



# Soil and Water Management Plan

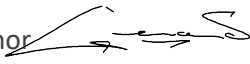
Parkes to Narromine Inland Rail Project

Project # 808 – J013



Job No.: 808 - J013

Principal: Australian Rail Track Corporation, (ARTC)

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# Soil and Water Management Plan (SWMP)

Parkes to Narromine Inland Rail  
Project # 808 – J013

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Attachment E – Primary Erosion and Sediment Control Plan

## Glossary of Terms

Term	Definition
ANZECC	Australian and New Zealand Guidelines for Water Quality Monitoring and Reporting
ARTC	Australian Rail Track Corporation
ASS	Acid Sulfate Soils
ASSMAC	Acid Sulfate Soil Manual
CEMF	Construction Environmental Management Framework
CEMP	Construction Environmental Management Plan
CLM Act	<i>Contaminated Land Management Act 1997</i>
CoA	Conditions of Approval
CPESC	Certified Professional in Erosion and Sediment Control
CSSI	Critical State Significant Infrastructure
DECC	Department of Environment and Climate Change
DPIE	Department of Planning, Industry and Environment
DPI	Department of Primary Industries
EIS	Environmental Impact Statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPL	Environment Protection Licence
ESC	Erosion and Sediment Control
ESCP	Erosion and Sediment Control Plan
HCMMP	Hazardous and Contaminated Materials Management Plan
ISCA	Infrastructure Sustainability Council of Australia
NEPM	National Environment Protection Measure

Term	Definition
OSD	Onsite Detention
P2N	Parkes to Narromine
PASS	Potential Acid Sulfate Soils
PESCP	Primary Erosion and Sediment Control Plan
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
RMM	Revised mitigation measures
RtS	Response to Submissions
SWMP	Soil and Water Management Plan
TSS	Total Suspended Solid

## 1 Scope

### 1.1 Purpose

This Soil and Water Management Plan (SWMP) manages soil and water and minimises impacts during the construction phase of the Inland Rail Parkes to Narromine (P2N) project (the Project) which will be undertaken by INLink (the contractor). This SWMP will address the soil and water management for the Project and will be prepared in consultation with the relevant Councils, Crown Land and Water Regulatory Authorities in accordance with the Conditions of Approval (CoA).

The Construction Monitoring Program for Water Usage for the Project has been included in Attachment B. Developed in consultation with the relevant government agencies and councils, it outlines the monitoring requirements in relation to discharge to surface waters and water usage for construction.

The Environmental Management System and project overview are outlined in Section 1 of the Construction Environmental Management Plan (CEMP). This SWMP will be submitted to DPIE along with, or subsequent to, the submission of the CEMP.

## 2 Objective

### 2.1 Environmental Objectives

The objective of this SWMP is to protect the environmental values of water and land, including soils, subsoils and landforms by applying the following soil and water management objectives to construction of the Project:

- Complying with the NSW Water Quality Objectives
- Prevent pollution of surface and groundwater through appropriate erosion and sediment control
- Maintain existing water quality of surrounding surface watercourses
- Maintain existing water quality and depth of groundwater
- Source construction water from non-potable sources, where reasonable and feasible
- Minimise demand for, and use of potable water
- Maximise opportunities for water re-use from captured stormwater, wastewater and groundwater
- Ensure the appropriate management of soil resources for reuse during reinstatement and rehabilitation.

### 2.2 Environmental Targets

The following are environmental targets which the implementation of this SWMP will be assessed and includes the following:

- Site-specific soil, subsoil and landform characteristics will be taken into consideration during construction including the following:
- No release of site water will occur until compliance with water quality values is verified through use of Dewatering Permit
- Conformance with provisions of all regulatory and other requirements to be achieved throughout construction phase
- Avoid long term impacts to surface water
- Use of water during construction is minimised.

The implementation of the mitigation measures will ensure the performance targets are achieved. This will be managed through project inductions, specialised training, toolbox talks, inspections, and environmental monitoring and auditing. Project inductions will inform personnel of the management measures, while the toolbox talks and specialised training will ensure they are reinforced throughout the construction program.

## 3 References

### 3.1 Key Legislative Requirements

Legislation relevant to soil and water management includes:

- *Environmental Planning and Assessment Act 1979* (EP&A Act)
- Environmental Planning and Assessment Regulation 2000
- *Protection of the Environment Operations Act 1997* (PEEO Act)
- *Water Act 1912*
- *Water Management Act 2000*
- *Fisheries Management Act 1994*
- *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)
- *Contaminated Land Management Act 1997* (CLM Act)
- National Environment Protection (Assessment of Site Contamination) Measure 1999.

### 3.2 Standards and Guidelines

In preparing this SWMP, the following documents have been referred to:

- Landcom (2004), *Managing Urban Stormwater: Soils and Construction, Volume 1* (4th Edition). NSW Government, Sydney
- DECC (2008), *Managing Urban Stormwater: Soils and Construction, Volume 2C: Unsealed Roads*. Department of Environment and Climate Change, NSW Government, Sydney
- DECC (2008), *Managing Urban Stormwater: Soils and Construction, Volume 2D: Main Road Construction*. Department of Environment and Climate Change, NSW Government, Sydney
- Department of Primary Industries – Office of Water, *Controlled Activities on Waterfront Land* (July 2012)
- National Water Quality Management Strategy (2006). *Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1)*
- ANZECC (2000), *Australian and New Zealand Guidelines for Water Quality Monitoring and Reporting* (collectively known as the 'ANZECC Guidelines')
- ANZECC (2000), *Guidelines and Water Quality Objectives in NSW*
- Macquarie-Bogan River Water Quality Objectives
- NSW Fisheries (2004), *Guidelines for Controlled Activities, Policy and Guidelines for Fish-Friendly Waterway Crossings*
- Fisheries Guidelines (2004), *Why do fish need to cross the road? Fish passage requirements for waterway crossings*
- NSW Fisheries (1999), *Policy and Guidelines for Design and Construction of Bridges, Roads, Causeways, Culverts and Similar Structures*
- Parkes to Narromine Waste Management Plan (4-2400-0000-EEC-PL-003)



- Parkes to Narromine Contaminated and Hazardous Materials Plan (4-2400-0000-EEC-PL-0004)
- National Water Quality Management Strategy (Department of the Environment and Energy 2015)
- Narromine Shire Local Flood Plan (State Emergency Services 2014)
- Parkes Shire Local Flood Plan (State Emergency Services 2014)
- Approved Methods for the Sampling and Analysis of Water Pollutants in New South Wales
- AS/NZS 5667.11:1998 Water Quality – Sampling guidance on sampling of groundwater
- ISO 5667 Water Quality – Sampling
- Infrastructure Sustainability Council of Australia (ISCA) Framework V1.2
- Guidelines for Instream Works on Waterfront Land (Department of Primary Industries Office of Water 2012)
- Waste Classification Guidelines (EPA, 2014).

### 3.3 State and Commonwealth Approval Requirements

Under Part 5.1 of the NSW Environmental Planning and Assessment Act a declared Critical State Significant (CSSI) Infrastructure project is assessed and must be approved by the Minister for Planning.

Table 3-1 outlines the Conditions of Approval (CoA) (June 2018) for the Project from the NSW Department of Planning, Industry and Environment (DPIE) related to soil and water management during construction.

**Table 3-1 – Conditions of Approval**

Ref ID	Details	Where addressed	How addressed
A5	Where the terms of this approval require a document to be prepared or a review to be undertaken in consultation with identified parties, consultation must be carried out in accordance with the Communications Strategy required by Condition B1. Evidence of the consultation undertaken must be submitted to the Secretary with the document.	Section 3.6 Attachment A	Consultation has been carried out with Parkes Shire Council, Crown Lands and Water, Narromine Shire Council and the ER as outlined in Section 3.6.  Attachment A contains the evidence of consultation.
A5a)	The evidence must include:  Documentation of the engagement with the party (ies) identified in the condition for approval that has occurred prior to submitting the document for approval.	Section 3.6 Attachment A	Consultation has been carried out with Parkes Shire Council, Crown Lands and Water, Narromine Shire Council and the ER as outlined in Section 3.6.  Attachment A contains the evidence of consultation.
A5b)	The evidence must include:  A log of the points of engagement or attempted engagement with the identified party (ies) and a summary of the issues raised by them.	Section 3.6 Attachment A	The log of comments from Parkes Shire Council, Crown Lands and Water, Narromine Shire Council and the ER is identified within Table 3-5.  Attachment A contains the evidence of consultation.
A5c)	The evidence must include:	Section 3.6	Feedback from Parkes Shire Council, Crown Lands and

Ref ID	Details	Where addressed	How addressed
	Documentation of the follow-up with the identified party (ies) where feedback has not been provided to confirm that they have none or have failed to provide feedback after repeated requests.	Attachment A	Water, Narromine Shire Council and the ER is identified within Table 3-5.  Attachment A contains the evidence of consultation.
A5d)	The evidence must include:  An outline of the issues raised by the identified party (ies) and how they have been addressed.	Section 3.6  Attachment A	Issues raised from Parkes Shire Council, Crown Lands and Water, Narromine Shire Council and the ER is addressed within Table 3-5.  Attachment A contains the evidence of consultation.
A5e)	The evidence must include:  A description of the outstanding issues raised by the identified party (ies) and the reasons why they have not been addressed.	Section 3.6  Attachment A	Issues raised from Parkes Shire Council, DPI Water, Narromine Shire Council and the ER is addressed within Table 3-5.  Attachment A contains the evidence of consultation.
A19d)	For the duration of the works until the completion of construction, the approved ER must:  Review documents identified in Conditions C1, C4, and C13 and any other documents that are identified by the Secretary, to ensure they are consistent with requirements in or under this approval and if so:  i) make a written statement to this effect before submission of such documents to the Secretary (if those documents are required to be approved by the Secretary); or  ii) make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Secretary / Department for information or are not required to be submitted to the Secretary / Department)	Section 5.10  Attachment H of CEMP	The ER has reviewed the identified documents. The works as described in this SWMP did not commence until approval was received from DPIE.
A19e)	For the duration of the works until the completion of construction, the approved ER must:  Regularly monitor the implementation of the document listed in Conditions C1, C4 and C13 to ensure implementation is being carried out in accordance with the document and the terms of this approval.	Section 5.6	Inspections and audits will be undertaken in accordance with this condition.

Ref ID	Details	Where addressed	How addressed						
C4	<p>The CEMP Sub-plans must be prepared in consultation with the relevant government agencies and relevant councils identified for each CEMP Sub-plan and be consistent with the CEMP referred to in the EIS.</p> <table border="1"> <thead> <tr> <th></th> <th>Required CEMP Sub-plan</th> <th>Relevant government authorities to be consulted for each CEMP Sub-plan</th> </tr> </thead> <tbody> <tr> <td>(e)</td> <td>Soil and water</td> <td>Relevant Councils and Crown Lands &amp; Water</td> </tr> </tbody> </table>		Required CEMP Sub-plan	Relevant government authorities to be consulted for each CEMP Sub-plan	(e)	Soil and water	Relevant Councils and Crown Lands & Water	Section 3.6	<p>This SWMP has been prepared in consultation with the relevant government agencies, including Crown Lands and Water and the relevant councils.</p> <p>This SWMP is included as part of the required CEMP Sub-plans and is consistent with the CEMP referred to in the EIS.</p>
	Required CEMP Sub-plan	Relevant government authorities to be consulted for each CEMP Sub-plan							
(e)	Soil and water	Relevant Councils and Crown Lands & Water							
C5 a)	The CEMP Sub-plans must state how: the environmental performance outcomes identified in the EIS and Submissions Report, as modified by these conditions, will be achieved.	Section 2.2 Section 5	The environmental performance outcomes and targets are outlined in Section 2.2 and will be achieved through the mitigation measures presented in Section 5.						
C5 b)	The CEMP Sub-plans must state how: the mitigation measures identified in the EIS and Submissions Report, as modified by these conditions will be implemented.	Section 5.1	The mitigation measures relevant to soil and water are outlined in Section 5.1 and will be applied through the implementation of this SWMP.						
C5 c)	The CEMP Sub-plans must state how: the relevant terms of this approval will be complied with.	This plan	The relevant terms of this approval will be implemented through the preparation of this SWMP.						
C5 d)	The CEMP Sub-plans must state how: issues requiring management during construction, as identified through ongoing environment risk analysis will be managed.	Section 4.2 Section 4.3	<p>The environmental risk assessment is outlined in Section 4.2.</p> <p>The ongoing risk assessment process is outlined in Section 3.2 of the CEMP and Section 4.3 of this plan, with identified risks managed through Site Environmental Plans.</p>						
C6	The CEMP Sub-plans must be endorsed by the ER and then submitted to the Secretary for approval no later than one (1) month before the commencement of the construction activities to which they apply.	Section 3.6 CEMP – Attachment H	<p>This SWMP was approved by DPIE in accordance with this condition before the activities were commenced, as outlined in Section 3.6.</p> <p>This SWMP has been endorsed by the ER. Refer to Attachment H in the CEMP for the ER endorsement letter.</p>						

# Soil and Water Management Plan

Parkes to Narromine Inland Rail Project



Ref ID	Details	Where addressed	How addressed						
C7	Any of the CEMP Sub-plans may be submitted to the Secretary along with, or subsequent to, the submission of the CEMP.	Section 3.6	This SWMP will be submitted to DPIE along with, or subsequent to, the submission of the CEMP.						
C12	Construction must not commence until the CEMP and all CEMP Sub Plans have been approved by the secretary. The CEMP and CEMP Sub-plans, as approved by the Secretary, including any minor amendments approved by the ER, must be implemented for the duration of construction. Where the CSSI is being staged, construction of that stage is not to commence until the relevant CEMP and Sub-plans have been endorsed by the ER and approved by the Secretary.	Section 3.6	As outlined in Section 3.6, construction did not commence until this SWMP had been approved by DPIE.  This SWMP, as approved by DPIE, including any minor amendments approved by the ER, will be implemented for the duration of construction.						
C13	<p>The following <b>Construction Monitoring Program</b> must be prepared in consultation with the relevant government agencies and relevant councils identified for the Construction Monitoring Programs to compare actual performance of construction of the CSSI against performance predicted performance.</p> <table border="1"> <thead> <tr> <th></th> <th>Required Construction Monitoring Programs</th> <th>Relevant government authorities to be consulted for each Construction Monitoring Program</th> </tr> </thead> <tbody> <tr> <td>b)</td> <td>Water usage</td> <td>DPI water and relevant councils</td> </tr> </tbody> </table>		Required Construction Monitoring Programs	Relevant government authorities to be consulted for each Construction Monitoring Program	b)	Water usage	DPI water and relevant councils	Attachment B	The Construction Monitoring Program for Water Usage has been prepared in consultation with DPI Water and the relevant councils and will be compared to the actual performance of construction of the CSSI against predicted performance.
	Required Construction Monitoring Programs	Relevant government authorities to be consulted for each Construction Monitoring Program							
b)	Water usage	DPI water and relevant councils							
C14 a)	<p>Each Construction Monitoring Program must provide:</p> <ul style="list-style-type: none"> <li>Details of the baseline data available;</li> </ul>	Attachment B	According to the EIS, the baseline water demand during construction is in the order of 75 to 100 megalitres.						
C14 b)	<ul style="list-style-type: none"> <li>Details of the baseline data to be obtained and when;</li> </ul>	Attachment B	Attachment B outlines the surface water monitoring to be obtained during construction.						
C14 c)	<ul style="list-style-type: none"> <li>Details of all monitoring of the project to be undertaken;</li> </ul>	Section 5.3 Attachment B	The details of monitoring to be undertaken during construction is outlined in Section 5.3 and Attachment B.						
C14 d)	<ul style="list-style-type: none"> <li>The parameters of the project to be monitored;</li> </ul>	Attachment B	Attachment B sets out the water quality parameters for the Project during construction.						

Ref ID	Details	Where addressed	How addressed
C14 e)	<ul style="list-style-type: none"> <li>The frequency of monitoring to be undertaken;</li> </ul>	Attachment B	Attachment B sets out the frequency for monitoring surface water and water for construction use.
C14 f)	<ul style="list-style-type: none"> <li>The location of monitoring;</li> </ul>	Attachment B Attachment C	The locations for monitoring water usage for construction is outlined in Attachment B.
C14 g)	<ul style="list-style-type: none"> <li>The reporting of monitoring and analysis results against relevant criteria;</li> </ul>	Attachment B	The reporting of monitoring and analysis results is outlined in Attachment B.
C14 h)	<ul style="list-style-type: none"> <li>Procedures to identify and implement additional mitigation measures where results of monitoring are unsatisfactory; and</li> </ul>	Attachment B	The procedure for when an exceedance is identified during monitoring is outlined in Attachment B.
C14 i)	<ul style="list-style-type: none"> <li>Any consultation undertaken in relation to the monitoring programs.</li> </ul>	Section 3.6 Attachment B	A Construction Monitoring Program for Water Usage has been developed and consultation has been undertaken with the DPI Water and relevant Councils.  For further detail, refer to Attachment B.
C15	The Construction Monitoring Programs must be endorsed by the ER and then submitted to the Secretary for approval at least one (1) month before commencement of construction.	Section 3.6 CEMP – Attachment H	The Construction Monitoring Program for Water Usage has been endorsed by the ER. Refer to Attachment H in the CEMP.
C16	A construction activity must not commence until the Secretary has approved all of the required Construction Monitoring Programs relevant to that activity, and all the necessary baseline data for the monitoring program has been collected.	Section 3.6	Works will not commence until DPIE has approved the Construction Monitoring Program for Water Usage and the baseline data for the monitoring program has been collected.
C17	The Construction Monitoring Programs, as approved by the Secretary including any minor amendments approved by the ER, must be implemented for the duration of construction and for any longer period set out in the monitoring program or specified by the Secretary, whichever is the greater.	Attachment B	The Construction Monitoring Program for Water Usage will be implemented for the duration of the Project, as outlined in Attachment B.
C18	The results of the Construction Monitoring Programs must be submitted to the Secretary, and relevant government agencies and councils, for information in the form of a Construction Monitoring Report at the frequency identified in the relevant Construction Monitoring Program.	Attachment B	The results of the Construction Monitoring Program for Water Usage will be in the form of a Construction Monitoring Report at the frequency identified in the Construction Monitoring Program for Water Usage.

Ref ID	Details	Where addressed	How addressed
C19	Where a relevant CEMP Sub-plan exists, the relevant Construction Monitoring Program may be incorporated into that CEMP Sub-plan.	Attachment B	The Construction Monitoring Program for Water Usage is incorporated into this SWMP as Attachment B.
E26	The CSSI must be designed to ensure hydrological flows remain consistent with existing (pre CSSI determination) environment for all rainfall events up to and including the 100-year ARI event.	N/A	This condition applies to the design stage, and is not directly applicable to this construction stage, as such will not be included in this SWMP.
E27 a)	The CSSI must be designed, constructed and operated so as to: <ul style="list-style-type: none"> <li>Maintain the NSW Water Quality Objectives where they are being achieved as at the date of this approval; and</li> </ul>	Section 3.2 Attachment B	Section 3.2 outlines the NSW Water Quality Objectives that will be achieved throughout the duration of construction.  Attachment B outlines the NSW Quality Objectives (ANZECC Guidelines for irrigation) which will be maintained and achieved as at the date of the Project approval.  This will be realised through the implementation of this SWMP.
E27 b)	The CSSI must be designed, constructed and operated so as to: <ul style="list-style-type: none"> <li>Contribute towards achievement of the NSW Water Quality Objective over time where they are not being achieved as at the date of this approval, unless an EPL in force in respect of the CSSI contains different requirements in relation to the NSW Water Quality Objectives in which case those requirements must be complied with.</li> </ul>	Attachment B	Attachment B outlines the NSW Quality Objectives (ANZECC Guidelines for irrigation). If the ANZECC guidelines are not being met during construction, the Project will work towards meeting the objectives.
E28	Drainage feature crossings (permanent and temporary watercourse crossings and stream diversions) and cess drains and depressions must be designed and constructed in accordance with relevant DPI guidelines.	Section 5.1.7 Section 5.1.7	Temporary watercourse crossing will be designed and constructed in accordance with relevant DPI guidelines, as outlined in Section 5.1.7.

Ref ID	Details	Where addressed	How addressed
E29	Replacement culverts must be designed with the objective that the exit flow velocity is no greater than the exit flow through the existing culvert. Where this cannot be achieved due to engineering considerations, a higher exit flow velocity is permitted provided it does not result in impacts on soil structure or condition, or cause scouring and erosion either outside the rail corridor, or beyond the area of scour protection works where an adjacent landowner has agreed to the installation of such works on their property in accordance with <b>Condition E32</b> .	N/A	This condition applies to the design stage, and is not directly applicable to this construction stage, as such will not be included in this SWMP.
E30(a)	Where it is proposed to construct new culverts along the length of the CSSI, the new culverts must be designed with the objective that: <ul style="list-style-type: none"> <li>Flows through the new culvert must not increase the downstream lateral flood extent by more than five percent for each magnitude flood event: and</li> </ul>	N/A	This condition applies to the design stage, and is not directly applicable to this construction stage, as such will not be included in this SWMP.
E30(b)	Where it is proposed to construct new culverts along the length of the CSSI, the new culverts must be designed with the objective that: <ul style="list-style-type: none"> <li>Flow velocities exiting the rail corridor must not exceed velocities that will result in impacts on soil structure or condition, or cause scouring and erosion outside the rail corridor, or beyond the area of scour protection works where an adjacent landowner has agreed to the installation of such works on their property in accordance with Condition E32; and</li> </ul>	N/A	This condition applies to the design stage, and is not directly applicable to this construction stage, as such will not be included in this SWMP.
E30(c)	Where it is proposed to construct new culverts along the length of the CSSI, the new culverts must be designed with the objective that: <ul style="list-style-type: none"> <li>If existing flow velocities at the boundary of the rail corridor are less than one meter per second, the design flow velocities must not exceed one meter per second, and where they are greater than one meter per second, then they must not increase by more than 20 percent.</li> </ul>	N/A	This condition applies to the design stage, and is not directly applicable to this construction stage, as such will not be included in this SWMP.

Ref ID	Details	Where addressed	How addressed
E31	Prior to the installation of a new culvert, the Proponent must consult with the landowner that is located immediately downstream of the new culvert to determine the potential for impacts on the agricultural productivity of the land due to the introduction of flows. Where potential adverse impact is identified, the Proponent must consult with the affected landowner on the management measures that will be implemented to mitigate the impacts.	Section 5.2	Section 5.2 identifies that consultation with landowners located immediately downstream of a new culvert, will be undertaken prior to installation. If impacts occur, the landowner will be consulted on the appropriate measures.
E32	All scour protection works associated with replacement culverts or the construction of new culvers must be restricted to the rail corridor, or as agreed to by the relevant land owner.	Section 5.1.7	As identified in Section 5.1.7, scour protection works for the replacement of culverts and construction of new culverts will be undertaken within the Project boundary, and restricted to the rail corridor.
E33	The CSSI must not result in changes to the direction of watercourses or the direction of flood flows except within the rail corridor.	Section 5.1.7	During construction, the direction of watercourses and flood flows will not be changed outside the rail corridor.
E34	The CSSI (including the cess drains adjacent to the new and upgraded rail track) must be designed and constructed to ensure that there is no permanent interception of, and/or connection with, groundwater.	Section 5.1.7	Construction in accordance with relevant DPI guidelines, will ensure no permanent interception of, and/or connection with, groundwater.
E36	Works on waterfront land must be undertaken in accordance with the DPI guidelines for controlled activities on waterfront land.	Section 5.1.6	DPI guidelines for controlled activities on waterfront land will be implemented for works on waterfront land at the site.
E37	Any recycled wastewater (including recycled / treated water) proposed for use by the CSSI, must be fit for purpose and does not pose a risk to human health or the receiving environment.	Section 5.1.7	Any recycled wastewater (including recycled / treated water) proposed for reuse will be tested and treated so as to not pose a risk to human health or the receiving environment, as outline in Section 5.1.7.



# Soil and Water Management Plan

Parkes to Narromine Inland Rail Project



Ref ID	Details	Where addressed	How addressed
E52	<p>Spoil Mounds are to be located:</p> <ul style="list-style-type: none"> <li>a) within the existing rail corridor;</li> <li>b) at least 50 metres from any watercourse or culvert or where the rail formation is predicted to be overtopped during a flood event;</li> <li>c) at least 500 metres from any residence;</li> <li>d) outside the line of sight of drivers approaching level crossings; and</li> <li>e) outside the drip lines of trees located on private property.</li> </ul>	Section 5.1.2	Spoil mounds will be located in accordance with these conditions and Volume 1 of Managing Urban Stormwater: Soils and Construction ('the Blue Book') (Landcom 2004), as outlined in Section 5.2.
E53 a)	<p>Spoil mounds are to comply with the following requirements:</p> <ul style="list-style-type: none"> <li>a) maximum height must not exceed the top height of the upgraded rail line;</li> <li>b) not result in the clearing or covering of native vegetation beyond that described in the EIS and Submissions Report;</li> <li>c) not result in heritage impacts beyond that described in the EIS and Submissions Report;</li> <li>d) not result in additional changes to the upstream flooding regime beyond those described in the EIS and Submissions Report;</li> <li>e) not affect the downstream flood regime;</li> <li>f) not impede the flow of water through culverts;</li> <li>g) not contain any contaminated soil classified as unsuitable for the proposed land use, acid sulphate soils or green waste;</li> <li>h) are to be stabilised during construction of the CSSI; and</li> <li>i) are to be stabilised prior to operation of the CSSI.</li> </ul>	Section 5.1.2	Spoil mounds will be managed in accordance with these conditions and Volume 1 of Managing Urban Stormwater: Soils and Construction ('the Blue Book') (Landcom 2004), as outlined in Section 5.2.
E71	<p>All reasonably practicable erosion and sediment controls must be installed and appropriately maintained to minimise any water pollution. When implementing such controls, any relevant guidance in the <i>Managing Urban Stormwater</i> series must be considered.</p>	Section 5.1 Attachment D	<p>As outlined in Section 5.1, erosion and sediment controls will be installed and appropriately maintained to minimise any water pollution in accordance with <i>Managing Urban Stormwater</i>.</p> <p>Refer to Attachment C for the PESCP Drawings which show the erosion and sediment controls that will be installed and maintained to minimise water pollution.</p>

The Protection of Environment Operations (POEO) Act 1997 outlines requirements to prevent environmental impacts and stipulates offences and penalties applicable to those identified. These conditions form the Environment Protection Licence (EPL) (October 2018). Those related to the preparation of an SWMP are outlined in Table 3-2 below.

**Table 3-2 Environment Protection Licence Requirements**

Ref ID	Details	Where addressed
A3.1	Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.	CEMP and Sub-plans
L1.1 Pollution of Waters	Except as may be expressly provided in any other condition of this licence, the licence must comply with section 120 of the Protection of the Environment Operations Act 1997.	Section 5.1.7
O1.1	Licensed activities must be carried out in a competent manner. This includes: <ul style="list-style-type: none"> <li>a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and</li> <li>b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.</li> </ul>	Section 5.1
O5.1	The licensee must manage erosion and sediment laden water in accordance with the document titled 'Primary Erosion and Sediment Control Plan, Parkes to Narromine Inland Rail Project (Rev 1, 13/08/2018 as provided to the EPA on 4 September 2-018 (Doc 18/641003).	Attachment D

### 3.4 Response to Submissions Requirements

Revised mitigation measures from the Response to Submissions (RtS) relevant to the SWMP are listed in Table 3-3 below.

**Table 3-3 – Revised Mitigation Measures**

Ref ID	Details	Where addressed
C6.2	Monitoring would be undertaken during extraction to ensure volumes stipulated by licence requirements and/or private landholder agreements are not exceeded.	Attachment B
C7.1	Water quality would be monitored during construction in accordance with the surface water monitoring framework.	Attachment B
C7.2	Discharge to surface water would be undertaken in accordance with the construction EPL and would consider the hydrological attributes of the receiving watercourse.	Attachment B
C7.3	If groundwater is encountered during excavation and required dewatering the following procedure would be followed: <ul style="list-style-type: none"> <li>• Groundwater would be pumped into a holding tank or water truck. Pump out events would be supervised at all times, and the pump would be</li> </ul>	Section 5.1.5

Ref ID	Details	Where addressed
	<p>positioned to prevent the discharge of sediment-laden water settled at the bottom of the trench.</p> <ul style="list-style-type: none"> <li>Groundwater for discharge to surface water would be tested prior to discharge. Conditions of discharge would include:                             <ul style="list-style-type: none"> <li>No visible sheen or odour is noted</li> <li>Water pH is between 6.5 – 8.5</li> <li>Turbidity level &lt;50 NTU</li> <li>All litter and debris must be filtered out and removed prior to discharge</li> </ul> </li> <li>Water quality would be checked regularly during discharge events to ensure the pH and turbidity levels remain below discharge criteria limits</li> <li>Consideration would be given to the hydrological attributes of the receiving water body prior to discharge (i.e. sufficient water present to allow mixing etc.</li> </ul> <p>Waste water that does not meet the criteria in the EPL would be disposed of off-site by a licensed liquid waste contractor in accordance with the Waste Classification Guidelines (EPA 2014).</p>	
D6.4	<ul style="list-style-type: none"> <li>Construction Planning would aim to minimise the use of potable water during construction</li> <li>Appropriate sources for construction water would be determined prior to construction in consultation with relevant stakeholders, and appropriate approvals and agreements would be sought for the extraction of water.</li> </ul>	Attachment B
D7.1	The design features listed in section 16.3.1 of the EIS would continue to be refined and implemented to minimise the potential impacts of the proposal on water quality.	Section 5.1.8 Attachment B
D7.2 a)	A surface water monitoring framework would be developed as part of the soil and water management sub-plan in the CEMP. It would identify monitoring locations at discharge points, and selected locations in watercourses where works are being undertaken.	Attachment B
D7.2 b)	The monitoring framework would include the relevant water quality objectives, parameters, and criteria from Technical Report 7, and specific monitoring locations which have been identified based on the hydrological attributes of the receiving watercourse, in consultation with DPI (Water) and the EPA.	Attachment B

### 3.5 Construction Environmental Management Framework Requirements

The Construction Environmental Management Framework (CEMF) sets out the environmental management requirements for construction. The CEMF provides a link between the planning approval phase, detailed design and the construction environmental management documentation. The CoA will take precedence where there are inconsistencies between the CoA and the CEMF.

The CEMF requirements in relation to the preparation of this SWMP are outlined in Table 3-4.

**Table 3-4 – CEMF Requirements**

Ref ID	Details	Where addressed
<b>Water Management</b>		

# Soil and Water Management Plan

Parkes to Narromine Inland Rail Project



Ref ID	Details	Where addressed
10.3	The construction contractor must develop and implement a Water Management Plan which must include, as a minimum:	
a)	The water management mitigation measures as detailed in the Project approval documentation and Project conditions of approval;	Section 5.1
b)	The requirements of other permits, approvals, licences, legislation and regulations, as required;	Section 3
c)	The responsibilities of key project personnel with respect to the implementation of the plan;	Section 5.4
d)	Details of the proposed extraction, use and disposal of groundwater, and measures to mitigate potential impacts to groundwater sources, incorporating monitoring, impact trigger definition and response actions for all groundwater sources potentially impacted by the Project;	Section 5.1.5 Attachment B
e)	Evidence of consultation with the NSW Office of Water;	Section 3.6 Attachment A
f)	Procedure and regime for surface water quality monitoring;	Attachment B
g)	Procedures for treatment, testing and discharge of groundwater from the site;	Attachment B
h)	Compliance record generation and management;	Section 5.6 Section 5.9
i)	Identification and documentation of any competencies, training, experience or qualification of personnel undertaking works under this plan; and,	Section 5.7
j)	Appropriate identification of the location, frequency, type and details of monitoring or sampling, if required	Attachment B
10.4	The Contractor's should implement a program of regular inspections, which must include appropriate checks of water use, extraction and storage locations. Plus, appropriate water monitoring program, if required. Compliance records must be retained by the Contractor. These must include:	Section 5.6
a)	Inspections undertaken in relation to water management, use, extraction and storage areas;	Section 5.6
b)	Records of any water monitoring or sampling completed (including field observations, calibration records, field measurements and laboratory results);	Attachment B CEMP - Section 7.4 CEMP - Section 8.3
c)	Any environmental incidents, hazards or near-misses documented in relation to water management; and,	Section 5.5 CEMP - Section 7.4
d)	Records of any impacts avoided or minimised through construction methods.	Section 5.5

Ref ID	Details	Where addressed
<b>Water Management Mitigation</b>		
10.5	Examples of water management that should be considered by the construction contractor and included in their CEMP, as appropriate, include:	
a)	Minimise the use of potable water during construction e.g. use prefabricated concrete structure, non-potable water used for dust suppression;	Section 5.1.7
b)	Use of appropriate land disturbance practices, erosion controls (i.e. soil binders) and dust suppressants to minimise the need for water use in dust suppression during construction;	Section 5.1.7
c)	Use of water efficient devices, equipment and machinery, where relevant and applicable in their operations;	Section 5.1.7
d)	Undertake water quality monitoring to inform its appropriate and fit for purpose use; and,	Section 5.1.7
e)	Undertake groundwater monitoring during construction (levels and quality) in areas identified as 'likely' and 'potential' groundwater dependent ecosystems.	Section 5.1.7
<b>Soil and Water Quality</b>		
11.3	The construction contractor must develop and implement a Soil and Water Quality Management Plan which must include, as a minimum:	
a)	The soil and water mitigation measures as detailed in the Project approval documentation and Project conditions of approval;	Section 5.1 Attachment B
b)	The requirement of the EPL and other permits, approvals and licences;	Section 3.3
c)	The responsibilities of key project personnel as relevant with respect to the implementation of the plan;	Section 5.4
d)	Details of construction activities which have the potential to impact on watercourses and their location identified on environmental control maps;	CEMP - Section 1.5
e)	Surface water impact assessment criteria consistent with the principles of the Australian and New Zealand Environment Conservation Council (ANZECC) guidelines;	Attachment B
f)	Management measures to be used to minimise surface water impacts, including identification of water treatment measures and discharge points, details of how spoil and fill material required by the SSI will be sourced, handled, stockpiled, reused and managed; erosion and sediment control measures; salinity control measures and the consideration of flood events;	Section 5.1 Attachment B Attachment D

# Soil and Water Management Plan

Parkes to Narromine Inland Rail Project



Ref ID	Details	Where addressed
g)	Management measures for contaminated material (soils, water and building materials) and a contingency plan to be implemented in the case of unexpected discovery of contaminated material, including asbestos, during construction;	Section 5.3 Hazardous and Contaminated Materials Management Plan (HCMMP)
h)	A description of how the effectiveness of these actions and measures would be monitored during the proposed works, clearly indicating frequency of monitoring, the locations where monitoring would take place, how the results of the monitoring would be recorded and reported, and, how non-compliance would be rectified;	Section 5.6 Attachment B
i)	Requirements and procedures for the management, separation and reuse of topsoil and other soil horizons/earthen materials;	Section 5.1.7
j)	Identification and documentation of any competencies, training, experience or qualification of personnel undertaking works under this plan;	Section 5.7 Attachment B
k)	Procedures for the development and implementation of Erosion and Sediment Control Plans;	Attachment D
l)	The Erosion and sediment control plan must be approved by a Suitably Qualified Person as per the 'Blue Book' requirements (i.e. Certified Professional in Erosion and Sediment control (CPESC));	Attachment D
m)	Soil and water quality monitoring requirements; and,	Section 5.1 Attachment B
n)	Compliance record generation and management.	Section 5.6 CEMP - Section 7.4 CEMP - Section 8.3
11.4	The Contractor's should implement a program of regular inspections, which must include appropriate checks of soil and water management and mitigation measures. Plus, appropriate soil monitoring program, if required. Compliance records must be retained by the Contractor. These must include:	Section 5.6 CEMP - Section 7.4
a)	Inspections undertaken in relation to soil management measures, including Erosion and Sediment Control aspects;	Section 5.6 Attachment B
b)	Inspections in relation to water quality management measures;	Section 5.6 Attachment B
c)	Unexpected finds;	HCMMP
d)	Records of any soil water monitoring or sampling completed as triggered by these plans (including field observations, calibration records, field measurements and laboratory results);	Section 5.6 Attachment B CEMP - Section 8.3

# Soil and Water Management Plan

Parkes to Narromine Inland Rail Project



Ref ID	Details	Where addressed
e)	Any environmental incidents, hazards or near-misses documented in relation to soil management;	Section 5.5
f)	Any redline updates, alterations or changes to Erosion and Sediment Control Plans; and,	Attachment D
g)	Records of any impacts avoided or minimised through construction methods.	Section 5.6

### 3.6 Stakeholder Consultation and Approval

In accordance with the CoA, this SWMP has been developed in consultation with Crown Lands and Water, DPI Water and relevant local Councils. The evidence of consultation is found in Attachment A.

This SWMP as a Sub-plan to the CEMP is required to be approved by the Department of Planning, Industry and the Environment (DPIE) no later than one month before the commencement of construction activities. This SWMP will be endorsed by the Environmental Representative (ER) prior to the commencement of construction as required by the CoA. Construction will not commence until this SWMP has been approved by the Secretary. This SWMP as approved by the DPIE, including any minor amendments approved by the ER, will be implemented for the duration of construction. This consultation is intended to assist in development and finalisation of this SWMP. Table 3-5 summarises relevant stakeholder review and response to review.

**Table 3-5 – Summary of Consultation and Approval**

Agency	Requirement	Status	Response	Date
Crown Lands and Water	Consultation	Completed	<ul style="list-style-type: none"> <li>Email with comments</li> <li>No update to SWMP required</li> </ul>	5 October 2018
DPI Water	Consultation	Completed	<ul style="list-style-type: none"> <li>Letter with comments</li> <li>Comments included in Revision D of SWMP</li> </ul>	26 October 2018
Parkes Shire Council	Consultation	Completed	<ul style="list-style-type: none"> <li>Comments sheet</li> <li>Comments included in Revision C of SWMP</li> </ul>	26 September 2018
Narromine Shire Council	Consultation	Completed	<ul style="list-style-type: none"> <li>Comments sheet</li> <li>Comments included in Revision C of SWMP</li> </ul>	8 October 2018
DPIE	Approval	Completed	<ul style="list-style-type: none"> <li>Comments sheet</li> <li>DPE Rev 11 comments included in Revision H of SWMP</li> </ul>	14 February 2019
ER	Endorsement	Completed	<ul style="list-style-type: none"> <li>Endorsed</li> </ul>	2 November 2018



## 4 Key Risks

### 4.1 Existing Environment

Most of the proposal site passes through rural land. Several townships with an urban environment are also passed through on route. The project site has an established rail corridor and resultantly has been subject to a high level of disturbance. The following section outlines the existing environment and determines the potential risks that require mitigation measures.

#### 4.1.1 Soil and Geology

The Project corridor crosses flat to undulating rises along the lower western slopes of a north-south trending range. The range is associated with the meta-sedimentary units of the Hervey syncline in the south, and the granitic Bulga Range in the north.

The project site is in the Central Lachlan Fold Belt. Near surface materials include Tertiary to Quaternary aged red silty alluvium over intermittently outcropping folded and faulted Silurian and Ordovician aged sedimentary and minor metamorphic sequences.

Thick reactive brown and grey clay soils are predominantly associated with the near level terrain north of Peak Hill. The undulating terrain south of Peak Hill consists of moderately thick red and brown sandy and silty clay soils. Further detail on subsurface soil and rock types encountered can be found in the EIS.

Of the soils present in the project site, the main potential issue relates to dispersive soils are located north of Peak Hill. During a contamination and geotechnical investigation undertaken during the EIS the presence of gullying or other erosion features were also noted.

Acid sulfate soils are not expected or known to occur within the Project site. Saline soils are not expected within 1 km of the Project, with the nearest being about 2.5 km to the east of the Project near Trewilga.

#### 4.1.2 Surface Water

The majority of the proposal site is located within the Macquarie-Bogan River basin. A small portion of the proposal site, between the southern end of the Project corridor and approximately 7 km and north-west of Parkes, is located within the Lachlan River basin.

A total of 15 ephemeral watercourses with a stream order of three or above cross the Project corridor. Flow occurs in these watercourses during and after rainfall events, and the watercourses also dry out between rainfall events.

The watercourses in the proposal site are ephemeral and contains some significant sensitive environments such as:

- Wetlands – Macquarie Marshes on the Macquarie River between Warren and Carinda
- Vegetation – Burrill Creek native sedges and river red gums
- Fish Habitat as mapped by DPI - (class 2 (moderate) class 4 (unlikely) fish habitat categories

A number of minor watercourses cross the proposal site, including Burrill Creek, Ten Mile Creek, and Bradys Cowal. These have been classified as Class 2 and 3 for fish passage, indicating there is minimal chance of key fish habitats with intermittent flow following rain events.

Following introduction of the *Water Management Act 2000*, water sharing plans have been developed that cover part of or all of the Project alignment and include:

- Lower Macquarie groundwater sources
- Lachlan regulated river
- Lachlan unregulated and alluvial water sources
- Macquarie Bogan unregulated and alluvial water sources
- Macquarie and Cudgegong regulated rivers.

### 4.1.3 Groundwater

Based on regional groundwater bore information, groundwater is anticipated to be located between 7m and 60m below the ground surface, but generally over 20 m below the ground surface.

Groundwater dependent ecosystems have the potential to occur either side of the Project alignment along Burrill Creek, Tomingley Creek and Wallaby Creek however the Project does not anticipate that any cuttings will impact on the groundwater table.

During the construction phase of the Project, if groundwater is intercepted works will cease and an investigation will be undertaken as per Section 5.5.

### 4.1.4 Water Use

Water will be required during construction phase of the Project to control dust, compact soil, undertake site concrete works and establish vegetation. Various water sources have been identified for potential use during the construction phase which include the following (but not limited to):

- Potable water from Parkes and Narromine councils' supplies
- Groundwater from private bores
- Recycled / treated water from local councils
- Water from private dams

A register of all water sources utilised for the duration of the project will be kept and updated as required to reflect all water sources used throughout the construction project (Attachment C).

Use of water from these sources will be subject to relevant approvals or licences, access agreements, and the amount of water available at the time of construction. Prior to water use the following will be considered:

- Private bores must be licensed for irrigation or other production purposes (i.e. not a stock and domestic bore) and have a Water Access Licence with sufficient entitlement
- Stock and domestic bore use requires a new application for a Water Supply Work Approval and a Water Access Licence will also be required

- Water from private dams that have been constructed under the landholdings Harvestable Right can only be used on that landholding
- Water from private dams that have a Water Supply Work Approval and a Water Access Licence with sufficient entitlement can be used under agreement with the landholder
- Water extracted from the Macquarie River will need to be extracted from a water supply work that has been approved for extraction under a Water Access Licence and has sufficient entitlement
- A water supply work approval is excluded if the work has been approved as part of a CSSI however a CSSI does not have exemption from a Water Access Licence.

Water extraction from bores could reduce the availability of water to landowners for irrigation and stock watering and affect surface water and groundwater flow regimes. This impact will likely be short term, as a number of sources will be used along the length of the proposal site. Groundwater extracted from bores during construction may have a short-term impact on flows within the alluvial layer. The lateral extent of impacts will likely be localised around individual extraction locations.

Groundwater usage during construction may also increase infiltration rates as a result of drawdown and the impact of surface water runoff through the application of groundwater used as construction water. The impact of this additional discharge will likely be minimal and short term compared to regional rainfall levels.

Excavation during the works will generally not exceed 1 m below ground surface and hence groundwater is unlikely to be encountered during the construction process. There is however the potential for shallow groundwater to be encountered but impacts are considered to be short term.

All water sources will be subject to management measures as outlined in the Construction Monitoring Program for Water Usage in Section 5.3.

## 4.2 Environmental Risk Assessment

An environmental risk assessment was undertaken as part of the EIS for the Project (GHD 2017). The purpose of the risk assessment was to identify potential environmental impacts and risks associated with construction which include the following:

- Increased erosion and sedimentation due to excavation activities and vehicle movement
- Changes to the surface, including as a result of vegetation removal and the creation of embankments, increasing the potential for erosion and sedimentation
- Impact of flooding on unprotected areas during construction resulting in wash-outs or erosion
- Temporary impact to the behaviour of local surface water systems during construction
- Blockages of flow paths affecting low flows through construction within watercourses and through erosion and sedimentation control structures
- Sedimentation and changes to geomorphology in watercourses
- Impacts on upstream and downstream drainage due to the introduction of structures such as embankments and culverts
- Direct and indirect impacts on waterfront land as defined by the Water Management Act 2000.

## 4.3 On-Going Risk Assessment

A risk management approach will be used to determine the severity and likelihood of an activity's impact on the environment and to prioritise its significance. This process considers potential regulatory and legal risks as well as taking into consideration the concerns of community and other key stakeholders.

The objectives of risk assessment are to:

- Identify activities that have the potential to adversely affect the local environment and/or human health
- Qualitatively evaluate and categorise each risk item
- Assess whether risk issues can be managed by environmental protection measures;
- Quantitatively evaluate and categorise each risk item
- Assess whether risk issues can be managed by environmental protection measures.

Risk assessments for the Project are based on AS/NZS ISO 31000:2009, the Australian and New Zealand Standard for Risk Assessments. The purpose of risk evaluation is to separate risk to be tolerated from those to be treated, by determining the severity of each risk and developing a prioritised list of risks that require treatment. The severity of each risk is determined from the Project Risk Level Matrix.

A risk register has been developed (Risk and Opportunities Register Attachment D of the CEMP) and includes a list of activities associated with the Project, related aspects and corresponding risks. Measures to minimise the identified environmental risks are also provided. On-going risk assessment will be implemented throughout the construction program in accordance with Section 3.2 of the CEMP. This will ensure new and changed environmental issues are identified and appropriately addressed. Additional environmental risks will be captured in the Site Environmental Plans.

Risk reviews will be undertaken quarterly for all project risks from the start of construction. Risk reviews and additional risk analysis will also be undertaken under the following circumstances:

- Following an incident, or near miss that has or could result in a breach of Project approvals or commitments, and or impact on the environment
- Prior to a change in an existing process
- Introduction of a new process or equipment
- Following Project inspections or audits that identify relevant non-conformances that could change the Project's risk profile.

New risks identified during construction will be managed through the issuance and tracking of non-conformances. Relevant risk registers will be reviewed to include any additional controls implemented or change in the risk profile and will be communicated to operational personnel via tool box and other relevant site meetings. Follow-up inspections of work sites will be undertaken to ensure appropriate ongoing management of the risk.

## 5 Management

### 5.1 Mitigation and Management Measures

#### 5.1.1 Erosion and Sediment Control

The guiding principles of the Blue Book (Managing Urban Stormwater, Soils and Construction, Volume 1, 4th Edition (Landcom 2004)) will be adopted for erosion and sediment control (ESC) when planning construction works. All reasonably practicable erosion and sediment controls will be installed and appropriately maintained as per the Progressive Erosion and Sediment Control Plans (PESCPs) to minimise any water and air pollution. Any relevant guidance in Managing Urban Stormwater series will be considered when implementing such controls as those listed below.

Erosion on the Project will be managed through:

- Limiting the area of disturbance
- Ensuring disturbed areas are progressively stabilised
- Levelling disturbed areas, introducing roughness or installing flow checking measures along channels and slopes
- Providing protection, cover or stability to the disturbed areas

Sediment on the Project will be managed through:

- Installing sediment fences, sandbags, erosion socks and / or bunds
- Installing vehicle wash down bays and / or rumble strips
- Installing temporary sediment traps
- Sweeping of hardstand areas.

Refer to Attachment D for the PESCP Drawings which outlines the erosion and sediment controls that will be installed and maintained to minimise offsite pollution.

#### 5.1.2 Locations of Spoil Mounds

Permanent spoil mounds will be managed in accordance with the CoA and Volume 1 of Managing Urban Stormwater: Soils and Construction ('the Blue Book') (Landcom 2004). Temporary stockpiles during construction activities will also be managed in accordance with Volume 1 of Managing Urban Stormwater: Soils and Construction ('the Blue Book') (Landcom 2004). Through the implementation of the mitigation measures outlined in this section, spoil mounds will be managed to mitigate any impacts to the following:

- Heritage items
- Native vegetation
- Changes to the upstream and downstream flooding regime
- Flow of water through culverts.

Permanent Spoil mounds will be located in accordance with the CoA and Volume 1 of Managing Urban Stormwater: Soils and Construction ('the Blue Book') (Landcom 2004) to minimise impacts to the

surrounding environment and minimise potential blockages to occur. Location criteria for permanent spoil mounds are as follows:

- Within the existing rail corridor
- Minimum of 5 m away from existing vegetation, concentrated water flow, roads and hazard areas
- At least 50 m away from a watercourse or culvert
- At least 50 m away where the rail formation is predicted to be overtopped during a flood event
- At least 500 m away from any residence
- Outside the line of sight of drivers approaching level crossings
- Outside the drip lines of trees located on private property
- On relatively level land
- As close as practical to the source of the material and will be clearly demarcated on the type of material they contain.

Throughout construction, temporary stockpiles are expected to grow and shrink as the demand and supply of materials fluctuates.

### 5.1.3 Temporary Stockpile Stabilisation

Temporary stockpiles will be stabilised if stockpiling occurs within the site for more than 10 days without being worked on. Stabilisation requirements will be dependent on the type of material stockpiled and may include:

- Rock armouring for coarse grained sand
- Slope stabilisation with the application of polymers, hydro-seed / hydromulch and / or mulch (not be used within 40 m of a waterway) for medium coarse-grained stockpiles or stockpiles that have a significant component of fines
- Covering batters with geofabric
- Spraying water in a fine spray over exposes surfaces.

### 5.1.4 Hazardous or Contaminated Materials

Upon identification of potential contaminated material, the Unexpected Finds Protocol in the Hazardous and Contaminated Materials Management Plan (HCMMP) will be implemented.

For additional mitigation measures regarding contamination and hazardous materials, refer to Section 5.1.7.

### 5.1.5 Groundwater Dewatering

This Project will include the installation and upgrade of drainage feature crossings and cess drains and depressions. Any construction work undertaken and their potential impacts will be identified during the risk assessment to ensure that there is no permanent interception of and/or connection with groundwater.

If groundwater is encountered during excavation and dewatering is required, the following measures will be implemented:

- Groundwater will be pumped into a holding tank or water truck. Pump out events will be supervised at all times, and the pump will be positioned to prevent the discharge of sediment-laden water settled at the bottom of the trench.
- Groundwater for discharge to surface water will be tested prior to discharge. Conditions of discharge will include:
  - No visible sheen or odour is noted
  - Water pH is between 6.5 – 8.5
  - Turbidity level <50 NTU
  - All litter and debris must be filtered out and removed prior to discharge.
- Water quality will be checked regularly during discharge events to ensure the pH and turbidity levels remain below discharge criteria limits
- Consideration will be given to the hydrological attributes of the receiving water body prior to discharge (i.e. sufficient water present to allow mixing etc.).

Wastewater that does not meet the criteria in the EPL will be disposed of off-site by a licensed liquid waste contractor in accordance with the *Waste Classification Guidelines* (EPA 2014).

### 5.1.6 Surface Water Dewatering

If surface water is encountered from rain events or if water is existing in low points along the corridor (e.g. the land on both sides of the corridor is higher than the corridor), the following measures will be implemented:

- Surface water will be pumped into water trucks and used on site and local roads for dust suppression;
  - The re-use of surface water on site from rain events for dust suppression on site and local roads has been deemed appropriate by the EPA (Attachment A), subject to the following precautionary measures being maintained:
    - That the water is to be used solely for the purposes of dust suppression on roads and construction sites (not for equipment wash down or use on private properties for example);
    - That appropriate application rates be used to ensure that there is no runoff from the roadways or construction sites;
      - Daily recorded inspections will be undertaken of the water trucks to ensure the activity is being managed appropriately and there is no runoff. Daily records will be provided to the Environment Manager and Construction Manager daily for review.
      - Toolbox/training will be undertaken with the water truck drivers on the requirements

- Surface water for discharge into local waterways and surrounding environment will be tested (and treated if required) prior to discharge. Conditions of discharge will include:
  - No visible sheen or odour is noted
  - Water pH is between 6.5 – 8.5
  - Dissolved Oxygen (%) is between 85-100
  - Salinity ( $\mu\text{S}/\text{cm}$ ) 2200
  - Turbidity level <50 NTU
  - All litter and debris must be filtered out and removed prior to discharge.
- If treatment is required, treatment is as detailed within Drawing E10 of the Progressive Erosion and Sediment Control Plans
- If treatment occurs, retest water and if compliant, a discharge permit is issued (Attachment D).
- Water quality will be checked regularly during discharge events to ensure the pH and turbidity levels remain below discharge criteria limits
- Consideration will be given to the hydrological attributes of the receiving water body prior to discharge (i.e. sufficient water present to allow mixing etc.).

Wastewater that does not meet the criteria in the EPL will be disposed of off-site by a licensed liquid waste contractor in accordance with the *Waste Classification Guidelines* (EPA 2014).

### 5.1.7 Working on Waterfront Land

In accordance with CoA E36, and depending on the type of the work, specific DPI guidelines will be implemented during construction phase, which may include:

- In-stream works
- Laying pipes and cable sin watercourses
- Outlet structures
- Riparian corridors
- Watercourse crossings.

### 5.1.8 Additional Measures

The mitigation measures to address any impacts to soil and water quality impacts that may be identified during construction are outlined in Table 5-1.

In accordance with RtS D7.1, potential impacts on water quality will be minimised by the following design control features:

- Designing flow discharge points (structures) to include erosion controls, such as rock protection, to slow flow velocities and minimise the risk of erosion as surface water enter and exits the structure



- Designing culverts to have a minimal impact on existing surface flow paths across the proposal route
- Locating structures in positions that are natural low points along the proposal site to avoid creating new water storage areas and facilitate fish passage
- Incorporating protection measures, such as sedimentation basins, water quality ponds, and spill basins as required
- Designing batters and retaining structures using appropriate slope gradients to minimise erosion, or using terracing
- Design of ballast drainage to discharge to suitable outlets and control points
- Selection of fill material for embankments to minimise the risk of erosion.

Where they relate to construction these design control features are included in the mitigation measures outlined in Table 5-1 below and will be continually improved and updated throughout the project.

**Table 5-1– Mitigation and Management Measures**

Ref ID	Mitigation Measure	Responsibility	Source
<b>GENERAL</b>			
SW01	Erosion and sediment controls will be installed prior to or immediately upon any disturbance to vegetation or soil in any location. The erosion and sediment controls will remain in place until revegetation, stabilisation or hard scaping has occurred.	Construction Manager	CEMF – Section 11.5
SW02	Sediment fences, bunds and other controls will be located around the appropriate areas of the site, as indicated in PESCP drawings.	Construction Manager	Good practice
SW03	The wheels of all vehicles will be cleaned prior to exiting the construction site where excavation occurs to prevent the tracking of mud. Where this is not practical, or excessive soil transfer occurs onto paved areas, street cleaning will be undertaken when necessary.	Construction Manager	Good practice
SW04	Entry and exit points will have stabilisation which can include but is not limited to rock and rumble grids.	Construction Manager	Good practice
SW05	Any groundwater encountered during construction will be managed and disposed of in accordance with the Waste Classification Guidelines (EPA, 2014). Groundwater will be managed to ensure it does not cause pollution of waters in accordance with section 120 of the POEO Act.	Construction Manager	Good practice
SW06	If dewatering is required during construction, the water would will be tested, and treated if necessary, prior to re-use, discharge or disposal in accordance with the testing results (as per EPL requirements).	Environmental Manager	Good practice
SW07	DPI Guidelines for controlled activities on waterfront land will be implemented for works on waterfront land at the site.	Environmental Manager	CoA E36

# Soil and Water Management Plan

Parkes to Narromine Inland Rail Project



Ref ID	Mitigation Measure	Responsibility	Source
SW08	An adequate number of concrete washout facilities will be maintained and evenly distributed along the alignment, as necessary. The washout facilities will be isolated from surface water flows using bunds to prevent contamination of clean surface waters.	Construction Manager	Good practice
SW09	Concrete wash out will only occur at designated facilities at the site.	Construction Manager	Good practice
SW10	Protective measures, such as sedimentation basins, water quality ponds, and spill basins will be used as required.	Environmental Manager	RtS D7.1
<b>HAZARDOUS MATERIALS</b>			
SW11	All hazardous substances will be stored in accordance with AS 1940-2004, within designated and contained areas.	Construction Manager	Good practice
SW12	All re-fuelling points, including re-fuelling / lube trucks, will carry spill kits.	Construction Manager	Good practice
SW13	No maintenance of plant and machinery, refuelling points, concrete washouts, and storage locations for hazardous materials and chemicals will be located within 50 m of a watercourse.  Maintenance areas will be adequately bunded (as per relevant and applicable Australian Standard) within construction compounds.	Construction Manager	CEMF – Section 11.5
SW14	Maintenance areas will be adequately bunded and only located within construction compounds.	Construction Manager	Good practice
SW15	Pre-start checks, as well as maintenance in accordance with manufacturer's requirements, will be undertaken to minimise potential for leaks and spills.	Construction Manager	Good practice
SW16	Re-fuelling of plant and equipment will be undertaken within designated areas with appropriate controls.	Construction Manager	Good practice
SW17	Visual monitoring of local water quality (i.e. turbidity, hydrocarbon spills/slicks) will be undertaken on a regular basis to identify any potential spills.	Construction Manager	Good practice
<b>STOCKPILING</b>			
SW18	Stockpiles will be managed by implementing sediment and erosion controls in accordance with Managing Urban Stormwater, Soils and Construction (Landcom, 2004).	Construction Manager	Good practice
SW19	All spoil mounds will be located on site in accordance with Section 5.1.2.	Construction Manager	CoA E52
SW20	Spoil mounds will be managed with the requirements outlined in Section 5.1.3	Construction Manager	CoA E53
SW21	All materials will be stockpiled away from water flow paths.	Construction Manager	Good practice

# Soil and Water Management Plan

Parkes to Narromine Inland Rail Project



Ref ID	Mitigation Measure	Responsibility	Source
SW22	Topsoil will be stockpiled separately to other soils / earthen material and clearly signed / marked on site drawings and maps, to allow for reuse in reinstatement and rehabilitation processes.	Construction Manager	CEMF – Section 11.5
SW23	Stockpiles will not be placed in areas of high / medium flood risk areas or flow paths.  Stockpiles will be on appropriate impermeable surfaces to minimise potential sediment transportation.	Construction Manager	Good practice
SW24	Stockpiles will be on appropriate impermeable surfaces to minimise potential sediment transportation	Construction Manager	Good practice
SW25	Where practicable, spoil mounds will be stabilised if subject to stockpiling within the site for more than 10 days without being worked on.	Construction Manager	Good practice
<b>WATERWAYS</b>			
SW26	Erosion and scour protection will be installed on batters as per project design and <i>Managing Urban Stormwater – Soils and Construction</i> (Landcom 2008), to prevent and minimise potential erosion and minimise concentrated flow.	Construction Manager	CEMF – Section 11.5
SW27	Clean water diversions will be installed prior to the commencement of work near any waterways.	Construction Manager	Good practice
SW28	Minimise duration and area of disturbance within watercourses.	Environmental Manager	CEMF – Section 11.5
SW29	Construct in-stream during no flow or low flow conditions.	Construction Manager	Good practice
SW30	Temporary watercourse crossings and stream diversions, and other drainage features will be constructed in accordance with relevant DPI guidelines.	Environmental Manager	CoA E28
SW31	Scour protection works for the replacement of culverts and construction of new culverts will be undertaken within the Project boundary and restricted to the rail corridor or if detailed design has predicted impacts outside of this corridor recommended mitigation measures to be implemented as required in consultation with the relevant land owner.  Environmental site maps will be used to manage encroachment.	Environmental Manager	CoA E32
SW32	During construction, the direction of watercourses and flood flows will not be changed outside of the rail corridor.	Environmental Manager	CoA E33
SW33	Works on waterfront land will be undertaken in accordance with the DPI guidelines for controlled activities on waterfront land.	Environmental Manager	CoA E36
SW34	Any in-stream Erosion and Sediment Control (ESC) will be checked regularly to reduce impacts (entanglements) on fish and are removed as soon as practicably possible (when stream in flow undertake daily).	Environmental Manager	Good practice

# Soil and Water Management Plan

Parkes to Narromine Inland Rail Project



Ref ID	Mitigation Measure	Responsibility	Source
SW35	Structures will be located in positions that are natural low points along the proposal site to avoid creating new water storage areas and facilitate fish passage.	Environmental Manager	RtS D7.1
<b>WATER USAGE</b>			
SW36	Opportunities to minimise the use of high quality water will be continually sought and adopted as appropriate.	Construction Manager	Good practice
SW37	Construction activities will be planned to minimise the use of potable water.	Environmental Manager	CEMF – Section 10.5 (a)
SW38	Water efficient devices, equipment and machinery will be used, where applicable and relevant.	Construction Manager	CEMF – Section 10.5 (c)
SW39	Where any recycled wastewater is proposed for use, it will be managed in accordance with the Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1) (2006) so as to not pose a risk to human health or the receiving environment.	Environmental Manager	CoA E37
<b>WATER MONITORING</b>			
SW40	Water quality monitoring will be undertaken in accordance with the Construction Monitoring Program for Water Usage (Attachment B).	Environmental Manager	CoA C14
SW41	Water will be discharged from the site in accordance with the Construction Monitoring Program (Attachment B).	Construction Manager	Good practice
SW42	Water will be treated and analysed in accordance with the NSW Water Quality Objectives	Construction Manager	CoA E27 a) CoA E27 b)
SW43	Water will not be discharged from site without an appropriately approved permit to discharge.	Environmental Manager	Good practice
SW44	Sediment laden water (dirty water) captured onsite will be preferentially re-used (e.g. dust control).	Construction Manager	Good practice
SW45	Groundwater monitoring will be undertaken during construction in areas of likely and potential groundwater dependent ecosystems.	Construction Manager	CEMF – Section 10.5 (e)
SW46	If groundwater is encountered during excavation, the dewatering measures stated in Section 5.1.5 will be implemented.	Environmental Manager	RMM C7.3
<b>ESC GENERAL</b>			
SW47	The Primary Erosion and Sediment Control Plan (PESCP) provided in Attachment D will be followed for the duration of construction.	Construction Manager	CoA E71

# Soil and Water Management Plan

Parkes to Narromine Inland Rail Project



Ref ID	Mitigation Measure	Responsibility	Source
SW48	Appropriate land disturbance practices and use of erosion controls (i.e. soil binders and dust suppressants) will be used to minimise the need for water use in dust suppression during construction.	Construction Manager	CEMF – Section 10.5 (b)
SW49	Maintenance and inspections of erosion and sediment controls will be undertaken on a regular basis and any subsequent records will be retained.	Construction Manager	Good practice
SW50	The area of exposed surfaces will be minimised. Disturbed areas will be stabilised progressively to ensure that no areas remain unstable for any extended length of time.	Construction Manager	Good practice
SW51	Soil and sediment that accumulates in erosion and sediment control structures will be reused where practicable during site reinstatement, unless it is contaminated or otherwise inappropriate for reuse.	Construction Manager	Good practice
SW52	Work will cease during heavy rainfall events when there is a risk of sediment loss offsite or ground disturbance.	Construction Manager	Good practice
SW53	Equipment, plant and materials will be placed in designated laydown areas where they are least likely to cause erosion.	Construction Manager	Good practice
SW54	Erosion and sediment control devices will be removed as part of the final site clean-up. This will include removing any sediment in drainage lines trapped by erosion control devices, and restoring disturbed areas.	Construction Manager	Good practice
SW55	Exposed surfaces will be stabilised, and final landscaping implemented, as soon as practicable.	Construction Manager	Good practice
SW56	Appropriate fill material for embankments will be selected to minimise the risk of erosion.	Construction Manager	RtS D7.1
<b>ESC DISPERSIVE SOILS</b>			
SW57	Dispersive subsoils will be: <ul style="list-style-type: none"> <li>Directed into sediment control during construction periods; or</li> <li>Covered with sediment control (e.g. geofabric) during construction periods; and</li> <li>Treated and / or covered with topsoil (or similar product i.e. hydromulch) prior to landscaping as per the detailed design.</li> </ul>	Environmental Manager	Good practice
SW58	To avoid dispersive soils where possible, do not remove or disturb and retain original vegetation if practical.	Environmental Manager	Good practice
<b>REHABILITATION</b>			
SW59	Reinstatement and rehabilitation will occur progressively and as part of the completion of each construction stage, or if failure of the erosion and sediment control device.	Construction Manager	CEMF – Section 11.5

Ref ID	Mitigation Measure	Responsibility	Source
SW60	Erosion and sediment controls will be regularly maintained and inspected until vegetation is established or permanent stabilisation measures are installed.	Environmental Manager	CEMF – Section 11.5
SW61	Appropriate land disturbances / clearing processes will be undertaken for vegetated areas that are to be cleared in a staged or on an as needed basis, prior to works occurring within them to minimise erosion risks and impacts.	Construction Manager	CEMF – Section 11.5

## 5.2 Community Consultation and Engagement

In accordance with CoA B1, the Communication Strategy will be implemented to inform residents of proposed construction activities. The Communication Strategy will be initiated prior to the commencement of construction to ensure that the community are aware of proposed construction activities. The Communication Strategy will establish communication protocols for community feedback on environmental issues.

Consultation with stakeholder group, community and regulatory authorities in relation to this SWMP will be undertaken in accordance with consultation requirements outlined in CEMP Chapter 8.

Specific to soil and water, consultation with landowners located immediately downstream of a new culvert, will be undertaken if a potential risk is identified, prior to its installation, as well as if impacts occur after installation.

## 5.3 Construction Monitoring Program for Water Usage

The Construction Monitoring Program for Water Usage, located in Attachment B, outlines the monitoring requirements in relation to discharge to surface waters and water usage for construction (e.g. water extractions). The Construction Monitoring Program for Water Usage has been developed in consultation with the DPI Water and relevant councils, and implemented to compare actual performance of construction against predicted performance.

## 5.4 Roles and Responsibilities

All site personnel are responsible for ensuring that their own or the actions of others do not cause environmental nuisance or harm at any level.

Field Supervisors are responsible for implementation and maintenance of surface water and groundwater control measures for all activities or work areas under their control.

The Environmental Manager is responsible for routine surveillance and monitoring, communication of requirements of this SWMP, training of procedures and water management, coordination of monitoring, and all other responsibilities identified within this SWMP and CEMP. The Environmental Manager is also responsible for the immediate notification of State and/or Commonwealth Regulatory Authorities as per conditions of the CoA and EPL. The Environmental Manager is responsible for the immediate notification to ARTC for all impacts that have mandatory reporting requirements.

The Project Manager is responsible for overseeing implementation of SWMP and the CEMP. Detailed roles and responsibilities are further outlined in Section 5 of the CEMP.

## 5.5 Environmental Incidents, Non-Compliances and Complaints

General environmental incidents, non-compliances and complaints will be undertaken in accordance with Section 6 of the CEMP.

In the event of an environmental incident, an investigation will be undertaken to determine the cause of the problem, through which processes or activities will be modified if required. Monitoring of surface water and groundwater may also be required to be undertaken because of a complaint or incident.

In the event of any non-compliance (an occurrence, set of circumstances or development that is a breach of the approval conditions [CoA or EPL] but is not an incident), the non-compliance will be managed by the Environmental Manager and if required corrective action/s shall be raised. All corrective actions and improvements will be entered into the corrective or improvement actions database and will be closed out as soon as practical (to be reviewed while using the Weekly Environmental Checklist).

## 5.6 Inspections and Auditing

General inspections and auditing will be undertaken in accordance with Section 7 of the CEMP.

The Environmental Team will undertake environmental inspections, audits and reporting to develop and evaluate the effectiveness of environmental controls and will include the following:

- Daily visual inspections
- Weekly inspections using the Weekly Environmental Checklist
- Pre-rain and post rain inspections (water quality monitoring and erosion and sediment control maintenance)
- Prior to temporary closure of the site
- Monthly reporting will be recorded through Project Monthly Reports
- Annual independent audits
- ER regular monitoring of the implementation of the documents listed in the CoA.

## 5.7 Training and Awareness

General training and awareness will be undertaken in accordance with Section 8 and 9 of the CEMP.

All employees and contractors working on site will undergo site induction training relating to soil and water impacts. The General Site Induction will address elements including:

- Training on permit requirements for discharging water
- Relevant legislation
- CEMP and associated Sub-plans
- Environmental responsibility
- Watercourse locations
- Groundwater locations

- Incidents including definition, management and reporting requirements
- Stop work types.

Training will also be provided to staff (e.g. Environment Team or as delegated by the Environment Manager such as Safety Advisors) for undertaking water quality monitoring, sampling and the permit to discharge process. Training will also include SWMS, toolbox talks and pre-start meetings in which the topics of the site induction will be revisited.

### 5.8 Emergency Planning and Response

Emergency planning and response will be undertaken in accordance with Section 10 of the CEMP.

Where any unauthorised impact on surface water, groundwater or soils within the Project is identified, construction activities resulting in impacts will be ceased immediately and appropriate mitigation measures identified and implemented.

All such impacts, the identified source and corrective actions are to be documented and managed in accordance with the CEMP and this SWMP by use of the Corrective and Improvement Action Database. If applicable State and or Commonwealth government authorities are to be notified of impacts.

All such impacts, their identified source, corrective mitigation measures and ongoing monitoring are to be documented and managed in accordance with the CEMP and this SWMP and recorded in the Corrective and Improvement Action Database.

The Pollution and Incident Response Management Plan (sub-plan to the CEMP) will be used to ensure that management and comprehensive and timely communication regarding pollution incidents is undertaken in accordance with the relevant authorities.

### 5.9 Record Keeping

The following records, related to soil and water management should be kept:

- Water use agreements, licences, volumes permitted to take
- Volumes of water used on site for all water sources
- Water quality monitoring results (field and laboratory results)
- Incidents
- Discharge events
- Groundwater interception
- Records of environmental inspections

The records will be kept throughout the construction phase of the Project by the Environmental Manager or their delegate and will be made available to ARTC, ER and Regulators upon request.

### 5.10 Document Review

General document review will be undertaken in accordance with Section 11 of the CEMP.



This SWMP will be reviewed utilising the Corrective and Improvement Action Database simultaneously with reviews of the overarching CEMP and any amendments cited and cross checked against each plan.

For the duration of the works until the completion of construction, the approved ER must:

- Review the CEMP and Sub-plans including the Construction Monitoring Program and any other documents that are identified by the Secretary, to ensure they are consistent with requirements in or under this approval and if so:
  - Make a written statement to this effect before submission of such documents to the Secretary (if those documents are required to be approved by the Secretary) or
  - Make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Secretary / Department for information or are not required to be submitted to the Secretary / Department).



# Attachment A Evidence of Consultation

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Kathryn Wilson  
Environmental Coordinator  
Parkes to Narromine Project, Inland Rail, ARTC  
76-80 Forbes Road  
Parkes NSW 2870

**WolfPeak Pty Ltd**  
Suite 2 | Level 10  
189 Kent Street  
Sydney 2000

## **Inland Rail - Parkes to Narromine (SSI 7475)**

### **ER approval of minor revision to Soil & Water Management Plan**

Dear Kathryn,

Condition of Approval (CoA) A19 (j) provides the Environmental Representative with the authority to approve minor amendments to the Construction Environmental Management Plan (CEMP) and its sub plans prepared under Conditions C1 & C2 (CEMP), and C4 (sub plans) of the Project Approval (SSI 7475) for the Parkes to Narromine Inland Rail Project.

I have reviewed the changes contained in Revision 4 of the Soil and Water Management Plan (Plan) dated 15 April 2020 and consider that they comprise updates that are consistent with the terms of the CoA, subject to the modified provisions of section 5.1.6 of the plan being strictly adhered to.

Accordingly, consistent with the provisions of CoA A19 (j), I approve Revision 4 of the Plan.

Should you have any queries or require further information please do not hesitate to contact me on 0417 170 645 or at [sfermio@wolfpeak.com.au](mailto:sfermio@wolfpeak.com.au)

Yours sincerely,



Steve Fermio  
**Environmental Representative – Parkes to Narromine Project**  
6 May 2020



## Kathryn Wilson

---

**From:** Stephen Redden <Stephen.Redden@epa.nsw.gov.au>  
**Sent:** Tuesday, 14 April 2020 8:40 AM  
**To:** Kathryn Wilson  
**Cc:** EPA RSD Central West Mailbox  
**Subject:** RE: Use of water for dust suppression

Good morning Kathryn,

As discussed on the telephone last week, we understand that INLink (BMD Constructions) are seeking Environment Protection Authority (EPA) endorsement of a proposal to utilise built up water from recent rains on site for dust suppression along local roads and construction works.

The EPA considers the re-use of the water for dust suppression to be appropriate subject to appropriate precautionary measures being maintained.

- That the water is to be used solely for the purposes of dust suppression on roads and construction sites (not for equipment wash down or use on private properties for example);
- That appropriate application rates be used to ensure that there is no runoff from the roadways or construction sites;

Should you have any further questions, please don't hesitate to contact me.

Kind regards,

### Steve Redden

#### Regional Operations Officer

South West Branch, NSW Environment Protection Authority

Ph: 02 6883 5357 Mb: 0407 934 025

[stephen.redden@epa.nsw.gov.au](mailto:stephen.redden@epa.nsw.gov.au) [www.epa.nsw.gov.au](http://www.epa.nsw.gov.au) [@EPA\\_NSW](https://twitter.com/EPA_NSW)

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Please send all official electronic correspondence to [central.west@epa.nsw.gov.au](mailto:central.west@epa.nsw.gov.au)

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**From:** Kathryn Wilson <Kathryn.Wilson@inlinkjv.com.au>  
**Sent:** Thursday, 9 April 2020 12:24 PM  
**To:** Stephen Redden <Stephen.Redden@epa.nsw.gov.au>  
**Subject:** Use of water for dust suppression

Hi Steve

As discussed on the phone, could you please provide some advice for the use of construction water for dust suppression on local roads?

I have had a look in the licence but the only mention of water is in regards to Condition L1 pollution of waters.

Cheers,



**Kathryn Wilson**  
Environmental Coordinator  
INLink

+61 4 2766 2210 | +61 427 662 210

[Kathryn.Wilson@inlinkjv.com.au](mailto:Kathryn.Wilson@inlinkjv.com.au)

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Stakeholder Comment					INLink Response		
#	Management Plan	Date	Comment	Stakeholder	Date	Response	Where addressed in Document
18	Soil and Water Management Plan	26/09/2018	Awaiting detail in Appendices to finalise comments.	Parkes Council	12/10/2018	Sent by ARTC (Primary Erosion and Sediment Control Plan).	N/A
19	Soil and Water Management Plan	26/09/2018	Concerned about increased stormwater impacts on properties downslope of railway drainage infrastructure, especially the velocity of stormwater entering properties / drainage systems from severe storm events.	Parkes Council	12/10/2018	Agreed. ESC Design Drawings currently being designed. If specific impacts to properties are identified specific mitigation measures will be included on these design drawings.	N/A
20	Soil and Water Management Plan	26/09/2018	Recommend the development of site specific stormwater management plans for sub-catchments.	Parkes Council	12/10/2018	Agreed. ESC Design Drawings currently being designed.	N/A
21	Soil and Water Management Plan	26/09/2018	Recommend the inclusion of robust drainage facilities to cope with stormwater in severe storm events (e.g. catch dams).	Parkes Council	12/10/2018	Agreed. ESC Design Drawings currently being designed.	N/A
22	Soil and Water Management Plan	26/09/2018	Comments above may change subject to further consideration of Appendices.	Parkes Council	12/10/2018	Agreed.	N/A
23	Soil and Water Management Plan	8/10/2018	Section 3.3.1 Conditions of Approval - amend / remove Draft conditions and May 2018 to June 2018	Narromine Council	12/10/2018	Updated.	Section 3.3
24	Soil and Water Management Plan	8/10/2018	Table 3-1 conditions of approval C5(b), (c and (d) 'where addressed' column formatting issue to be rectified	Narromine Council	12/10/2018	Updated to include C5 b and c.	Section 3.3 Table 3-1
25	Soil and Water Management Plan	8/10/2018	Table 3-2 where addressed column in table formatting issue to be rectified	Narromine Council	12/10/2018	Updated Table 3-2.	Section 3.3 Table 3-2.
26	Soil and Water Management Plan	8/10/2018	Table 3-3 where addressed column in table formatting issue to be rectified	Narromine Council	12/10/2018	Updated Table 3-3.	Section 3.3 Table 3-2.
27	Soil and Water Management Plan	8/10/2018	Table 3-3 Ref ID c) Unexpected Finds - Define in glossary of terms "HCMMP"	Narromine Council	12/10/2018	Updated.	Glossary.
28	Soil and Water Management Plan	8/10/2018	Section 5.8 update to remove "noise and vibration" to Soil and Water Management	Narromine Council	12/10/2018	Updated to 'soil and water impacts'.	Section 5.8
29	Soil and Water Management Plan	5/10/2018	Note that there will be monitoring for Weeds, Erosion, Sedimentation on adjoining land including Crown land until vegetation is established or permanent stabilisation measures are established.	Crown Land	12/12/2018	Noted.	N/A
30	Soil and Water Management Plan	5/10/2018	Any impact that occurs on Crown land due to the works requires consultation with this department prior to any remedial work being undertaken.	Crown Land	12/12/2018	Noted.	N/A
31	Soil and Water Management Plan	26/10/2018	Errors in cross-referencing of Table 3-2 and elsewhere will require amendment	Natural Resources Access Regulator	12/12/2018	Updated.	Table 3-2
32	Soil and Water Management Plan	26/10/2018	Section 4.1.4 - private bores must be licensed for irrigation or other production purposes (i.e. not a stock and domestic bore) and have a Water Access Licence (WAL) with sufficient entitlement to be used for this project. To use a stock and domestic bore would require a new application to NRAR for a Water Supply Work Approval and a WAL would need to be obtained. This would be subject to assessment.	Natural Resources Access Regulator	12/12/2018	Updated.	Section 4.1.4
33	Soil and Water Management Plan	26/10/2018	Section 4.1.4 - Water from private dams that have been constructed under the landholdings Harvestable Right can only be used on that landholding. If the private dam has a Water Supply Work Approval and a WAL with sufficient entitlement, it can be used for this project under agreement with the landholder.	Natural Resources Access Regulator	12/12/2018	Updated.	Section 4.1.4
34	Soil and Water Management Plan	26/10/2018	Section 4.1.4 - Water extracted from the Macquarie River will need to be extracted from a water supply work that has been approved for extraction under a WAL and sufficient entitlement will need to be held to account for the take.	Natural Resources Access Regulator	12/12/2018	Updated.	Section 4.1.4
35	Soil and Water Management Plan	26/10/2018	Section 4.1.4 - A water supply work approval is excluded if the work has been approved as part of the State Significant Development consent. No exemption or exclusion exists for a WAL for this project.	Natural Resources Access Regulator	12/12/2018	Updated.	Section 4.1.4
36	Soil and Water Management Plan	26/10/2018	SW12 in Table 5.1 - should be extended to include all refuelling points, concrete washouts and storage locations for hazardous materials and substances.	Natural Resources Access Regulator	12/12/2018	Updated.	Table 5-1
37	Soil and Water Management Plan	26/10/2018	SW26 in Table 5.1 - the final outcomes of this consultation also need to be consistent with the requirements of the Guidelines for Controlled Activities on Waterfront Land as is referred to in SW31.	Natural Resources Access Regulator	12/12/2018	Updated.	Section 5.2
38	Soil and Water Management Plan	26/10/2018	SW27 in Table 5.1 - Where the project assessment and detailed design has predicted impacts outside of this corridor, it is recommended mitigating measures to be implemented a required in consultation with the relevant landowner.	Natural Resources Access Regulator	12/12/2018	Updated.	Table 5-1 (SW30)
39	Soil and Water Management Plan	26/10/2018	Attachment A - it is requested that within the monitoring of water use for construction, the volume of extraction per day is also to be recorded against the source location.	Natural Resources Access Regulator	12/12/2018	Updated.	Attachment B
40	Soil and Water Management Plan	26/10/2018	Where the extraction of water occurs, sufficient entitlement must be held in the relevant water source prior to extraction.	Natural Resources Access Regulator	12/12/2018	Updated.	Attachment B
41	Soil and Water Management Plan	26/10/2018	The preparation of detailed, specific and progressive Erosion and Sediment Control Plans (ESCP) will be required for the project is supported.	Natural Resources Access Regulator	12/12/2018	Noted.	N/A
42	Soil and Water Management Plan	26/10/2018	It is requested that where failure is identified of erosion and sediment control structures that these be reinstated and any degradation remediated as required.	Natural Resources Access Regulator	12/12/2018	Updated.	Table 5-1 (SW58).

# EVIDENCE OF CONSULTATION

Inland Rail Parkes to Narromine Project – Soil and Water Management Plan

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## Initial Engagement with Stakeholder

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**From:** Nelson Wallis  
**Sent:** Friday, 14 September 2018 2:21 PM  
**To:** Anna Wyllie  
**Cc:** Sam Blanco; council@parkes.nsw.gov.au  
**Subject:** ARTC Inland Rail Soil and Water Management Plan  
**Attachments:** 180914 ARTC Inland Rail Soil and Water Plan Parkes Council.pdf; 5-0012-240-EEC-00-PJ-0009\_B\_Soil and Water.pdf; 5-0012-240-EEC-00-PJ-0008\_B\_Erosion Sed.pdf

**Categories:** Blue Category

Hi Anna

Please find attached our Soil and Water Management Plan and cover letter for Parkes Shire Council's feedback and comment. This includes the Sedimentation and Erosion Management Plan which is also attached.

Regards  
Nelson

**Nelson Wallis**  
Stakeholder Engagement Lead NSW, Parkes to Narromine  
Inland Rail

**ARTC**

---

M. 0447 817 142  
E. [NWallis@ARTC.com.au](mailto:NWallis@ARTC.com.au)

**Australian Rail Track Corporation**  
Level 15, 60 Carrington Street  
Sydney NSW 2000

[artc.com.au](http://artc.com.au)

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Anna Wyllie  
Economic & Business Development Manager  
Parkes Shire Council  
2 Cecile Street  
PARKES NSW 2870

Email: [Anna.Wyllie@parkes.nsw.gov.au](mailto:Anna.Wyllie@parkes.nsw.gov.au)

14 September 2018

**RE: Parkes to Narromine – Soil and Water Management Plan**

Dear Anna,

Following my email on 29 August, ARTC is planning to engage INLink, a joint venture between Fulton Hogan and BMD Constructions to start construction on the Parkes to Narromine (P2N) Project. In accordance with our Environmental Impact Statement, Condition of Approval (CoA) C4 a Soil and Water Management Plan (SWMP) is to be developed in consultation with relevant councils, as part of the preparation and endorsement of the P2N Project Construction Environmental Management Plan.

INLink has prepared a draft SWMP for construction of the P2N Project and we invite Parkes Shire Council to provide feedback on this plan. We would also like to offer a meeting with INLink, ARTC and the relevant Council officers to discuss this and other upcoming plans related to our work on the P2N project.

Could Parkes Shire Council please provide feedback on the plan attached on or before close of business on 28 September 2018. In the event that this timeframe is not achievable please contact myself or Sam Blanco on 0409 510 555 as soon as practicable.

We look forward to your feedback. If you have any queries or would like to discuss further, please do not hesitate to contact me.

Yours sincerely,



Nelson Wallis  
**Parkes to Narromine Stakeholder Lead**  
**Inland Rail**

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**From:** Nelson Wallis  
**Sent:** Friday, 14 September 2018 4:33 PM  
**To:** Mick Bell  
**Cc:** Sam Blanco; Jane Redden; Sarah Masonwells  
**Subject:** RE: Parkes to Narromine Inland Rail  
**Attachments:** 5-0012-240-EEC-00-PJ-0008\_B\_Erosion Sed.pdf; 5-0012-240-EEC-00-PJ-0009\_B\_Soil and Water.pdf; 180914 ARTC Inland Rail Soil and Water Management Plan Narromine Council.pdf

**Categories:** Blue Category

Hi Mick

Please find attached our Soil and Water Management Plan which includes our Sedimentation and Erosion Management Plan.

I have also attached the cover letter for this plan.

Regards  
Nelson

**Nelson Wallis**  
Stakeholder Engagement Lead NSW, Parkes to Narromine  
Inland Rail

**ARTC**

---

M. 0447 817 142  
E. [NWallis@ARTC.com.au](mailto:NWallis@ARTC.com.au)

**Australian Rail Track Corporation**  
Level 15, 60 Carrington Street  
Sydney NSW 2000

**[artc.com.au](http://artc.com.au)**

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Mick Bell  
Acting Director Infrastructure & Engineering Services  
Narromine Shire Council  
124 Dandaloo Street  
Narromine NSW 2821

Email: [mbell@narromine.nsw.gov.au](mailto:mbell@narromine.nsw.gov.au)

14 September 2018

**RE: Parkes to Narromine – Soil and Water Management Plan**

Dear Mick

Following on from our meeting on 6 September 2018, ARTC are planning to engage INLink, a joint venture between Fulton Hogan and BMD Constructions to start construction on the Parkes to Narromine (P2N) Project.

In accordance with our Environmental Impact Statement, Condition of Approval (CoA) C4 a Soil and Water Management Plan (SWMP) is to be developed in consultation with relevant councils, as part of the preparation and endorsement of the P2N Project Construction Environmental Management Plan.

INLink has prepared a draft SWMP for construction of the P2N Project and we invite Narromine Shire Council to provide feedback on this plan. We would also like to offer a meeting with INLink, ARTC and the relevant Council officers to discuss this and other upcoming plans related to our work on the P2N project.

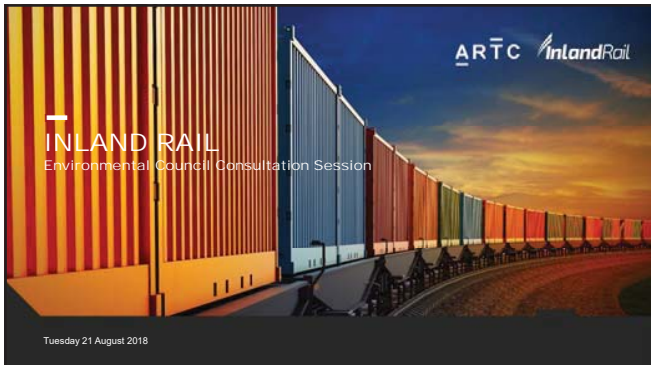
Could Narromine Shire Council please provide feedback on the plan attached on or before close of business on 28 September 2018. In the event that this timeframe is not achievable please contact myself or Sam Blanco on 0409 510 555 as soon as practicable.

We look forward to your feedback. If you have any queries or would like to discuss further, please do not hesitate to contact me.

Yours sincerely,




Nelson Wallis  
**Parkes to Narromine Stakeholder Lead**  
**Inland Rail**




### PRESENTATION OUTLINE


- Project approval update - ARTC
- Relevance of today's discussion to the Project Conditions of Approval - ARTC
- Management plan development process – ARTC
- Discuss management plans - INLink
- Next Step - ARTC
- Council feedback - Council

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### PROJECT APPROVAL UPDATE

- State and Federal Governments have given consent for the Inland Rail - Parkes to Narromine Project (the Project) to go ahead
- State and Federal Conditions of Approval (CoA) have been provided outlining requirements with which the Project must comply
- The CoA include several post approval deliverables that must be addressed before site works can commence
- ARTC is now working towards fulfilling the relevant CoA




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### CoA FOR DISCUSSION – CEMP Sub-plans


- Construction Environmental Sub-plans (CEMP Sub-plans)
- Condition C4: "...construction environmental management sub-plans (CEMP Sub-plans) must be prepared in consultation with the relevant government agencies and councils..."


Required Plan	Stakeholder to be engaged
CEMP Sub-plan: Traffic, transport and access	RMS and relevant councils (as appropriate)
CEMP Sub-plan: Noise and Vibration	EPA and relevant councils
CEMP Sub-plan: Flora and Fauna	OEH and relevant councils
CEMP Sub-plan: Air quality	Relevant Councils
CEMP Sub-plan: Soil and Water	Relevant councils and Crown Lands & Water
Site establishment management plan	Relevant Councils

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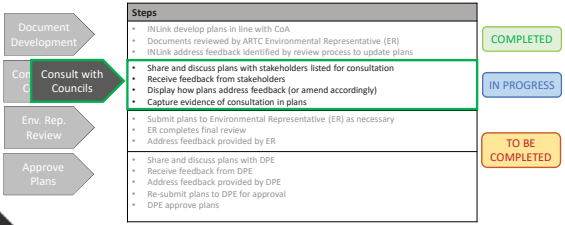
### CoA FOR DISCUSSION - CEMP Sub-plans


- Under C5 in the CoA, CEMP Sub-plans must state how:
  - The environmental performance outcomes identified in the EIS and Submissions Report, as modified by the CoA, will be achieved;
  - The mitigation measures identified in the EIS and Submissions Report, as modified by the CoA will be implemented;
  - The relevant terms of the CoA will be complied with; and
  - Issues requiring management during construction, as identified through ongoing environment risk analysis will be managed.



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### POST APPROVAL DELIVERABLE PROCESS



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**CONSULTATION OUTCOMES**

- Deliver the project in compliance with the CoA
- Gain regionally valuable feedback to support successful implementation of the Project
- Provide transparency around how environmental impacts potentially associated with the Project will be managed
- Continue building effective and valuable relationships with councils associated with the Project
- To following deliverables will support the Project being able to exemplify compliance with the CoA:
  - A list of comments/queries from councils supplied to ARTC to which ARTC will respond
  - Meeting minutes drafted by ARTC and shared councils

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**Environmental Council Consultation Session**


PARKES TO NARROMINE - INLAND RAIL PROGRAMME

NARROMINE 20 September 2018  
PARKES 21 September 2018

 **INLink**  
IN your region. IN it for you.



 

Environmental Council Consultation Session  
PARKES TO NARROMINE - INLAND RAIL PROGRAMME



**Who are we?**

- INLink is a joint venture between BMD Constructions and Fulton Hogan.
- This JV has been selected as the preferred Contractor for the P2N contract and will deliver the first section of the Inland Rail programme.
- Construction is expected to start in mid-September and continue until mid-2020.

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**Environmental Management Overview**

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Environmental Council Consultation Session  
PARKES TO NARROMINE - INLAND RAIL PROGRAMME



**INLink's Commitment**


INLink is committed to minimising the environmental and community impact of the Inland Rail – Parkes to Narromine Project through understanding the complex surroundings and utilising new and best practice techniques for management.

INLink have a suite of management plans covering the environmental requirements for the Project. The plans are set out by environmental aspect:

- **Flora and Fauna**
- **Pest and Weed**
- **Heritage**
- **Air Quality**
- **Noise and Vibration**
- **Soil and Water**
- **Primary Erosion and Sediment Control**
- **Waste**
- **Pollution and Incident Response**
- **Flood**
- **Hazardous and Contaminated Materials**
- **Landscape and Visual Amenity**
- **Traffic Transport and Access**

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Environmental Council Consultation Session  
PARKES TO NARROMINE - INLAND RAIL PROGRAMME



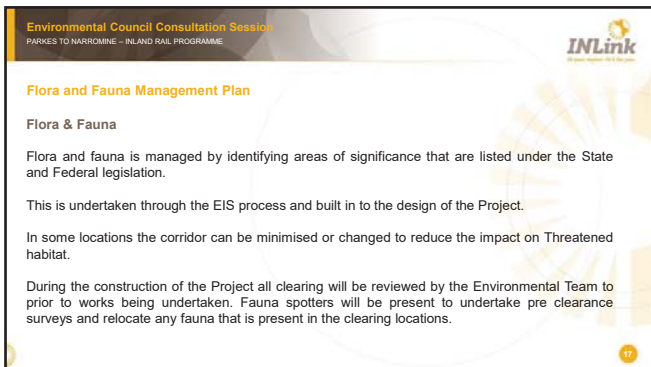
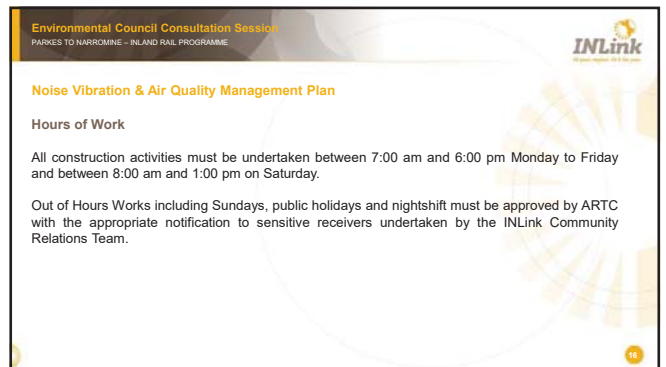
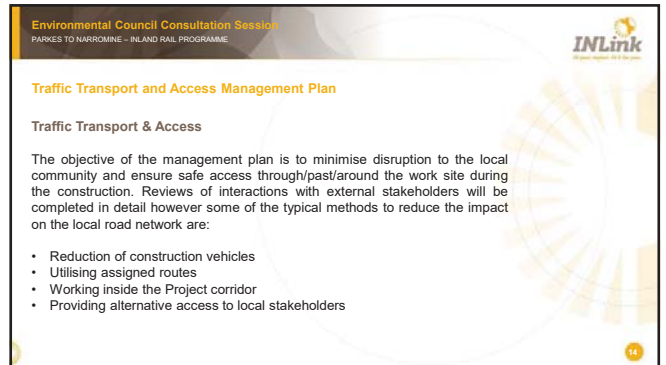
**Structure of Plans**

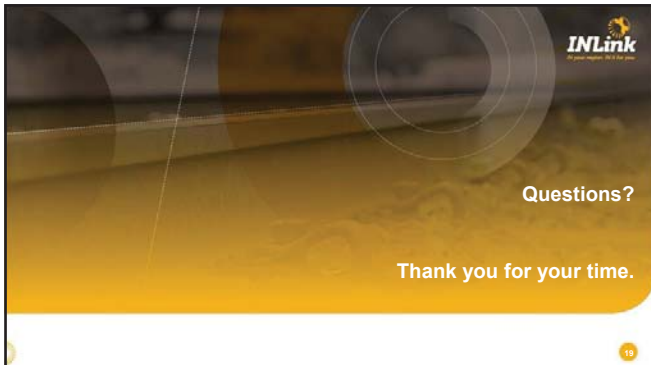
The plans are structured in the following manner:

- Purpose and Objectives
- Existing Environment
- Mitigation Measures
- Inspection Training Audits Monitoring
- Reporting Records Review

INLink welcome local knowledge about the existing conditions and proven mitigation measures.

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**NEXT STEPS**

Step	Action	Responsible	Ideal Completion Timeframe
1	Compile and submit minutes to councils	ARTC	2 days
2	Compile comments on plans if desired and submit to ARTC	Councils	2 weeks from receiving plan
3	Assess comments and prepare responses	ARTC	2 days
4	Update plans as necessary	INLink	5 days
5	Submit response to council's comments	ARTC	1 day

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**Environmental Council Consultation Session**  
PARKES TO NARRAMINGI – INLAND RAIL PROGRAMME

**Cultural Heritage Management Plan**

**Indigenous Heritage**

Key risks include impact to places or items of cultural heritage significance. The Wiradjuri people have undertaken a review of the Project corridor and provided input on the key management measures and include:

- Archaeological excavations at key locations
- Surface collection at key locations
- Protection of scarred trees

**European Heritage**

The Project corridor includes a significant area of European heritage. Heritage listed on the rail corridor includes the potential for damage or loss of these items. Some of these items include:

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**Environmental Council Consultation Session**  
PARKES TO NARRAMINGI – INLAND RAIL PROGRAMME

**Flood and Emergency Management Plan**

**Natural Event Management**

INLink have a process which is enacted off the back of forecasted serious natural events. The process ensures the following:

- Risk to all stake holders are minimised (Internal & External)
- Sites are prepared for the imminent weather forecast
- All workers are briefed and prepared
- All workers are equipped with appropriate PPE
- All workers are trained in the correct use of PPE
- All workers are trained in the correct use of the Project team site specific plans

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**From:** Stephanie Mifsud  
**Sent:** Tuesday, 25 September 2018 3:49 PM  
**To:** rohan.macdonald@dpi.nsw.gov.au  
**Cc:** landuse.enquiries@dpi.nsw.gov.au; Sam Blanco  
**Subject:** Request for feedback - Inland Rail Soil and Water Management Plan  
**Attachments:** 5-0012-240-EEC-00-PJ-0009\_B\_Soil and Water.pdf; 5-0012-240-EEC-00-PJ-0008\_B\_Erosion Sed.pdf; 5-0000-240-EAP-00-LT-0012 Letter to DPI Crown Land - Soil and Water Plan - Sept18.pdf

Hi Rohan

I hope this email finds you well.

As you may be aware, as part of the Conditions of Approval for the Parkes to Narromine Project, Crown Lands and Water was identified as a key stakeholder to be consulted on the development of the Soil and Water Management Plan for construction.

DPE have advised that you would be the best contact for this.

Please refer attached a cover letter outlining the current status of the Project as well as our Contractor's Soil and Water Management Plan and Primary Erosion and Sediment Control Plan.

If you have any questions or would like to discuss further, please feel free to contact me on the undersigned.

Warm regards

Steph

**Stephanie Mifsud**  
Environment Manager New South Wales  
Inland Rail

**ARTC**

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P. 0282935126  
M. 0429 146 814  
E. [SMifsud@ARTC.com.au](mailto:SMifsud@ARTC.com.au)

**Australian Rail Track Corporation**  
Level 9, 40 Creek Street  
Brisbane QLD 4000

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Rohan Macdonald  
Senior Policy Officer  
Department of Industry –Lands and Water  
161 Kite Street  
ORANGE NSW 2800  
Email: Rohan.Macdonald@dpi.nsw.gov.au  
25 September 2018

**RE: Parkes to Narromine – Soil and Water Management Plan**

Dear Rohan

ARTC has engaged INLink, a joint venture between Fulton Hogan and BMD Constructions to start construction on the Parkes to Narromine (P2N) Project. In accordance with our Environmental Impact Statement, Condition of Approval (CoA) C4 a Soil and Water Management Plan (SWMP) is to be developed in consultation with relevant councils, as part of the preparation and endorsement of the P2N Project Construction Environmental Management Plan.

INLink has prepared a draft SWMP for construction of the P2N Project and we invite the Department of Industry – Crown Land to provide feedback on this plan. We would also like to offer a meeting with INLink, ARTC and the relevant DPI – Crown Land officers to discuss this plan related to our work on the P2N project.

Please provide your feedback on the plan attached on or before close of business on 9 October 2018. In the event that this timeframe is not achievable please contact myself or Sam Blanco on 0409 510 555 as soon as practicable.

We look forward to your feedback. If you have any queries or would like to discuss further, please do not hesitate to contact me.

Yours sincerely,



Stephanie Mifsud  
**Environment Manager NSW**  
**Inland Rail**

**Correspondence from Stakeholder**

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**From:** Anna Wyllie <Anna.Wyllie@parkes.nsw.gov.au>

**Sent:** Wednesday, 26 September 2018 5:03 PM

**To:** Nelson Wallis <NWallis@ARTC.com.au>

**Cc:** Michael Carter <Michael.Carter@parkes.nsw.gov.au>; Andrew Francis <Andrew.Francis@parkes.nsw.gov.au>;

Ben Howard <Ben.Howard@parkes.nsw.gov.au>

**Subject:** [EXT] Document review for Inland Rail, Parkes to Narromine

Hi Nelson,

Thank you for the opportunity to comment on the following Construction Environmental Management Plan (CEMP) Sub-plans, as per condition C4 of Development Consent No SSI 7475, granted by the Minister for Planning on 7 June 2018:

- Traffic, Transport and Access Management Plan
- Noise and Vibration Management Plan
- Flora and Fauna Management Plan
- Air Quality Management Plan
- Soil and Water Management Plan

It is noted that a Site Establishment Management Plan has also been submitted to Council for comment, as per condition C22 of the consent.

The above documents provide a comprehensive suite of environmental management plans for the progressive construction of the ARTC Inland Railway Parkes to Narromine Project in accordance with the development consent and associated Environmental Impact Statement prepared by GHD dated June 2017. Council generally supports the finalisation of these plans subject to the following comments:

- Site Establishment Management Plan
  - Local roads servicing the Parkes and Peak Hill Major Construction Ancillary Facility that will accommodate the mainstay of construction traffic should be bitumen sealed to the existing bitumen sealed road network (for dust mitigation and road safety reasons).
  - That ARTC needs to investigate any approvals needed for any transportable structures and on-site sewage management systems and waste management systems including but not limited to Section 68 Local Government Act 1993. Section 68 Approval Application Forms can be obtained from Council.
  - Dust mitigation, noise control and sediment control will be key management issues at Major Construction Ancillary Facilities.
- Traffic, Transport and Access Management Plan
  - Any works on local roads requires an approval from Council under Section 138 Roads Act 1993. Section 138 Permit Application Forms can be obtained from Council.
  - All local roads that will be used for construction purposes should be listed in the management plan (including roads linking to extractive industries that are contracted to supply materials to the project).
  - Dilapidation reports should be prepared for all local roads used at construction phase.
  - Local roads servicing the Parkes and Peak Hill Major Construction Ancillary Facility that will accommodate the mainstay of construction traffic should be bitumen sealed. Road intersections should comply with Austroads.
  - Section 3.3 dealing with Permits, Licenses and Approvals states that Speed Zone Approvals (SZA) may be required. Speed Zone Approvals are not a responsibility of Council and all should be directed to RMS, which should be noted in this section.
  - Section 4.1.2 dealing with Regional Public Transport only refers to a small amount of bus routes. PSC is currently obtaining all designated bus routes for roads and potential road diversions, which will be furnished to ARTC as soon as possible. All bus routes should be included in this section.

- A site specific Crossing Traffic Management Plan is required for each crossing which should clearly identify all affected roads (including vegetation, drainage and other assets within road corridors) as well as adjoining residents affected. The management plan should detail and options for traffic control / road closure at each crossing site (including full closure, detours, side tracks).
- Noise and Vibration Management Plan
  - Document not yet received.
  - Document should aim to ensure dwellings near the railway at construction phase are not subjected to noise exceedances as per the NSW Interim Construction Noise Guideline 2009.
  - Document should aim to ensure dwellings near the railway at operational phase are not subjected to noise exceedances as defined under the NSW Noise Policy for Industry 2017.
  - The construction of the new rail link to the Broken Hill Railway Line is located in close proximity to dwellings, and noise issues should thoroughly investigated at this location. It is understood Pacific National is currently undertaking similar studies at their site adjoining the Goobang Junction.
  - Council would appreciate being informed of the outcome of any noise mitigation measures / negotiated settlements involving residents in the Parkes Shire.
  - Comments above may change subject to further consideration of Plan.
- Flora and Fauna Management Plan
  - Supported.
  - No specific comments.
- Soil and Water Management Plan
  - Awaiting detail in Appendices to finalise comments.
  - Concerned about increased stormwater impacts on properties downslope of railway drainage infrastructure, especially the velocity of stormwater entering properties / drainage systems from severe storm events.
  - Recommend the development of site specific stormwater management plans for sub-catchments.
  - Recommend the inclusion of robust drainage facilities to cope with stormwater in severe storm events (e.g. catch dams).
  - Comments above may change subject to further consideration of Appendices.
- Air Quality management Plan
  - Supported.
  - No specific comments.

Please do not hesitate to contact me if you require any additional information.

Kind Regards

Anna

## **Anna Wyllie**

Economic & Business Development Manager | Parkes Shire Council

**P** 02 6861 2333 **M** 0409 739 001 **F** 02 6862 3946

**E** [anna.wyllie@parkes.nsw.gov.au](mailto:anna.wyllie@parkes.nsw.gov.au)

**W** parkes.nsw.gov.au

2 Cecile Street Parkes NSW 2870

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**From:** Kayla Robson <krobson@narromine.nsw.gov.au>

**Sent:** Monday, 8 October 2018 3:37 PM

**To:** Nelson Wallis <NWallis@ARTC.com.au>

**Cc:** Jane Redden <jredde@narromine.nsw.gov.au>; Mick Bell <mbell@narromine.nsw.gov.au>; Jordan Richardson <jrichardson@narromine.nsw.gov.au>

**Subject:** [EXT] Construction Management Plans: Narromine Shire Council Response

Hi Nelson

I refer to your previous emails and the P2N construction management plans provided to date.

Please find attached our response to each management plan noting that whilst we are not required by the CoA to be consulted on the Flood Emergency Management Plan, we felt it was critical to ensure that all flood impacts are identified and have subsequently provided specific comments on this plan. If there is anything within the attachment that is unclear, please do not hesitate to contact me directly and we can discuss further.

Please also let me know as soon as possible when your design team can meet with us to discuss the level crossing designs provided to ensure that we are able to have all relevant staff available.

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Thank you.

Kind regards

**Kayla Robson**  
**Executive Manager Planning**

Narromine Shire Council  
124 Dandaloo Street  
(PO Box 115)  
NARROMINE NSW 2821  
Ph: 6889 9954  
Fax: 6889 9998  
Mob: 0437 680 623  
Email: [krobson@narromine.nsw.gov.au](mailto:krobson@narromine.nsw.gov.au)  
Web: [www.narromine.nsw.gov.au](http://www.narromine.nsw.gov.au)



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**From:** Stephanie Mifsud  
**Sent:** Thursday, 4 October 2018 9:45 AM  
**To:** Sam Blanco  
**Subject:** FW: [EXT] Request for feedback - Inland Rail Soil and Water Management Plan

Hi Sam

Please see below from Crown lands

**Stephanie Mifsud**  
Environment Manager New South Wales  
Inland Rail

**ARTC**

---

P. 0282935126  
M. 0429 146 814  
E. [SMifsud@ARTC.com.au](mailto:SMifsud@ARTC.com.au)

**Australian Rail Track Corporation**  
Level 9, 40 Creek Street  
Brisbane QLD 4000

[artc.com.au](http://artc.com.au)

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**From:** [kirstyn.goulding@crowland.nsw.gov.au](mailto:kirstyn.goulding@crowland.nsw.gov.au) <[kirstyn.goulding@crowland.nsw.gov.au](mailto:kirstyn.goulding@crowland.nsw.gov.au)> **On Behalf Of** Lands Ministerials  
**Sent:** Thursday, 4 October 2018 09:24  
**To:** Stephanie Mifsud <[SMifsud@ARTC.com.au](mailto:SMifsud@ARTC.com.au)>  
**Subject:** [EXT] Request for feedback - Inland Rail Soil and Water Management Plan

Hi

DoI Crown Lands have no comments for this proposal.

Thanks  
Kirstyn

Lands Ministerial Unit  
NSW Department of Industry - Crown Lands  
Level 4, 437 Hunter Street, NEWCASTLE NSW 2300  
E: [lands.ministerials@industry.nsw.gov.au](mailto:lands.ministerials@industry.nsw.gov.au) W: [www.industry.nsw.gov.au](http://www.industry.nsw.gov.au)

Please contact Kirstyn Goulding on (02) 4920 5058 for any inquiries



---

**From:** Stephanie Mifsud  
**Sent:** Friday, 5 October 2018 12:15 PM  
**To:** Sam Blanco  
**Subject:** Fwd: [EXT] Request for feedback - Inland Rail Soil and Water Management

Hi Sam

FYI

Thanks

Stephanie Mifsud

Begin forwarded message:

**From:** Lands Ministerials <[lands.ministerials@industry.nsw.gov.au](mailto:lands.ministerials@industry.nsw.gov.au)>  
**Date:** 5 October 2018 at 11:50:43 am AEST  
**To:** <[SMifsud@artc.com.au](mailto:SMifsud@artc.com.au)>  
**Subject:** [EXT] Request for feedback - Inland Rail Soil and Water Management

Hi Stefanie

We previously provided no comments for this proposal. Please see new comments below:-

DoI Crown Lands note that there will be monitoring for Weeds, Erosion, Sedimentation on adjoining land including Crown land until vegetation is established or permanent stabilisation measures are established.

Any impact that occurs on Crown land due to the works requires consultation with this department prior to any remedial work being undertaken.

Thank you for the opportunity to comment on these plans.

Thanks  
Kirstyn

Lands Ministerial Unit  
NSW Department of Industry - Crown Lands  
Level 4, 437 Hunter Street, NEWCASTLE NSW 2300  
E: [lands.ministerials@industry.nsw.gov.au](mailto:lands.ministerials@industry.nsw.gov.au) W: [www.industry.nsw.gov.au](http://www.industry.nsw.gov.au)

Please contact Kirstyn Goulding on (02) 4920 5058 for any inquiries



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**From:** Bryson Lashbrook <bryson.lashbrook@nrar.nsw.gov.au>  
**Sent:** Friday, 26 October 2018 11:36 AM  
**To:** Stephanie Mifsud  
**Cc:** water.referrals@dpi.nsw.gov.au  
**Subject:** [EXT] Inland Rail Soil and Water Management Plan  
**Attachments:** NRAR Response - Inland Rail Parkes to Narromine - Soil and Water Management Plan.pdf

G'day Steph,

Please find the attached NRAR comments regarding the SWMP for the Parkes to Narromine Inland Rail Project.

If you have any questions or comments I would be happy to discuss further.

Cheers,  
Bryson.

Bryson Lashbrook | Water Regulation Officer  
Natural Resources Access Regulator | West  
26-28 Johnston Street | Wagga Wagga NSW 2650  
P: 02 6937 2708  
E: [bryson.lashbrook@nrar.nsw.gov.au](mailto:bryson.lashbrook@nrar.nsw.gov.au)

W:  
<https://www.industry.nsw.gov.au/natural-resources-access-regulator>



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## Natural Resources Access Regulator

Contact: Bryson Lashbrook  
Phone: 02 69372708  
Email: [Bryson.lashbrook@nrar.nsw.gov.au](mailto:Bryson.lashbrook@nrar.nsw.gov.au)

Stephanie Mifsud  
Environment Manager NSW  
Inland Rail  
ARTC  
Level 9, 40 Creek Street  
Brisbane QLD 4000

Our ref: OUT18/16414  
File No: V17/1297#6  
Your Ref:

26 October 2018

Dear Stephanie

### **Re: Parkes to Narromine Inland Rail Project – Soil and Water Management Plan and Primary Erosion and Sediment Control Plan**

Thankyou for providing the *Natural Resources Access Regulator* (NRAR) the opportunity to review the *Soil and Water Management Plan* (SWMP) for the *Parkes to Narromine Inland Rail Project* (the project). NRAR has reviewed the above documents that were received on 25 September 2018. The following comments are provided in relation to the project;

- The mitigation measures listed in Table 3.2 and Table 5.1 of the SWMP are generally supported. (please note the errors in cross referencing in table 3.2 and elsewhere will require amendment),
- Section 4.1.4 of the SWMP refers to likely water sources for the project. This is currently inadequate to confirm the licensing requirements. NRAR advises that limitations on the ability to access sources may exist which need to be addressed prior to their use as follows:
  - Private bores must be licensed for irrigation or other production purpose (ie. not a stock and domestic bore) and have a Water Access Licence (WAL) with sufficient entitlement to be used for this project. To use a stock and domestic bore would require a new application to NRAR for a Water Supply Work Approval and a WAL would need to be obtained. This would be subject to assessment.
  - Water from private dams that have been constructed under the landholdings Harvestable Right can only be used on that landholding. If the private dam has a Water Supply Work Approval and a Water Access Licence with sufficient entitlement it can be used for this project under agreement with the landholder.
  - Water extracted from the Macquarie River will need to be extracted from a water supply work that has been approved for extraction under a Water Access Licence and sufficient entitlement will need to be held to account for the take.
  - A water supply work approval is excluded if the work has been approved as part of the State Significant Development consent. No exemption/exclusion exists for a Water Access Licence for this project.

- It is noted that Mitigation Measure SW12 within Table 5.1 states that there must be no maintenance of plant and machinery within 50m of a watercourse. This should also be extended to include all refuelling points, concrete washouts and storage locations for hazardous materials and substances,
- It is noted that Mitigation Measure SW26 reference considerations with the landholder in regards to culvert construction. The final outcomes of this consultation also need to be consistent with the requirements of the Guidelines for Controlled Activities on Waterfront Land as is referred to in SW31.
- SW27 refers to restricting scour protection works to the rail corridor. Where the project assessment and detailed design has predicted impacts outside of this corridor it is recommended mitigating measures be implemented as required in consultation with the relevant landowner.
- It is requested that within the monitoring of water use for construction (Attachment A of the SWMP), the volume of extraction/day is also to be recorded against the source location,
- Where the extraction of water occurs sufficient entitlement must be held in the relevant water source prior to extraction.
- The preparation of detailed, specific and progressive Erosion and Sediment Control Plans (ESCP) will be required for the project is supported.
- It is requested that where failure is identified of erosion and sediment control structures that these be reinstated and any degradation remediated as required.

The NSW Natural Resource Access Regulator would be available where required to provide further input and advice throughout the construction of the project. Please direct any questions or comments regarding this correspondence to Bryson Lashbrook via the detail shown in the letterhead.

Yours sincerely



**Vickie Chatfield**  
**Manager – Licencing and Approvals,**  
**Water Regulatory Operations – West**  
**Department of Industry – Natural Resource Access Regulator**

**Correspondence back to Stakeholder**

---

**From:** Nelson Wallis  
**Sent:** Monday, 15 October 2018 9:17 AM  
**To:** Katrina Dwyer  
**Cc:** Anna Wyllie; Sam Blanco  
**Subject:** RE: Document review for Inland Rail, Parkes to Narromine  
**Attachments:** 5-0012-240-EEC-00-CS-0014 (1).xlsx

Hi Katrina

I hope you had a good weekend. Please find attached our response to comments received by Parkes Shire Council on our construction management plans.

If you have any areas where there are still questions please let me know. Once we receive final comments on the Noise and Vibration Management Plan we will update the attached to include these.

Regards  
Nelson

**Nelson Wallis**  
Stakeholder Engagement Lead NSW, Parkes to Narromine  
Inland Rail

**ARTC**

---

M. 0447 817 142  
E. [NWallis@ARTC.com.au](mailto:NWallis@ARTC.com.au)

**Australian Rail Track Corporation**  
Level 15, 60 Carrington Street  
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**From:** Nelson Wallis  
**Sent:** Friday, 2 November 2018 3:29 PM  
**To:** Kayla Robson  
**Cc:** Andre Pretorius; Jordan Richardson; Sam Blanco  
**Subject:** Inland Rail Construction Management Plan comments  
**Attachments:** 5-0012-240-EEC-00-CS-0015 (1).xlsx

Hi Kayla

Thanks again for spending the time in reviewing our construction management plans.

Please find attached our responses to Narromine Shire Council's comments. We would be more than happy to discuss anything further. Once our plans are approved by DPE we will provide you a copy for your records. If there is anything else you would like to discuss please let me know.

Once our work starts, we would like to offer Monthly Construction Briefings to provide you an update on our work. At these meetings we could also brief you on the relevant information Narromine Council has requested such as details about complaints received etc.

As you are aware, our work will start in Parkes. We would be more than happy to provide a tour of our construction site to share with you how Inland Rail will be built early next year.

If you would like to discuss anything further, please don't hesitate to give me a call.

Regards  
Nelson

**Nelson Wallis**  
Stakeholder Engagement Lead NSW, Parkes to Narromine  
Inland Rail

**ARTC**

---

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Attachment B  
Construction Monitoring Program  
for Water Usage

AMTlink

## Table of Contents

1	Scope
2	Baseline Water Quality Monitoring
3	Surface Water Monitoring
3.1	Visual Monitoring
3.2	Monitoring Parameters
3.3	Frequency of Monitoring
3.4	Location of Monitoring
4	Water Use for Construction
4.1	Surface Water
4.2	Groundwater
4.3	Potable Water
4.4	Recycled Water
5	Assessment Criteria
6	Exceedances of Applicable Criteria
7	Reporting
8	Records
9	Calibration
10	Quality Control
11	Consultation
12	Record Keeping



## 1 Scope

The Construction Monitoring Program for Water Usage outlines the monitoring requirements in relation to discharge to surface waters and water usage for the duration of construction. It is the accountability of the Environmental Manager to ensure all monitoring is performed according to these requirements. This includes the endorsement of the SWMP by the ER and submitted to the Secretary for approval at least one month before commencement of construction. This Construction Monitoring Program for Water Usage will be undertaken by a suitably qualified person.

This monitoring program will be implemented throughout construction and results will be submitted to the ARTC within the Monthly Report. The monitoring program is submitted to the regulators and stakeholders (where relevant) every six months for information. The Construction Monitoring Programs, as approved by the Secretary including any minor amendments approved by the ER, will be implemented for the duration of construction and for any longer period set out in the monitoring program or specified by the Secretary, whichever is the greater. Where drawing of construction water is required, appropriate sources will be determined in consultation with relevant stakeholders, and appropriate approvals and agreements will be sought for the extraction of water.

This Construction Monitoring Program must be undertaken by a suitably qualified person.

The following objectives include the following:

- Maintaining the ecological condition of water bodies and their riparian zones over the long term;
- Maintaining aesthetic qualities of waters; and
- Protecting water quality of groundwater and surface water to ensure that use as livestock drinking water, for water applied to crops and pasture and use in residential applications is not impacted upon.

Water that is discharged off site which fails the applicable criteria, or where downstream water is greater than 20% difference will be considered an environmental incident and will be reported as per Section 5.5 of the SWMP.

## 2 Baseline Water Quality Monitoring

The baseline surface water quality monitoring program has not been undertaken during June 2018 to October 2018 by INLink due to all waterways experiencing no flow. Rain observations for June 2018 to September 2018 for Parkes, Peak Hill and Dubbo are outlined below in Table 1 to 3.

Table 1 – Rain Observations Parkes

	June	July	August	September
Rain Events	9	6	7	3
Highest (mm)	7.2	0.8	7.6	9.4
Total (mm)	28.4	2.0	17.8	17.2

Table 2 – Rain Observations Peak Hill

# Soil and Water Management Plan

Parkes to Narromine Inland Rail Project



	June	July	August	September
Rain Events	7	3	5	7
Highest (mm)	13.4	0.8	13	12.4
Total (mm)	26	1.5	24.3	28

**Table 3 – Rain Observations Dubbo**

	June	July	August	September
Rain Events	8	2	5	3
Highest (mm)	106	1	20.0	5.4
Total (mm)	18.6	1.6	36.4	6.8

Water quality monitoring results will be in accordance with levels as identified in ANZECC Guidelines for South-East Australia Upland Rivers, as outlined below in Table 4.

**Table 4 – ANZECC Guidelines South East Australia Upland Rivers**

Parameter	Minimum	Maximum	Reference
pH (pH units)	6.5	8	ANZECC Table 3.3.2
DO (%)	85	100	ANZECC Table 3.3.2
Salinity (µS/cm)	125	2200	ANZECC Table 3.3.3
Turbidity (NTU)	6	50	ANZECC Table 3.3.3

Other biological and chemical stresses have been identified in the Australian and New Zealand Environment Conservation Council (ANZECC) Water Quality Guidelines and include chlorophyll a, total phosphorus, filterable reactive phosphate, total nitrogen, oxides of nitrogen, ammonium. These parameters will only be tested if required as determined in the baseline water quality monitoring schedule which will be undertaken prior to any use of construction water sources. However, if an environmental incident occurs or weekly environmental observations indicates that there is the potential for contamination from the Project the parameters will be tested (including the nutrients or metals of potential contamination).

Baseline water quality monitoring will be undertaken of the following parameters prior to any construction water use. Table 5 outlines the ANZECC Guidelines for irrigation water which will be achieved as at the date of approval. If during construction the guidelines are not being met, the guidelines will

**Table 5 – ANZECC Guidelines Irrigation Water**

Parameter	Maximum (mg/L)	Reference
Total Dissolved Solids	1500	Best practice
Nitrogen	125	ANZECC Table 4.2.11
Phosphorus	12	ANZECC Table 4.2.11
Chloride	700	ANZECC Table 4.2.6

Parameter	Maximum (mg/L)	Reference
Sodium	460	ANZECC Table 4.2.8
Sodium Adsorption Ratio	102 (ratio)	ANZECC Table 4.2.9
Aluminum	20	ANZECC Table 4.2.10
Arsenic	2.0	ANZECC Table 4.2.10
Beryllium	0.5	ANZECC Table 4.2.10
Boron	1.0	ANZECC Table 4.2.10
Cadmium	0.05	ANZECC Table 4.2.10
Chromium	1.0	ANZECC Table 4.2.10
Cobalt	0.1	ANZECC Table 4.2.10
Copper	5.0	ANZECC Table 4.2.10
Fluoride	2.0	ANZECC Table 4.2.10
Iron	10	ANZECC Table 4.2.10
Lead	5.0	ANZECC Table 4.2.10
Lithium	2.5	ANZECC Table 4.2.10
Manganese	10	ANZECC Table 4.2.10
Mercury	0.002	ANZECC Table 4.2.10
Molybdenum	0.05	ANZECC Table 4.2.10
Nickel	2.0	ANZECC Table 4.2.10
Selenium	0.05	ANZECC Table 4.2.10
Uranium	0.1	ANZECC Table 4.2.10
Vanadium	0.5	ANZECC Table 4.2.10
Zinc	5.0	ANZECC Table 4.2.10

### 3 Surface Water Monitoring

Due to the ephemeral nature of all watercourses within the Project corridor, it is not practical to implement a routine monitoring program during construction. Instead, an opportunistic event-based sampling program will be undertaken, for example, when a significant rain event creates flow conditions which allow for monitoring to occur.

#### 3.1 Visual Monitoring

Visual inspection will be undertaken by the Environment Team or delegate at the following intervals:

- At least once a week during normal construction activities
- After a possible storm event (within 24 hours if it is safe to do so)
- Immediately prior to the closure of construction in any areas of the Project corridor.

Visual inspections will include the following:

- Recording indicators of adverse site conditions (e.g. flooded areas, areas of waterway bank erosion, surface erosion, sediment load dispersion)

- Inspection of all permanent and temporary erosion and sedimentation controls (i.e. to verify compliance with this SWMP and the PESCP)
- Identification of any rectification measures that may need to be implemented.

### 3.2 Monitoring Parameters

The following parameters will be monitored using infield water quality monitoring equipment unless deemed otherwise by the environment team when surface water is present:

- pH
- Salinity
- Turbidity
- Dissolved oxygen
- Oil and grease (visual)
- Potential Contaminants of Concern (if contaminants encountered and are deemed to impact on surface water for extended period include routine monitoring).

### 3.3 Frequency of Monitoring

The monitoring schedule for surface water will be immediately after a rain event of 10mm or greater (within 24 hours) and / or when the surface waters are in flow.

### 3.4 Location of Monitoring

The monitoring will be undertaken at an upstream and downstream point, at a minimum in close proximity the boundaries of the Project corridor, at the following watercourses which cross the project boundary.

- Un-named watercourse (Chainage 455.180km)
- Un-named watercourse (Chainage 461.170km)
- Un-named watercourse (Chainage 472.040km)
- Un-named watercourse (Chainage 478.270km)
- Un-named watercourse (Chainage 517.430km)
- Un-named Watercourse (Chainage 518.550km)
- Backwater Cowal
- Yellow Creek
- Bulldog Creek
- Stanfords Creek
- Barrabadeen Creek
- Gundong Creek
- Tomingley Creek
- Burrill Creek
- Ten Mile Creek
- Bradys Cowal

## 4 Water Use for Construction

Monitoring will be undertaken during extraction to ensure volumes stipulated by licence requirements and/or private landholder agreements are not exceeded.

### 4.1 Surface Water

Table 6 outlines the monitoring parameters and the monitoring schedule for the use of surface waters for construction activities. Water source locations identified within Attachment C.

**Table 6 – Surface Water Use Requirements**

Parameters	<ul style="list-style-type: none"><li>• pH</li><li>• Salinity</li><li>• Turbidity</li><li>• Dissolved oxygen</li><li>• Oil and grease (visual)</li><li>• Volume used per day against source location</li><li>• Entitlement details</li></ul>
Schedule	Weekly during the period when the water is being extracted

### 4.2 Groundwater

Table 7 outlines the location, monitoring parameters and the monitoring schedule for the use of groundwater for construction activities. Water source locations identified within Attachment C.

**Table 7 – Groundwater Use Requirements**

Parameters	<ul style="list-style-type: none"><li>• pH</li><li>• Salinity</li><li>• Turbidity</li><li>• Dissolved Oxygen</li><li>• Oil and Grease (visual)</li><li>• Volume used per day against source location</li><li>• Entitlement Details</li></ul>
Schedule	Weekly for all parameters and daily for depth during the period when the water is being extracted

Where the Project has installed its own groundwater bore, if drawdown without rebound between consecutive extraction days has occurred, exceeding a value of 0.3 m, further extractions from that location to be suspended until the rebound has shown a recovery of the groundwater level of greater than 0.1 m. In instances where the project is purchasing groundwater from licenced suppliers, the project will monitor the extraction quantities to ensure there are no exceedances of the licenced quantity or quantity agreed with the supplier.

### 4.3 Potable Water

Table 8 outlines the location, monitoring parameters and the monitoring schedule for the use of potable water for construction activities. Thorough construction planning will be undertaken to minimise the use of potable water required during construction.

**Table 8 – Potable Water Requirements**

Location	<ul style="list-style-type: none"><li>• Narromine Shire Council</li><li>• Parkes Shire Council</li></ul>
Parameters	<ul style="list-style-type: none"><li>• Testing parameters</li><li>• Frequency of testing</li><li>• Chlorination regime</li><li>• Volume used per day against source location</li><li>• Entitlement details</li></ul>
Schedule	Water results shall be obtained from Local Council prior to utilising potable water.

### 4.4 Recycled Water

Table 9 outlines the location, monitoring parameters and the monitoring schedule for the use of recycled water for construction activities.

**Table 9 – Recycled Water Requirements**

Location	<ul style="list-style-type: none"><li>• Local council</li></ul>
Parameters	<ul style="list-style-type: none"><li>• pH</li><li>• Salinity</li><li>• Turbidity</li><li>• Dissolved oxygen</li><li>• Any other nutrients or metals associated with the waste water</li><li>• Volume used per day against source location</li><li>• Entitlement details</li></ul>

Schedule	When used for construction will be weekly for physical parameters and monthly for nutrients and metals during the period when the water is being extracted

## 5 Assessment Criteria

Table 11 outlines the assessment criteria which applies to discharging any water into local waterways and the surrounding environment .

**Table 11 – Water Discharge Quality Criteria**

Indicator	Lachlan River Criteria	Macquarie-Bogan River criteria
pH (pH units)	6.5-8.5	6.5-8.5
Dissolved Oxygen (%)	85 - 100	85 - 100
Salinity (µS/cm)	2200	2200
Turbidity (NTU)	50	50
Oil and Grease	No sheen visible	No sheen visible

During water quality assessment, the difference between the upstream and downstream monitoring point must be no greater than 20%. The assessment criteria relate to best practice standard as there are no assessment criteria set out in the CoA or EPL. The surface water criteria are consistent with the principles of the ANZECC guidelines.

Table 12 provides the assessment criteria for groundwater when using groundwater bores for construction.

**Table 12 – Groundwater Drawdown Criteria**

Indicator	Groundwater Bore
Drawdown (m)	0.3

## 6 Exceedances of Applicable Criteria

Regular water quality sampling and review of results will assist in identifying any unsatisfactory results. Where exceedances are recorded, a review of the current practices will be undertaken to identify potential causes. Where practicable, additional mitigation measures may be implemented and monitored to ensure compliance, for example:

- Additional monitoring of the receiving waters may be required where an exceedance of the applicable criteria is observed
- Toolbox talks to inform site personnel of exceedances and the resulting cause (if any).

## 7 Reporting

All water monitoring data obtained will be reported in the INLink Monthly Report. Water monitoring data within the Monthly Report will include the following information:

- Water sources used for the duration of the project
- Water volumes taken from each water source
- Total per month and cumulative totals for the project,
- Dewatering and discharge events
- Groundwater interception
- Water quality monitoring
- Incidents

All reports and data contained within the reports must be kept by the Project for a minimum of five years from the date of commencement of the Project and will be provided if requested as outlined in the CoA or EPL.

Reporting will be undertaken to validate the impacts predicted for the Project and to comply with the conditions as set out in the approvals, licences and this SWMP. Reporting will be undertaken by the Environmental Manager. For further information regarding reporting refer to Section 7.4 of the CEMP.

Any exceedance against the assessment criteria will be reported as a non-compliance or an environmental incident. The exceedance will be managed in accordance with Section 5.5 of this SWMP.

## 8 Records

The following information will be recorded at each sampling location (sampling locations includes those listed in Attachment C, incidents, dewatering events, compliance monitoring):

- Date and time
- Weather observations
- Construction phase or activity
- Any other observations (surrounding environment or at sampling location – state of water);
- Location
- Samplers name
- Water parameter and result
- Laboratory sample (if taken). Note NATA accredited laboratory testing is conducted from quality controls tests (i.e. to set a baseline at the commencement of works) and for compliance testing when the Environment Manager deems necessary.

## 9 Calibration

In stream water samples are tested immediately for temperature, pH, salinity, and turbidity. Water quality parameters were recorded 3 times at 1-minute intervals to ensure that the parameters are stabilised. A Horiba water meter is used and was calibrated for pH using a 2-point calibration with a pH 4 and 10 buffer at 25°C, which is undertaken prior to each sampling round (minimum once daily). The Horiba water meter is also checked for salinity using KCL buffer. In addition, decontamination (Decon90 and deionised water rinses) of all field equipment is performed prior to each sample round.



## 10 Quality Control

All laboratory analysis will be undertaken at an accredited facility with the National Association of Testing Authorities (NATA). NATA is an independent accreditation association for laboratory facilities in Australia. Quality control protocol will include laboratory duplicates, method blank, laboratory control spike and matrix spike. Quality control protocols will be used during field sampling and will include duplicate sampling for 1 in every 10 samples collected. NATA accredited laboratory testing is conducted from quality controls tests (i.e. to set a baseline at the commencement of works) and for compliance testing when the Environment Manager deems necessary.

## 11 Consultation

The Environmental Manager will consult with all relevant stakeholders in relation to any exceedances or variation from the approved Construction Monitoring Program for Water Usage. This includes providing monitoring results upon request to ARTC, ER, relevant government agencies and local councils in addition to potentially impacted property owners adjacent to construction corridor.

## 12 Record Keeping

Water management information reported within the Monthly Report will include the following:

- Water use agreements, licences, volumes permitted to take
- Volumes of water used on site for all water sources
- Water quality monitoring results (field and laboratory results)
- Incidents
- Discharge events
- Groundwater interception
- Records of environmental inspections

The records will be kept throughout the construction phase of the Project by the Environmental Manager or their delegate and will be made available to ARTC, ER and Regulators upon request.



# Attachment C Project Water Sources

TAMMink

## Project Water Source Locations

Water Source Location	Water Source Type	Licence	Permitted Quantity (e.g. units)	Total to Date
Brick Pit Parkes	Groundwater	Parkes Shire Council	N/A	124,382 KL
Peak Hill Shire Water Main	Potable Water	Parkes Shire Council	N/A	21,104 KL
Westray Estate Dam	Surface Water	WAL 34964	120 Units/ML	46,030 KL
Parkes Shire Water Main (Saleyards Road)	Potable Water	Parkes Shire Council	N/A	10,786 KL
Narromine Bore	Groundwater	WAL 11606	125 Units/ML	31,505 KL
Chainage 509 km	Surface Water	Site Dewatering	N/A	840 KL
Forbes Shire Main	Potable Water	Forbes Shire Council	N/A	322 KL
Parkes Shire Water Main (Brolgan Road)	Potable Water	Parkes Shire Council	N/A	14,887 KL



Attachment D  
Discharge Permit

TTNlink

Water Discharge Permit



**Location: \***  
808 - J013 - INLAND RAIL PARKES-NARROMINE

**Approx. Volume: \***

**Permit Start Date: \***

**Permit Valid To: \***

**Location of Water Onsite (e.g. drain, excavation, sediment basin):**

**Proposed Release Location:**

**Water Quality Testing Equipment Calibrated: \***  
Yes / No

Parameters	Release Criteria	Recorded Values	Acceptable	Actions Required to Meet Release Criteria	Retest Time: *	Retest Time: *	Retest Time: *
					Retest Values	Retest Values	Retest Values
pH	6.5 to 8.5		Yes / No				
Turbidity	< 50 NTU		Yes / No				
Debris / Rubbish	None visible		Yes / No				
Hydrocarbons	No visible films		Yes / No				
Other pollutants			Yes / No				

Testing Completed By (Name & Signature of Tester)

**Tester Name: \***

**Signature: \***

Actions / Directions accepted and understood (Name & Signature of Supervisor / Operator)

**Name: \***

**Signature: \***

**General Comments / Notes:**

Reminders

- Bucket / Rock / Float at pump intake
- Stabilized Outlet (rock / geofab)
- Leave / Remove sludge at bottom

ENSURE PUMP IS MONITORED DURING DISCHARGE TO PREVENT THE RELEASE OF NON-COMPLIANT WATER OR SEDIMENT FROM THE BOTTOM OF THE BASIN.