance. • Provide leadership in the development of this plan and authorise its use. • Nominate key personnel, assigning environmental responsibilities and allocating sufficient resources to achieve implementation of this plan. • Ensure all personnel are familiar with and implement all relevant environmental controls as required. • Monitor environmental performance to ensure compliance and continued improvement. • Participate in the review of the works package's environmental management system and this plan. • Encourage all personnel to maintain acceptable environmental management work practices and foster awareness of environmental matters. • Encourage the reporting of incidents, events and other concerns and ensure appropriate feedback on proposed corrective actions.
HSE Manager	• Report significant incidents internally and externally as required by law, the Project Conditions. • Ensure all staff and contractors engaged to work on the Project are appropriately inducted and trained in environmental issues and controls relevant to the Project. • Ensure monitoring programs, which assess the performance of the CEMP and specific Plans, are implemented. • Report internally and externally in accordance with Project and other requirements.

Role	Responsibilities
	- Investigate and report incidents and non-conformance and ensure corrective and preventive action is taken and is effective. - Provide leadership sufficient to inspire and influence others to achieve the Works Package objectives and targets with regards to environmental and sustainability outcomes.
Environmental and Sustainability Manager	- Principal contact for internal and external communication in relation to environmental matters. - Oversee all environmental management aspects of the Works Package. - Authority to stop a particular task or activity in circumstances where environmental controls or mitigation measures have not been implemented, have been implemented incorrectly / inadequately, are ineffective or where activities may otherwise be considered to lead to environmental harm. In such circumstances, prescribe corrective action that will be implemented before work recommences. - Develop, review and ensure this document (and associated plans) is correctly implemented. Ensure measures are put in place to manage and mitigate environmental risks and issues as identified. - Ensure that environmental plans, procedures and work instructions as applicable are prepared, reviewed and approved prior to commencement of work. - Ensure all significant environmental issues are reflected in the significant environmental aspects identified for the Project. - Ensure that all key environmental aspects and associated impacts are incorporated into the CEMP, and that suitable control measures are proposed to minimise the Project's environmental impact. - Ensure that all relevant environmental permits are obtained for the Project. - Ensure all staff and contractors engaged to work on the Project are appropriately inducted and trained in environmental issues and controls relevant to the Project. - Provide leadership sufficient to inspire and influence others to achieve the Works Package objectives and targets with regards to environmental and sustainability outcomes. - Manage and track compliance with all environmental approvals, licences, permits and other obligations. - Lead the tracking of environmental and sustainability targets for the Works Package. - Ensure appropriate environmental training is identified in a Training Needs Analysis and that training is provided to personnel where required. - Review and update this plan, as required. - Prepare environmental data for monthly reports.
Environmental and Sustainability Advisor (Environmental Management Representative)	- Support the Environmental and Sustainability Managers to ensure that all key environmental aspects and associated impacts are incorporated into the CEMP, and that suitable control measures are proposed to minimise the Project's environmental impact. - Functional and technical leader for the Works Package's environmental obligations. - Support the Environmental and Sustainability Managers that all relevant environmental permits are obtained for the Project. - Ensure all staff and contractors engaged to work on the Project are appropriately inducted and trained in environmental issues and controls relevant to the Project.

Role	Responsibilities
	• Ensure monitoring programs which assess the performance of the CEMP and any associated documents are implemented. • Report any environmental incidents to the Environmental and Sustainability Managers. • Investigate and report incidents and non-conformance and ensure corrective and preventive action is taken and is effective. • Identify and drive sustainability opportunities where possible.
Engineering / Design Manager	• Provide effective environmental leadership. • Ensure designs are undertaken in accordance with the requirements of the scope of works, technical requirements, relevant standards and this plan. • Ensure design has minimal environmental impact. • Ensure processes and resources are in place to adhere to environmental and sustainability obligations where they affect design or are affected by design. • Participate in incident and non-conformance report investigations and ensure that corrective and preventative action proposed is implemented effectively.
Area Superintendent(s); Supervisors; Project Engineers	• Ensure that requirements of this plan are communicated to all personnel under his/ her control. • Be aware of all environmental risks, issues and concerns relating to his/ her area of work. • Be aware of all approval and contractual conditions relating to his/ her area of work. • Perform surveillance and monitoring of environmental controls to ensure they are adequately established, effective and maintained. • Ensure that the SEP is implemented on site. • Ensure environmental permits to work (e.g. the Water Discharge Permit and the Vegetation Disturbance Permit) is approved by the issuer prior to discharge of water or disturbance of vegetation.
All personnel	• All personnel are responsible for complying with environmental controls and requirements of this plan. • Active awareness demonstrated by reporting inadequate environmental controls or practices to supervision.

6.1 Supplier and Subcontractor Management

All personnel engaged as part of the SA Water model (Delivering Capital Together) are required to operate within the requirements of this plan. Subcontractor selection and engagement, including consideration of environmental management and sustainability factors, is managed through the Part B Pre-Award Evaluation process.

Subcontractors will be made aware of environmental issues related to the individual works package and their responsibilities through training and awareness methods detailed in Section 8.3.

In some circumstances, based on the activities to be conducted by the subcontractor, the Environmental Management Representative may determine that the subcontractor be required to develop a Project specific Subcontractor Environmental Management Plan.

Where a Subcontractor Environmental Management Plan is required, the document is to address the specific work packages awarded and will be submitted to the Environmental Management Representative for approval. Works will be unable to commence until approval has been received. Such plans must assess the level of environmental risk and implement appropriate management controls for the subcontractor's full scope of work to a standard that is consistent with this plan.

Regardless of the approach to managing a subcontractor's environmental impacts, all subcontractors will be subject to the following:

- Regular on-site auditing to assess their performance against the requirements of this plan.
- Completion of the appropriate training requirements as specified.
- Implementation, protection and maintenance of environmental management controls as set out in environmental management documentation.
- Monthly reporting of sustainability data.

7 PLANNING

7.1 Risk and Opportunity Identification

Environmental risks and opportunities associated with the individual works package are managed through the HSE Risk Management (MMS # HSEQ-HS-PRO006-GEN-ALL) process. This process complies with the Standard AS/NZS ISO 31000:2009 Risk Management Principles and Guidelines. During Project execution, the principal objectives of risk management are to develop and monitor the implementation and effectiveness of risk treatments and to identify and evaluate changes in the risk profile of the Project.

7.2 Environmental Aspects and Impacts

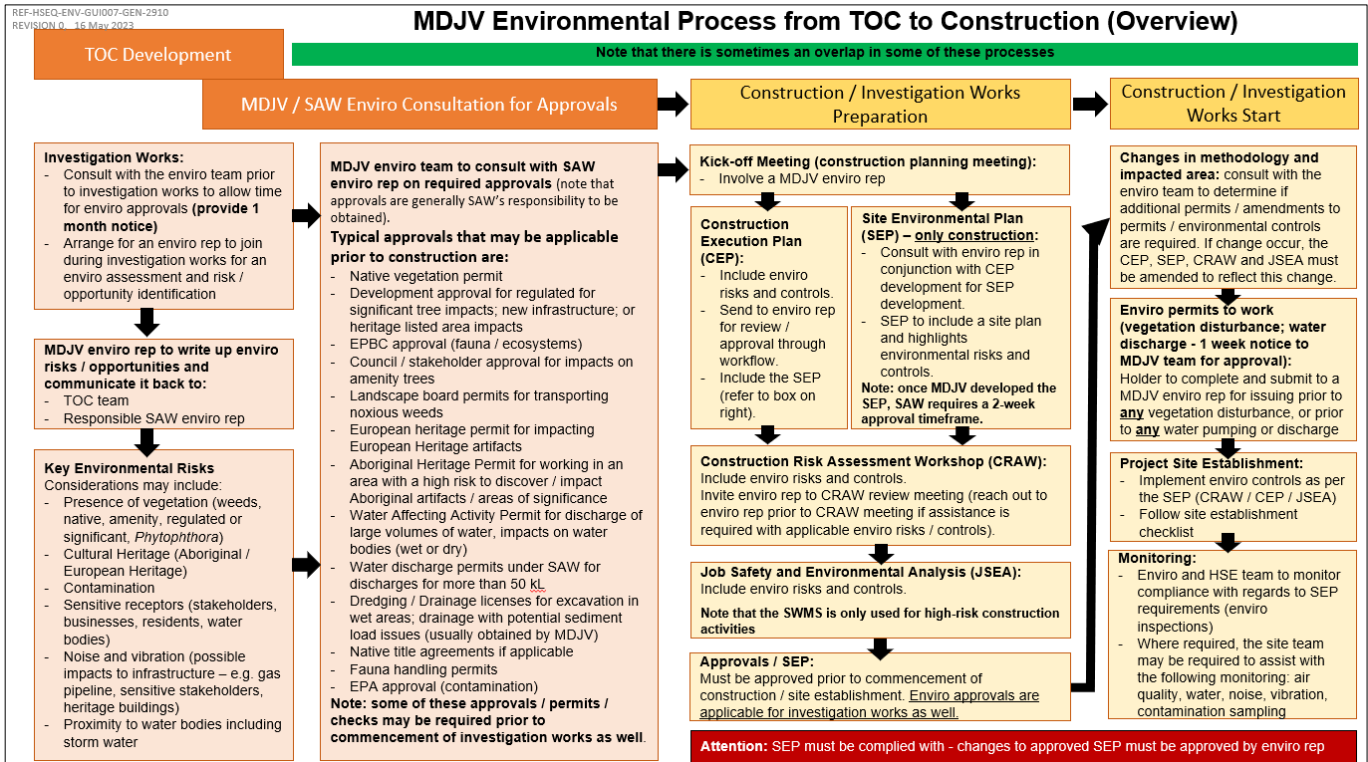
Relevant environmental aspects and impacts are managed through the combined HSE Project Risk Register (HSEQ-HS-REG300-GEN-2910). This is reflective of our integrated management approach and will be kept as a live document on site. It covers all aspects of the Project / Facility, including normal and abnormal operations or activities, planned, new or modified activities and any potential emergency situations.

The Risk Register is a live document, to be continually revised during the Project duration as risks or further information comes to hand.

7.3 Environmental Compliance Obligations

MDJV ensures compliance with all relevant compliance obligations and aims to employ best practice environmental management procedures for each works package. Environmental compliance obligations include compliance with applicable environmental legislation, standards (including ISO 14001:2015), policies, procedures and other governance processes.

Compliance obligations also include requirements of, and commitments outlined in works package contract, related governance documents, the MDJV Environmental Process from TOC to Construction (Overview) Refer Figure 7.3, (REF-HSEQ-ENV-GUID007-2910) and the SEP.



7.4 Legislation and Approvals

The Compliance with Legal and Other Requirements (MMS # LGL-CPL-PRO001-GEN-ALL) procedure outlines how MDJV identifies, maintains and evaluates compliances with legal and other related requirements that are applicable to delivery of the works package. This legislation is identified and recorded within Review Record Environmental Legal & Other Requirements (HSEQ-ENV-TEM007-GEN-2910). Legislation and compliance are reviewed by works package management on at least a six (6) monthly basis.

Environmental and Heritage Approvals and Permits are to be obtained by SA Water, with the exception of the Dredging Permit which is MDJV's responsibility. All approvals are tracked in the Approval Register (HSEQ-ENV-REG303-GEN-2910). Specific details regarding particular approvals are outlined below:

7.4.1 Dredging

If potential dredging activities are anticipated, the McConnell Dowell Constructors (Aust) Pty Ltd, EPA Dredge Permit (licence No: 50099) comes into effect. The Dredge Permit requires the project to compile a Dredge Management Plan (DMP), which must be submitted to the EPA for approval. Once approved, the EPA must be notified at least 7 business days prior to the commencement of the dredging activity. Dredging can only commence once the EPA has approved the specific planned activity.

Specific conditions are outlined in the DMCD Dredge Permit – these must be adhered to and outlined in the individually developed DMPs (e.g. the need for maintaining a dredge register, EPA reporting, etc.).

7.4.2 Vegetation Clearance

During the project planning phase, the client (SA Water) must indicate the potential presence of native vegetation in the vicinity of the proposed project area. If any vegetation disturbance is expected, a vegetation survey must be conducted to determine the extent of native vegetation in the vicinity of the project area. A Native Vegetation Approval may be required prior to any clearance on site.

If impacts are anticipated to regulated trees (circumference larger than 1meter) and significant trees (circumference larger than 2m) within areas defined by the Adelaide Metro and outer suburban council regions an arborist must be

consulted to compile a preliminary and / or a tree impact assessment report. A Development Application may be required prior to impacting these trees.

The MDJV team (e.g. Area Manager, Project Engineer, Superintendent, Supervisor, Stakeholder Manager and Environmental Manager) must work in collaboration with the SA Water Environmental and Heritage Expertise (EHE) Team, to identify a suitable project alignment based on the presence of native vegetation or regulated / significant trees, safety, and constructability of the proposed project. Once the alignment is identified and agreed on between MDJV and SA Water, the construction corridor width must be determined to calculate the total native vegetation or regulated / significant tree clearance requirement, in order to apply for native vegetation clearance approval or the development approval.

Where a linear project is planned (e.g. a trunk main), a diagram must be developed by the MDJV Area Manager or designated Project Engineer, outlining an explanation of the required width of the construction corridor, to allow for, but not limited to, the following:

- Material stockpiling / windrows
- Trench excavation
- Pipe installation
- Earth movement of spoil and other materials (e.g. trucks)
- Access for UTEs
- Sufficient space to allow for rehabilitation without impacting non-approved native vegetation
- Movement of plant.

An example of such a diagram is provided below in Figure 7-1. If the project alignment is variable, more than one explanatory diagram may be required for different sections of the alignment. The MDJV Area Manager or Project Engineer must submit the construction corridor width explanation to the MDJV Environmental Manager, who will then submit it to the Client (SA Water Environmental Team) for consideration in the Native Vegetation Permit and / or Development Application.

Planning for construction requirements should follow the Native Vegetation Regulations 2017, which calls for proponents to plan their activity in the following order of importance:

1. **Avoid** impacts on native vegetation. This must be the first step in your planning. It includes planning to place infrastructure, buildings or other assets in a way that completely avoids impacts to biodiversity. For example, is there a particular location or time of year that you could clear that would avoid damaging native vegetation altogether?
2. **Minimise** the duration, intensity and/or extent of impacts on native vegetation (including direct, indirect, and cumulative impacts), if clearance cannot be avoided.
3. **Rehabilitate or restore**, the ecosystems that have been degraded at the site of clearance, if adverse impacts cannot be minimised or avoided.
4. **Offset** to compensate for any significant residual adverse impacts that cannot be otherwise avoided, minimised and/or rehabilitated or restored, so that there is no net loss of biodiversity. Providing a Significant Environmental Benefit (SEB) offset is a requirement under the Regulations for activities that require a risk assessment.

The Mitigation Hierarchy **must** be considered and recorded as part of any activity to clear native vegetation under the Regulations. This hierarchy must also be applied to any potential regulated and significant tree impacts to allow for reasonable clearance requests only.

Where impacts are unavoidable (i.e., unable to use existing disturbed areas or existing site access to minimise disturbance), clear justification why these areas cannot be used needs to be provided. Failing to do so may result in the clearance application being rejected, which may delay the approval and project planning process.

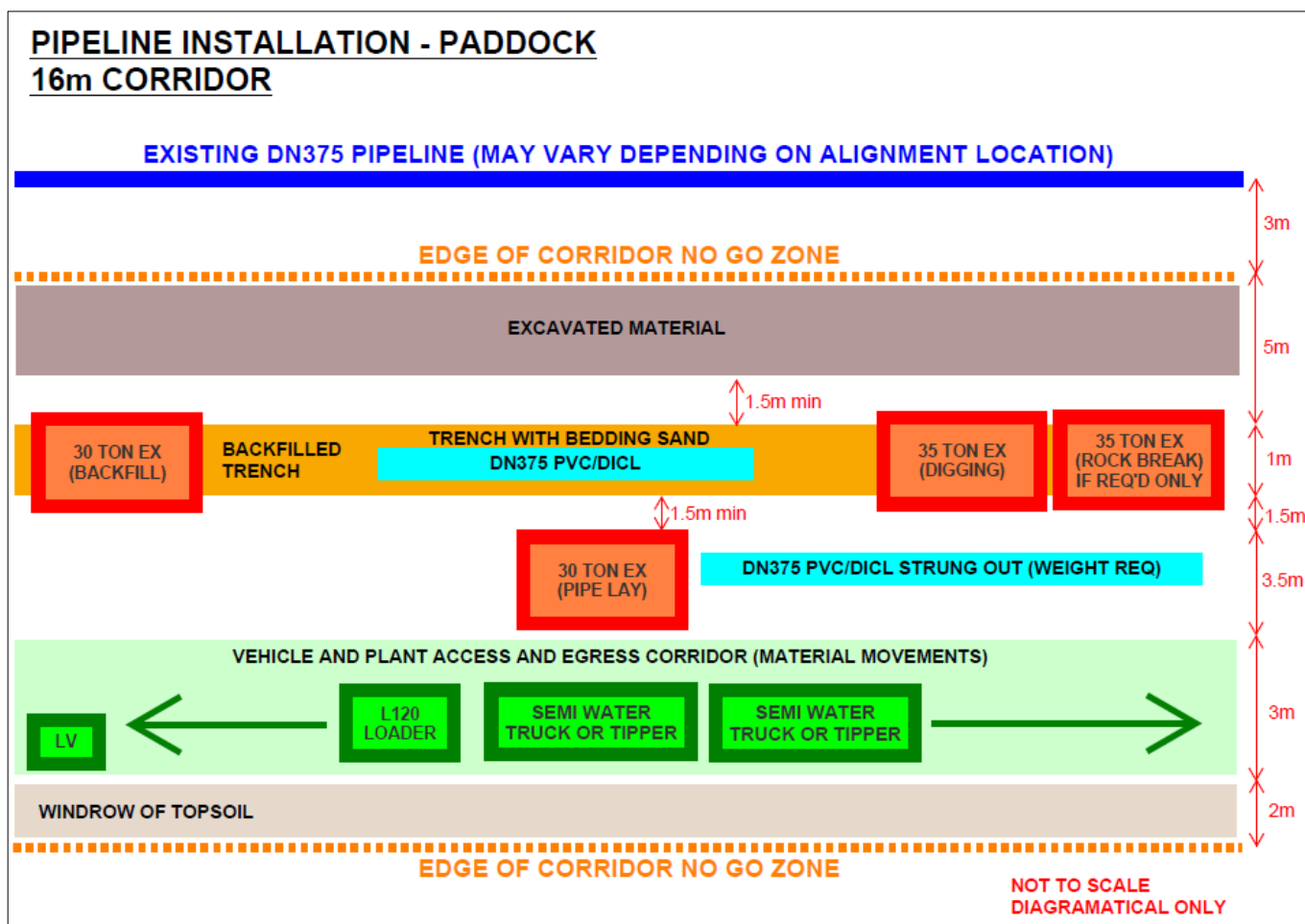


Figure 7-1: Example of Construction Corridor Width Requirement Explanation

Note that compound and laydown areas, and access points to the construction corridor may require additional vegetation clearance – areas where the least native vegetation / regulated / significant tree impacts will be obtained must be selected where practical by the MDJV Team. This must be included in the request for vegetation clearance to the SA Water EHE Team.

If SA Water and MDJV cannot agree on the proposed construction corridor width, the matter must be raised to the SA Water Project Manager for further guidance.

Prior to commencement of vegetation clearance, the MDJV Vegetation Disturbance Permit (HSEQ-HS-FRM326-GEN-2910) must be approved and issued by the permit issuer. Clearance may only commence once the issuer approved the Vegetation Disturbance Permit. The permit is usually valid for 7 days; however, dispensation may be sought from the McConnell Dowell Environmental and Sustainability Operations Manager to prolong the permit timeframe for selected scenarios.

7.4.3 Approval of General Environmental Controls and the Site Environmental Plan (SEP)

The applicable legislative and approvals-based environmental compliance obligations for the management of the specific Works Package are included in individual package specific SEPs and Construction Execution Procedures (CEPs). Construction activities may not commence if the SEP is not yet approved by the SA Water EHE-Team.

7.4.4 Material Leaving Site (Spoil)

No site won spoil or imported material may be taken off-site if not approved by the MDJV Environmental Representative. Additional requirements include:

- Spoil must be classified under the Waste Derived Fill Standards, and a report must be kept for reference.

- MDJV Environmental Manager must approve the material to be taken off-site, based on the spoil classification (e.g. intermediate waste or low level contaminated waste may not be provided to 3rd party landowners).
- A signed agreement must be in place with a third-party landowner, for any material provided to that landowner (2910-SAW-ENV-LET). The agreement must indicate the spoil classification, the volume to be provided and the location of where it will be dumped. A copy of the contamination report must be provided to the landowner with the agreement. The document numbers for individual agreements are tracked in a register (HSEQ-ENV-REG309-GEN-2910).
- MDJV Material Tracking Sheets (HSEQ-ENV-FRM301-GEN-2910) must be completed for any material provided to 3rd party landowners, or material sent to landfill sites (this **excludes** general waste, steel waste, portaloos waste; but **includes** site won spoil, imported spoil removed from site, asphalt, rubble, PM2/20 etc). Material tracking sheets must be saved on a central location on the MDJV share point (HSES / Environmental Monitoring / Material Tracking). The tracking sheets for every project must be saved under a separate folder in this Material Tracking folder. The information from the material tracking sheets must be incorporated in the monthly NGER data, to indicate material reused, recycled or disposed to landfill.

7.4.5 Cultural Heritage Monitors

For outputs where cultural heritage monitors are required to be present during excavation and earthworks activities (as indicated through the client), a cultural heritage monitor attendance sheet must be completed on a daily basis to track attendance of the individual monitors present on site each day, and hours worked. The template is available on Project Tools (HSE-ENV-REG-310-GEN-2910). The sheets must be submitted to the MDJV Environmental Team at least weekly for collation of the data, and submission to SAW on a monthly basis.

7.5 Standards and Directives

MDJV will operate under an organisational Directive called Environmental Management Standard (REF-HSEQ-ENV-GUID002-GEN-GRP), which is a suite of minimum required standards for environmental management to be applied across the Water Civil Program. These minimum standards are included in Appendix B.

The minimum standards relate to key environmental risks common to organisation-wide activities and relates to each one of the ten Environmental Green Rules (REF-HSEQ-ENV-GUID001-GEN-2910), a set of rules to enforce positive messages about what is expected as a minimum standard on site.

The objective of the Environmental Management Standard and Environmental Green Rules Directives are to ensure the application of minimum environmental management standards on all projects and a consistency of approach across the organisation.

7.6 Framework-Wide Environmental Objectives

The SA Water model (Delivering Capital Together) is committed to maintaining a high level of excellence in environmental compliance and continual improvement, which is reflected in the project environmental and sustainability policies relevant to all works packages. These are aligned with SA Water's Delivering Capital Together: Industry, Social and Environmental outcomes plan that details methodology for achieving outstanding industry, social and environmental outcomes in the delivery of Our Plan 2020 (SA Water KPI Plan). The plan outlines our strategic landscape and how we intend to work with our delivery partners and stakeholders to maximise these outcomes across the program, including the governance framework for managing our performance in relation to the outcomes sought.

The following inclusions from SA Water Environmental policy are particularly relevant to this CEMP:

- We are an advocate for source water protection through the implementation of effective land management practices and we work with stakeholders to assess the risk of land use planning and management.
- We recognise water is a limited resource and we work collaboratively to manage water resources to conserve water, maintain and, where appropriate, restore the functionality of ecosystems.

- We strive to minimise waste and use limited natural resources efficiently, including energy and raw materials, across the lifecycle of our activities.
- We work to mitigate and adapt to climate change.
- We recognise our large presence in community landscapes, and we work to improve the amenity and land management of our sites and infrastructure.
- We recognise the intrinsic ecological interactions in the environment and work to prevent pollution of, and minimise adverse impacts on, land, water and air, to maximise beneficial outcomes for the environment.
- We work with our customers and community to improve their understanding of the fundamental role we play in protecting and improving the environment.
- We strive for ongoing improvement of the environmental management system, ensure corporate risks are captured to enhance our environmental performance and minimise risk.
- We are committed to compliance with all environmental legal requirements and environmental agreements developed in our partnerships and we seek to implement best practice solutions.

7.6.1 Client (SA Water) Environmental Objectives and Key Performance Indicators

The SA Water KPI Plan allows up to 12 points to be obtained through the submission of environmental and sustainability submissions. For the 2023/2024 financial year, all of the Environmental 12 points will be combined into one KPI application with the all the SAW MFP. This KPI will be driven by a MFP indicated by SAW, and the other MFPs must support the implementation of this KPI initiative. Additional MDJV initiatives may be submitted to SAW for consideration for additional or bonus points.

The points that can be allocated per individual KPI submission, are based on the following categories:

- **Major performance criteria – 3 points:** specific outcome achieved in the delivery of work that has a major contribution to the overall strategic objectives e.g., program wide culture improvement initiative, implementation of new construction methodology resulting in significant improvements in work safety etc.
- **Minor performance criteria – 1 point:** specific outcome achieved in the delivery of work that is project specific (not readily repeatable or scalable) and has a minor contribution to the overall strategic objectives e.g., an initiative to improve customer relations impacted by a project.
- **Scalable performance criteria – 2 points:** specific outcome achieved in the delivery of work that is readily repeatable or scalable and has a minor to moderate contribution to the overall strategic objectives e.g., initiative leading to reduction in material waste that can be applied across multiple projects.

The KPI submissions will be drafted by the MDJV Environmental Representative and submitted to the MDJV Leadership Team for review, prior to submission to SA Water for evaluation and acceptance.

Within SA Water, the Manager for Environment, Land and Heritage will assess all environmental related applications and approved as s/he sees fit.

Together with the KPI submissions, the following specific conditions must be met to obtain the benefit from the approved KPIs:

- Maintain Environment Management Plans on projects tailoring to business needs and legislative requirements:
 - Target project audits >80%.
- Continue effort to reduce environment incidents per year:
 - Incidents/hours worked (% reduction per year).
- Maintain compliance with government policy and regulatory requirements:
 - Target is 0 breaches, however consideration given to MFPs management of incidents.
 - Maintain a suitable, audited and effective Quality Management System, maintaining EMS accreditation to ISO1 4001and equivalent Quality (ISO 900).

7.7 Organisational Environmental Objectives

MDJV is committed to maintaining a high level of excellence in environmental compliance and continual improvement, which is reflected in our organisation-wide environmental objectives and targets, relevant to all project works. These are presented in Table 7-1.

Table 7-1: Organisational Environmental Objectives and Key Performance Indicators

Objective	Lead Performance Indicator		Lag Performance Indicator	
	Description	Target	Description	Target
Ensure compliance with all applicable environmental legislation and prevent environmental harm	Number of INR raised during internal audit program relating to environmental legislation	Zero non-compliances	Serious Environmental Incident Frequency Rate (SEIFR)	0.00
	% completion of planned weekly environmental inspections for MDJV as a project	100%	Statutory Notices received	Zero
	% of environmental actions closed out within required timescale	100%	Fines or prosecutions for an environmental offence	Zero
	Potential Environmental Harm over Environmental Incidents	> 40		
Ensure effective reporting of environmental data	% completion of monthly environmental data reported	100%		

7.8 Achieving Environmental Objectives

7.8.1 Environmental Management System

The Delivering Capital Together model operates an ISO 14001 certified Environmental Management System that forms part of the projects Integrated Management System (IMS). The IMS provide the framework for managers to implement specified corporate standards and practices in a consistent manner. It defines the application of work practices, processes, and systems for engineering/design, acquisition of materials, equipment and services, construction, and other services related to tendering and project execution.

The environmental management framework applicable to the project is shown diagrammatically (Figure 7-2) and elements of the framework explained in Table 7-2.

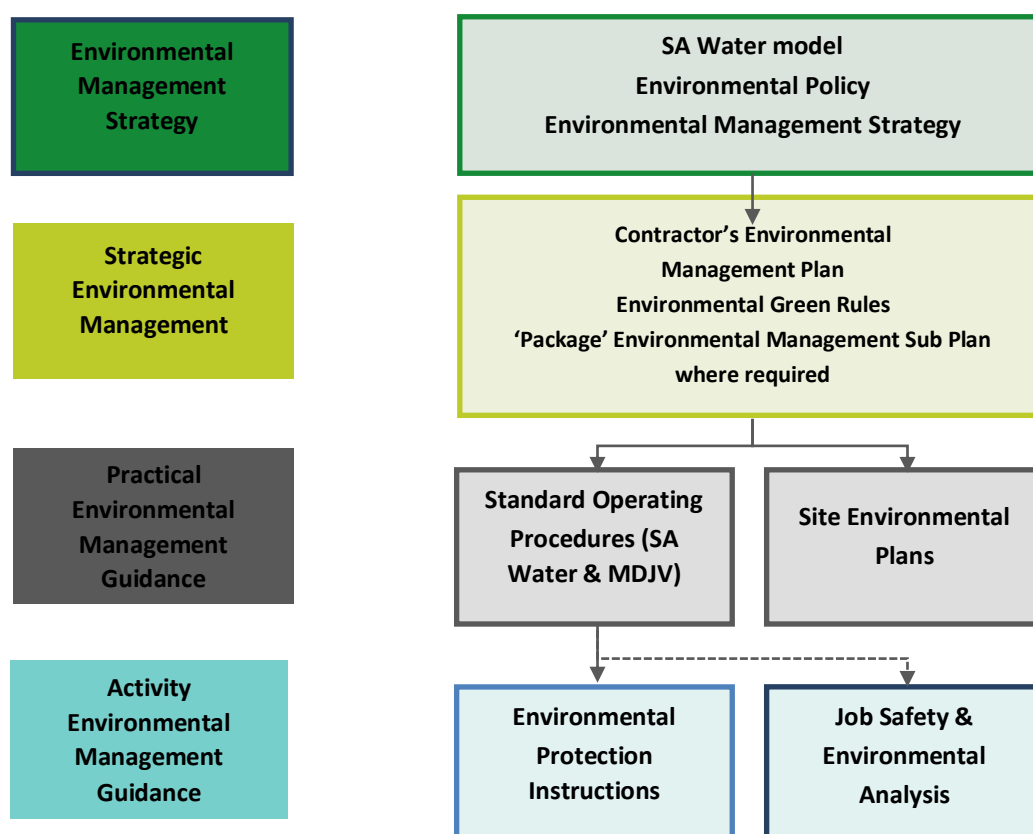


Figure 7-2: Environmental Management Framework

Table 7-2: Description of Environmental Management Framework Documents

Document Type	Description
Environmental Policy	See APPENDIX A: ENVIRONMENTAL POLICY
Contractor's Environmental Management Plan	This document. This CEMP provides a system and set of procedures to ensure that sound and effective controls are established and maintained to manage potential environmental impacts throughout the individual works packages and, wherever practicable, to deliver positive environmental outcomes. As part of our commitment to continuous improvement we will take a proactive approach to environmental management for each works package. This document is therefore setting the risk management process where the environmental risks associated with each element of the individual works packages can be identified and assessed, and appropriate mitigation strategies implemented to eliminate or minimise the subsequent risk. This framework can be used and identified within each works package sub-plan and relevant project management system.
Environmental Management Sub-Plans	A package specific Sub-Plan may be developed for higher risk activities and will be based on the environmental risk and opportunity assessment completed as part HSE Risk Management (MMS # HSEQ-HS-PRO006-GEN-ALL) process. Where required, the Package Specific Sub-Plans will provide a detailed site assessment of environmental, cultural and heritage values associated with the individual works package.
Environmental Green Rules	A suite of ten environmental management rules set to enforce positive messages about what is expected as a minimum standard on site to minimise our impact on the natural environment and local community
Site Environmental Plans	SEPs are spatial representations, in the form of an aerial photographs developed for a specific footprint of the Project to illustrate the key site features and risks relating to environmental management. The SEPs provide a picture of the existing

Document Type	Description
	environmental values and demonstrate the location of the site environmental controls and other key environmentally relevant features of the Project. SEPs will be prepared for each output. The SEPs will be approved by the SA Water EHE Team prior to start-up of construction activities at the output.
Standard Operating Procedure	The MDJV Environmental Management Standard (REF-HSEQ-ENV-GUID002-GEN-GRP) outlines a suite of minimum required standards for environmental management across MDJV. The minimum standards relate to key environmental risks common to most, if not all, MDJV projects. The standards link in with the Environmental Green Rules, with one clearly defined, non-negotiable standard in the document for each of the ten Environmental Green Rules. The standards have been included in Appendix B. SA Water also have a number of SOPs that must be followed at all times. These include: • Aboriginal Heritage Finds Procedure • Native Vegetation Clearance SOP • Best Practice Operating Procedure Water Affecting Activities. • Requirements for Management of Site contamination and Discovery of Contaminated Material During Excavation.
Environmental Protection Instructions	Environmental Protection Instructions (EPIs) will be adopted from a standard suite of EPIs on MMS. They will be amended if necessary, to meet specific Project requirements. These documents provide a summary of the method of implementation for several environmental controls articulated in the CEMP, issue-specific sub-plans and ESOPs. As the Project progresses there may be a need for new EPIs to cover areas not identified during the pre-mobilisation risk assessment process. Any new EPIs will be developed by the Environmental Management Representative and will be communicated to the Construction Team through inductions and toolbox talks. If necessary, training on any new EPI will be provided by the Environmental Management Representative
Job Safety Environmental Analysis (JSEA)	JSEA (Doc # HSEQ-HS-FRM001-GEN-ALL) are a tool used to determine safety and environmental risk associated with tasks prior to commencing a component of work. Each task is reduced to individual steps and the potential hazard associated with each step identified. Risk mitigation steps attributed to each hazard, thus providing a detailed plan for installation of control measures. The main strength of SWMSs prepared on the job is their ability to focus on unique risks at a particular point in time — for example, current conditions, resources, experience of workers and impact with other jobs or people. SWMSs prepared on the job are best carried out close in time and location to the execution of the associated works. It is acceptable to use a pre-existing generic SWMS as a basis to commence the process, but it is essential that current circumstances such as site conditions, level of experience of the crew, prevailing weather conditions, etc are incorporated into the job specific JSEA. A Summary of all hazard identification processes is to be maintained on JSEA Register (Doc# HSEQ-HS-FRM004-GEN-ALL). Note that SWMSs are focussed on high -risk activities only; where JSEA includes the job specific environmental risks (not just high rated risks).
MDJV Environmental Supporting Flowcharts and Templates	Various document-controlled templates and project tools exist to support initial environmental investigation works, ongoing monitoring and environmental management during both initial investigation and construction work. These documents are tools that support the environmental requirements for the Project and are located within (and not limited to) the MDJV SharePoint: • MDJV Environmental Process Flowchart Overview (REF-HSEQ-ENV-GUID007-2910)

Document Type	Description
	- Site Investigation Template (HSEQ-ENV-FRM306-GEN-2910) - SAW Vegetation Disturbance Request (HSEQ-ENV-FRM305-GEN-2910)

8 SUPPORT FOR PLAN DELIVERY

8.1 Resources

MDJV Framework Manager is responsible for determining and providing the necessary resources needed for the effective establishment, implementation, maintenance and continual improvement of this plan and associated documents. Specific requirements are outlined, where relevant, in the Environmental Minimum Standards and issue-specific sub-plans.

8.2 Competence Requirements

The environmental competency and experience requirements for all staff positions are contained in the relevant Position Descriptions. Recruitment and procurement processes are conducted with the aim of engaging personnel with the required appropriate competency and experience.

8.3 Environmental Awareness Training

All personnel will receive training of a type and level of detail that is appropriate for the environmental aspects of their routine and emergency work assignments. As a minimum, all personnel are required to satisfactorily complete the Project Induction Training. Other mechanisms of raising environmental awareness are through toolbox talks, pre-start meetings, HSEQ alerts and more specialised training. Attendance records and assessments of all training and briefing sessions will be maintained.

Other training needs are assessed on a job-by-job, and position-by-position basis, as outlined in the HSEQ Training Matrix (Doc# HR-HR-REG300-GEN-2910).

Table 8-1: Environmental Awareness Training Methods

Training Method	Description
Project Induction	The induction includes a presentation of the requirements of this plan and associated documents. All personnel are to attend the Project induction prior to starting work on site. The purpose of the induction is to ensure that, at a minimum, the employee or sub-contractor understands: - Key environmental issues relevant to the Project and existing environment. - Environmental Policy and the environmental management framework - Concepts of environmental protection, due diligence and duty of care. - Environmental permits, approvals, licences and relevant conditions. - Roles and responsibilities relating to environmental management for the Project and consequences of non-compliance.
Pre-Start Meetings	Pre-Start meetings will be undertaken at the beginning of each day/ shift before work commences with all personnel present (including subcontractors as required). Specific environmental issues relevant to the shift's work will be raised and discussed at these meetings.
Toolbox Talks	Toolbox Talks will be undertaken once a week to discuss large site wide issues, upcoming works and give updates on any recent incidents and their outcomes. Issue-specific environmental awareness training will be provided to the workforce (including subcontractors) via Toolbox Talks, to provide site personnel with ongoing environmental training and information throughout the works. Examples of training includes land/marine based spill response training or correct erection of a silt fence/silt curtains.

Training Method	Description
Specialised Training	Training for specific staff based on position and responsibilities. For example, noise and vibration monitoring, spill prevention and control, erosion and sediment control. Additionally, Permit to work Environmental Training for Water Discharge and Vegetation Disturbance permits holders and issuers will provided as required.
HSEQ Alerts	HSEQ alerts are descriptions of serious health, safety, environmental or quality incidents and lessons learnt from other MCD Group projects and facilities and relevant industry incident. They are sent out to all MCD Group management and HSEQ staff and are presented and discussed at Pre-Start Meetings and Toolbox Talks and posted on notice boards.

8.4 Communication

8.4.1 Internal Communication

Within the construction team it is important to ensure that management techniques are being adhered to, that employees have the opportunity to address concerns and outcomes of incident reviews and changes to protocols are communicated. Environmental communication will primarily be through Pre-Start Meetings, Toolbox Talks and monthly team meetings. However, communications can also occur during site inspections or through members of the environmental or management teams.

8.4.2 External Communication

The Framework Manager is responsible for coordinating communications with all external parties. They will manage it through the MDJV Community and Stakeholder Team. MDJV captures all complaints and enquiries in a spreadsheet, which is submitted to SA Water on a monthly basis as part of the monthly report. SA Water capture the complaints and enquiries in their system through “Simply Stakeholder”.

As a minimum, the following will be recorded:

- The date and time of the complaint.
- Personal details of the party lodging the complaint (if available, subject to privacy considerations).
- Nature of the enquiry or issue of concern.
- The outcome of the complaint investigation and any remedial actions taken by the construction team to cease the impact.

8.5 Documented Information

8.5.1 Creating and Updating Documents

This CEMP will be further developed and revised to address any changes in the environmental management process, customer or key stakeholder comments, and changes identified through the continual improvement process.

This plan will be reviewed, at a minimum, on a twelve-monthly basis by (MDJV) leadership. The MDJV Framework Manager will be responsible for ensuring this is carried out. Review of the CEMP is outlined further in Section 10.4.

The Framework Manager is also responsible for ensuring the development and authorising for use any other required environmental management documentation.

8.5.2 Document Control

Document control, including record keeping and archiving, will be undertaken in accordance with the relevant documents outlined in the Project Management Plan – Deliverables and Document Register (MMS # COR-GNG-REG300-GEN-2910).

9 OPERATION AND IMPLEMENTATION

9.1 Implementation of Environmental Management Measures

The implementation of environmental controls on site is the responsibility of the Area Superintendents, Supervisors and Project Engineers (with the support of MDJV Environmental Management Representative). Environmental controls are to be implemented (for HSEQ-ENV-FRM307-GEN-2910) example Site Environmental Plans (HSEQ-ENV-TEM005-GEN-ALL), Sustainability Site Setup Check List (HSEQ-ENV-FRM-307-2910) prior to the beginning of the works, wherever practical and relevant, and maintained through the length of those works.

9.2 Incident Management, Reporting and Investigation

Incidents will be managed, and reports raised, tracked and closed out in accordance with Incident Reporting and Investigation (MMS # HSEQ-HS-PRO003-GEN-ALL).

Onsite management of environmental incidents are the responsibility of the Supervisors, Area Superintendents, Site Engineers, Project Engineers and Environmental Management Representative with assistance from any other resources such as leading hands and workers required to contain the incident and prevent further environmental harm.

The cause of all incidents will be subject to an investigation, convened by the Environmental Management Representative to determine the root causes of the incident and to ensure that remedial / corrective action is able to be implemented to ensure a repeat of the incident is avoided.

A summary and review of incidents for the duration of the Package and for the relevant month shall be included in the Project Monthly Report, or shared to the team through a toolbox.

9.2.1 Notification Procedure

The Client and applicable Regulator (where relevant) shall be notified of incidents that trigger notification as defined in the Incident Reporting and Investigation procedure. These triggers include offsite discharges, unauthorised disturbance or destruction of fauna, flora or heritage sites and breaches and non-conformances of licences and permits issued for the individual Package. Spills will also be reported to SA Water. All incidents are to be reported to the SAW Framework Manager within 24 hours of the incident occurring.

The Framework Manager is responsible for notifying the Client and parent companies of reportable incidents.

SA Water is responsible for notifying relevant Regulators regarding incidents. MDJV will report incidents to relevant Regulators only if requested by SA Water.

9.3 Emergency Preparedness and Response

The Emergency Response Plan (MMS # HSEQ-SYS-PLN006-GEN-2910) to be produced for each Package and will take into account the following factors:

- Parts of the site or adjoining properties likely to be affected.
- Degree of predictability of the emergency.
- Likely speed of onset.
- Likely effect of the emergency.

The contents of the Emergency Response Plan are to include:

- Description of the potential emergency.
- Person responsible for actioning the Emergency Response Plan (ERP).
- Equipment required to deal with the emergency including rescue equipment.
- Emergency contact numbers.
- Direction to site workers and other affected persons on what they are required to do.
- Methods used to deal with the emergency (e.g. How to use specific equipment).

The Emergency Response Possibility Checklist (HSEQ-HS-FRM050-GEN-ALL) must be used to indicate if potential emergency scenarios must be communicated to neighbouring stakeholders or emergency services.

The ERP will incorporate the following components:

- Emergency contact list (for the above).
- Emergency Reporting Instructions.
- Emergency Muster Point Location.
- Emergency Response Co-ordinator Action Plan.
- Emergency Personnel and Equipment.

The Emergency Response Plan will be displayed in prominent locations around the site and employees will be trained in its requirements. All relevant Project personnel, subcontractors and relevant emergency agencies will be instructed and rehearsed, as appropriate, in the requirements of this Plan.

Key SAW and external emergency contact details are provided below:

- SA Water WMR Program Manager – Mario Borrello 0419 805 616
- SA Water EIA Team – Tim Kildea 0418 212 680
- Police, Fire and Ambulance - 000
- Country Fire Service (CFS) – 1300 362 361
- Metropolitan Fire Service (MFS) – 8204 3600
- SafeWork SA – 1300 365 255
- Environment Protection Authority (EPA) - 8204 2004
- RSPCA (Head Office, Adelaide) – 8231 6931
- National Parks and Wildlife South Australia (NPWSA) – 8204 1910

Emergency response simulations will be conducted at least annually.

9.4 Management of Change

Management of change will be undertaken in line with the Change Management Procedure (MMS # HSEQ-HS-PRO013-GEN-ALL).

10 PERFORMANCE EVALUATION

10.1 Monitoring, Measurement, Analysis and Evaluation

10.1.1 Compliance Monitoring

Works shall be regularly reviewed and inspected by MDJV Environmental Management Representative to ensure compliance with this Environmental Management Plan through the Weekly Environmental Inspection for MDJV as a project (MMS# REF-HSEQ-ENV-FRM001-GEN-ALL). Inspections are managed as per HSE Inspection Procedure (MMS#HSEQ-HS-PRO018-GEN-ALL).

MDJV's environmental performance will be tracked through regular monitoring and inspections. Specific monitoring requirements will be outlined in the SEP based on environmental risks present (e.g. listed heritage sites adjacent to works required vibration monitoring) and permit conditions (e.g. the Water Discharge Permit may require water monitoring), removal of vegetation etc

Monitoring equipment will be calibrated as per the manufacture or statutory requirements prior to use

Any equipment identified as having doubtful accuracy or precision will be removed from use and recalibrated, and the site monitoring will conducted with replacement equipment if practical

Where any monitoring equipment is found to be out of calibration, the validity of the previous monitoring results will be assessed and documented. Calibration of monitoring equipment will be recorded on Equipment Calibration Record on SharePoint (Plant/Calibration Register).

Monitoring requirements that may be required are summarised below:

- SEP approval and implementation with SEP status tracked in the SEP register (HSEQ-ENV-REG307-GEN-2910),
- Weekly environmental inspections for MDJV as a project which are captured in CMO,
- Environmental target inspections (#36 green rule, night works noise monitoring) which are captured in Aconex,
- *Ad hoc* noise and vibration monitoring, with noise monitoring captured in the Noise register (HSEQ-ENV-REG308-GEN-2910),
- *Ad hoc* water monitoring with water monitoring data captured in the Water Monitoring register (REF-HSEQ-ENV-FRM010-GEN-ALL) for each individual project,
- Record keeping of potential heritage finds captured in the Heritage register (HSEQ-ENV-REG302-GEN-2910), and
- Monthly NGER data tracking and capturing for consumption, waste generated and selected material / water use.

10.2 Reporting

Reporting requirements will evolve as the Package progresses. In the early phases, emphasis is on the establishment of systems, controls and competence of all personnel, while later the emphasis will shift to monitoring performance and identifying new risks with changes to project plan/working conditions. When nearing completion (as applicable) the focus will be on final reports to address approval requirements.

The MDJV Environmental Manager is responsible for managing environmental performance reporting, including submitting the reports required externally.

Reporting requirements are:

- Reporting to key stakeholders as specified within contract documents.
- Specific reporting to regulatory agencies.
- Reporting as required by legislation.
- Monthly National Greenhouse and Energy Reporting (NGER) information to SAW and MDJV.
- Sustainability data reporting (including energy use, water use and waste generation) to SAW.
- Other Package-specific reporting requirements.
- SA Water Environmental Key Performance Indicator Submission and Reporting to SAW and MDJV.

10.3 Auditing

Environmental audits are to be carried out and reported in accordance with the requirements of Audit Internal procedure (MMS # HSEQ-SYS-PRO003-GEN-GRP).

In addition to these internal audits, MDJV will cooperate with any external environmental audits required by SAW, conducted by an authorised party in relation to compliance with contract or legislative requirements.

10.4 Management Review

10.4.1 Top Management Review

MCD's EXCO may include the Water Civil Framework as part of their regular review of MDJV's environmental management system to ensure its continuing suitability, adequacy and effectiveness.

The 12 monthly EXCO review of the environmental management system includes consideration of:

- The status of actions from previous management reviews.
- Changes in:
 - External and internal issues that are relevant to the environmental management system.

- The needs and expectations of interested parties, including compliance obligations.
- Its significant environmental aspects.
- Risks and opportunities.
- The extent to which environmental objectives have been achieved.
- Information on the organisation's environmental performances, including trends in:
 - Non-conformities and corrective actions.
 - Monitoring and measurement results.
 - Fulfilment of its compliance obligations.
 - Audit results.
- Adequacy of resources.
- Relevant communication(s) from interested parties, including complaints.
- Opportunities for continual improvement.

The outputs of the management review shall include:

- Conclusions on the continuing suitability, adequacy and effectiveness of this document and the environmental aspects of MMS.
- Decisions related to continual improvement opportunities.
- Decisions related to any need for changes to this document and the environmental aspects of MMS, including resources.
- Actions, if needed, when environmental objectives have not been achieved.
- Opportunities to improve integration of this document and the environmental aspects of MMS with other business processes, if needed.
- Any implications for the strategic direction of the organisation.

Documented information shall be retained as evidence of the results of management reviews.

10.4.2 MDJV Management Review

Review of the implementation and effectiveness of this plan and associated documents will be performed on an annual basis as minimum, by MDJV's management team. The responsibility for this review lies with the MDJV Framework Manager.

The review will include:

- Progress of the implementation of this plan.
- Effectiveness of this plan.
- Adequacy of resources.
- Effectiveness of training and training requirements.
- Results of inspections and audits.
- Critical non-conformances or repeated non-conformances.
- Overall performance against environmental compliance obligations.
- Organisational changes, changes to legislation and other obligations.

Records of the review will be recorded on Minutes of Meeting (MMS # COR-GNG-FRM001-GEN-GRP). Any actions arising will be recorded in the Actions module of the CMO database.

10.4.3 Corporate Management Review

In order to be consistent with our Environmental Policy in monitoring our environmental performance and identifying initiatives that lead to improve environmental outcomes, a review of this document will be undertaken every 12 months, as a minimum, by the Corporate Environmental & Sustainability delegate (or appropriate delegate).

Where any changes and improvement to working practices are identified through the investigation of environmental incidents, these will be assessed and incorporated into the Environmental Management Plan as required.

11 IMPROVEMENT

11.1 Non-Conformity and Corrective Action

Corrective and preventative actions may be identified from inspections, audits, non-conformances, incidents, management reviews and complaints. Correctives and preventative actions will be raised, assigned, tracked and closed out in the CMO compliance database.

The CMO database is used to record and monitor close-out of all corrective actions arising from hazard reports, incident reports, audits and inspections.

CMO is to be accessible to MDJV Management personnel and key team members, including environmental management and HSEQ representatives for review and close out of outstanding items.

Persons responsible for close out of corrective actions are to ensure that the items are closed out prior to the end of the close out date. Unclosed items that have passed the close out date shall be raised and discussed at team meetings and elevated as required for management action.

Where any changes and improvement to working practices are identified through the investigation of environmental incidents, these will be assessed and incorporated into the CEMP as part of the incident reporting and investigation process.

11.1.1 HSEQ Alerts

Where a repeat incident occurs or where there is a significant incident, a HSEQ Alert may be issued.

HSEQ Alerts are used where incidents with broader implications and lessons that may be applicable to other Projects and Facilities are summarised and distributed to disseminate findings more widely. HSEQ Alerts from other Projects and Facilities may also be relevant to this Project. Where applicable these lessons are communicated to the work force through Toolbox Talks and Pre-Start Meetings.

11.2 Continual Improvement

This CEMP has been developed using the best available methods, procedures, expertise and experience available to MDJV and as such it represents best practice environmental management standards. However, consistent with the philosophy of continuous improvement, there will be opportunities during the Project work to implement new or improved procedures, aside from the annual review of this plan and associated documents.

During the contract term, relevant changes in technology and work methods will be examined for opportunities to improve the processes and systems for the benefit of all McConnell Dowell Diona Joint Venture (MDJV) stakeholders. The McConnell Dowell Diona Joint Venture (MDJV) General Manager will be accountable to key stakeholders for ensuring continuous improvement in all aspects of the design, construction, commissioning and completion of the MDJV Program.

12 RECORDS

Table 12-1: Records

Document Number	Document Title
REF-HSEQ-ENV-FRM002-GEN-ALL	Environmental Incident-Event Report Form
REF-HSEQ-HS-FRM020-GEN-ALL	Hazardous Substances / Dangerous Goods Register
HSEQ-HS-FRM001-GEN-AUS	JSEA/ SWMS
HSEQ-HS-FRM004-GEN-ALL	JSEA/ SWMS Register
LGL-LGL-FRM300-GEN-2910	Review Record OH&S Legal and Other Requirements [SA]

HSEQ-HS-REG300-GEN-2910	HSE Risk Register
HSEQ-SYS-REG300-GEN-2910	Project Audit Programme
REF-HSEQ-ENV-FRM001-GEN-ALL	Site Inspection Environment Checklist – Weekly for MDJV as a project
HSEQ-HS-TEM024-GEN-2910	MDJV Environmental Site Inspection Roster
HSEQ-HS-FRM005-GEN-GRP	Visiting Managers Review Report
HR-HR-REG300-GEN-2910	HSEQ Training Matrix

13 REFERENCES

Table 13-1: References

Document Number	Document Title
HSEQ-HS-PRO005-GEN-ALL	HSE Inspections
HSEQ-HS-PRO015-GEN-ALL	HSE Performance Reporting
HSEQ-HS-PRO006-GEN-ALL	HSE Risk Management
HSEQ-QC-PRO002-GEN-ALL	Identification and Control of Nonconformity
HSEQ-HS-PRO003-GEN-ALL	Incident Reporting and Investigation
REF-HSEQ-HS-FRM044-GEN-AUS	Subcontractor Safety Management Plan Checklist

14 APPENDIX A: ENVIRONMENTAL POLICIES

Environmental Policy



McConnell Dowell undertakes a reflective, resourceful, inclusive and flexible approach to environmental management, underpinned by a robust ISO 14001 certified integrated management system. McConnell Dowell acts today with the future in mind and commits to:

- Having visible and demonstrated environmental leadership throughout the business to equip, inspire, empower and lead our people to win and deliver environmentally sound projects.
- Complying with applicable environmental legislation, regulations, codes of practice, customer and project specific requirements.
- Establishing measurable objectives and targets to quantify our environmental performance, committing to and demonstrating continual improvement.
- Ensuring strong and positive leadership engagement with tender and project delivery teams at all levels to understand and resolve the environmental challenges they face.
- Monitoring our environmental performance and identifying initiatives that lead to improved environmental outcomes.
- Developing and implementing methods to protect the environment, prevent pollution and eliminate or minimise significant environmental impacts.
- Ensuring the efficient use of resources including energy, water and materials, and providing responsible waste management.
- Promoting innovative thinking and practices to achieve positive environmental outcomes.
- Understanding our customers, business partners and subcontractors' environmental capabilities and priorities and working together to develop common strategies to achieve shared goals.
- Identifying and communicating non-conformities, lessons learnt and corrective actions arising from environmental incidents to enhance environmental performance.
- Provision of the necessary resources and management support to achieve environmental goals.
- Equipping all employees with the knowledge, skills and resources to achieve our environmental goals. Engaging with employees, subcontractors, customers, and other key stakeholders on environmental issues.



Scott Cummins
Chief Executive Officer
McConnell Dowell Corporation Limited

HSEQ-ENV-POL001-GEN-CRP
REV: 10 MAR 2022



Environmental Management and Sustainability Policy

GRP-EN-POL001 Rev 2.0 | 14 September 2021



Our Commitment

The Group is committed to minimising the impact on the environment as a result of our operations. This policy outlines our actions and views to ensure the business operates as a socially responsible organisation. Further, the management of the Group is committed to delivering solutions to clients that are technically appropriate and socially responsible, without compromise to the environment and communities that we operate in.

Responsibility

In achieving our commitment, the Group will:

- Comply with legal requirements, standards, and guidelines relevant to our operations and markets in which we operate. Where client requirements or the laws and regulations do not provide adequate controls, we will adopt our own higher standards to protect the community and environment.
- Identify and manage the life cycle environmental aspects and effectively mitigate impacts of our operations.
- Ensure clear measurable objectives and targets are set by management to measure and monitor our environmental performance.
- Operate in a manner that prevents pollution and continually improves performance through management review, research, and development, and where applicable, consultation with the community.
- Provide adequate resources, information, training and supervision to all workers, contractors, and suppliers to ensure they understand their environmental responsibilities and duties.
- Communicate this Policy to all personnel employed on behalf of the Group.

The Group is committed to the development, implementation, and improvement of sustainable work practices across our operations. Sustainability will be considered across all phases of the asset lifecycle from design and consulting services through to procurement and construction methodologies.

The Group's sustainability commitments are to:

- Minimise the impact of operations on the environment by using resources responsibly and reducing waste.
- Maintaining business viability without compromising the operational environment.
- Conduct both corporate and construction operations in a socially responsible manner and improve the social welfare of workers and communities in which we operate.
- Respect and acknowledge the sensitivities and cultural heritage of our community within the influence of our projects.
- Deliver quality projects by meeting the expectations of our clients and community for a sustainable future.

The Group will monitor, review, and evaluate operational performance in accordance with the environmental objectives and targets as set in management plans and system documents. This process will provide for the continual improvement of the Group's individual Environmental Management Systems, accredited to ISO 14001:2015.

Peter Massey
Managing Director & Chief Executive Officer

by
MORe & co



Values

We go above
and beyond

We succeed
together

We do what
we say

We care for people's
well-being

Sustainability Policy



McConnell Dowell undertakes its activities integrating social, environmental, economic and good corporate governance considerations. We do this with the objective of avoiding and mitigating harm to the environment, contributing to and enhancing the resilience of the communities in which we operate, and creating shared value for our customers and our people. We commit to:

- Industry leadership through our professionalism, competence and active industry participation.
- Industry leading approaches to shared value generation through the delivery of safe, smart and efficient infrastructure.
- Accountability and management responsibility through delivering on what we promise and understanding and meeting our customers' needs and community expectations.
- Promotion of sustainable construction practices, including the prevention and mitigation of environmental pollution, climate change adaptation, the efficient and sustainable use of resources, and the principles of inclusion, engagement, equality and diversity.
- Generating growth in our business and the industry by fostering long-term, strong and positive partnerships with customers, communities, regulators, industry bodies and other key stakeholders.
- Addressing the risk of modern slavery across the business and implementation of our Modern Slavery Statement.
- Taking all reasonable steps to prevent modern slavery in our operations and supply chains.
- Ensuring our procurement choices and selection of suppliers and subcontractors is achieved in a balanced and holistic manner which includes sustainability.
- Actively encouraging continual improvement and promoting innovation, adaptability and resilience.
- We actively encourage the implementation of initiatives that leave a positive legacy for our stakeholders, the environment and communities in which we operate.
- Consideration of the appropriate use of materials, including water and energy, and the resulting generation of waste and carbon emissions in all our activities. Understanding and reducing our carbon, energy, materials and water footprints.
- Creating opportunities and involving, engaging and integrating with the communities in which we work.
- Nurturing the health, wellbeing and quality of life of those we work with and alongside. Everyone goes home without harm, every day.
- Protecting our business, our partners and customers through good corporate governance, compliance and sound risk management



Scott Cummins
Chief Executive Officer
McConnell Dowell Corporation Limited

15 APPENDIX B: ENVIRONMENTAL STANDARDS

Environmental Standard 1 – Spill Prevention and Management

Intent

The intent of this Environmental Standard is to ensure the necessary measures, as far as reasonably practical, are in place at a Project / Operations level to prevent spills in the first instance. This Environmental Standard also outlines the management requirements, should a spill occur, and management of potential impacts resulting from a spill.

Potential Environmental Impacts

There can be some significant impacts to the surrounding environment and human health in the event of a spill, depending on the size of spill and nature of the substance spilt.

Most spills on our sites are hydrocarbon spills, such as hydraulic hose fluid, oil, diesel and petrol. These substances can be very harmful to human health, soils, plants, animals and can contaminate waterways (including drinking water) and animals, plants and people that live in and use those environments.



Environmental Performance Objectives

Contamination to soils, surface water and groundwater from the storage and use of potentially hazardous liquids on site is avoided or minimised.

All personnel have an understanding and awareness of spill prevention and spill management.

Measurement Criteria

Measure	Target
Fully stocked spill kits available at all work fronts at all times	100%
Spill incidents resulting in material or serious environmental harm	0
Compliance with management measures outlined in this Environmental Management Standard	100%
Spills larger than 5 litres contained, cleaned up and reported to SAW within 24 hours	100%

Standard Requirements



Environmental Green Rule 1 – Spills

Spill kits appropriate for the location must be fully stocked, ready and available for use near all work fronts. Report and clean up any spills.

Pre-Construction Requirements:	Measures:	Responsibility:
	Materials, chemical, plant and machinery storage, maintenance and refuelling areas to be defined and set up prior to works commencing	Delivery Manager
	No plant and machinery storage, maintenance or refuelling outside of designated areas	Delivery Manager
Project/ Facility Requirements:	Measures:	Responsibility:
	A spill response plan must be displayed on all 240L spill kits. See section 1.1.6 for sample plan.	Environmental Management Representative

At least annual spill kit / spill clean-up training must be conducted.	Environmental Management Representative
Fully stocked spill kits (general purpose/ oil and fuel or marine if working within 50m of a waterway, unless otherwise specified by project-specific permit or requirements) must be safely and easily accessible (must not be locked).	Supervisor
No refuelling within 20m of watercourse unless approval granted by SAW or relevant Water Affecting Activities Permit. If refuelling is required within 20m, a 200L spill kit (including floating booms) is required to be on hand, and all activities must take place over a collapsible bund, drip/ spill tray or similar to intercept any minor spills.	Supervisor
All Supervisor site vehicles are to carry a 40L spill kit as a minimum unless there is a 240L spill kit in a 1km distance.	Supervisor
Flip top wheelie bin spill kits are not to be used as rubbish bins and must be free of rubbish at all times.	Supervisor
Any spills, once contained and confined (if safe to do so) are to be reported immediately to the Supervisor or relevant line management.	All personnel Supervisor
When cleaning up spills ensure residues, including clean-up materials, wash water or sweepings do not enter stormwater, waterways or exposed soils.	Supervisor
Ensure contaminated material from spill clean-up (including contaminated soils and clean-up material) are temporarily stored on site (if not being directly disposed) in a sealed and secure container in a bunded area, prior to transport off site for disposal by an appropriately licenced waste contractor.	Supervisor; Site Engineer; Project Engineer
Immediately replace all used clean-up materials in spill kits. Ensure sufficient stocks of replacement materials are present on site for this purpose.	Supervisor
Ensure all fuel, chemical and other hazardous substance storage areas are bunded.	Supervisor
Refuelling is to be attended at all times.	Supervisor
Fuel cans are to be secured when transported around sites, so as to prevent tipping over and leaking.	Supervisor

Additional Resources

1. BE SAFE

- What is it?
- Do you need safety gear?



2. STOP THE SOURCE

- Turn off the tap, plug the leak or roll the drum over - if it is safe to do so



3. PROTECT STORMWATER

- Confine the spill with sandbags or booms
- Block off access to storm water grates with drain covers



4. NOTIFY

- Tell your supervisor
- Inform other agencies if needed if water or land pollution has or may occur



5. CLEAN UP

- Neutralise hazardous substances
- Pump or sweep into a safe container
- Clean up all residues of the spill without allowing wash water or sweepings to get into storm water grates or the soil



6. DISPOSE RESPONSIBLY

- Use a responsible waste disposal contractor to remove contaminated material and clean-up gear



7. RESTOCK AND REVIEW

- Immediately replace all used clean-up material
- Assess the cause of the spill and take any steps necessary to prevent recurrence



Note: If the spill has impacted soil and this requires temporary storage until removal, place onto an impervious surface and cover with impervious sheeting.

Environmental Minimum Standard 2 - Soil and Erosion Management

Intent

The intent of this Environmental Standard is to ensure that key soil management measures and the measures to minimise and address potential impacts associated with land disturbance, erosion and sedimentation are in place at a Project/Operations level.

Potential Environmental Impacts

Poor soil management on site can lead to a number of issues including compaction of soil (making it difficult for plant life to grow and thrive), loss of topsoils and the nutrients they contain.

Erosion of soils and loss of sediment into surrounding environments can also have considerable impacts on drains and waterways.

Sediment leaving site can cause blocked stormwater pipes and culverts. This can lead to increased risk of property flooding, increased flooding and safety risks on roadways, increased maintenance costs for asset owners and increased risk of vector-borne diseases and related issues.

Sediment discharges into waterways reduces water quality and river health through reduction of light entering the water, introducing pollutants to the waterway (including metals and excessive nutrients), smothering or destruction of aquatic habitats, increasing weed infestation of waterways and impacting fish and other aquatic animal life. As well as impacting aquatic life sediment discharge into waterways can also impact upon human health and those using waterways for recreational purposes (i.e. fishing, swimming).

Sedimentation of waterways can also increase the risk of property flooding, cause changes to the way waterways flow leading to increased bank erosion and increased need for maintenance activities.



Environmental Performance Objectives

Minimise and prevent as far as reasonably practical the occurrence of erosion and sedimentation from Project / Facility operations.

Minimise the impact of erosion and sedimentation from Project/ Facility operations.

All personnel associated with earthworks and other ground disturbing works have an understanding and awareness of best practice soil management.

Measurement Criteria

Measure	Target
Incidents resulting in material or serious environmental harm relating to soil erosion or sedimentation	0
Nominated erosion and sediment controls in place within same shift as clearing / earthworks commencing and in place until area established	100%
Compliance with management measures outlined in this Environmental Management Standard	100%
Approvals obtained and activities within watercourses are undertaken in line with SAW SOP and Water Affecting Activity Approval conditions	100%

Standard Requirements



Environmental Green Rule 2 – Soil and Erosion

Erosion and sediment controls must be in place before starting clearing or earthworks (or as soon as practical within the same shift) and stay in place (and maintained) until area is established

Pre-Construction Requirements:	Measures:	Responsibility:
	Erosion and sediment control measures, where required, are to be designed prior to disturbance, or as site conditions dictate, during a change in site layout, and documented in the SEPs. The SEPs are to include, but are not limited to: - Contours and clean and dirty water drainage paths - Limits of disturbance - Extent of earthworks - Location and type of control measures.	Environmental Management Representative
	Where clearing is taking place, extent of clearing will be flagged (or a similar control will be used) to establish the clearing limits prior to undertaking construction activities.	Environmental Management Representative; Supervisor
	Prior to commencement of clearing of any vegetation, the Vegetation Disturbance Permit must be completed and approved by the Environmental Manager.	Environmental Management Representative; Supervisor; Project Engineer
	Plan to commence the works during forecast dry weather. Where rain is predicted, works should be stood down until inclement weather clears if possible.	Delivery Manager
Project Requirements:	Measures:	Responsibility:
	The extent of disturbance will be clearly demarcated with survey pegs, paraweb fencing or equivalent measures, and no clearing outside of the marked areas allowed.	Supervisor
	Stage clearing/ topsoil stripping works to minimise the area of exposed earth at one time.	Supervisor
	Keep stockpiles to a minimum on site.	Supervisor
	Where significant earthworks are being carried out on site ensure a Spoil Management Procedure (or similar alternative) is in place and implemented to ensure material is appropriately tracked and managed throughout the project.	Delivery Manager
	Keep stockpiles away from kerbs, drainage channels and waterways.	Supervisor
	If heavy rain is forecast protect stockpiles appropriately to ensure that dirty water is not discharged from the site.	Supervisor
	Check all sediment and erosion controls that are shown on the SEPs (or equivalent, i.e. Erosion and Sediment Control Plans) are checked weekly, before and after heavy rainfall.	Supervisor

Ensure the SEPs are kept up to date as the project progresses.	Site Engineer. Environmental Management Representative
Ensure all sediment and erosion controls are in good repair and well maintained.	Supervisor
Ensure stormwater drain entry points are protected by silt socks or sandbags.	Supervisor
Regularly assess the need for temporary site drainage. Temporary drainage techniques include, placement of silt socks to direct water around areas of disturbance or to drainage points, installation of sandbags along the toe of batters or in drainage flow paths.	Environmental Management Representative
Ensure any dewatering discharge does not cause erosion or scouring or breach total suspended solids (TSS) (or other contaminant) requirements for the facility or project, including local regulations. Any discharge over 50KL must be directed to SAW Environmental Impact Assessment team for approval under the SAW best Practice Operating Procedure. All discharges must be done in accordance with the MDJV Water Discharge Permit – dewatering may not commence until the MDJV Discharge Permit is approved by the HSE or Environmental Manager.	Supervisor. Site Engineer
Contaminated soils are to be stockpiled separately to clean materials and to be transported, remediated, reused or disposed of in accordance with local regulations. See Environmental Standard 7 – Hazardous Materials for further direction on contaminated soils, including Acid Sulphate Soils.	Delivery Manager
Stabilisation and rehabilitation of cleared areas to commence as soon as practicable on construction completion or completion of works in a particular area.	Delivery Manager
Ensure all fill is clean from pests/ pathogen/ contaminates prior to importing to site.	Environmental Management Representative

Environmental Standard 3 – Plant and Equipment

Intent

The intent of this Environmental Standard is to ensure that the measures for reducing the potential environmental impacts related to plant and equipment are in place at a Project/ Operations level. This includes direct impacts in terms of impacts to the environment the Project or Facility is located in, and indirect impact in terms of energy use and greenhouse gas (carbon) emissions.

Potential Environmental Impacts

As well as taking time to fix or seek alternatives, faulty plant and equipment can cause environmental harm. Equipment leaking fuel, oil or lubricants or burst hoses can spread hydrocarbons over a large area and depending on the size and nature of the leakage can negatively impact plants, animals, soils and water in the immediate environment.

Plant and equipment that is not running as efficiently as it should do or being left to run when it should be powered down, can lead to wasted energy and wasted money.



Environmental Performance Objectives

Contamination to soils, surface water and groundwater and impacts to flora and fauna related to the use, storage, maintenance and refuelling of plant and equipment is avoided or minimised.

Consumption of energy in relation to construction activities is minimised as far as practical.

All personnel have an understanding and awareness of the use, storage, maintenance and refuelling of plant and equipment (as necessary to their role).

Measurement Criteria

Measure	Target
Incidents associated with the use, storage, maintenance and refuelling of plant and equipment resulting in material or serious environmental harm.	0
Project/ facility energy use is recorded and reported in line with Sustainability Reporting – Environment (MMS# HSEQ-ENV-PRO001-GEN-GRP)	100%
Compliance with management measures outlined in this Environmental Management Standard	100%

Standard Requirements



Environmental Green Rule 3 – Plant and Equipment

Conduct pre-mobilisation- and pre-start inspections each shift on all plant and equipment. Make sure drip trays or bunds are used for all stationary plant where practical. Refuelling must be carried out under supervised and controlled conditions.

Pre-Construction Requirements:	Measures:	Responsibility:
	Plant and equipment storage, maintenance and refuelling areas to be defined and set up prior to works commencing.	Delivery Manager
	Measures:	Responsibility:

Project/ Facility Requirements:	Plant induction must be completed and approved prior to using the plant on site for construction activities. The Plant Induction Sticker must be displayed on the inducted plant.	Supervisor
	Ensure pre-start inspections are undertaken each shift on all plant and equipment.	Supervisor
	Incoming Plant Inspections are completed for all plant and equipment prior to use on site to ensure no leaks present and visible hoses are in good condition.	Supervisor
	Ensure all plant and equipment is regularly maintained and inspected.	Supervisor
	Ensure maintenance logbooks are kept up to date and available for review.	Supervisor
	All plant and equipment coming onto site must be free of contamination from previous operations.	Supervisor
	No machinery storage, maintenance or refuelling outside of designated areas.	Supervisor
	Ensure drip trays or bunds are used for all stationary plant.	Supervisor
	Refuelling to be carried out by experienced and trained staff only.	Supervisor
	Plant maintenance to be carried out by experienced and trained staff at least 20m from waterways (or as far as reasonably practical given particular facility or project circumstances) within bunded (or similarly protected) area.	Supervisor
	Plant idle time to be restricted to 3 minutes when not in use.	All Personnel
	Electrical equipment in site offices and lunchrooms to be switched off when not in use.	All personnel

Environmental Standard 4 – Construction Water and Wastewater Management

Intent

The intent of this Environmental Standard is to ensure the necessary measures are in place at a Project/Operations level to protect waterways in and around our sites and that wastewater is appropriately managed.

Potential Environmental Impacts

Construction Water and wastewater overflow can damage the health of waterways, the environment, workers and the local community. Sediment laden discharges and other pollutants that may exist in uncontrolled discharges from site reduce water quality and waterway health. MDJV is responsible for the quality of water until it enters the discharge point, as such wastewater is not to be discharged from site unless within allowable limits.



Environmental Performance Objectives

Ensure all water quality and wastewater controls are implemented on site in accordance with best practice environmental management.

Minimise impacts to surface water (including drains, rivers, creeks, lakes and marine environments) and groundwater, caused by erosion or sedimentation or other discharge from Project/ Operation activities.

Measurement Criteria

Measure	Target
Incidents associated with water management resulting in material or serious environmental harm.	0
Unplanned releases of surface water from the site.	0
Release of turbid or otherwise contaminated waters into waterways (including drains and sewers) that are outside of allowable discharge limits as a result of Project/ Operation activities.	0
Compliance with management measures outlined in this Environmental Management Standard	100%
Approvals obtained and activities within watercourses are undertaken in line with SAW SOP and Water Affecting Activity Approval conditions	100%

Standard Requirements



Environmental Green Rule 4 – Water and Wastewater

Make sure all waters are protected and know where nearby sumps drain to. No discharge to occur offsite unless it is within allowable limits and a water discharge permit is in place.

Pre-Construction Requirements:	Measures:	Responsibility:
	Ensure all waters, including drainage lines and drains, are protected Know where nearby sumps drain to prior to commencing activities	Supervisor
	Plan to commence the works during forecast dry weather. Where rain is predicted, works should be stood down until inclement weather clears, if possible	Delivery Manager
	Measures:	Responsibility:

Project/ Facility Requirements:	Ensure all waterways, drains and sumps likely to receive stormwater or wastewater run-off from the site are adequately protected	Supervisor
	Check waterway, drain and sump protection daily, during, before and after rain events and maintain as required	Supervisor
	As the job progresses, and locations change continue to ensure all waters, including drainage lines and drains, are protected and know where nearby sumps drain to prior to commencing activities	Environmental Management Representative. Supervisor
	Ensure dewatering discharge does not cause erosion or scouring, or breach allowable Total Suspended Solids (TSS) requirements, where applicable	Supervisor
	No unplanned dewatering or discharge from the site (the MDJV Water Discharge Permit must be approved, and the SAW Discharge Permit must be approved for all discharges larger than 50 kL prior to the commencement of water discharges from site). Conditions stipulated in these permits must be complied with.	Supervisor
	Ensure all personnel responsible for or associated with managing water and wastewater on the site understand discharge requirements relevant to the site, including allowable limits	Supervisor
	All dewatering activities to be undertaken in line with the CEMP (or Sub-Plan) requirements. A discharge request from SAW is required for any discharges over 50kl. This applies for both water and wastewater. Wastewater discharges have additional requirements.	Supervisor

Environmental Standard 5 – Archaeology and Heritage Management

Intent

The intent of this Environmental Standard is to ensure that the necessary measures are in place at a Project/ Operations level to minimise any negative impacts to archaeology and cultural heritage items, artefacts, remains and places.

Potential Environmental Impacts

Archaeology and heritage provide a unique window to the past and historical cultural connections that cannot be replaced if lost or destroyed.

Heritage refers to the legacy of a group or society. It can include buildings, artefacts, languages, traditions and significant natural landscapes. It can have both Indigenous and Non-Indigenous origins.

Places and items of historical heritage help us to better understand history and what happened in the past. For some people, cultural heritage items give them a sense of belonging and connection to the past.

Potential environmental impacts to archaeology and heritage (both indigenous and non-indigenous) as a result of Project activities include:

- Disturbance or destruction of known sites, places or structures of cultural significance.
- The discovery of, or disturbance to, previously unknown sites, places or structures of cultural significance.



Environmental Performance Objectives

Ensure heritage places, archaeological sites and objects of archaeological, cultural and heritage value are protected.

Measurement Criteria

Measure	Target
Personnel aware of their responsibilities to protect and manage archaeology and heritage.	100%
Previously unidentified sites or artefacts uncovered during works are protected.	100%
Known sites or artefacts are protected during works.	100%
Incidents related to archaeology and cultural heritage resulting in material or serious harm.	0
Compliance with local legislative requirements associated with archaeology and heritage, with the Cultural Heritage Management Plan (where exists), and other archaeology and heritage associated approvals.	100%
Compliance with management measures outlined in this Environmental Management Standard. Management of any Aboriginal discoveries in accordance with SA Waters SOP for the Discovery of Aboriginal Heritage.	100%

Standard Requirements



Environmental Green Rule 5 – Archaeology and Heritage

Ensure all known heritage items are fully protected. Stop works, protect and notify immediately where a potential heritage site or object is found.

Pre-Construction Requirements:	Measures:	Responsibility:
	If and where required, ensure all pre-construction actions required to be undertaken, as may be outlined in the Cultural Heritage Management Plan (or equivalent) have been carried out prior to any ground-breaking activities taking place. This includes confirming SAW has undertaken AAR register search to determine whether there are known heritage sites within the works area and the likelihood of discovery.	Environmental Management Representative
	If and where required, ensure all temporary fencing required to protect and delineate heritage areas, as may be outlined in the Cultural Heritage Management Plan (or equivalent) is in place prior to construction commencing	Environmental Management Representative
Project/ Facility Requirements:	Measures:	Responsibility:
	The site induction must identify heritage places and areas of archaeological and heritage sensitivity within the activity area (where they exist), any no-go zones; and, management measures required under the Cultural Heritage Management Plan for the site (or equivalent, if exists). In addition, all personnel, including subcontractors, must be informed of contingency measures in relation to the discovery of potential archaeological or heritage material, including suspected human remains	Environmental Management Representative
	Follow all directions and recommendations of the Cultural Heritage Plan for the site (where exists) and any specialist archaeological or cultural heritage advisors	Environmental Management Representative Supervisor
	Ensure all temporary fencing required to protect and delineate heritage areas (as may be outlined in the Cultural Heritage Management Plan) remains in place for the duration of activities. Comply with SEP requirements regarding heritage controls.	Supervisor

Ensure all Aboriginal and European Heritage is managed in accordance with SAW Finds Protocol as below and is displayed on crib rooms when conducting ground disturbing works.

All personnel

Suspected Aboriginal site or object is found

- Immediately stop all works within the visible extent of the discovery (Discovery Area).
- Isolate all spoil/material associated with the Discovery Area.
- Redirect works elsewhere until resolved.
- Project works may continue in other areas.
- Contact: Manager – Environment, Land & Heritage Expertise.
- Document the nature and location of the discovery, including photographs (with scale).
- Provide a report of the potential discovery including all relevant details (date, time, who, what, when, where) to the Manager.
- SA Water Manager will progress an assessment by an appropriately qualified professional of the potential discovery and advise further.



Discovery IS an Aboriginal site or object

- SA Water will provide further instruction regarding the management of area consistent with the Aboriginal Heritage Act 1988.
- SA Water will notify Aboriginal Affairs and Reconciliation (AAR) of the discovery as soon as practicable, as required by section 20 of the Aboriginal Heritage Act 1988.
- Provide AAR with details re the nature and location of the discovery, including photographs.
- SA Water will contact the relevant Aboriginal Parties regarding the discovery and seek their advice/recommendations for management of the discovery.
- If the Aboriginal site or objects cannot be avoided by project works, works must cease within the Discovery Area to ensure compliance with the Aboriginal Heritage Act 1988.
- SA Water must hold authorisation(s) under of the Aboriginal Heritage Act 1988 before works can proceed.
- Allow 12 months for this process to resolve.

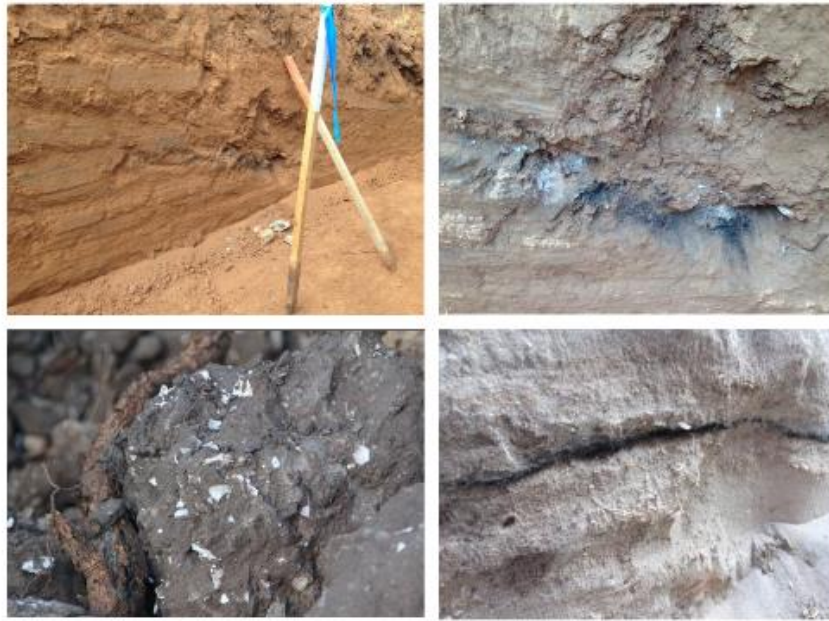
Discovery is NOT an Aboriginal site of object

- SA Water will provide advice to enable works to resume and confirm in writing.

Site Manager Responsible

SA Water Responsible

Example pictures



IDENTIFYING ABORIGINAL HERITAGE SITES

Campsite

May contain:

- Stone artefacts
- Animal bones
- Fireplaces or ovens (ash, charcoal, burnt clay or stone, blackened earth)
- Remains of shelters
- Glass, ceramic, metal on historic period sites.

Sites are more likely in places where food and water were available.



Rock Shelter

May contain:

- Stone artefacts
- Hearths (ash & charcoal).
- Smoke staining on the walls and ceiling.
- Rock art – paintings, engravings on walls and ceiling.



Artefact manufacturing /Knapping floor

Concentration of stone artefacts:

- Cores
- Flakes
- Hammerstones.

These may be found near a quarry site.

Glass artefacts may be present at contact period sites.



Midden

Concentrations of edible shell types of similar sizes, along coasts or waterways.

May contain:

- Stone artefacts
- Fireplaces
- Animal bones
- Burials

Burial

Usually no visible evidence unless exposed by erosion or excavation.

Grave markers of stone, low mounds & wood, were used in some areas. Different burial practices in different places.

Exposed bone can be difficult to identify whether it is human or animal.

Quarry

Includes stone tool, grindstone and ochre quarries.

Look for:

- Seams, outcrops & nodules of suitable material.
- Signs of chipping or hammering and associated surface scatters of flaked stone.

Please do not damage, disturb or interfere with Aboriginal sites and objects, they are protected under the *Aboriginal Heritage Act 1988*



Environmental Standard 6 – Noise and Vibration Management

Intent

The intent of this Environmental Standard is to manage and mitigate the potential impacts resulting from noise and vibrations generated during Project/ Operations activities.

Potential Environmental Impacts

Noise emissions from construction sites have the potential to cause a nuisance and health hazard to humans, wildlife and other animals in and around the Site.

Nuisance noise and vibration generated from Project/ Operations activities can include:

- Plant and equipment engine noise
- Increased traffic
- Hydraulic pumps
- Truck air brakes
- Air compressors
- Alarms and reverse warning devices
- Swinging, scraping and loading devices
- Opening and closing gates
- Radios
- Vegetation clearing
- Earthworks (including rollers)
- Rock-breaking
- Piling activities and use of pile driving equipment
- Night works, including movable lighting and generator.



Environmental Performance Objectives

Avoid and minimise the generation of excessive noise and vibration from Project/ Operation activities.

Measurement Criteria

Measure	Target
Complaints from neighbouring properties/ local community relating to noise and vibration impacts during Project/ Operations activities	0
Significant negative long-term impacts from noise or vibration on sensitive receivers	0
Incidents resulting in material or serious environmental harm because of nuisance noise or vibration	0
Compliance with relevant local regulatory requirements for managing noise and vibration	100%
Compliance with management measures outlined in this Environmental Management Standard	100%

Standard Requirements



Environmental Green Rule 6 – Noise and Vibration

Know where the nearest neighbours and sensitive receptors are. Keep loud and ongoing noise to a minimum, and get permission to work outside of normal hours. Minimise vibration intensive activities where possible.

Pre-Construction Requirements:	Measures:	Responsibility:
	Selection of minimal noise and vibration generating plant and equipment. Plant selection will consider noise and vibration levels and potential impact on sensitive receptors. Acoustic panels/ canopies may be used on some equipment	Delivery Manager
	Select plant and equipment that emits lower vibration, particularly when working near sensitive structures i.e. residents / heritage buildings. Engage Acoustic Consultant to deploy vibration logger and provide advice on predicted noise and vibration levels for high impact works near i.e. within 20m of sensitive structures / places.	Environmental Management Representative. Project Engineer. Supervisor
Project/ Facility Requirements:	Measures:	Responsibility:
	Monitor weather conditions. Be aware of weather conditions (i.e. wind which increases the area and distance that noise is heard over) and manage activities accordingly	Supervisor
	All equipment and noise abatement devices to be maintained in good working order	Supervisor
	Any access panels in acoustics canopies shall always be kept closed while the equipment is running	Supervisor
	All plant and equipment (including trucks and utes) shall be shut down or throttled down when not in use. Plant and equipment shall not be started up or left operating outside normal working hours without prior permission	Supervisor
	Potentially affected residents will be informed prior to any activities outside of normal working hours as per agreement with SAW Stakeholder Team	Stakeholder Team
	All vehicular movement to and from the works area, including deliveries, shall only be made during scheduled normal working hours	Supervisor
	Minimise the amount of reversing i.e. setup one-way turning routes (where possible) for trucks loading out materials. Where possible, plant to be orientated in such a way that reversing beepers face away from nearest noise sensitive receptors	Supervisor
	Consider installing broad-band reversing / traveller alarms to plant when undertaking extended periods of night works near noise sensitive receptors	Supervisor
	Advanced notification to SAW on planned upcoming night works so that adjacent or potentially affected stakeholders can be advised.	Environmental Management Representative; Stakeholder Team
	Any complaints of excessive noise will be investigated and appropriately addressed. A complaints register will be maintained	Environmental Management Representative. Stakeholder Team
	Minimal use of horns and air braking only when required for purposes of safety	Supervisor
	If possible, turn pumps and generators off overnight	Supervisor
	All construction activities will be kept to 7am-7pm Mon-Fri and 7am-5pm Sat, where practicable. Any Out of normal working hours works will require approval from the MDJV Environmental Management Representative and SAW Framework Manager.	Environmental Management Representative

Environmental Standard 7 – Hazardous Substances Management

Intent

The intent of this Environmental Standard is to ensure the necessary measures, as far as reasonably practical, are in place at a Project/Operations level to manage the potential impacts associated with hazardous substances use, storage and handling.

Potential Environmental Impacts

Hazardous substances, by their very nature, can cause significant impacts to the environment and human health. Potential impacts from the incorrect use, storage and handling can include contamination of soils, surface water and groundwater, impacts to aquatic and terrestrial habitats and species, and impacts to the health and safety of personnel and local community.

Environmental Performance Objectives

Ensure hazardous substances are stored, used, handled and disposed of appropriately to prevent soil, water or air contamination, ecological impacts and human health impacts.

Ensure any spill or loss of containment is managed in accordance with Standard 1 Spill Prevention to minimise impact.

All personnel have an understanding and awareness of appropriate hazardous substance management, including the discovery of land/soil contamination.

Measurement Criteria

Measure	Target
Incidents resulting in material or serious environmental harm from use, storage, handling or disposal of hazardous substances	0
Spillages, leaks, loss or otherwise uncontrolled or non-permitted movement of hazardous substances causing impact beyond site controls	0
Spoil, wastes and containers contaminated by hazardous substances are transported and disposed by approved licensed contractors	100%
The discovery of hazardous materials / contaminated soils reported to Supervisor and works cease until consultant engaged to investigate.	100%
Compliance with management measures outlined in this Environmental Management Standard	100%

Standard Requirements



Environmental Green Rule 7 – Hazardous Materials

Store hazardous substances in a secure bunded and segregated area. Return them after use and understand the SDS requirements. Any decanting must be carried out over a bunded area, and the containers must be properly labelled.

Pre-Construction Requirements:	Measures:	Responsibility:
	Hazardous substances risk assessments, storage, handling and disposal procedures developed prior to and throughout the project	Environmental Management Representative
	Measures:	Responsibility:

Project/ Facility Requirements:	Hazardous substances are to be selected with consideration of environmental and health and safety impacts	Environmental Management Representative; HSE Advisor
	Hazardous substances to be stored neatly in secure dedicated dangerous goods containers and/or in dedicated impervious/lined bunded areas (110% capacity of largest container), a minimum of 20m away from surface water and away from overland flow paths, wherever practical, to prevent discharge in the event of a spillage	Supervisor
	Bunds will be impervious to the liquids likely to be stored within the bund. The bund lining will be constructed from materials that are resistant to attack by, and compatible with, the relevant liquids stored within the bund	Supervisor
	Bund dewatering valves to be kept closed and locked. Regular maintenance of valves, pipes and bund walls of bunded areas to ensure complete operation	Supervisor
	After rainfall, all bunds are to be emptied as soon as possible to maintain full capacity.	Supervisor
	Safety Data Sheets (SDS) - Hazardous substances risk assessments and dangerous goods register readily available on Chemwatch, and accessible for all hazardous substances used on site, the SDS must be available in close proximity to the storage area on site where the hazardous substances are stored. Workers are to be made aware of the types, usage and storage requirements of hazardous substances found on site through the availability of the SDSs on site.	Safety Manager. Environmental Management Representative; HSE Advisors
	Signs and labels to be displayed in locations of storage and use of hazardous substances	Supervisor. Site Engineer
	All empty drums will be stored on impervious ground with their closures in place, or transported immediately off-site as soon as practical.	Supervisor
	Any waste oils produced during construction will be collected and stored in an appropriate manner prior to offsite disposal by an appropriately licensed waste contractor	Supervisor
	Trucks or vehicles carrying hazardous substances to be appropriately licensed, signed and to carry the required shipping and emergency response documentation	Environmental Management Representative. Project Engineer
	The control, usage, transportation and storage of hazardous substances must be in accordance to manufacturers' instructions and any license requirements	Environmental Management Representative
	The Framework / Facility Manager must approve the use of radioactive substances/ devices before they are brought on site	Framework Manager
	Only appropriately licenced personnel may use radioactive substances and devices	All personnel
	The Framework/ Facility Manager must approve the use (and importation in relevant locations) of plant or equipment containing ozone depleting substances. The HSEQ Regional Manager and Environmental Manager must be made of aware of such substances being used.	Framework Manager

No MDJV personnel are to knowingly handle asbestos or potentially asbestos contaminated material. All asbestos material is to be handled and disposed of by an appropriately licenced individual / company only (selected MDJV personnel are trained to handle asbestos).	All personnel
If any fibrous material that is suspected to contain asbestos work is to stop immediately and the Supervisor in charge is to be contacted immediately	All personnel
If asbestos contaminating material is found all works need to comply with the relevant legislation and codes of practice	Delivery Manager HSE Manager
Excavated soil is to be managed in accordance with EPA Waste Derived Fill / Guideline documentation and appropriate waste classification of materials will be undertaken prior to removal off-site. A consultant will be engaged to risk assess and sample soils.	Environmental Management Representative; Project Engineer
If an unexpected find is located, works are to cease and nominated contamination consultant engaged on direction to manage.	Supervisor. Environmental Management Representative

Environmental Standard 8 – Dust and Emissions Management

Intent

The intent of this Environmental Standard is to ensure that the potential impacts resulting from dust and other atmospheric emissions generated as a result of Project/ Facility activities are minimised as far as practical and appropriately managed.

Potential Environmental Impacts

Emissions is the term used to describe the plant, vehicle and equipment fumes, gases, dust, odours, smoke and other particles which are emitted or put into the air by various sources. It is important to control and limit dust and other atmospheric emissions due to the impact that they may have on human health and the environment, including impacts to native flora and fauna and surface water.

Nuisance dust and other atmospheric emissions can be generated from various Project/Operations activities, including:

- Clearing and grubbing
- Vegetation clearing and tree felling
- Earthworks
- Open excavation works
- Topsoil/ spoil handling including stockpiling, spoil loading and spoil haulage
- Vehicular movements over unpaved areas (including unsealed access roads)
- Wind erosion of exposed areas and temporary spoil stockpiles
- Tracking of dirt onto roads resulting in offsite dust generation
- Use of vehicles, plant and equipment creating exhaust (and greenhouse gas) emissions, particularly from poorly maintained vehicles, plant and equipment
- Nuisance odours/ gases released during excavations of organic or contaminated materials or during sealing works.



Environmental Performance Objectives

Avoid and minimise the impact on air quality from Project/ Operations activities.

All personnel have an understanding and awareness of appropriate air quality management measures.

Measurement Criteria

Measure	Target
Complaints from neighbouring properties/ local community relating to dust or emissions impacts during Project/ Operations activities	0
Incidents resulting in material or serious environmental harm as a result of nuisance dust or emissions	0
Compliance with relevant local regulatory requirements for managing dust and emissions	100%
Compliance with management measures outlined in this Environmental Management Standard	100%

Standard Requirements



Environmental Green Rule 8 Dust and Emissions

Make sure no dust, smoke, or odour leaves the site boundaries – notify immediately if it does occur. Reduce emissions from plant and equipment by turning them off when not in use.

Pre-Construction Requirements:	Measures:	Responsibility:
	Designated roadways and access tracks defined prior to works commencing	Delivery Manager
	Potential sensitive receptors defined prior to works commencing	Environmental Management Representative. Stakeholder Team
Project/ Facility Requirements:	Measures:	Responsibility:
	Haulage and delivery vehicles shall be confined to designated roadways (paved and non-paved) within the works area	Supervisor
	Vehicle speeds restricted to 30kph around construction areas, unless otherwise permitted	Supervisor
	Loads that can give rise to dust are to be covered on trucks entering and leaving the site	Supervisor
	Suppress dust, via water spray, on haul roads, work areas and stockpiles, as required	Supervisor
	Dust suppression agents may be used provided they are non-toxic with no appreciable environmental damage should they wash into waterways	Supervisor
	Watering equipment such as hoses and tanker to be kept on site at all times	Supervisor
	Water for dust suppression will be sourced from local mains water supplies and/or from other sources by agreement	Supervisor
	In dry and windy conditions, minimise as far as possible any dust generating activities, increase use of watering systems and stop work if nuisance dust is excessive.	Supervisor Environmental Management Representative
	Dust from soil stockpiles will be minimised by reducing exposure time, applying water and covering the stockpiles	Supervisor
	Backfilling will take place as soon as possible so that disturbed soils are not lost by the actions of wind	Delivery Manager
	Cap exposed odorous materials with clean fill as quickly as possible	Supervisor
	No soil or mud from the tyres of site vehicles shall be deposited on public roads. Public access road to be inspected on a daily basis and cleaned as required	Supervisor
	Prevailing wind conditions and weather forecasts will be monitored to provide warnings of any adverse meteorological conditions that may give rise to dust dispersal	Supervisor

	Any vehicle or item of plant or machinery which emits visible and constant air pollutants will not be permitted on site	Delivery Manager
	No materials, including waste, will be burnt on site	Supervisor
	Non-essential electrical appliances, including lights, will be switched off when not in use	Supervisor

Environmental Standard 9 – Fauna and Flora Management

Intent

The intent of this Environmental Standard is to ensure appropriate management of flora and fauna, including weeds, pests and disease at a Project/Operations level.

Potential Environmental Impacts

Construction and facility operation activities (particularly those in more remote areas) have a high risk of coming into contact and impacting native flora and fauna species, both on the land (terrestrial) and in and around water (aquatic). Impacts that could occur as a result of work activities could include:

- Disturbance, injury or death to native species and habitats due to physical impacts of land or aquatic environment disturbance
- Disturbance, injury or death to native species and habitats from pollution events
- Direct impact of flora or fauna with vehicles or plant
- Interaction of flora and fauna species with personnel killing, harming or otherwise damaging flora and fauna either intentionally or unintentionally
- Disturbance, impact and clearing of protected areas
- Introduction of invasive weed species and disease (such as *Phytophthora*), leading to loss of individual species or modification of habitats and reduction in biodiversity
- Detrimental impact on successful establishment of revegetated areas on site, due to weed invasion
- Inappropriate disposal of waste material (i.e. noxious weeds), leading to further propagation of weeds off site
- Introduction of pests and feral animals.



Environmental Performance Objectives

Minimise the impact of Project/ Operations activities on terrestrial and aquatic flora and fauna.

Minimise the spread of weeds, infectious disease, vector-borne disease and fungal infestation within and between sites.

Minimise the potential for introduction or increase in pest species as a result of Project/Operations activities.

All personnel have an understanding and awareness of terrestrial and aquatic flora and fauna protection, including weed, pest and disease management.

Measure	Target
Incidents resulting in material or serious environmental harm in relation to flora and fauna.	0
Incidences of unauthorised disturbance to vegetation, fauna and habitat outside the confirmed Project/ Facility footprint including access roads.	0
Incidences of unauthorised removal, destruction or lopping of native vegetation.	0
Safe relocation of all captured fauna.	100%
Introduction/ spread of noxious weeds infectious plant diseases and fungal infestation within the site or from one site to another or to adjoining land, as a result of Project/ Operations activities.	0 occurrences
Importation of weed material or infectious plant diseases from another geographic region, as a result of Project/Operations activities.	0 occurrences
Compliance with management measures outlined in this Environmental Management Standard.	100%

Standard Requirements



Environmental Green Rule 9 – Fauna and Flora

Do not kill, harm or damage animals. Protect all vegetation unless there is a vegetation disturbance permit in place. Prevent the spread or introduction of weeds, pests and diseases.

Pre-Construction Requirements:	Measures:	Responsibility:
	The project footprint is appropriately designed to minimise clearance or disturbance to remnant native vegetation and to minimise the clearance or disturbance of access track vegetation.	Framework Manager. Delivery Manager
	Preparation and implementation of a detailed Site Environmental Plan that sets out location of sensitive fauna and flora, weed infestation or other locations of significance (i.e. potential for disease vectors).	Environmental Management Representative
	Extent of clearing will be flagged, and tree protection zones identified prior to construction.	Environmental Management Representative; Supervisor
	Identify any noxious weeds and resolve treatment prior to soil stripping. If areas of infectious plant disease are known to exist on site survey the location and mark with flagging or other appropriate method.	Environmental Management Representative; Supervisor
	Be aware of and comply with local legislative requirements for movement of plant equipment and materials between geographic areas.	Environmental Management Representative; Supervisor
	Plan works to ensure trees are managed in accordance with Australian Standard 4970-2009 – Protection of Trees on Development Sites.	Environmental Management Representative; Supervisor
	Prior to any vegetation clearance, the Vegetation Disturbance Permit will be completed by the supervisor and signed-off by the Environmental Manager.	Environmental Management Representative; Supervisor
Project/ Facility Requirements:	Site inductions, pre-start meetings and targeted toolbox meetings shall be held to discuss any fauna and flora issues throughout the project.	Environmental Management Representative; Supervisor; HSE Advisor
	All employees will be appropriately inducted and provided with clear instructions on permitted access areas.	Supervisor
	Existing access roads will be used, where possible. Personnel will be adequately informed as to which tracks are to be used.	Supervisor
	Vehicle, plant and equipment parking is not permitted under dripline of trees, in order to prevent long term impacts to tree health, vigour and root zone impacts through soil compaction.	Supervisor

No vegetation disturbance works are to take place without SAW approval. Any tree pruning works to be undertaken in accordance by qualified Arborist and as per SAW SOP – Native Vegetation Assessment and Approvals. No disturbance may take place if the MDJV Vegetation Disturbance Permit is not approved by a designated issuer (e.g. Environmental Representative).	Environmental Management Representative / Supervisor
No hunting, feeding, capturing, destroying or otherwise disturbing animals and birds or illegally taking fish from any water.	All personnel
Non-permitted fauna death as a direct result of Project/ Operations activities is classified as an environmental incident. Report to Supervisor, Delivery Manager or Environmental Advisor/ Manager immediately.	All personnel
No pets or other animals are to be brought on-site.	All personnel
For works in and around waterways, disturbance of the bed and banks of the waterway and the use of construction plant and equipment within the bed and banks is to be kept to a minimum.	Delivery Manager; Supervisor
All trenches left overnight are to be checked for trapped animals before commencing work.	Supervisor
Avoid moving noxious seed infected topsoil from one property to another. If noxious weed infected soil or vegetation is to be disposed of off-site only dispose at a licensed waste depot, with material transported by an appropriately licenced waste transporter.	Supervisor
All equipment, plant and vehicles are to enter the site in a clean state, free of excess dirt and plant material. This will form part of the incoming plant inspection checklist. A vehicle and Plant Washdown Log (REF-HSEQ-ENV-FRM001-GEN-ALL) to be completed when moving plant and equipment between landholder / potentially infested properties.	Supervisor
If any plant and machinery have worked in weed infected areas, wash down and inspect plant before moving to other areas.	Supervisor
Weed material is not to be chipped or mulched or added to “clean” stockpiles for use in revegetation.	Supervisor
Operation of all terrain /4WD vehicles in the work area for recreation is prohibited.	Framework Manager

Environmental Standard 10 – Recycling, Materials and Waste Management

Intent

The intent of this Environmental Standard is to ensure the necessary measures, as far as reasonably practical, are in place at a Project level to minimise waste generation through application of the waste hierarchy.

Potential Environmental Impacts

There are a multitude of potential environmental impacts created by excessive generation of waste, from localised litter through to wastage of otherwise serviceable resources. The potential environmental impacts arising from poor waste management on site can include:

- Generation of compostable waste and vegetation waste from clearing and grubbing activities, and potential for inappropriate disposal
- Generation of construction waste, such as excavated material, with potential for in appropriate disposal and waste of resources
- Generation of general domestic waste from site personnel, with potential for in appropriate disposal and waste of resources
- Generation of excess construction materials, such as concrete, steel and timber, as well as packaging materials for products used on site, including wrapping materials and plastics, with potential for in appropriate disposal and waste of resources
- Use of natural resources at an unsustainable rate
- Increased demand for landfill space from waste materials
- Inappropriate and/ or illegal disposal of hazardous and/or contaminated waste
- Generation or spread of contaminated waste/soils
- Generation or spread of noxious weeds within waste soils.
- Damage to local ecosystems.

Waste is also a health and safety issue as well as an environmental concern. Potential impacts include:

- Surface and ground water contamination
- Soil contamination
- Attraction of pests, vermin and weeds
- Odour
- Hazardous work environment
- Looks untidy.

Environmental Performance Objectives

Works are undertaken in a manner that:

- Avoids the creation of waste
- Reduces waste
- Reuses material where possible
- Recycles material where possible
- Treats offsite disposal to landfill as a last resort

Minimise waste generation as a result of Project activities.

Ensure waste is being managed in compliance with relevant legislation.

All personnel have an understanding and awareness of materials and waste management, and recycling.

Consider lifecycle management of materials used to promote circular economy outcomes and reduce material to landfill for disposal.

Measure	Target
Regulated wastes transported by an approved licensed contractor	100%

Incidents resulting in material or serious environmental harm as a result of inappropriate waste management	0
Compliance with management measures outlined in this Environmental Management Standard	100%

Standard Requirements



Environmental Green Rule 10 - Recycling

Think about what you can reuse or recycle before disposing of it. Place waste in the correct bin and notify if recycling is not available. Use recycled water or materials where possible and permitted.

Pre-Construction Requirements:	Measures:	Responsibility:
	Waste streams identified and suitable on-site waste storage area set-up prior to works commencing	Environmental Management Representative
	Monitor and record the volumes of waste and the methods and locations of disposal via retention of Waste Transfer Certificates or equivalent Record monthly waste data through NGER submission Conduct <i>ad hoc</i> inspections for disposal locations of hazardous waste (such as sewerage; asbestos and contaminated soils) to ensure compliance to legal requirements	Environmental Management Representative
	Conduct lifecycle analysis during the planning phase to identify any materials for the existing project site that can be reused e.g. the old liner of Earth Bank Storage Units; spoil excavated from site; values for future repurposing.	Environmental Management Representative Project Engineer Area Manager
Project/Facility Requirements:	Measures:	Responsibility:
	Site inductions will outline waste management control measures	Environmental Management Representative
	Waste storage areas will be established in areas away from watercourses and drainage lines	Supervisor
	Dedicated waste disposal bins in place, with all non-reuse/recyclable materials disposed to local landfill or approved waste disposal site. Recycling bins for recyclable waste streams to be provided	Supervisor
	All solid wastes will be stored in suitable containers, and disposed of at an approved site, in full accordance with local regulatory requirement	Supervisor
	Waste disposal bins will be located in dedicated waste storage areas. Waste disposal bins are to be covered and stable. Waste storage area will be inspected not less than weekly	Supervisor
	Waste storage areas will be designed and operated to minimise or prevent contact with rainfall and stormwater runoff	Environmental Management Representative
	No burning of rubbish or materials on site	Supervisor
	All regulated wastes transported by an approved licensed contractor, in accordance with appropriate local legislation	Supervisor; Site Engineer. Project Engineer

Any waste oils produced during construction will be collected and stored in an appropriate manner prior to offsite disposal by an appropriately licensed contractor	Supervisor. Site Engineer. Project Engineer
All waste hazardous substances and hazardous goods containers will be labelled, segregated in accordance with Safety Data Sheets (SDSs), and stored in a bunded area	Supervisor. Environmental Management Representative. HSE Representative
Equipment, soil and any other materials contaminated by hydrocarbons such as fuels, oils, lubricants and other hazardous substances (including clean-up materials), which cannot be salvaged, must be managed and disposed of by an appropriately licensed waste contractor at an approved waste facility	Supervisor. Site Engineer. Project Engineer
Waste records will be kept, including volume, type, date, contractor responsible for removal and destination of waste through monthly NGER data tracker.	Environmental Management Representative
All wastewater will be disposed of in accordance with relevant legislative requirements or guidelines; and the SAW and MDJV Water Discharge Permits will be used to assist with compliance.	Environmental Management Representative
Reuse materials removed from a construction site and apply the applicable end-of life use to the material.	Site Engineer. Project Engineer

Construction Environmental Management Plan (Native)



16 APPENDIX C: SA WATER CEMP

16.1 Purpose

This form is to be used in the assessment of Contractors Environmental Management Plans (EMPs). It covers the general form and content required and should be used to ensure adequate information has been included by the contractor.

Project Details	
Project Name	Water Civil Framework
Project No	2910
Contractor	McConnel Dowell and Diona
Date CEMP Submitted	
Version Number	
Initial Review Date	27/07/20
Reviewer	Melissa Peake, Candice Nayda (Aboriginal Heritage)
Date Comments Returned	02/09/20
Checked By	Melissa Peake
Sign Off	Yes

Documentation Item	Included (Yes/No/NA)	Satisfactory (Yes/No/NA)	EIA Officer Comments	Contractor Response	REVIEW: Have comments been addressed?
Explanation of the role of the EMP and how it will be used for the project	Y	Y	4.1 – Is an overarching document outlining the environmental risk associated with the program and should be read in conjunction with Project Specific CEMPs See additional comments under other	SAW will provide output specific environmental management plans for specific package of works?	Envisaged that Project/preliminary Environment and Heritage risk assessment requirements report will be provided for Projects >\$4m (that require Public works approval) & Environmental Control Plans (ECPs) for works <\$4m or where projects have multiple sites.
Contractor's Environmental Policy	Y	Y	5.2 - Yes, both framework partners policies included. Which company's policy will be used for the delivery of works?	Both McConnell Dowell and Diona Policies are used and displayed. The MDJV are adopting MCD systems for Water Civil.	Y
Environmental Responsibilities	Y	Y	The inclusion of SAW roles and responsibilities in the delivery framework, need to be discussed at a higher level to determine if SAWs EIA representative should be included in this CEMP or a separate agreement developed between all framework delivery partners. This includes delivery of advice, legislative and approval support, compliance, and conformance audits.	Note and await feedback. The CEMP is to ensure accountability for environmental management for MDJV contractor workforce, not SAW.	Y
Training/ induction	Y	Y	Section 8.3 covers relevant training, including project induction, prestart meetings and toolbox, alerts and specialised training.	Noted.	
Inspections and monitoring	Y	N	Not covered in great detail within the EMP. It is unclear how inspections and monitoring will be implemented, their frequency and how these will be used to monitor and improve environmental controls and work standards.	As per section 10.1, environmental inspections are completed weekly by the MDJV environmental representative. Actions from inspections get entered into CMO for close-out. This process is reflected in MMS	Y

Documentation Item	Included (Yes/No/NA)	Satisfactory (Yes/No/NA)	EIA Officer Comments	Contractor Response	REVIEW: Have comments been addressed?
			This section of the EMP should explain how environmental management activities and controls will be inspected and monitored.	MMS#HSEQ-HS-PRO018-GEN-ALL, which has now been referenced in section 10.1. Weekly enviro checklist will be issued to SAW.	
Audits	Y	Y	Outlined in section 10.3	Noted.	
Incident Management/ Emergency Response	Y	Y	Outlined in section 9.2/9.3. Also detailed in separate Emergency Response plan. Recommend the inclusion of fauna management into the contact list in the Emergency Response Plan (section 18.1.2). Please contact SAW EIA representative if you require contacts for this.	Have added SAW emergency contacts to emergency response section of this plan.	Y
Site Specific Environmental Issues included:					
Erosion control/stormwater management	Y	N	ES 2 – Soil and Erosion Management. Standard more aligned to control of sediments leaving site rather than managing activities in a manner that minimises impacts to watercourses. Recommend adapting standard or creating new standard for the management of works that will impact upon watercourses as several projects delivered under the Water Civil Framework will require disturbance to watercourses.	These controls will be included on SEPs. Also covered in Soil Erosion EPI.	
Site compound	N/A	N/A	Will be provided as part of Site Environmental Plans.	Noted.	
Water quality	Y	Y	ES 2 – Soil and Erosion Management.	Noted.	
Air quality	Y	Y	ES 3 - Plant and Equipment (Plant idle restrictions) and by ES 8 – Dust and Emissions Management.	Noted.	
Flora and fauna	Y	Y	ES 9 – Fauna and Flora Management. Includes weeds, pest animals and pathogens. It is unclear how tree branch lopping and tree roots will be managed during construction.	Noted.	Y

Documentation Item	Included (Yes/No/NA)	Satisfactory (Yes/No/NA)	EIA Officer Comments	Contractor Response	REVIEW: Have comments been addressed?
			Recommend following the AS for management of trees on a construction site. It is unclear what controls are in place to ensure equipment and machinery arrive onsite clean and free of potential weed/soil material to prevent the spread of weeds and pathogens.	Agree, have added AS to ES9 and additional mitigations and reference to SAW SOP for veg disturbance. Now included in ES9 on incoming plant inspections and weed washdown log.	
Weed management	Y	Y	Covered under flora and fauna.	Noted.	
Noise and vibration	Y	Y	Covered under ES 6 – Noise and Vibration Management. As per comments in EMP communication with effected customers/stakeholders should be coordinated with SAW Stakeholder Engagement Team. Out of normal working hours will require approval by SAW Framework Manager, not the Contractors Environmental Management Representative. Unclear what will trigger further assessment and management of potential vibration risks around listed heritage sites or works in close proximity to buildings.	Noted. Added hours and Stakeholder Team into comments. Noted, this has been reflected in mitigation measures. Added vibration requirements and need to engage consultant i.e. within 20m of structure.	Y
Construction traffic	Y	Y	Provided as part of the Traffic Management Plan.	Noted.	
Archaeology/Heritage	Y	N	Covered under ES 5 – Archaeology and Heritage Management. Standard needs to reflect SAW process and procedures for the management and discovery of Cultural Heritage. SAW SOP for the Discovery of Aboriginal Heritage should be the only procedure used for all projects delivered under the Major Framework Delivery process.	Note. Have made reference to SAW SOP for discovery of heritage.	Y

Documentation Item	Included (Yes/No/NA)	Satisfactory (Yes/No/NA)	EIA Officer Comments	Contractor Response	REVIEW: Have comments been addressed?
			SAW SOP is to be displayed in onsite huts, as well as be available to site crew.		
Contaminated land	Y	N	ES 7 – Hazardous Substances Management. Outlines the general management to prevent contamination, however it does not outline the management of potentially contaminated land or soils uncovered during risk assessment or construction.	Additional mitigations added to ES7	Y
Waste management	Y	Y	ES 10 – Recycling, materials and waste management	Noted.	
Storage and handling of hazardous substances	Y	Y	Covered under Environmental Standard 1 – Spill prevention and management, and ES 7 – Hazardous Substances Management.	Noted.	
Storage, maintenance and refuelling of machinery and equipment	Y	Y	Covered under Environmental Standard 3 – Plant and Equipment	Noted.	
Fire Management	N	N	No information has been provided in relation to the prevention and management of fire risks. Including the need for fire extinguishers and firefighting equipment (i.e. water tank), restricting works during high risk fire danger days etc.	This is covered in section 15.3.3 of the WHSMP, which makes reference to restricted works, schedule 10 permit & other mitigation measures.	Y
Supporting Documentation					
EMP review Schedule	Y	Y	5.1 - Document will be reviewed every 12 months	Noted.	
Inspection/monitoring checklist	N	N	Environmental inspection checklist not included as part of EMP. To be provided to SAW for review.	Inspection checklist provided to SAW. These can be completed manually or within CMO.	Y
SEDMP including site plan	N/A	N/A	To be provided as part of individual Site Environmental Plans	Noted.	

Documentation Item	Included (Yes/No/NA)	Satisfactory (Yes/No/NA)	EIA Officer Comments	Contractor Response	REVIEW: Have comments been addressed?
Other comments			- How will the Project Specific CEMPs be delivered to ensure environmental requirements (including relevant legislative approvals and licensing requirements) are obtained? - It is unclear how the planning and approval process will be managed. - How will the risk assessment process for individual projects and sites be undertaken to ensure appropriate management controls are in place and triggers for further investigations/approvals are identified? - How will relevant approvals be obtained? i.e. native vegetation clearance, Development approval, Aboriginal Heritage risk assessment, WAA permits etc - It is unclear how the initial Environment and Heritage risk assessment provided by SAW EIA team for individual program of works, or projects will be used to develop project EMPS or site specific controls and	Are you referring the SAW produced CEMPs? MDJV will produce SEPs for works. Requirements from these documents are summarised in Construction Execution procedures (including legislation), so specific construction methodology refined to accommodate approvals / legislation Each output requires an HSEQ risk and opportunity assessment to be completed. This process, including the CEP will identify any approvals required. Further, early workshops with SAW through ITAP will help inform approvals that may be required. MDJV is of the view SAW is responsible for obtaining: - Native veg - Development approval - Heritage risk assessments - WAA permits MDJV responsible for notifying SAW of work scope. Unless specifically stated in TOC development, MDJV will assume SAW takes responsibility. They are read in conjunction with this CEMP when preparing Construction Execution Procedures/ CRAWs / SEPS to ensure approvals & mitigations are captured.	The main CEMP (P9) refers to "Project Specific CEMPs environmental requirements and relevant legislation and approvals relevant to each package. It provides the framework for identifying environmental aspects and impacts associated with the works and a framework for managing the environmental controls and processes implemented by McConnell Dowell Diona Joint Venture (MDJV) personnel, subcontractors and consultants in carrying out their respective responsibilities in relation to the Project." This is a little unclear whether sub- CEMPs will be developed or if this is making reference to Construction Execution Procedures.

Documentation Item	Included (Yes/No/NA)	Satisfactory (Yes/No/NA)	EIA Officer Comments	Contractor Response	REVIEW: Have comments been addressed?
			ensure environmental approvals have been obtained.	Are you referring to the EMPs develop by SAW i.e. for Barossa or a separate risk assessment document?	

16.2 Version History

Version	Date	Author	Comments
1.0	21/08/2015	Tara Hage	Initial Document
2.0	24/07/2020	Melissa Peake	Updated to current template and branding. Inclusion of contractor response column.

Template: Document - Short Landscape Version 3.3 22/11/19

Memorandum

To	SA Water – Trent Thompson		
From	Tonkin – Eli Alabaster	Date	23 June 2026
Job Number	251015		
Subject	M001B – Kalperri Road Technical Memorandum		

Introduction

Tonkin has been engaged by SA Water to assist with the progression of a Development Application relevant to their new water storage and pumping facility at Lot 1 Kalperri Road, Sandy Creek.

Tonkin undertook a Traffic Management Assessment (TMA) for SA Water to support the original development. The report (Tonkin ref. 251015R001A) provided an assessment of the site, including existing traffic and road conditions, anticipated construction impacts, risks associated with construction traffic, and temporary work zone traffic management considerations. Targeted mitigation strategies were also identified to maintain and enhance road safety within the construction footprint.

SA Water is now progressing a Development Application (DA) for the installation of two additional tanks (Tanks 3 and 4) as an extension to the approved development. As a pragmatic approach, SA Water has confirmed that the mitigation measures identified in the original TMP have been implemented. However, as this represents an addendum to the approved DA, it is appropriate that the TMP be reviewed and reflected to ensure road safety continues to be considered.

Figure 1 (also attached in Appendix A) provides further context to the location of tanks 1 to 4.

A site inspection of the site was conducted on the 6th of May by a single civil engineer from Tonkin, who is an accredited road safety auditor. The weather was overcast and wet.

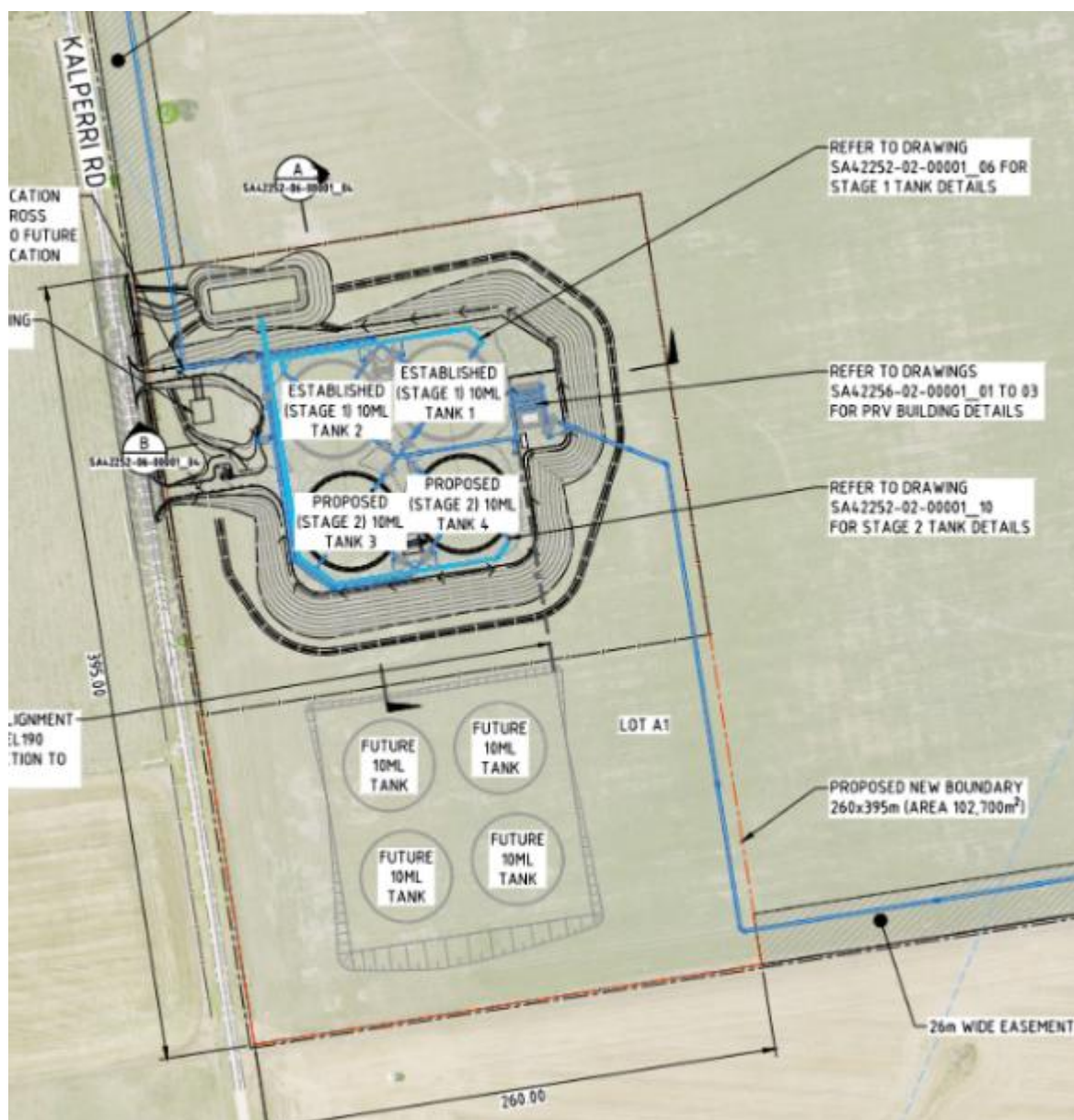


Figure 1: Kalperri Road Design Plans (Provided via email 23/06/2026)

Unchanged Traffic Management Assessment Report Sections

Section 1

Section 2

Section 4

Section 5 – any updates to the mitigation measures has been provided further below in this memorandum.



Traffic Generation Updates – Section 3

The original construction schedule for the previous DA from July 2025 has been implemented with earthworks, pipe transport (from Victoria), pipe material (import and export), concrete trucks, and precast panels all being completed. The new works for the construction of Tanks 3 and 4 will not overlap with any construction from the previous DA.

Table 1 provides the updated heavy vehicle volumes and the comparison in vehicles movements per day compared to the traffic management assessment. The number of heavy vehicle movements will either be equivalent or a reduction to the DA for Tanks 1 and 2. The proposed program is provided for the new construction activities and the mitigation measure to be implemented by SA Water.

It is estimated that the number of light vehicles required by the new construction activities will either be equivalent to or a reduction in traffic movements compared to the assessment

Table 1: Heavy Vehicle Volumes

Activity	Total Number of Trucks	Approx vehicles per day	Difference in number of vehicles between the original DA	Proposed Program	SA Water Safety Measures
Earthworks	1250	60	-15 per day	Sept – Jan 27	One-way loop for heavy vehicles
Pipe Transport (from Victoria)	30	3	Equivalent	Feb - Mar 27	One-way loop for heavy vehicles
Pipe Material (Import & Export)	75	3	-4 per day	Jan – June 27	Two way movements to Barossa Valley Way managed via radio communication. Radio when leaving site and approaching to enter Kalperri Rd
Concrete Trucks	200	100	Equivalent	Feb - Mar 27	Two tank slab pours – two 24 hour events, Kalperri Rd under traffic control.
Precast Panels	50	5	Equivalent	Apr 27	One-way loop for heavy vehicles. Two



Activity	Total Number of Trucks	Approx vehicles per day	Difference in number of vehicles between the original DA	Proposed Program	SA Water Safety Measures
					events of 1 week each
Approx Total Trucks	355	3-5			

Mitigation Measure Summary – Section 4.6

The following table (Table 2) provides notes to the four mitigation measures from the traffic management assessment. Any updates to the risk ratings have been noted in the main measures column.

Table 2: Mitigation Measures

Section	Mitigation Measures	Risk Rating
TMA Section 4.2	To address reduced visibility from vertical curves during construction, temporary pavement widening is recommended to provide width for vehicles to pass. Existing controls (i.e. signage) should remain in place. In the longer term, the road authority should explore infrastructure improvements to reduce this hazard. Updated Note from May 2026 Site Inspection - The pavement width has been increased at/over crests and at the main heavy vehicle gates following construction works completed in late 2025. This provides an adequate width for vehicle to pass each other as a temporary measure during construction. - To assist with potential non-conformities highlighted in the original assessment, SA Water has installed crest signs at this location. - Although the short-term mitigation measures have been implemented, the likelihood and severity of a crash has remained the same due to vertical geometry being unchanged. The risk rating of the crash is still rated as medium.	Likelihood: Possible Severity: Minor Risk Rating: Medium



TMA
Section
4.3

Investigate relocation of Site Access #3 to achieve sufficient egress sight distance.

Updated Note from May 2026 Site Inspection

- The location of Site Access #3 has not changed, therefore the risk rating has been maintained.
- It is noted that the previous sight distance assessment is based on measurements for a passenger vehicle and that heavy vehicle operators can see further than the typical passenger vehicle, resulting in a compliant location for heavy vehicles.
- There have been zero incidents or close calls reported by SA Water at this intersection.

Likelihood:
Possible

Severity: Minor

Risk Rating:
Medium





TMA
Section
4.4

Pavement to be temporarily widened at each heavy vehicle access point to ensure vehicle movements do not need to cross the centre of Kalperri Road.

Likelihood:
Possible

Severity: Minor

Risk Rating:
Medium

Updated Note from May 2026 Site Inspection

- Pavement widening has occurred at/over crests and heavy vehicle access points.
- Several vehicle tracks on areas either side of the road pavement were noted. However it is understood that these are produced by farming machinery parking on the verge of Kalperri Road (image from separate day provided).
- The risk rating has been maintained due to the likelihood and severity of a crash remaining the same.





TMA
Section
4.5

As a long-term option, Council to consider implementing traversable culvert headwalls or other measures that improve the roadside safety as part of future planning. In the interim (and as a temporary measure), install guideposts along the narrow section to highlight the narrow roadway during construction.

Updated Note from May 2026 Site Inspection

- The existing headwalls have not been replaced and there has been no installation of new guideposts at the narrow section of Kalperri Road.
- The existing culverts at the shared path were noted in both the 2025 and 2026 site inspections.
- Guideposts have been installed at a narrow section of Kalperri Road.
- The risk rating has been maintained.

Likelihood:
Possible

Severity: Minor

Risk Rating:
Medium





Summary

In summary, SA Water has reviewed and implemented mitigation measures for two of the four items noted in the TMA completed by Tonkin in 2025. These measures are aligned with the recommendations in the Tonkin report and have been successfully implemented. Although Item 4.3 has not been actioned, it was noted that there have been no incidents at the intersection and the road widening and signage upgrades have increased awareness at the Site Access #3

The conditions of the roads and intersections have not been worsened, with the risk ratings for each item remaining unchanged. The final item noted for mitigation (Section 4.5) is the responsibility of Council.

SA Water had also previously proposed to action the following items within its Traffic Management of Kalperri Road. A review of the current status of these items is summarised in Table 3.

Table 3: SA Water's Proposed Traffic Management

SA Water's Proposed Traffic Management	Comments	
<i>SA Water is proposing to implement a one-way loop for high volume heavy vehicle movements on Kalperri Road.</i>	Discussed in Section 1.1 of TMP	Actioned
<i>Reduce speed on Kalperri Road to 40km/hr.</i>	Discussed in Section 2.4 of TMP	Actioned
<i>Install additional signage cautioning public road users of truck movements.</i>	SA Water to implement	Actioned
<i>Dust control for full length of Kalperri Road.</i>	SA Water to undertake	Unable to verify
<i>Management of potholes created by high volumes of heavy vehicle movements on Kalperri Road.</i>	Discussed in Section 2.2 of TMP	Ongoing, actioned every quarter.