HumeLink East

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Soil and Water Management Sub Plan

HLE-AGJ-MGT-ALE-PLN-0000-00028 | Rev 01.7

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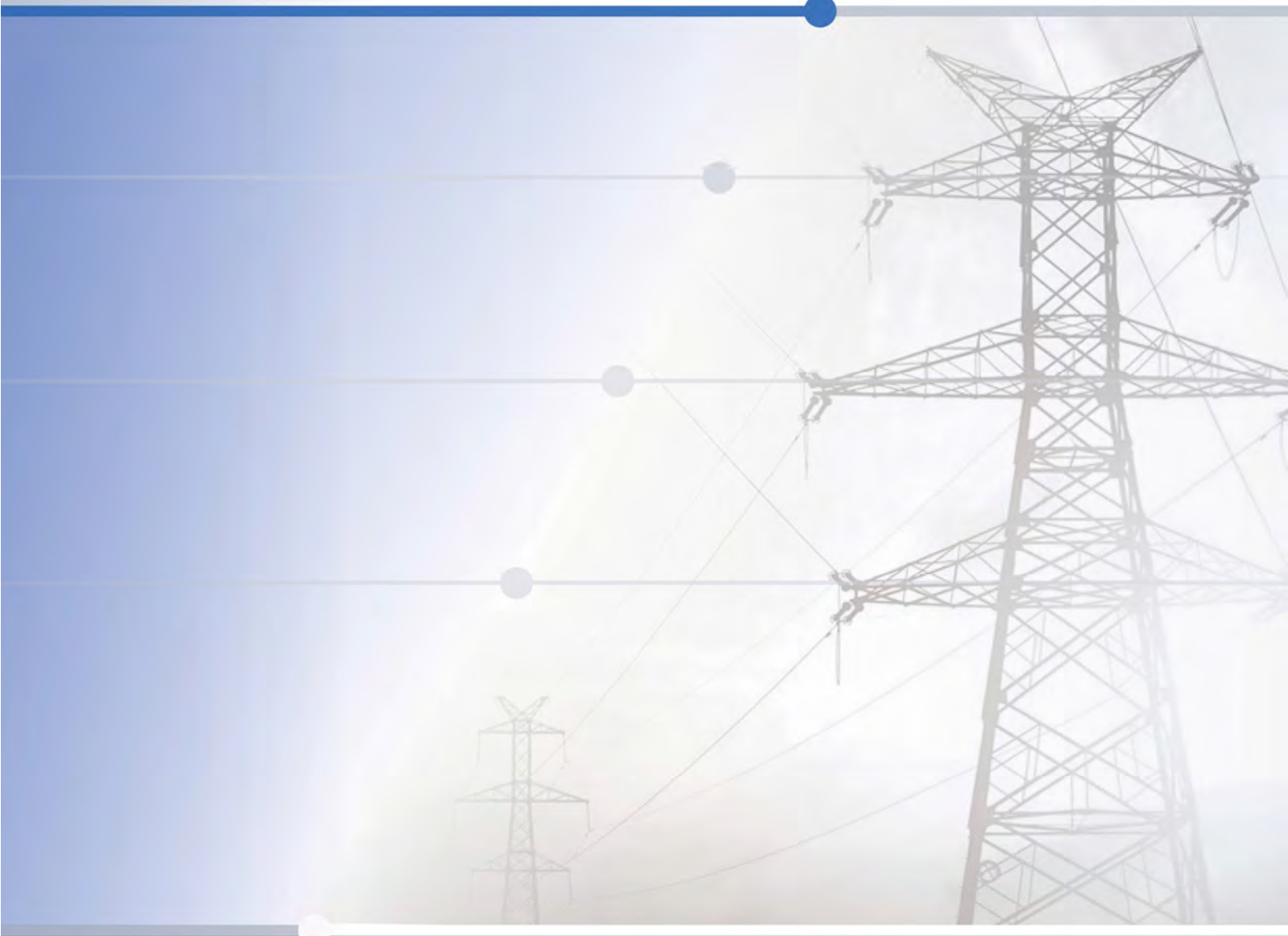

I. APPROVALS

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Project Director:	Carel Nagel		23/05/2025

The authorised use of this document shall only be once approved by way of presence of signatories under the above table.

II. DOCUMENT CONTROL – REVISION HISTORY

Rev	Date	Pages	Revised By	Description
A	15/12/2023	All	A Conroy	For submission to Transgrid
B	30/01/2024	All	A Conroy	Update to address Transgrid comments
C	23/02/2024	All	A Conroy	Update to address Transgrid comments and Addendum Report
D	11/06/2024		A Conroy	Update to address initial comments provided by DCCEEW Water and Updated Mitigation Measures (UMMs)
E	17/06/2024	All	A.Conroy	Update to address Transgrid comments and Addendum Report
00	25/06/2024	Nil	J McKenzie	Final for submission to Transgrid. IFU.
01.1	16/10/2024	All	A Conroy	Update to address comments from consultation
01.1	15/11/2024	Section 3.4	A Conroy	Updated to address Final Conditions of Approval
01.2	19/12/2024	All	A Conroy	Update to address ER comments
01.3	4/3//2025	All	A Conroy, K Bedingfield	Update to address Stakeholder, SEEC and EPIC comments
01.4	27/3/2025	Various	G. Wilson	Update to close out ER comments
01.5	15/04/2025	Table 21	J. McKenzie	Update to close out ER comment
01.6	06/05/2025	Various	C. Moriarty	Update to address DPHI comments
01.7	23/05/2025	Various	C.Moriarty	Update to address DPHI comments

GENERAL REQUIREMENTS

The Project Director is responsible for the distribution of this Management Plan. The controlled master version of this document is available for distribution as appropriate and maintained on RIB | CX. All circulated hard copies of this document are deemed to be uncontrolled. The implementation of this Management Plan is under the authority of AGJV and the Project Director. All personnel employed on the Project will perform their duties in accordance with the requirements of this Management Plan, supporting management plans, and related procedures.

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TERMS AND DEFINITIONS

Abbreviations	Expanded text
AEC	Area of environmental concern
AGJV	Acciona Genus Joint Venture
ANZECC	Australian and New Zealand Environment and Conservation Council
ARI	Average Recurrence Interval
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
ASSMAC	Acid Sulfate Soil Management Advisory Committee
Blue Book	Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom, 2004), Volume 2A (DEC, 2008) and Volume 2C (DECC, 2008)
BoM	Bureau of Meteorology
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
CCS	Community Consultation Strategy
CEMP	Construction Environmental Management Plan
CLM Act	*Contaminated Land Management Act 1997* (NSW)
CoA	Minister's Conditions of Approval
CPESC	Certified Professional in Erosion and Sediment Control
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CSSI	The Critical State Significant Infrastructure, as described in Schedule 1, the carrying out of which is approved under the terms of the SSI 36656827approval
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DEC/DECC	Former Department of Environment and Conservation/Climate Change
DPHI	Department of Planning Housing and Infrastructure (formerly DPE)
DPI	Department of Primary Industries
DRNSW	Department of Regional NSW
EI	Erosion index
EIS	Environmental Impact Statement
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
ESCP / PESCP	Erosion and sediment control plan / Progressive erosion and sediment control plan
EWMS	Environmental Work Method Statement
Hold point	A verification point that prevents work from commencing prior to release from a specific criterion
IECA	International Erosion Control Association (Australasia)
LGA	Local government authority
mAHD	Elevation in metres with respect to the Australian Height Datum
NEM	National Electricity Market
NEPM	National Environment Protection Measure
NOA	Naturally occurring asbestos
NRAR	Natural Resources Access Regulator
PCB	Polychlorinated biphenyl
PIN	Penalty infringement notice
POEO Act	*Protection of the Environment Operations Act 1997* (NSW)

Abbreviations	Expanded text
Project, the	HumeLink East
RAP	Remedial Action Plan
RUSLE	Revised universal soil loss equation
Secretary	Secretary of the NSW Department of Planning Housing and Infrastructure or nominee, whether nominated before or after the date on which this approval was granted
SWMP	Soil and Water Management Sub Plan
TN	Total Nitrogen
TP	Total Phosphorus
TRH	Total recoverable hydrocarbons
UMM	Updated Mitigation Measures
WAL	Water Access Licence
WM Act	*Water Management Act 2000* (NSW)
WQMP	Water quality monitoring plan

1. INTRODUCTION

1.1 CONTEXT

This Soil and Water Management Sub Plan (SWMP or Plan) forms part of the Construction Environmental Management Plan (CEMP) for HumeLink East (the Project), the eastern component of the Humelink project.

1.2 BACKGROUND AND PROJECT DESCRIPTION

The overall HumeLink project includes the construction and operation of around 365 kilometres of new 500 kilovolt (kV) electricity transmission lines, substations, permanent and temporary access tracks and roads, and ancillary facilities.

The HumeLink project is being delivered under two separate Contract Packages - HumeLink East and HumeLink West. HumeLink East and HumeLink West will join and integrate to form HumeLink and enable the overall project to operate safely, reliably and efficiently as part of Transgrid's network and the National Electricity Market (NEM) as a whole.

Figure 1 shows anhigh-level scope of each Contract Package.

Figure 1: High-Level Scope of HumeLink East and HumeLink West

The project includes the following key components:

- Construction and operation of around 365 kilometres of new double circuit 500 kV transmission lines and associated infrastructure between Wagga Wagga, Bannaby and Maragle
- Construction of a new 500/330 kV substation at Gregadoo (Gugaa 500 kV substation) approximately 11 kilometres south-east of the existing Wagga 330/132 kV substation (Wagga 330 kV substation)
- Demolition and rebuild of a section of Line 51 (around two kilometres in length) as a double circuit 330 kV transmission line connecting into the Wagga 330 kV substation

- Modification of the existing Wagga 330 kV substation and Bannaby 500/330 kV substation (Bannaby 500 kV substation) to accommodate the new transmission line connections
- Connection of transmission lines to the future Maragle 500/330 kV substation (Maragle 500 kV substation, approved under the Snowy 2.0 Transmission Connection Project (SSI-9717))
- Telecommunications connections to existing substations
- Establishment of new and/or upgraded temporary and permanent access tracks
- Ancillary works required for construction of the project such as construction compounds, worker accommodation facilities, utility connections and/or relocations, brake and winch sites, and helipad/helicopter support facilities.

Acciona Genus Joint Venture (AGJV) have been appointed to deliver the construction of HumeLink East (the Project).

1.3 SCOPE AND STAGING

The Minister's Conditions of Approval (CoA) for the HumeLink project permits staging of any plans required by the CoA. This Plan describes how AGJV will manage potential Soil and Water impacts during construction of the Project. It does not address operational impacts. A separate SWMP is being developed for HumeLink West.

1.4 INTERFACE WITH OTHER PLANNING DOCUMENTS

This Plan is a component of a suite of documents, prepared as part of the implementation of the HumeLink project's Environmental Management System. The Environmental Management System overview is described in Section 3.1 of the CEMP.

The key documents that interface with this Plan are outlined in Table 1 below.

Table 1 Key interfaces with this document

Plan	Interface
Construction Environmental Management Plan	• Provides details on overall Project staging, interactions between Sub-Plans of the CEMP, and management of cumulative impacts • Provides a framework for how the construction works will be managed • Identifies procedures, processes and management systems that will apply in relation to construction activities • Provides environmental planning and controls for construction including environmental risk assessment, regulatory requirements, protection measures and sustainability requirements.
Water Quality Monitoring Program	• Provides details of ongoing surface water monitoring required throughout Project construction to compare actual construction impacts to predicted impacts.
Waste Management Plan	• Details how potential waste impacts during construction of the Project will be managed.
Biodiversity Management Plan	• Details how impacts to biodiversity during construction of the Project will be managed.

2. PURPOSE AND OBJECTIVES

2.1 PURPOSE

The purpose of this SWMP is to describe how the Project will manage and protect soils and surface water quality during construction.

This SWMP has been prepared to address the applicable statutory requirements and aims to ensure that commitments made in the planning approval are met with regards to the protection of soils and surface water quality conditions.

2.2 OBJECTIVES AND TARGETS

The primary objective of the SWMP is to avoid and minimise potential soil and water impacts where practicable by ensuring all relevant mitigation and management measures are implemented throughout the construction phase. Soil and Water performance objectives and targets are described in Table 2.

Table 2 Soil and Water performance objectives and targets

Performance objective	Targets	Records
Compliance with legislation, statutory approvals and the Infrastructure Approval.	Full compliance with statutory approvals. No regulatory infringements (penalty infringement notices (PINs) or prosecutions) or formal regulatory warnings.	Audit findings, environmental inspection records, monitoring records. Number of regulatory infringements (PINs or prosecutions), formal regulatory warnings.
Implement and comply with the SWMP.	Zero non-compliances identified during each compliance audit of SWMP.	Audit findings, environmental inspection records, monitoring records.
Minimise erosion and sedimentation. **Ensure that the Project does not cause water pollution as defined section 120 of the POEO Act.**	100% completion of scheduled inspections. 100% compliance with the Dewatering Procedure.	Environmental inspections, audits., dewatering records
Provide adequate training to ensure construction activities are undertaken safely and with minimal risk to the environment.	Regular environmental training that focuses on the specific project activities and associated soil and water risks.	Records of inductions, toolbox talks and daily pre-start meetings with soil and water focus.
Ensure timely communication of incidents. Minimise the risk of an incident by identifying risks and developing actions to minimise those risks.	All incidents reported in accordance with the CEMP. All risks reviewed in accordance with the Project's environmental management system.	Incident reports.

3. ENVIRONMENTAL REQUIREMENTS

3.1 LEGISLATION

Legislation and government policy relevant to this Plan include:

- *The Water Act (2007) – Commonwealth*
- *The Basin Plan (2012) – Commonwealth*
- *Environmental Planning and Assessment Act 1979 (EP&A Act) - NSW*
- *Water Act 1912 and Water Management Act 2000 (WM Act) - NSW*
- *Protection of the Environment Operations Act 1997 (POEO Act) - NSW*
- *Waste Avoidance and Resource Recovery Act 2001 - NSW*
- *Contaminated Land Management Act 1997 (CLM Act) - NSW*
- *Work Health and Safety Act 2011*
- *Dangerous Goods (Road and Rail Transport) Act 2008*
- *Road and Rail Transport (Dangerous Goods) (Road) Regulation 1998.*

Relevant provisions of the above legislation are detailed within the register of legal and other requirements included in Appendix C of the CEMP.

3.2 GUIDELINES AND STANDARDS

The main guidelines, specifications, and policy documents relevant to this Plan include:

- Acid Sulfate Soil Guidelines, Acid Sulfate Soil Management Advisory Committee, August 1998
- (National) Acid Sulfate Soil Sampling and Identification Methods Manual, Department of Agriculture and Water Resources, June 2018
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality, 2018
- Australian Standard 1940 –The storage and handling of flammable and combustible liquids
- Australian Code for the Transport of Dangerous Goods by Road and Rail (National Transport Commission, 2018)
- DEC, Guidelines for Assessment and Management of Groundwater Contamination, 2007
- DEC, Environmental Best Management Practice Guideline for Concreting Contractors, 2004
- DECC, Book 4 Dryland Salinity: Productive use of Saline Land and Water, 2008
- DPE Guidelines for Controlled Activities on Waterfront Land, 2012
- DPE, Guidelines for Controlled Activities on Waterfront Land – Riparian corridors, 2022
- DPE, Guidelines for controlled activities on waterfront land – watercourse crossings, 2022
- DPE, Guidelines for Groundwater Documentation for SDD/SSI Projects. Technical guidelines, 2022
- DPE Water, Controlled activities - Guidelines for instream works on Waterfront Land, 2022b
- DPI, Instream structures and other mechanisms that alter natural flows, 2005
- DPI, NSW Aquifer Interference Policy, 2012
- DPI, Salinity Training Manual, 2014
- Fish Passage in Streams – Fisheries Guidelines for Design of Stream Crossings, Fisheries Group, Queensland Department of Primary Industries, (Cotterell 1998)
- Managing Urban Stormwater: Soils and Construction (4th Edition) Volume 1 (the “Blue Book”), Landcom, 2004
- Managing Urban Stormwater: Soils and Construction (4th Edition) Volume 2A: Installation of Services, DECC, 2008
- Managing Urban Stormwater Soils and Construction Volume 2C Unsealed Roads, DECC, 2008
- Managing Urban Stormwater: Soils and Construction – Volume 2D: Main Road Construction, DECC, 2008
- Best Practice Erosion and Sediment Control (IECA – 2008)
- National Environment Protection (Assessment of Site Contamination) Measure, 2013
- NSW EPA, Approved Methods for the Sampling and Analysis of Water Pollutants in NSW, 2004
- NSW EPA, Contaminated Land Guidelines – Consultants reporting on contaminated land, 2020
- NSW EPA, Guidelines on the duty to report contamination under the Contaminated Land Management Act 1997, 2015
- NSW EPA Site Auditor Scheme, 2017
- NSW EPA, Waste Classification Guidelines, 2014

- NSW Fisheries, Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings 2003
- NSW Fisheries, Policy and Guidelines for Fish Habitat and Conservation and Management, 2013
- SafeWork, NSW Government Code of Practice: How to Manage and Control Asbestos in the Workplace, 2020
- Transgrid, Environmental Handbook, 2021.

3.3 LICENSING AND APPROVALS

3.3.1 WATER LICENCING

Under Section 5.23(1) of the EP&A Act, approved State significant infrastructure does not require a water use approval, a water management work approval or an activity approval (other than an aquifer interference approval) under Sections 89, 90 and 91 of the WM Act respectively, if groundwater extraction activities are assessed and approved as part of Critical State Significant Infrastructure (CSSI) projects.

Section 60A of the WM Act requires that a water access licence (WAL) be obtained in order to extract water from a water source, such as a river, lake or surface water runoff, or an aquifer, in water-sharing plan areas. It is an offence to take water from a water source without a WAL.

The Project will purchase water from the existing water market within the region or from local council facilities under existing WAL arrangements. Water will be purchased under standard supply/purchase agreement with various water suppliers/landholders who hold existing WAL agreements. As part of the ongoing discussions with potential water suppliers, water supply locations would be confirmed during final negotiations with the water supplier. Ongoing consultation with water suppliers may also identify other water sources that may be used for the construction of the Project which would be secured under standard supply/purchase agreement from existing facilities. Should any additional water sources be required that were not assessed during the Environmental Impact Statement (EIS)/Amendment Report, further assessment will be undertaken and approvals obtained, where needed.

As part of the ongoing discussions, the Project will ensure that the existing WAL arrangements have adequate water entitlement and allocation such that there is sufficient water for the applicable stages of construction. Where necessary the amount of water used will be allocated depending on the Project activity at the time, or additional water supply will be sought in consultation with Transgrid.

Monitoring of compliance against any WAL agreements will be undertaken in accordance with Section 8.3 of this Plan.

3.4 MINISTER'S CONDITIONS OF APPROVAL

The CoA relevant to this Plan are listed in Table 3. A cross reference is also included to indicate where and how the conditions are addressed in this Plan or other Project management documents.

Table 3 CoA relevant to the Soil and Water Management Sub-Plan

	Condition Requirements	Document Reference	How Addressed
Evidence of Consultation			
A8	Where conditions of this approval require consultation with an identified party, the Proponent must: (a) consult with the relevant party prior to submitting the subject document to the Planning Secretary for approval; and (b) provide details of the consultation undertaken including: (i) the outcome of that consultation, matters resolved and unresolved; and (ii) details of any disagreement remaining between the party consulted and the Proponent and how the Proponent has addressed the matters not resolved.	Section 4	Evidence of consultation with the parties will be submitted to the Planning Secretary with this Plan.

	Condition Requirements	Document Reference	How Addressed
Water Supply			
B18	The Proponent must ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of the development to match its available water supply. *Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Proponent is required to obtain the necessary water licences before commencing any works which intercept or extract groundwater or surface water (unless an exemption applies).*	Section 3.3.1 Section 7.3	The EIS and Amendment Report assessed water availability for the entire HumeLink project (HumeLink East and HumeLink West). In summary, as described in Section 6.2.5.1 of EIS Technical Report 12 (Surface Water and Groundwater Impact Assessment) and Section 6.1.8.4 of Amendment Report Technical Report 12 (Surface Water and Groundwater Impact Assessment Addendum), the impact on water availability as a result of HumeLink would be negligible in the context of the volume of water allocated under the Water Sharing Plans in the project footprint. Discussions with councils and private water owners regarding water supply volumes and access options will be ongoing throughout the project where required. AGJV have engaged a Water Broker to assist with this process. The scale of the development remains consistent with that assessed in the EIS and AR. Therefore, AGJV does not anticipate a situation in which a lack of water availability could result in a change to the scale of the development. AGJV will review water supply volumes as the Project progresses to ensure they remain sufficient throughout construction.
Erosion and Sedimentation			
B19	The Proponent must: (a) minimise erosion and control sediment generation; and (b) ensure all land disturbances have appropriate drainage and erosion and sediment controls designed, installed and maintained in accordance with *Best Practice Erosion and Sediment Control* (IECA, 2008), *Managing Urban Stormwater – Soils and Construction Volume 1* (Landcom, 2004), *Managing Urban Stormwater – Soils and Construction Volume 2A Installation of Services* (DECC, 2008) and *Managing Urban Stormwater – Soils and Construction Volume 2C Unsealed Roads* (DECC, 2008), or their latest versions.	Section 7.1	Progressive erosion and sediment control plans (ESCPs) will be established (in consultation with a qualified Soil Conservationist) and implemented on an ongoing basis to manage potential erosion and sediment issues.
Pollution of Waterways			
B20	Unless otherwise authorised by an EPL, the Proponent must ensure the development does not cause any water pollution, as defined under Section 120 of the POEO Act.	Table 22 Appendix A: Water Quality Monitoring Appendix C: Dewatering Procedure	Progressive ESCPs will be established (in consultation with a qualified Soil Conservationist) and implemented on an ongoing basis to manage potential erosion and sediment issues. The measures stipulated in Table 22 will also be implemented to ensure compliance with this requirement.
B21	The Proponent must: (a) design, construct and maintain an appropriate water management system at all substations, concrete batching plants,	Table 22	All substations, construction compounds and accommodation camps are being designed to prevent pollution . The design of permanent water management systems

	Condition Requirements	Document Reference	How Addressed
	construction compounds and accommodation camps to prevent pollution; (b) ensure that all liquid waste captured by the substation's spill oil containment system is classified, transported, and disposed of at a facility that can lawfully accept the waste; and (c) minimise any spills of hazardous materials or hydrocarbons, and clean up any spills as soon as possible after they occur.	Appendix A: Water Quality Monitoring Appendix E: Spill Response Procedure Section 7.5	id subject to the design process and is separate to this SWMP. Temporary water management controls will be managed as per below: • Progressive ESCPs will be developed and implemented onsite (refer to Appendix D) • The Dewatering Procedure (Appendix C) will be implemented for the discharge of any runoff or stormwater which collects within construction areas (such as sediment basins, trenches, sumps) to minimise the potential for soil and water impacts. AGJV does not proposed to utilise concrete batching plants. In the event that a concrete batch plant is proposed, appropriate components of the concrete batching plant, such as the concrete mixing and washout areas will be suitably bunded. Further, an update to this SWMP will be required. The SWMP does not address any operation requirements such as the operations of substations. All chemicals, fuels or other hazardous substances will be stored in accordance with the supplier's instructions, any relevant legislations or Australian Standards or the applicable guidelines. An Spill Response Procedure has been prepared for the Project, refer to Appendix E.
Riparian Areas			
B22	The Proponent must ensure all activities on waterfront land are constructed in accordance with the *Guidelines for Controlled Activities on Waterfront Land* (DPE 2022), *Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings* (NSW Fisheries 2003) and the *Policy and Guidelines for Fish Habitat and Conservation and Management* (NSW Fisheries, 2013), unless Water Group and DPIRD Fisheries agrees otherwise.	Table 22 - SW16, SW22, SW23	All activities on waterfront land will be guided by the principles from the relevant guidelines. A Waterway Crossing Methodology will be developed to meet the requirements of CoA B22 and will be consulted with NSW DPI Fisheries. The methodology will include guidance from the soil conservationist and Project ecologist The Project will minimize construction activities within the channel of the major watercourses Construction activities do involve stringing above a number of watercourses. Appropriate environmental controls will be implemented as required. There is a moderate risk to the geomorphology due to waterway crossings associated with access tracks. However these impacts can be managed through the implementation of appropriate design guidelines and erosion controls.
Flooding			
B23	Except for the Gugaa Substation, the Proponent must ensure that the development does not materially alter the flood storage capacity, flows or characteristics in the development area or off-site.	Section 5.6 Section 7	The hydrology and flood impact assessment within Technical Report 11 Hydrology and Flooding Impact Assessment has identified generally minor adverse impacts on flood behaviour during construction (refer to Section 5.6).

	Condition Requirements	Document Reference	How Addressed
		Table 22 - SW25	Design and the implementation of appropriate management measures during construction, particularly in advance of a predicted flood, will reduce the impacts of localised flooding. The Project will be designed and constructed to minimise impacts on surface water, localised flooding and groundwater.
Soil and Water Management Plan			
B24	Prior to the commencement of construction (excluding Enabling Works, if the relevant requirements of this condition are adequately addressed in the Enabling Works Management Plan of condition B64), the Applicant must prepare a Soil and Water Management Plan for the development to the satisfaction of the Planning Secretary. This plan must: (a) be prepared in consultation with the relevant Council, BCS and Water Group;	This Plan Table 3 Section 4	This SWMP has been prepared to address the requirements of condition B24. Conditions B18 to B23 are addressed as outlined in the above rows.
	(b) ensuring the requirements in conditions B18 to B23 are met;	This Plan Table 3	This SWMP has been prepared to address the requirements of condition B24. Conditions B18 to B23 are addressed as outlined in the above rows.
	(c) managing flood risk during construction and operation;	Section 5.6 Table 22 - SW26, SW27, SW28, SW29 Section 7 Flood Response Plan (Appendix C (TTMP)	As described in Section 1.3 this Plan does not address operational impacts. The hydrology and flood impact assessment within Technical Report 11 Hydrology and Flooding Impact Assessment has identified generally minor adverse impacts on flood behaviour during construction. Procedures to safely access and egress from affected areas during a flood event as per the Flood Response Plan (Appendix C of the Traffic and Transport Management Plan (TTMP), as required under CoA B39(g)) and communicated to the workforce by inductions, training, toolboxes.
	(d) investigating, assessing and managing contaminated land, soils, groundwater and blasting in the development area;	Section 7.6 Table 22 Appendix B: Unexpected Contaminated Finds Procedure	Potential contaminants were identified within the EIS. If any suspected contaminated land, soils and groundwater is discovered during the construction of the Project, the Unexpected Contamination Finds Procedure will be followed.
	(e) investigating, assessing and managing the potential for asbestos and other hazardous materials in the development area;	Section 7.6 Table 22 Appendix I: Asbestos Management Plan	The management of asbestos will be detailed in Appendix IAsbestos Management Plan If any suspected asbestos and/or other hazardous material is discovered during the construction of the Project, the Unexpected Contamination Finds Procedure will be followed.

	Condition Requirements	Document Reference	How Addressed
		Appendix B: Unexpected Contaminated Finds Procedure	
	(f) managing any unexpected and / or suspected contaminated land, asbestos and unexploded ordinance excavated, disturbed or otherwise discovered during construction; and	Appendix B: Unexpected Contaminated Finds Procedure	If any unexpected contaminated land, asbestos and unexploded ordinance is discovered during the construction of the Project, the Unexpected Contamination Finds Procedure will be followed.
	(g) a program to monitor and report on the impacts and environmental performance of the development. Following the Planning Secretary's approval, the Proponent must implement the Soil and Water Management Plan. *Note: The Soil and Water Management Plan must incorporate all relevant aspects of the development, including Enabling Works consistent with the requirements of condition B67.*	Table 2 Section 8 - Table 23 Section 9	The impacts and environmental performance of the Project relevant to soil and water, and the effectiveness of the management measures will be monitored through the monitoring program outlined in Section 8 - Table 23. Soil and Water performance objectives and targets are described in Table 2. Section 9 outlines the review and improvement process of the SWMP. The CEMP provides additional detail regarding continuous environmental improvement for the Project as a whole.

3.5 UPDATED MANAGEMENT MEASURES

Relevant Updated Mitigation Measures (UMMs), as identified in the Amendment Report are listed in Table 4 below. A cross reference is also included to indicate where and how the conditions are addressed in this Plan or other Project management documents

Table 4 UMMs relevant to the Soil and Water Management Sub-Plan

Aspect	Ref UMM #	Updated Mitigation Measures	Where addressed	How Addressed
Biodiversity	B18	All disturbed lands/areas must be managed throughout the construction work (in accordance with the relevant Managing Urban Stormwater (Landcom, 2004) (Blue Book) or comparable best practice guidelines, including: • vegetation removal, restoration, and management • stockpiling, erosion and sediment management • stabilisation / rehabilitation of disturbed lands/areas must be undertaken within suitable timeframes • temporary erosion and sediment controls must be maintained (and not removed) until rehabilitation measures are providing effective stabilisation of disturbed lands/areas. Disturbed areas (including areas not required for operation) will be stabilised/rehabilitated to a standard either: • as agreed with the landowner • in accordance with the relevant Managing Urban Stormwater (Blue	Section 7.1, 7.7 Erosion and Sediment Control Plans (ESCP) Appendix D: Erosion and Sediment Control Strategy Also addressed in the Biodiversity Management Plan	Mitigation Measure SW9 in Table 22.

Aspect	Ref UMM #	Updated Mitigation Measures	Where addressed	How Addressed
		Book) or comparable best practice guidelines.		
	B26	The key measures proposed to avoid, manage and/or mitigate impacts to surface water, and groundwater and soils will involve: • Preparation of Soil and Water Management Plans (SWMPs) as part of the Construction Environmental Management Plan (CEMP) to manage water quality impacts during construction of the project, including water quality monitoring requirements. • Preparation of Erosion and Sediment Control Plans (ESCPs) by a certified professional in erosion and sediment control. • Consideration of appropriately designed scour protection at new stormwater management points. The SWMP will include a combination of the following plans: • ESCPs • water quality monitoring requirements • Management of dewatering processes • Emergency Spill Procedure • Unexpected Contaminants Finds Protocol. ESCPs will be developed for the activities and areas that are considered higher risk. The plans will detail the processes, responsibilities and measures to manage potential soil and water quality impacts in accordance with the principles and requirements in: • Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom, 2004) and Volumes 2A (DECC, 2008a) and Volume 2C (DECC, 2008b), commonly referred to as the 'Blue Book' • Best Practice Erosion and Sediment Control (IECA, 2008) • Controlled activities - Guidelines for instream works on Waterfront Land (DPE Water, 2022b).	Section 7.1, 7.3, 7.7 Appendix A: Water Quality Monitoring Program Appendix B: Unexpected Contaminated Finds Procedure Appendix C: Dewatering Procedure Appendix D: Erosion and Sediment Control Strategy Appendix E: Spill Response Procedure	Mitigation Measure SW3, SW12, SW14, SW17 and SW18 in Table 22. Section 7.1 provides further details on requirements for ESCPs. Section 7.3 provides further details on dewatering processes.
	B29	Access tracks will be used as necessary for the construction work and as far as is practicable. Track construction will be carried out to cause minimum disturbance to soil and vegetation both on and adjacent to the track. Tracks will be routed to follow the natural contour of the land as far as practicable to minimise the amount of cut and fill and soil disturbance. For any temporary access tracks, the disturbed surfaces and formed areas will be revegetated in accordance with the	Section 7.1, 7.7 Appendix D: Erosion and Sediment Control Strategy Revegetation also addressed in	Mitigation Measure SW7, SW8 and SW9 in Table 22.

Aspect	Ref UMM #	Updated Mitigation Measures	Where addressed	How Addressed
		approved CEMP or Managing Urban Stormwater: Soils and Construction - Volume 2C Unsealed Roads (DECC, 2008a). In addition, other erosion control mechanisms will be put in place during the initial track construction work to contain any sediment that may erode from the disturbed surfaces.	the Biodiversity Management Plan	
	B30	The following factors will be considered during the detailed design and micro siting process for waterway crossings to minimise potential impacts to aquatic environments, wherever practicable: • Any existing crossings will be re-used or upgraded in preference to establishing new crossings. • Disturbance to waterways (bed, banks and associated riparian zones), will be avoided or minimised. • The crossing design and construction work sites will minimise disturbance to any native vegetation, including native instream, fringing, and riparian vegetation within the access track alignment. • Waterway crossings will be constructed perpendicular to the flow of the water and be positioned away from channel bends (where erosive forces are typically greatest). Preferably crossings will be located in straight stream sections with well-defined channel geometries and shallow stream gradients, in stable dry reaches. • Micro-siting will avoid direct and indirect (erosion or sedimentation) impacts to riverine features such as riffles and rapids and sensitive habitat features (ie snags, coarse woody debris, instream macrophytes, boulders). • Where instream structures are required, considerations to potential flooding and erosive effects will be made in the design and construction of the crossing.	Section 7.7 Also addressed in the Biodiversity Management Plan	Mitigation Measure SW22 in Table 22.
	B31	Crossing structures will be designed so that the existing nominal flow velocity, low flow conditions and fish passage are maintained wherever possible. This will include the following considerations: • Minimise the impact of essential instream structures by mimicking natural flows (DPI, 2005b). • Following Fairfull (2013), for waterway crossings incorporating culverts, a minimum of 300 mm of water should pool through the structure, with a centrally placed low-flow cell being preferable.	Section 7.7	Mitigation Measure SW23 in Table 22.

Aspect	Ref UMM #	Updated Mitigation Measures	Where addressed	How Addressed
		In line with Cotterell (1998), it is recommended that flow over or through instream crossing structures are designed such that they maintain water velocity of 0.3 m/s or less, which is likely to facilitate passage for native species of fish (velocities exceeding 1 m/s, are likely to prevent upstream migration of native fish).		
	B32	Any sections of stream or waterway banks that are impacted or modified by the project will be reformed or remediated to resemble the pre-work condition and form wherever possible or alternatively to a stable design form, as appropriate following the completion of construction work. This may include revegetation to stabilise bank sediments. Waterway banks impacted by the project will be reinstated such that bank stability at the crossing location is the same or better than prior to construction. Stabilising materials such as rock armouring, hydro mulch, jute matting, or other suitable geotextile materials may be utilised where necessary. Any temporary stream crossings will be removed and rehabilitated at the completion of their operational use.	Section 7.7	Mitigation Measure SW8 in Table 22.
	B35	In addition to standard erosion and sediment control measures, the following procedures and considerations will be incorporated into construction methodologies for waterway crossings, where appropriate and practicable: • Minimise disturbance to native vegetation, including instream, fringing and riparian vegetation within the updated indicative disturbance area. This may include the demarcation of areas of native vegetation to be retained during work. • Any coarse woody debris or boulders located within instream work sites will be temporarily stockpiled during construction and then returned to the watercourse, at locations where scour risk can be avoided and risk of dislodgment and downstream damage. • Waterway crossing work will be constructed during no or low flow conditions and under calm weather conditions. Work will also be timed to occur outside of any locally high seasonal flow periods. • Silt curtains or coffer dams will be deployed around instream work sites where required, to protect against any impacts to water quality or indirect impacts to retained vegetation. These measures will be situated so to avoid blocking fish passage	Section 7.2 Section 7.7 Also addressed in the Biodiversity Management Plan	Mitigation Measure SW5, SW24, SW31, SW32, SW33 and SW42 in Table 22. Section 7.2 provides details on stockpile management.

Aspect	Ref UMM #	Updated Mitigation Measures	Where addressed	How Addressed
		wherever practical and removed as soon as they are no longer required. • Flow diversion measures will be installed on bunded waterway crossings as appropriate or where construction during no or low flow conditions is not feasible. Flow diversion measures may include pumps to ensure that water can be moved from one side of blockages to the other, with screened inlets to prevent the entrapment of aquatic fauna and outlet structures that are designed to avoid scouring of the channel. Where waterways are bunded or flow obstructed, all obstructions to flow will need to be removed as soon as practical after watercourse crossing construction has been completed. • Appropriate erosion and sediment controls that take into account potentially flood prone areas will be employed to manage water quality impacts and indirect impacts to retained vegetation. • Waterway bed and bank material excavated during construction will be stockpiled outside of the active channel and avoid riparian vegetation. Any material excavated from the bed of waterways will be stockpiled separately from other materials and returned to the waterway bed following the completion of construction work. • If the stockpiling of sediment or soil is required, it will be located as far away from waterways as practicable and managed so that it is secure against flooding and runoff to prevent any sediment entering waterways. Adequate erosion and sediment control measures will be in place to protect stockpiled sediment against runoff during rainfall or flooding. • Only excavated natural materials (ENM) or virgin excavated natural materials (VENM) will be used as fill during reclamation work, ie no contaminated material, building or demolition rubble will be used as fill in any stream crossings. • Chemicals will be stored in adequate bunding (in accordance with Australia Standard 1940 – The storage and handling of flammable and combustible liquids) as far away from streams as practicable and appropriately protected against flooding or runoff. Spill kits will be made		

Aspect	Ref UMM #	Updated Mitigation Measures	Where addressed	How Addressed
		available, and a spill response plan developed. • Plant refuelling will occur as far away from streams as possible and appropriate spill prevention measures (such as diversion bunds/cut off drains upslope and drip trays and spill kits) will be implemented when refuelling.		
Soils, Geology and Contamination	SC1	Prior to ground disturbance within areas mapped as moderate to high risk saline soils, an inspection will be undertaken for the presence of saline soils. Areas of known or suspected salinity will be subject to further testing as required. If salinity is confirmed, excavated soils will be managed in accordance with Book 4 Dryland Salinity: Productive use of Saline Land and Water (NSW DECC, 2008c) and the Salinity Training Manual (DPI, 2014) to manage salinity impacts. Erosion controls will be implemented in accordance with Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom 2004), and Volumes 2A (DECC, 2008a) and 2C (DECC, 2008b), commonly referred to as the 'Blue Book'. Prior to construction, materials will be selected to withstand acidic or high saline soil and groundwater environment (where applicable). During construction, existing areas of waterlogging and poor drainage will be avoided, where possible, when building access tracks and permanent structures.	Section 7.7	Mitigation Measure SW35 in Table 22.
	SC2	Disturbance to areas of environmental concern (AECs) identified as having a moderate risk or greater will be avoided or minimised where practicable during construction. Where disturbance cannot be avoided, potential impacts will be minimised during finalisation of the design and construction methodology, where practicable. AECs identified as having a moderate risk that will be disturbed will be further assessed prior to construction. The investigations will be undertaken in accordance with the assessment of site contamination NEPM 2013. Any remediation required for the project will be undertaken based on a site-specific Remedial Action Plan. The Remedial Action Plan will define remedial goals and objectives, performance criteria for remedial effort and remediation methodology. A validation report will be prepared after remedial effort and be in accordance with the NSW EPA Guidelines for Consultants Reporting on Contaminated Land (NSW EPA, 2020b).	Section 7.7	Mitigation Measure SW37 – SW39 in Table 22.
	SC3	Prior to ground disturbance in areas of potential acid sulfate soil or rock occurrence, testing will be carried out to	Section 7.7	Mitigation Measure SW36 in Table 22.

Aspect	Ref UMM #	Updated Mitigation Measures	Where addressed	How Addressed
		determine the presence of actual and/or potential acid sulfate soils or rocks. If acid sulfate soils or rocks are encountered, they will be managed in accordance with the Acid Sulfate Soil Manual (ASSMAC, 1998).		
	SC4	All chemicals, fuels or other hazardous substances will be stored in accordance with the supplier's instructions and relevant legislation, Australian Standards and applicable guidelines. Environmental spill kits containing spill response materials suitable for the work being undertaken will be available with extras available to be carried in vehicles. A spill response procedure will be developed and implemented. All staff will be trained in emergency spill procedures.	Section 7.7	Mitigation Measure SW30-SW32 in Table 22.
	SC5	Detailed design will consider the risk of encountering naturally occurring asbestos (NOA) within the project footprint. Consideration may include movement of footings to areas with less risk of NOA, footing design changes or minimising rock blasting and ripping where practicable An Asbestos Management Plan will be prepared in accordance with the NSW Government Code of Practice How to Manage and Control Asbestos in the Workplace (SafeWork, 2020). The Asbestos Management Plan will include the following measures: • management or isolation of areas mapped as medium to high risk of NOA, where direct disturbance of NOA is confirmed to be required for project construction works • placement of suitable signage around the work areas • list of appropriate personal protective equipment, including Respiratory Protective Equipment • implementation of dust suppression controls including wetting surfaces, covering disturbed surfaces and the use of sealed air-conditioned vehicles to minimise potential asbestos impacts to workers • decontamination of the workers' coveralls, personal protective equipment, equipment and work site • procedures for the disposal of NOA material or waste, if required • implementation of air monitoring using pumps and sample filter grid cowls for asbestos fibres and dusts if it is suspected that exposure to NOA dust during work might exceed safe levels of airborne asbestos. The air monitoring pumps, and reporting, must be	Section 7.7 Also addressed in Appendix I Asbestos Management Plan.	Mitigation Measures SW37 and SW40 in Table 22

Aspect	Ref UMM #	Updated Mitigation Measures	Where addressed	How Addressed
		undertaken by a licensed asbestos assessor.		
	SC6	The contractor will undertake compliance monitoring, keep a record of waste volumes and waste types and keep a stockpile register where excavations and stripping of surface soil contamination occurs. The contractor will keep all records during construction for waste disposal and for the importation of materials such as engineering fill and excavated natural materials (ENM) or virgin excavated natural materials (VENM) soils. Engineering fill materials for use on site will be validated to confirm they meet the classification of VENM or ENM prior to being transported to site.	Section 7.7	Mitigation Measure SW41 – SW42 in Table 22
	SC7	The discovery of any unexpected contamination during construction will be managed in accordance with an Unexpected Contaminants Finds Protocol which will be prepared prior to construction.	Section 7.7 Appendix B: Unexpected Contaminated Finds Procedure	Mitigation Measure SW1 in Table 22.
Surface water and groundwater	SW1	An Erosion and Sediment Control Plan (ESCP) will be developed and implemented in consultation with a Certified Professional in Erosion and Sediment Control during construction for activities and areas that are considered higher risk. The plan will detail the processes, responsibilities and measures to manage potential soil and water quality impacts in accordance with the principles and requirements in: • Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom, 2004), and Volumes 2A (DEC, 2008b) and 2C (DECC, 2008a), commonly referred to as the 'Blue Book' • Best Practice Erosion and Sediment Control (IECA, 2008) • Transgrid's Environmental Guidance Notes • Guidelines for controlled activities (Riparian corridors (DPE, 2022c) and Watercourse crossings (DPE, 2022b)).	Section 7.1, 7.7 Appendix D: Erosion and Sediment Control Strategy	Mitigation Measure SW3 in Table 22.
	SW2	Consideration of scour protection will be included for any infrastructure that is within a waterway. The design will incorporate features that minimise impact on flow conditions and natural functioning of the waterway, where feasible and reasonable. For work within or near waterways consider and adhere to the following guidelines • Guidelines for Controlled Activity - In-stream works (DPE, 2022f) • Guidelines for Controlled Activity - Watercourse crossings (DPE, 2022e) • Why Do Fish Need to Cross the Road? Fish Passage	Section 7.7	Mitigation Measure SW16 and SW17 in Table 22.

Aspect	Ref UMM #	Updated Mitigation Measures	Where addressed	How Addressed
		Requirements for Waterway Crossings (DPI, 2003) • Policy and Guidelines for Fish Habitat Conservation and Management (DPI, 2013).		
	SW3	Water quality monitoring will be implemented to establish baseline water quality conditions in waterways of high sensitivity that may be impacted by nearby construction and to detect any changes in water quality that may be attributable to the project during construction. The frequency, location and duration of sampling will be detailed in a monitoring program. Monitoring locations will include: • at a minimum two monitoring locations (one located upstream and one downstream of the transmission line crossing) for waterways with a Strahler 4th stream order or higher within the SDWC where construction activities within 200 metres of the waterway will be carried out and could result in impacts • monitoring for total dissolved solids, total suspended solids, total nitrogen, and total phosphorus.	Section 7.7 Appendix A: Water Quality Monitoring	Mitigation Measure SW18 in Table 22.
	SW4	Water supply management will be undertaken in accordance with agreements between the construction contractors, relevant landowners, and relevant water users and suppliers. Groundwater and surface water allocations purchased from existing registered bores/users must be extracted in accordance with the conditions stated in the associated Water Access Licences(s) (WAL(s)) and Water Supply Works approval(s).	Section 7.7	Mitigation Measure SW19 in Table 22.
	SW5	Alternative construction methodologies will be investigated and implemented as required to minimise impacts to groundwater dependent ecosystems (GDEs) and registered groundwater bores, if identified to be directly impacted during detailed design. Make good provisions will need to be made to the groundwater user(s) for bores that will be affected in line with the minimal impact criteria listed within the NSW Aquifer Interference Policy. Where groundwater dewatering is required, the following will be conducted: • dewatering assessment (including dewatering volume estimates) • dewatering procedures will be included in the Soil and Water Management Plan (SWMP) in line with the minimal impact criteria listed within the NSW Aquifer Interference Policy, relevant water sharing plans (WSPs) and	Section 5.3 Section 7.7 Appendix C: Dewatering Procedure	Mitigation Measure SW15 and SW20 in Table 22.

Aspect	Ref UMM #	Updated Mitigation Measures	Where addressed	How Addressed
		licencing requirements where relevant • Water Supply Works Approval (where needed) • Water Access Licence (WAL) (if dewatering volumes exceed 3 ML/year).		
	SW6	Where controlled blasting is required, a suitably qualified blasting specialist will be engaged to carry out a detailed blasting assessment and trial blasts (if required) to determine blasting design and site-specific parameters. The blasting assessment should identify measures to limit vibrations to the recommended “safe” levels (defined in AS 2187.2-2006 Explosives - Storage and use), limit rock mass damage, avoid "over-blasting" and consider and mitigate potential impacts to: • groundwater dependent ecosystems • groundwater users • surface water bodies.	Not Applicable	Blasting not currently proposed. In the event that blasting is proposed, this SWMP will be updated to address UMM SW6.
Hydrology and Flooding	HF1	Suitable on-site drainage design and stormwater management strategies and plans will be implemented to limit adverse flood impacts on surrounding properties during construction.	Section 7.7	Mitigation Measure SW27 in Table 22. Erosion and Sediment Control Strategy (Appendix D).
	HF2	The detailed design will consider the potential impacts on flooding associated with earthworks for new access tracks and the need for cross drainage culverts or bridge structures. The cross drainage infrastructure will be sized appropriately to minimise adverse flood impacts.	Section 7.7	Mitigation Measure SW26 in Table 22.
	HF3	Where possible, overland flow paths up to the 5% AEP event for construction compounds and 2% AEP for combined worker accommodation facilities and construction compounds are to remain unobstructed from bulk filling, site infrastructure and/or stockpiling. Selective placement of sensitive or vulnerable infrastructure (eg electrical equipment, buildings, machinery, stockpiles, pedestrianised areas etc) will be considered in flood prone areas. Where bulk filling of flood prone land is required, a flood impact assessment is required to demonstrate the impact of proposed works with consideration of mitigation measures to minimise any downstream impacts.	Section 7.7	To be managed via the design process – refer to mitigation Measure SW29 in Table 22.
	HF4	Where possible, existing drainage and overland flowpaths will be maintained at construction compounds, combined worker accommodation facilities and construction compounds and Bannaby 500 kV substation. Where filling is required, suitable	Section 7.7	Mitigation Measure SW28 in Table 22.

Aspect	Ref UMM #	Updated Mitigation Measures	Where addressed	How Addressed
		drainage design and stormwater management strategies and plans will be implemented to limit adverse flood impacts on surrounding properties. Selective placement of sensitive or vulnerable infrastructure (eg electrical equipment, buildings, machinery, stockpiles, pedestrianised areas etc) will be allocated to areas away from drainage lines. On site detention will be incorporated where increases in site stormwater discharges exceed predevelopment flows and will be designed in accordance with Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom, 2004), and Volumes 2A (DECC, 2008a) and 2C (DECC, 2008b), commonly referred to as the 'Blue Book'.		
Hazard and Risks	HR9	All chemicals, fuels or other hazardous substances will be stored in accordance with the supplier's instructions and relevant legislation, Australian Standards and applicable guidelines. The capacity of any bunded area will be at least 130 per cent of the largest chemical volume contained within the bunded area. The location of the bunded enclosure/s will be shown on the site plans.	Section 7.7	Mitigation Measure SW31 in Table 22.
	HR10	Dangerous goods and hazardous substances will be transported in accordance with relevant legislation and codes, including the Dangerous Goods (Road and Rail Transport) Act 2008, Road and Rail Transport (Dangerous Goods) (Road) Regulation 1998 and the Australian Code for the Transport of Dangerous Goods by Road and Rail (National Transport Commission, 2018).	Section 7.7	Mitigation Measure SW34 in Table 22.
Waste	W2	Stockpiled wastes, where required, will be: • appropriately segregated to avoid mixing and contamination • appropriately signposted • appropriately stored in accordance with Managing Urban Stormwater – Soils and Construction (Landcom, 2004) • less than three metres in height with an appropriate height to length batter ratio • located as far away as reasonably practicable from sensitive receivers, ecological areas and waterways.	Section 7.7 Section 5.6 of the Waste Management Plan	Mitigation Measure WA1 in Table 22

4. CONSULTATION

4.1 CONSULTATION FOR PLAN PREPARATION

This Plan has been developed and finalised in consultation with the Department of Climate Change, Energy, the Environment and Water (DCCEEW), BSC, Water Group and relevant councils in accordance with CoA B24. Consultation with each agency, including responses received and how any issues raised are addressed in the development of this Plan have been provided to the Planning Secretary along with this Plan. A summary of consultation is below in Table 5.

Table 5 Summary of Consultation

Government agency	Date consulted	Date of response	Notes
Early consultation			
Goulburn Mulwaree Council	1/7/24	16/7/24	-
Snowy Valleys Council	1/7/24	19/9/24	-
Cootamundra-Gundagai Regional Council	1/7/24	-	Sent reminder email on 15/7/24. No response received, however, Council submitted response to post NSW approval consultation.
Yass Valley Council	1/7/24	23/9/24	-
Upper Lachlan Shire Council	1/7/24	2/10/24	-
DCCEEW Water	28/6/24	13/8/24	-
Post NSW approval consultation			
Goulburn Mulwaree Council	22/11/24	26/11/24	-
Snowy Valleys Council	22/11/24	9/1/25	-
Cootamundra-Gundagai Regional Council	22/11/24	21/1/25	-
Yass Valley Council	22/11/24	9/1/25	-
Upper Lachlan Shire Council	22/11/24	-	• Prior to submission Council given notice (on 15/11/24) Protocol would be submitted • When protocol submitted on 22/11/24 Council was offered a presentation – not taken up • Comments were due in Planning Portal on 20/12/24

			• Reminder sent on 13/12/24 • Second reminder sent on 9/1/25 (post closure on Portal).
DCCEEW Water	22/11/24	20/12/24	-
BCS	27/11/24	10/1/25	-

4.2 ONGOING CONSULTATION

Any ongoing consultation with agencies, where required, will be undertaken in accordance with Table 3 of this Plan. Community feedback and complaints relating to soil and surface water management will be managed in accordance with the Community Consultation Strategy and Complaints Management System.

5. EXISTING ENVIRONMENT

The Project is located within four Local Government Areas (LGAs), including Snowy Valleys, Cootamundra-Gundagai Regional, Yass Valley and Upper Lachlan Shire. The areas surrounding the Project alignment and construction support sites are mostly residential farming and forestry areas.

This section summarises the existing soil and water environment within and adjacent to the Project as assessed during the EIS and Amendment Report. The key reference documents include:

- Chapters 16, 17 and 18 of the EIS
- Relevant Appendices to the above EIS Chapters
- Sections 6.10, 6.11 and 6.12 of the Amendment Report
- Relevant Appendices to the above Amendment Report Sections.

5.1 TOPOGRAPHY AND SOIL CHARACTERISTICS

5.1.1 TOPOGRAPHY

The Project area topography is hilly with elevation ranging from 261 mAHD to 768 mAHD between Tumut and Yass and elevations ranging between 537 mAHD and 928 mAHD between Yass and Bannaby.

5.1.2 SOILS AND GEOLOGY

Surface outcrops of geological units within the Project have been determined from a review of the NSW Seamless Geology dataset (Department of Regional NSW, DRNSW 2022). The Project extends through and across highly variable landscapes and geological history given the scale of the Project.

Of the 97 formations underlying the study area, Quaternary aged alluvial deposits make up the largest proportion at 7.6 per cent, with other Silurian, Ordovician, and Devonian aged formations making up the larger proportions. There are 83 formations underlying the Project area, each with a proportion less than two per cent.

Soils vary across the Project footprint primarily according to geology, topography, and landscape position. Topsoils are generally thin sandy loams to sandy clay loams, whereas subsoils vary from loamy sands to heavy clays. Soils are often acidic and/or dispersive, with low fertility.

5.1.3 SALINITY

5.1.3.1 OVERALL SAILINITY HAZARD

Section 5.2 and Attachment F of Technical Report 10 (Phase 1 Contamination Assessment Addendum) has identified an overall salinity hazard over part of the Project area and presented mapping for this. The salinity hazard was identified from a review of the Hydrogeological Landscapes of NSW and ACT dataset (DPE, 2022).

The overall salinity hazard integrates land (soil) salinity, salt export, and electrical conductivity of stream water in a hydrogeological landscape (HGL) to provide a hazard rating using a risk matrix. Overall salinity hazard uses a five-class system (Table 6) which helps to identify and prioritise where specific salinity management may be required. Overall salinity mapping indicates the Project footprint has a salinity hazard ranging from very low to very high.

Areas of high overall salinity hazard are located along the banks of O'Briens Creek and Brungle Creek and areas to the south of the Crookwell town centre, between Crookwell Road and Middle Arm Road. The Project footprint passes through areas of very high overall salinity hazard around the town centre of Yass, between Washpen Creek to Range Road. The proportion of the Project area that intercepts each overall salinity hazard class is presented in Table 7. Approximately 56% of the overall Project area intercepts moderate to very high overall salinity hazard areas.

Hazard classes for specific work areas across the Project have been obtained from the Epic HumeLink East – Sampling and Analysis Quality Plan (2024) and are summarised in Table 8.

Table 6 Salinity risk matrix for overall salinity hazard

	Limited potential impact	Significant potential impact	Severe potential impact
High likelihood of occurrence	Moderate	High	Very high
Moderate likelihood of occurrence	Low	Moderate	High
Low likelihood of occurrence	Very low	Low	Moderate

Table 7 The proportion of the Project area that intercepts each overall salinity hazard class

Overall salinity hazard class	Percentage
Very low	1.4
Low	42.2
Moderate	24.9
High	7.2
Very high	24.2
Water	0.1

Table 8 Overall salinity risk across specific Project areas

Type	Name/ID	Description	Area	Overall salinity hazard class
Towers/ infrastructure	5C1/5C2-052 – 5C1/5C2-069	Towers and associated alignment, with access tracks	Approximately 9 km of Project alignment with 6 associated access tracks	Moderate
	5C1/5C2-069 – 5C1/5C2-072, 5C1/5C2-073 – 5C1/5C2-092	Towers and associated alignment and access tracks., as well as the Crookwell Compound (AC06)	Approximately 12 km of Project alignment, and AC06 (approx. 5 hectares)	High
	5C1/5C2-097 – 5C1/5C2-098,	Two towers and associated alignment	Approximately 630 m of Project alignment	Moderate
	5C1/5C2-100 – 5C1/5C2-116	Towers and associated alignment, with access tracks	Approximately 7.8 km of Project alignment with 6 associated access tracks	Moderate
	5C1/5C2-137 – 5C1/5C2/152.1	Towers and associated alignment, with access tracks	Approximately 7.9 km of Project alignment and 5 associated access tracks	Very high
	5C1/5C2-168 – 5C1/5C2-267	Towers and associated alignment, with access tracks	Approximately 49 km of Project alignment, and 36 associated access tracks	Very high
	5C1/5C2-267 – 5C1/5C2-273	Towers and associated alignment	Approximately 1.7 km of Project alignment	Moderate
	Lot 15 boundary – 5C1/5C2-280	Towers and associated alignment, with access track	Approximately 1.1 km of Project alignment and one access track	Moderate

Type	Name/ID	Description	Area	Overall salinity hazard class
	5C1/5C2-280 – 5C1-5C2-345	Towers and associated alignment, with access tracks	Approximately 30 km of Project alignment and 31 access tracks	Moderate
	5C1/5C2-392 – 5C1/5C2-399	Towers and associated alignment, with access tracks	Approximately 4 km of Project alignment and 5 access tracks	High
	5C1/5C2-412 – 5C1/5C2-413	Towers and associated alignment, with access track	Approximately 800 m of Project alignment and 1 access track.	High
	5C1/5C2-414 – 5C1/5C2-429	Towers and associated alignment, with access tracks	Approximately 6.6 km of Project alignment and 6 access tracks	Moderate
Areas of Environmental Concern (AECs)	AEC1	Rural landscape	4.0 hectares	Low
	AEC2	Rural and agricultural landscape	1.6 hectares	Low
	AEC3	Private agricultural use	0.5 hectares	Very high
	AEC4	Rural and agricultural landscape	1.8 hectares	Very high
Project support compounds	AC04	Adjungbilly Camp	6.13 hectares	Low
	AC06	Crookwell Compound	22.0 hectares	Moderate
	C12	Bannaby 500 kV substation	2.7 hectares	Low
	C19	Gadara Road Laydown	3.8 hectares	Moderate
	-	Yass Compound	11.7 hectares	Very high

5.1.3.2 LAND SALINITY HAZARD

The land salinity component of overall salinity hazard may be most relevant for construction activities (i.e., excavation and land rehabilitation). Land salinity is a function of how much salt is stored in and how easily it is mobilised from the soil profile. Land salinity hazard is rated using a three class system (Table 9).

Areas of moderate to high land salinity hazard may warrant management during planning and construction (i.e., field identification of suspected soil salinity, testing for salinity, and developing management measures for any salinity identified). Land salinity hazard mapping indicates the Project footprint has a land salinity hazard ranging from low to high. Areas of high land salinity hazard include Jindalee to Broadway, Gurrandah, Dollarvale, and along the banks of the Wollondilly River and the Lachlan River and their tributaries. Areas of moderate salinity rating include Wyangle, Bookham to Jindalee, Bannister, Woodhouselee to Backarm, and the banks of the Tarlo River, Sawpit Creek, and Gurrundah Creek. The proportion of the Project area that intercepts each land salinity hazard class is presented in Table 10. More than 67% of the Project intercepts areas with moderate or high land salinity hazard. Hazard classes for specific work areas across the Project have been reviewed using land salinity mapping and are summarised in Table 11. Mapping is presented in Appendix F.

Table 9 Salinity risk matrix for land (soil) salinity hazard

	Low availability	Moderate availability	High availability
High salt store	Moderate	High	High
Moderate salt store	Low	Moderate	High
Low salt store	Low	Low	Moderate

Table 10 Proportion of the Project area that intercepts each land salinity hazard class

Overall salinity risk	Percentage
Low	32.38
Moderate	37.41
High	30.13
Water	0.08

Table 11 Land salinity risk (above low hazard class) across specific Project areas

Type	Name/ID	Description	Area	Land salinity hazard class
Towers/ infrastructure	5C1/5C2-053 – 5C1/5C2-064	Towers and associated alignment, with access tracks	Approximately 5.5 km of Project alignment with associated access tracks	High
	5C1/5C2-065 – 5C1/5C2-067	Towers and associated alignment, with access tracks	Approximately 1 km of Project alignment with associated access tracks	Moderate
	5C1/5C2-069	Towers and associated alignment and access tracks, as well as the Crookwell Compound (AC06)	Approximately 12 km of Project alignment, and AC06 (approx. 5 hectares)	High
	5C1/5C2-070 – 5C1/5C2-071			Moderate
	5C1/5C2-074 – 5C1/5C2-084			Moderate
	5C1/5C2-086 – 5C1/5C2-091			Moderate
	5C1/5C2-100 – 5C1/5C2-112		Approximately 5 km of Project alignment with associated access tracks	High
	5C1/5C2-114 – 5C1/5C2-115		Approximately 1.0 km of Project alignment with associated access tracks	High
	5C1/5C2-116 – 5C1/5C2-117	Towers and associated alignment and access tracks	Approximately 1.0 km of Project alignment with associated access tracks	Moderate
	5C1/5C2-120 – 5C1/5C2-126	Towers and associated alignment and access tracks	Approximately 3.5 km of Project alignment with associated access tracks	Moderate
	5C1/5C2-129	Towers and associated alignment and access tracks	Approximately 0.5 km of Project alignment with	Moderate

Type	Name/ID	Description	Area	Land salinity hazard class
			associated access tracks	
	5C1/5C2-131	Towers and associated alignment and access tracks	Approximately 1.0 km of Project alignment with associated access tracks	Moderate
	5C1/5C2-134 – 5C1/5C2-136	Towers and associated alignment and access tracks	Approximately 1.5 km of Project alignment with associated access tracks	Moderate
	5C1/5C2-137 – 5C1/5C2-152.1	Towers and associated alignment and access tracks	Approximately 7.5 km of Project alignment with associated access tracks	High
	5C1/5C2-168 – 5C1/5C2-267	Towers and associated alignment and access tracks, as well as AEC3 and AEC4	Approximately 48.0 km of Project alignment with associated access tracks	High
	5C1/5C2-268 – 5C1/5C2-270	Towers and associated alignment and access tracks	Approximately 1.5 km of Project alignment with associated access tracks	Moderate
	5C1/5C2-278 – 5C1/5C2-279	Towers and associated alignment and access tracks	Approximately 0.7 km of Project alignment with associated access tracks	Moderate
	5C1/5C2-282 – 5C1/5C2-344	Towers and associated alignment and access tracks	Approximately 29.0 km of Project alignment with associated access tracks	Moderate
	5C1/5C2-389 – 5C1/5C2-428	Towers and associated alignment and access tracks	Approximately 20.0 km of Project alignment with associated access tracks	Moderate
	5C1/5C2-433 – 5C1/5C2-453	Towers and associated alignment and access tracks, as well as the Gadara Road Compound (C19)	Approximately 10.0 km of Project alignment with associated access tracks	Moderate
	5C1/5C2-459 – 5C1/5C2-465	Towers and associated alignment and access tracks	Approximately 3.0 km of Project alignment with associated access tracks	Moderate
Areas of Environmental Concern (AECs)	AEC1	Rural landscape	4.0 hectares	Low
	AEC2	Rural and agricultural landscape	1.6 hectares	Mostly low, partially moderate
	AEC3	Private agricultural use	0.5 hectares	High

Type	Name/ID	Description	Area	Land salinity hazard class
	AEC4	Rural and agricultural landscape	1.8 hectares	High
Project support compounds	AC04	Adjungbilly Camp	6.13 hectares	Low
	AC06	Crookwell Compound	22.0 hectares	Moderate
	C12	Bannaby 500 kV substation	2.7 hectares	Low
	C19	Gadara Road Laydown	3.8 hectares	Mostly moderate, partially low
	-	Yass Compound	11.7 hectares	High

5.1.4 ACID SULFATE SOILS

Acid sulfate soils and potential acid sulfate soils are naturally occurring soils containing iron sulfides. When exposed to air, iron sulfides oxidise and create sulfuric acid resulting in the mobilisation of aluminium, iron and manganese from the soils.

The Australian Soil Resource Information System (CSIRO, 2014) indicates that there is low or extremely low probability of acid sulfate soils within the Project footprint.

5.1.5 NATURALLY OCCURING ASBESTOS

Naturally occurring asbestos (NOA) refers to the mineral component found in certain types of soils or rock formations, as opposed to asbestos present in commercial products, mining or processing operations. NOA minerals are associated with rock formations that are present within NSW in the Lachlan Fold Belt. The NSW Government's online environmental data portal has mapped the probability of NOA being present as low, medium or high potential regions (DRNSW, 2015). A review of the database indicates that NOA is not mapped in most of the Project footprint. However, low, medium and high potential regions of NOA have been mapped in the following locations:

- Low potential regions - from Red Hill to Gilmore
- Medium potential regions - south of Red Hill and between Sharps Creek and Wondalga
- High potential regions - around Red Hill and Gadara.

5.2 SURFACE WATER

Surface water investigations were undertaken as part of the EIS and are presented in Technical Report 12 Surface Water and Groundwater Impact Assessment. The Project intersects the following catchment areas:

- Murrumbidgee River Catchment
- Lachlan River Catchment
- Hawkesbury-Nepean River Catchment.

A description of the key waterways and catchment relevant to the Project as detailed in the EIS is outlined in Table 12 below.

Table 12: Description of key waterways and catchments relevant to the Project as outlined in the EIS

Waterway / Catchment	Description	Relevant Project features
Murrumbidgee River (Yass River and Tumut River Major Tributaries) / Murrumbidgee River Catchment	• This catchment has an area of 84,000 square kilometres. • The Murrumbidgee River drains much of southern NSW and most of the ACT. • Murrumbidgee, Tumut, Goobarragandra, Gudgenby, Naas, Molonglo, Queanbeyan, Cotter and Yass Rivers are key tributaries. • Major water users include local councils and water utilities, forestry, tourism, and agriculture, including rice, dairy, wool, wheat, beef, lamb, grapes and citrus.	Approximately 163 km of the Project
Lachlan River and tributaries / Lachlan River Catchment	• This catchment occupies an area of around 90,000 square kilometres. • The Lachlan River joins the Murrumbidgee River. However, very little water reaches the Murrumbidgee River as most of it is extracted by water users or provides inflows to the wetlands in the lower Lachlan River catchment. • Major water users are local councils, water utilities, mining and agriculture, including dairy, wool, beef and lamb, as well as irrigated crops such as cereals, lucerne and cotton.	Approximately 38 km of the Project
Nepean River and tributaries / Hawkesbury-Nepean River Catchment	• This catchment has an area of 21,400 square kilometres. • River flows within much of the catchment area heavily controlled by Warragamba, Wingecarribee, Avon, Cataract, Cordeaux, Nepean, Mangrove Creek and Lyell dams. • The main rivers and tributaries are the Avon, Cataract, Colo, Cordeaux, Coxs, Grose, McDonald, Tarlo, Warragamba, Wollondilly and Wingecarribee Rivers as well as the Hawkesbury-Nepean River channel. • Major water users in this catchment include local councils, agriculture irrigation, tourism, fishing and oyster industries, various recreational users and Sydney's drinking water supply.	Approximately 65 km of the Project

The locations of the catchments associated with the Project are shown in Figure 2.

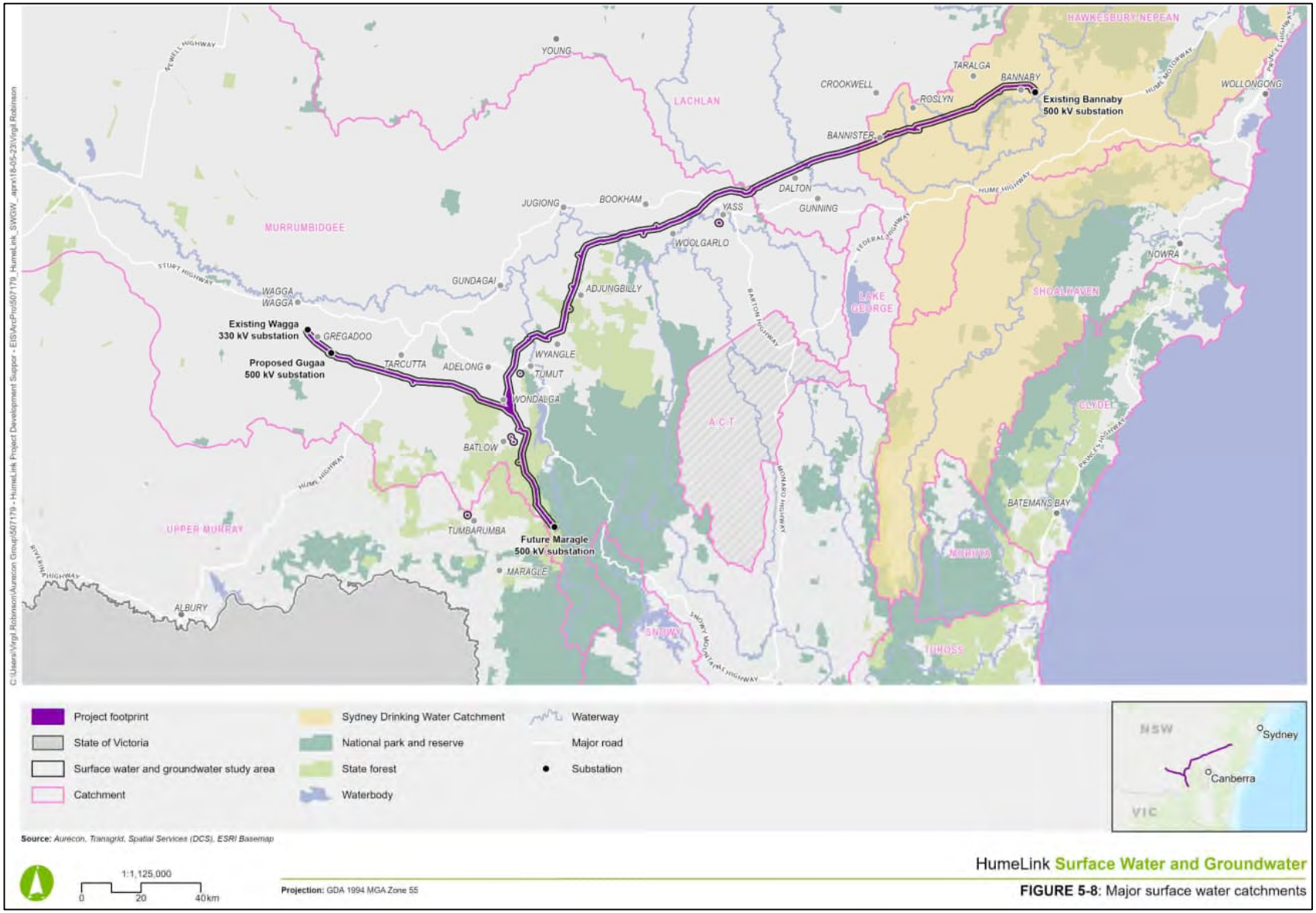

Figure 2: Locations of the catchments associated with the Project

5.2.1 SURFACE WATER QUALITY

A review of the existing water quality data and site-specific water quality monitoring indicates that the waterways vary in condition, with Murrumbidgee ranging from good to very poor, Lachlan ranging from fair to poor, and samples from the Hawkesbury – Nepean frequently exceeding the trigger levels.

The water quality of each assessed waterway is summarised in Table 13.

Table 13: Existing water quality conditions in the study area

Waterway Catchment	Commentary on ANZECC (2000) indicators	Monitoring sites/data source
Murrumbidgee River Catchment	• Temperatures were generally within guideline conditions at all monitoring locations apart from the Tumut River (#410073) where a median temperature of 12°C was recorded. • Conductivity was within guideline conditions at all monitoring locations. • Total Phosphorus (TP), Total Nitrogen (TN) and turbidity were outside guideline values at each monitoring location. • pH was within guideline range at all monitoring locations.	• Tumut River at Oddys Bridge (# 410073) • Murrumbidgee River at Gundagai (#410068)
Lachlan River Catchment	• Temperature was within guideline conditions. • Conductivity exceeded the guideline value range. • pH was within the guideline conditions. • TN and TP generally exceeded guideline conditions.	• Lachlan River at Reid's Flat (#412027)
Hawkesbury-Nepean River Catchment	• Temperatures were generally within guideline conditions at all monitoring locations apart from the Tarlo River (#2122713) where a median temperature of 14.2°C was recorded. • Conductivity was within the guideline conditions at Wollondilly River (#2122711) but exceeded the guideline value range at Tarlo River (#2122713). • TP exceeded guideline values at both sites. Turbidity was within the guideline value range at all sites. • pH was within the guideline conditions at Tarlo River (#2122713) but exceeded the guideline conditions at Wollondilly River (#2122711).	• Tarlo River at Towrang (#2122713) • Wollondilly River at Murray Flats (#2122711)

The existing water quality across the catchments has been periodically monitored and assessed as part of the NSW Monitoring Evaluation and Reporting Program and is captured in the State of the Catchments report (DECC, 2010). The National Water Quality Assessment (Sinclair Knight Merz, 2011) identified that levels of nitrogen and phosphorous often exceeded the trigger values provided in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC, 2000). The Basin Plan 2012 sets water quality targets and objectives to protect water quality in the Murray-Darling Basin's rivers for people and livestock as well as for wetlands and floodplains. Technical Report 12 (Surface Water and Groundwater Impact Assessment) details the water targets from for the Project from The Basin Plan 2012. These water targets are provided in Table 14

Table 14: Basin Plan 2012 water quality targets (Table 3-1 of Technical Report 12 (Surface Water and Groundwater Impact Assessment))

Water Quality Zones	Turbidity (NTU) (Annual Median)	Total Nitrogen (ug/L) (Annual Median)	Total Phosphorous (ug/L) (Annual Median)	Dissolved oxygen (mg/L; or % saturation) (annual median within the range)	pH (Annual Median)	Temperature (monthly median within the range)	Pesticides, heavy metals, and other toxic contaminants (values in Table 3.4.1 of the ANZECC Guidelines)
B3 (Castlereagh, Macquarie, Lachlan and Murrumbidgee valleys; Upland zone)	20	35	600	>8 mg/L; or 90-110%	7.0 - 8.0	Between the 20 percentile and 80 percentile of natural monthly water temperature	95% species protection
C3 (Lachlan and Murrumbidgee valleys Montane zone)	10	20	250	>8 mg/L; or 90-110%	6.5 – 7.5	Between the 20 percentile and 80 percentile of natural monthly water temperature	95% species protection

A number of updated management measures require water quality monitoring, as outlined in Table 3 of the SWMP. A Water Quality Monitoring Program is provided in Appendix A

5.3 GROUNDWATER

Groundwater sources within the Project corridor are regulated by three water sharing plans, including:

- Murrumbidgee Alluvial Groundwater Sources 2020
- The Greater Metropolitan Region Groundwater Sources 2023
- NSW Murray-Darling Basin Fractured Rock Groundwater Sources 2020.

The groundwater assessment in the EIS concluded that 'no more than minimal harm' to groundwater resources is expected in accordance with the NSW Aquifer Interference Policy minimal impact considerations. Therefore, an aquifer interference approval is not considered to be required and make good provisions will not apply to the Project.

In the event that any future assessment (in accordance with UMM SW5) identifies that a bore will be affected in line with the minimal impact criteria listed within the NSW Aquifer Interference Policy, make good provisions would apply and they would be determined and agreed in consultation with the landowner. They could include provision of alternative water supplies, replacement with a deeper bore, or compensation for additional pumping costs (note this list is indicative and not exhaustive).

The EIS identified that temporary dewatering (if required) for excavations could potentially exceed the minimal impact consideration in the NSW Aquifer Interference Policy (AIP) as a worst-case scenario where shallow groundwater is encountered (ie < 2 m below ground level). However, the induced drawdowns would be temporary only and would not prevent the long-term viability of the potentially affected Groundwater Dependent Ecosystems (GDEs) or water supply work. It is unlikely that aquifer interference would exceed 3ML for the life of the Project due to the following:

- There is likely to be no aquifer interference or discharge at Bannaby substation during piling due to granite rock identified during detailed investigations.
- Transmission towers are generally on elevated terrain and groundwater is not anticipated. The construction method requires drilling and pouring piles on the same day, which will also decrease any potential water ingress and therefore dewatering.

5.4 RAINFALL

Rainfall data has been obtained from the Planning Approval Documents for the closest Bureau of Meteorology (BoM) weather stations at Goulburn TAFE (BoM station ID: 070263) (Table 15) and Burrinjuck Dam (BoM station ID: 073007) (Table 16).

Goulburn TAFE has detailed rainfall records from the year 1971. The average annual rainfall for the period of 1971 to 2025 has ranged from a minimum of 362 millimetres (recorded in year 1982) to a maximum of 996.2 millimetres (recorded in year 2022).

Burrinjuck Dam has detailed rainfall records from the year 1908. The average annual rainfall for the period of 1908 to 2025 has ranged from a minimum of 358.1 millimetres (recorded in year 2006) to a maximum of 1684.7 millimetres (recorded in year 1956).

Table 15: Summary of rainfall records from Goulburn TAFE (BoM station ID: 070263)

Goulburn TAFE (BoM station ID: 070263)				
Month	Monthly Rainfall depth (mm)			Mean number of rain days
	Mean	Highest	Lowest	
January	63.4	339.8	0.3	5.3
February	56.2	205	0	4.7
March	62.1	384.2	0.5	5
April	64.3	300	0	5.6
May	79.3	322.7	0	7.4
June	95.4	314.1	5	9.5
July	99.8	253.4	6	10.6
August	97.1	280.3	1.3	10.9
September	83.1	245.7	12	9
October	84.8	225.8	4.8	8.2
November	74.5	206.3	0.2	6.9
December	63.3	260.5	0.2	6
Annual	924.5	1684.7	358.1	89.1

Table 16: Summary of rainfall records from Burrinjuck Dam (BoM station ID: 073007)

Burrinjuck Dam (BoM station ID: 073007)				
Month	Monthly Rainfall depth (mm)			Mean number of rain days
	Mean	Highest	Lowest	
January	63.4	339.8	0.3	5.3
February	56.2	205	0	4.7
March	62.1	384.2	0.5	5
April	64.3	300	0	5.6
May	79.3	322.7	0	7.4
June	95.4	314.1	5	9.5
July	99.8	253.4	6	10.6
August	97.1	280.3	1.3	10.9
September	83.1	245.7	12	9
October	84.8	225.8	4.8	8.2
November	74.5	206.3	0.2	6.9
December	63.3	260.5	0.2	6
Annual	924.5	1684.7	358.1	89.1

5.5 RAINFALL EROSIVITY FACTOR

The rainfall erosivity factor is a measure of the ability of rainfall to cause erosion (referred as “R” in the Revised Universal Soil Loss Equation (RUSLE)). The rainfall erosivity factor is used to determine the soil loss in tonnes per hectare over one year and is used in calculations when sizing construction sediment basins.

The Project has a Rainfall Erosivity Factor erosion index (EI) range between 1250-1500 EI across the Project footprint (based on the maps in Appendix B of the Blue Book (Landcom, 2004)).

5.6 FLOODING

EIS Technical Report 11 Hydrology and Flooding Impact Assessment and Amendment Report Technical Report 11 Hydrology and Flooding Impact Assessment Addendum have identified generally minor adverse impacts on flood behaviour during construction. The assessment of flood risk identified that none of the construction compounds and combined worker accommodation facilities and construction compounds are at risk of regional flooding. Based on the localised works associated with the construction compounds and the level of flood impacts anticipated, the Project is highly unlikely to impact on any existing flood risk management plans, strategies or procedures. The flood risk at the proposed construction compounds and the worker accommodation facility are generally low. A summary of the Amendment Report outcomes is provided below (from Amendment Report Technical Report 11 (Hydrology and Flooding Impact Assessment Addendum)):

- Impacts from construction camps and compounds on local and regional flooding is provided in Table 17
- Summary of impacts on local and regional flooding on construction camps and compounds is provided in Table 18.

Table 17: Summary of construction camp and compound impacts on local and regional flooding

Construction compound and accommodation facilities	Assessment undertaken	Flood Impact
Adjungbilly accommodation facility and compound (AC04)	Two-dimensional flood modelling	**Modelled on a 2% AEP event** No regional flood risk. Local overland flow path within the construction compound extent observed just upstream of Gatleys Creek. Earthwork filling, stockpiling or civil structures within this overland flow path could result in an impact on flooding.
Yass compound (AC05)	Two-dimensional flood modelling	**Modelled on a 2% AEP event** No regional flood risk. Local flooding risk from Bango Creek along the western and southern boundary of the compound. Any earthwork filling, stockpiling or civil structures along these boundaries have the potential to cause flood impacts within the site.
Crookwell compound (AC06)	Two-dimensional flood modelling	**Modelled on a 2% AEP event** No regional flood risk. Local flooding risk from the local catchment. The site has an overland flow path conveying localised surface runoff through the middle of the site. The flood extent divides the site, isolating flood free areas. Any earthwork filling, stockpiling or civil structures in the middle of the site have the potential to cause flood impacts within the site.
Amended Bannaby 500 kV substation compound (C12)	Two-dimensional flood modelling	**Modelled on a 5% AEP event** No regional flood risk. Shallow local drainage through the site is predicted.
Gadara Road compound (C19)	Two-dimensional flood modelling	**Modelled on a 5% AEP event** No regional flood risk. Existing shallow overland flow path located along the northern site boundary which traverses through the site as it flows

Construction compound and accommodation facilities	Assessment undertaken	Flood Impact
		south. Extent of local flooding is confined allowing for development of the remaining flood free portion of the site.

Table 18: Summary of local and regional flooding on construction activities for construction camps and compounds

Construction compound and accommodation facilities	Assessment undertaken	Flood impact
Adjungbilly accommodation facility and compound (AC04)	Two-dimensional flood modelling	**Modelled on a 2% AEP event** No regional flood risk. Local overland flow paths observed passing through the site have the potential to cause impacts on construction activities.
Yass compound (AC05)	Two-dimensional flood modelling	**Modelled on a 2% AEP event** No regional flood risk. Site compound and accommodation facility has the potential for minor encroachment of local flooding from Bango Creek along the north-western and southern boundary of the site. Construction activities within this area could be affected by flooding.
Crookwell compound (AC06)	Two-dimensional flood modelling	**Modelled on a 2% AEP event** No risk from regional flooding. Local flooding is expected through the site, isolating flood free areas. Local flooding has the potential to affect construction activities.
Amended Bannaby 500 kV substation compound (C12)	Two-dimensional flood modelling	**Modelled on a 5% AEP event** Located on the hillside of the local catchment. No regional flood risk. Local drainage management required for the extended area to the west as part of the amended project.
Gadara Road compound (C19)	Two-dimensional flood modelling	**Modelled on a 5% AEP event** No regional flood risk. Local overland flooding observed through the site that could result in impacts on construction activities.

The EIS and Amendment Report also considered the impact of infrastructure such as access tracks on flooding. The flood risks associated with waterway crossings were assessed as being minor, with flooding mostly confined to the waterway valley associated with the waterway crossings. The influence of the newly proposed access tracks on flooding was also qualitatively examined. Most of these tracks intersect with smaller waterways (Strahler stream order 4 or below), where flood risks are relatively low. Given the absence of specific flood immunity requirements for the access tracks, they will be constructed at existing ground levels. This, along with the implementation of appropriate cross drainage, is expected to minimise their impact on flood behaviour by reducing their obstruction to flow. The resulting impacts from and on flooding were considered to generally be minor or low risk and can be managed through proper implementation of the management measures in this Plan. As such, the Project would be compliant with CoA B23 and is not expected to materially alter the flood storage capacity, flows or characteristics on or offsite.

5.7 CONTAMINATION

The Project has been investigated for land contamination as part of Project planning approvals. The UMMs require that disturbance to AECs identified as having a ‘moderate risk or greater’ within the Project area is to be avoided or minimised where practicable. Any AECs identified as having a ‘moderate risk or greater’ for contamination as identified in the EIS will be further investigated and, where appropriate, managed in accordance with a Remedial Action Plan (RAP) and validated by a NSW EPA accredited site auditor.

Areas of moderate risk identified in the Project EIS and Amendment Report that may be affected by the Project are identified in Table 19.

Table 19: Moderate areas of environmental concern

AEC ID	Location	Contamination Identified
AEC1	Tower 1 and Bannaby Substation, Bannaby – substation extension	Asbestos, heavy metals, TRH, BTEX, PCBs
AEC2	Gullen Range 330kV Substation, Bannister - telecommunicatons	Asbestos, heavy metals, TRH, BTEX, PCBs
AEC3	292 Prices Road, Bannister Tower 132 and New Access Tracks	Rural, haybales, cars/dumping material in the west. Impact looks to be north of proposed tower foundation and access tracks.
AEC4	277 Walsh Road, Dalton Tower 181 Existing Access Track	Farm/domestic waste was dumped here. ACM and small stockpiles of soil.
AEC5	Dawes Road, Broadway Tower 200	Car dump. Potentially TRH, heavy metals, etc.

AGJV has engaged a contamination consultant to undertake a Detailed Site Investigation (DSI) for each AEC listed in Table 19. No significant contaminants were identified above background levels and therefore no further action is required.

6. ENVIRONMENTAL ASPECTS AND IMPACTS

This section summarises the potential impacts of the Project as assessed during the EIS and Amendment Report. The key reference documents include:

- Chapter 16, 17 and 18 of the EIS
- Relevant Appendices to the above EIS Chapters
- Sections 6.10, 6.11 and 6.12 of the Amendment Report
- Relevant Appendices to the above Amendment Report Sections.

6.1 CONSTRUCTION ACTIVITIES

Key aspects of the Project that could result in adverse impacts to soils and water include:

Substations

- Site establishment
- Earthworks and vegetation clearance
- Civil and building work
- Demobilisation and rehabilitation.

Transmission lines

- Site establishment and deliveries
- Access tracks
- Earthwork and clearing
- Construction of structures
- Decommissioning and rehabilitation.

Construction compounds and worker accommodation facility

- Site establishment
- Earthworks and vegetation clearance
- Demobilisation and rehabilitation.

6.2 POTENTIAL IMPACTS ARISING FROM CONSTRUCTION

The potential for the Project to impact on soil and water will depend on the nature, extent and magnitude of construction activities and their interaction with the natural environment.

6.2.1 EROSION AND SEDIMENTATION

The proposed construction activities associated with the tower pad, construction support site establishment works, and access track construction and upgrade works will involve surface excavation and earthmoving. The temporary exposure of soil to rainfall, water runoff and wind could increase soil erosion potential, particularly where construction is carried out in soil landscapes characterised by a high or extreme erosion hazard. There is the potential for exposed soils and other unconsolidated materials, such as spoil, sand and other aggregates to be transported from the construction support sites into surrounding waterways via stormwater runoff.

Modelled soil erosion potential is detailed in Section 5.4.3, Surface Water and Groundwater Impact Assessment EIS Technical Report 12 and included in Appendix H.

6.2.1.1 ACID SULFATE SOILS

Most of the soils in the Project footprint are mapped as low probability of encountering acid sulfate soils due to the Project's elevation and surface geology. Therefore, it is unlikely that acid sulfate soils would be encountered during construction. The probability of encountering acid sulfate rock within localised veins and dykes of certain geological formations is low with limited potential for disturbance from deeper excavations and piling.

In the unlikely event that unexpected acid sulfate soils are found, the Unexpected Contaminated Finds Protocol would be followed, which is in accordance with the Acid Sulfate Soil Manual (Acid Sulfate Soil Management Advisory Committee, 1998). The manual includes procedures for the investigation, handling, treatment and management of such soils.

6.2.1.2 SOIL SALINITY

During earthworks, exposure of saline soils could adversely impact surface water and/or groundwater, soil erosion, and soil structure. Impacts can include localised degradation in soil structure, salt scalding at the surface, distressed vegetation and increased salt mobilisation through runoff or groundwater recharge. The main impact from construction would be from the excavation of saline soils for access tracks, easements, and infrastructure.

Construction activities may also generate secondary salinisation, which involves changes in landscape salt movement over time through processes such as the removal of vegetation, altering hydrology, general land use changes, increased hardstand and disturbance of groundwater. As such, construction activities have the potential to result in localised secondary salinisation near creeks, floodplains and drainage lines. These impacts would be managed through the implementation of erosion, drainage and sediment control measures identified in Section 7.

6.2.1.3 NATURAL OCCURING ASBESTOS

There are low, medium and high potential regions of NOA identified within the Project footprint as detailed in the EIS. There is a low overall risk of exposure to NOA during construction as most of the Project footprint is classified as low to no probability. However, there are localised regions with medium risk (to the south of Red Hill and between Sharps Creek and Wondalga) and high risk (around Red Hill and Gadara). In the medium and high potential regions of NOA, excavation could result in the mobilisation of asbestos fibres if NOA is disturbed, improperly stockpiled or not managed appropriately. This may present a risk to human health during construction. Any NOA that is encountered during construction would be managed in accordance with the implementation of an Asbestos Management Plan, Appendix I.

6.2.2 SURFACE WATER

6.2.2.1 SURFACE WATER QUALITY

Potential impacts to surface water quality as a result of surface works include:

- Erosion and mobilisation of exposed soils and open cuts by rainfall, stormwater runoff and wind leading to sedimentation of waterways
- Potential spills of pollutants (chemicals, fuel) flowing to downstream watercourses
- Transfer of spills and pollutants to adjacent roads
- Inappropriate discharge of water
- Mobilisation or activation of saline soils.

6.2.2.2 GEOMORPHOLOGY

Construction of the Project has the potential to impact on geomorphology due to:

- Mobilised sediment which could build up in the streams if not appropriately managed
- Construction of waterway crossings.

6.2.3 CONTAMINATION

There is potential for construction works to impact contaminated lands within the Project. Potential impacts include but are not limited to:

- Excavation in contaminated land
- Unexpected Contamination Finds
- Spills of oil and chemicals
- Cross contamination of stockpiles.

6.2.3.1 SOIL CONTAMINATION

Some areas within the Project footprint are identified as AECs with a moderate risk ranking (based on potential impacts associated with encountering contamination) due to historical and present-day land use and activities (refer to Technical Report 10 (Phase 1 Contamination Assessment)).

Disturbance of contaminated soil within these AECs has the potential to expose human receptors, the environment and flora and fauna to potentially contaminated soil material in the absence of appropriate controls.

In addition, unexpected contamination may potentially be encountered due to previously unknown diversity in the subsurface, soil contamination not previously identified or through existing contamination spreading to previously uncontaminated areas.

Construction activities also have the potential to introduce contamination to the environment within the Project footprint, including through spills and leaks of hazardous and dangerous goods or inappropriate management of stockpiled contaminated soils and materials.

These risks would be minimised and managed through the implementation of the mitigation measures detailed in Section 7.7. Management measures include additional contaminated land investigations within AECs identified as moderate or high risk and the implementation of an unexpected contamination finds protocol during construction.

6.2.3.2 GROUNDWATER CONTAMINATION

The EIS (Technical Report 10 (Contamination Assessment)) identifies that there is a low risk of encountering groundwater contamination during construction due to the minimal and very localised interaction with groundwater and the absence of groundwater contamination sources. Where groundwater is shallow, alternative construction methodologies and designs would be implemented (such as boring) to limit interaction with groundwater. In the event that groundwater dewatering is required during construction, additional investigations would be required to confirm any contaminant levels in the groundwater and assess whether this would have an impact on the environment. If contaminated, groundwater would not be permitted to be released into the surrounding environment.

6.2.3.3 WASTE MANAGEMENT

Waste materials, including potentially contaminated soil, would be produced during construction. Waste would be sampled and classified prior to reuse onsite or offsite in accordance with the NSW Waste Classification Guidelines. For more information refer to the Project's Waste Management Plan (HLE-AGJ-MGT-ALE-PLN-0000-00032).

7. ENVIRONMENTAL CONTROL MEASURES

In order to avoid, mitigate and/or minimise potential impacts on soil and water, a suite of control measures has been developed based on Project commitments and Transgrid environmental management guidelines.

These measures are outlined below and in Table 22.

7.1 EROSION AND SEDIMENT CONTROL PLANS

This Plan will be supported during construction by the preparation of a series of detailed Site Specific or Progressive Erosion and Sedimentation Control Plans (PESCPs) for different stages of construction and specific work areas. These PESCPs will be guided by the Project's Erosion and Sediment Control Strategy (Appendix D).

PESCPs will be developed and implemented in consultation with a Certified Professional in Erosion and Sediment Control (CPESC) during construction for activities and areas that are considered higher risk. The plan will detail the processes, responsibilities and measures to manage potential soil and water quality impacts in accordance with the principles and requirements in:

- Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom, 2004), and Volumes 2A (DEC, 2008) and 2C (DECC, 2008), commonly referred to as the 'Blue Book'
- Best Practice Erosion and Sediment Control (IECA, 2008)
- Transgrid's Environmental Guidance Notes
- Guidelines for controlled activities (Riparian corridors (DPE, 2022) and Watercourse crossings (DPE, 2022)).

PESCPs will be prepared prior to the construction activity generally using general arrangement drawings and indicate (where relevant):

- Catchment areas
- Construction boundaries
- Runoff capture, treatment and disposal
- Areas of contamination
- Exclusion zones and sensitive areas
- Contours and drainage paths
- Access points and tracks (e.g. haulage)
- Compounds and storage areas
- Stockpile sites
- Temporary work areas
- Material processing areas
- Permanent and temporary controls (including order of implementation and maintenance requirements).

A CPESC will prepare or review the initial ESCP to detail the erosion control measures to be utilised across a range of different receiving environments and landforms on the Project. Project environmental staff will use the ESCP as a basis to develop PESCPs in consultation with Project Engineers, Superintendents and Supervisors. For high-risk environments, such as works near major watercourses (including Pejar Dam) or in steep or highly erodible terrain, the progressive ESCPs will be reviewed by the CPESC. This will ensure that erosion and sediment control management is incorporated into the planning stage of construction activities and is coordinated in its approach. PESCPs will be updated as required as sites and associated erosion and sediment control requirements change as the works progress.

Minor changes in the PESCPs will be approved by Project environment staff in consultation with the Environment and Sustainability Manager and CPESC for high risk environments, as required. PESCPs are designed for use as a practical guide and may be produced in conjunction with Work Packs or Environmental Work Method Statements (EWMSs).

PESCPs will include input from field personnel to formulate practical documents for field implementation. In some cases, PESCPs will be developed jointly with EWMSs for complex construction areas.

Refer to Appendix D: Erosion and Sediment Control Strategy for further description of the Project's Erosion and Sediment Control Strategy.

7.2 SOIL STRIPPING AND STOCKPILING

The Project will utilise temporary stockpiles to store excess topsoil and subsoil material from topsoil stripping and earthworks activities. The following techniques will be applied to the management of stockpiles:

- Staging of construction activities to minimise total areas of soil stripping and stockpiling where practicable
- The location of stockpiles will be planned in advance of topsoil stripping and earthworks. Stockpile locations will be selected such that they are:
    - where practicable, located on slopes less than 10%
    - positioned such that erosion of the stockpile and the surrounding area is minimised, such as locating stockpiles as far away from waterways as practicable
    - where practical, positioned such that excavated high salinity material is not placed on land that is currently not visibly salt affected.
    - located as far away as reasonably practicable from sensitive receivers, ecological areas and waterways
- Adequate erosion and sediment control measures will be in place to protect stockpiled sediment against runoff during rainfall or flooding in accordance with Managing Urban Stormwater – Soils and Construction (Landcom, 2004)
- Waterway bed and bank material excavated during construction will be stockpiled outside of the active channel and avoid riparian vegetation. As far as is practicable, any material excavated from the bed of waterways will be stockpiled separately from other materials and returned to the waterway bed following the completion of construction work
- Stripped topsoil will be stockpiled separately from woody material and vegetation and subsoil layers. Stockpiles will be appropriately segregated and signposted.
- Where identified, high salinity soil material will be stockpiled separately from non-saline or low salinity materials to allow higher salinity material to be placed at depth during rehabilitation
- Topsoil and subsoil stockpiles will be retained on site for reuse, where practicable
- As required by the PESCP, clean water diversions will be installed upslope of stockpiles and sediment controls will be installed downslope. This will be particularly important where high salinity material is stockpiled
- Stockpiles will be appropriately stabilised to minimise the risk of erosion
- Any contaminated material stockpiles (i.e. asbestos, contaminated soil) will be covered onsite
- Any high salinity material stockpiled will be covered onsite to minimise generation of saline runoff
- Short-term material stockpiles (<5 days not in use) with potential to generate dust will be wetted down or covered to prevent fugitive dust emissions or run-off during wet weather.
- Stockpiled waste will be less than three metres in height with an appropriate height to length batter ratio

The PESCP will detail requirements in relation to stabilisation based on the size of the stockpile, the duration that the stockpile will remain in place and the proximity to watercourses and other sensitive environments.

The Project aims to balance the cut and fill to minimise spoil removal offsite. Where spoil removal offsite is required, soil will be classified in accordance with the waste classification guidelines prior to removal from site. Spoil will be reused at a suitably licensed recycle facility or construction site where practical or disposal of spoil to landfill as a last option. For more information refer to the Project's Waste Management Plan (HLE-AGJ-MGT-ALE-PLN-0000-00032).

7.3 WATER: SUPPLY, STORAGE, DISCHARGE AND REUSE

7.3.1 SUPPLY

The EIS and Amendment Report assessed water availability for the entire HumeLink project (HumeLink East and HumeLink West). In summary, as described in Section 6.2.5.1 of EIS Technical Report 12 (Surface Water and Groundwater Impact Assessment) and Section 6.1.8.4 of Amendment Report Technical Report 12 (Surface Water and Groundwater Impact Assessment Addendum), the impact on water availability as a result of HumeLink would be negligible in the context of the volume of

water allocated under the Water Sharing Plans in the Project footprint. The scale of HumeLink East remains consistent with that assessed in the EIS and AR. Therefore, AGJV does not anticipate a situation in which a lack of water availability could result in a change to the scale of the development. AGJV will review water supply volumes as the Project progresses to ensure they remain sufficient throughout construction. From detailed design it has been estimated that the total water volume required across the life of the Project is approximately 396ML.

The water source to be used would depend on the location and nature of the construction activity and whether potable or non-potable water is required. Water sources would include:

- Construction sedimentation basins
- Farm dams
- Rainwater tanks
- Council standpipes or connection to council water supply systems
- Groundwater bores
- Purchase of water allocations from existing water users (groundwater and/or surface water).

Where possible, non-potable water would be sourced from construction sedimentation basins and farm dams in agreement with the relevant landowners. However, these sources of water would not meet all the non-potable requirements in all locations. A more predictable and likely source of non-potable water would be the temporary purchase of water allocations from other water users.

Potable water would be sourced from council standpipes via water carts and taken to the construction compounds, or from council water supply systems, as required.

Where required, the camp locations will seek a WAL for new bores and allocations.

If water is required to be purchased, it will be purchased under licensing agreements with the various water suppliers/landholders as required. These agreements are part of ongoing discussions and final locations will be determined during final negotiations. All WALs used to account for water take will be linked to the approved Project by way of a nomination of work dealing (processed by WaterNSW).

Additional water supply points may also be identified as the detailed design stage is progressed in order to reduce the distance to, and the number of vehicle movements associated with water supply.

The available water sources and the Projects predicted leased water volumes are detailed in Table 20.

Table 20 Available water sources and predicted leased water volumes for HLE

Aquifer	Water Source	Water Take Available (ML/yr)	HLE Predicted Leased Water Volume (ML/yr)	HLE Predicted Leased Water Volume
Lachlan Fold MDB GW Source	13 existing water take locations 638 bores	74,175 ML/year	89.1	0.12%
Yass Catchment GW Source	2 existing water take locations 272 bores within 5km of the Project	261 ML/year The camp and compound will have access to town supply.	19.8	7.59%
Lachlan Fold Belt Greater Metropolitan Groundwater Source (formally Goulburn Fractured Rock GW Source)	5 existing water take locations 174 bores	7,999 ML/year available A number of farm dams have also	89.1	1.11%

Aquifer	Water Source	Water Take Available (ML/yr)	HLE Predicted Leased Water Volume (ML/yr)	HLE Predicted Leased Water Volume
		been sourced for water.		

7.3.2 STORAGE, DISCHARGE AND REUSE

Sediment Basins

Sediment basins are stormwater management devices to capture sediment laden runoff water. To manage stormwater, sedimentation basins may be required at some construction location and compounds. Water from sedimentation basins would be discharged in accordance with Managing Urban Stormwater: Soils and Construction - Volume 1 (Landcom, 2004) or be reused during construction e.g. dust suppression.

Farm Dams

When practicable and in agreement with landowner, existing farm dams may be used for construction purposes (i.e. converted to basins for water storage). Water from farm dams would be reused on site or discharged in accordance with Managing Urban Stormwater: Soils and Construction - Volume 1 (Landcom, 2004) (Blue Book).

7.4 HEAVY RAINFALL AND FLOOD MANAGEMENT

There is the potential for construction activities to impact local catchment runoff, which will be managed through appropriate local stormwater management controls to be implemented during construction.

The process to be followed in the event of heavy rainfall (greater than 25 mm in 24 hours) or a flood event for contingency planning during the construction of the Project is outlined in Figure 3.

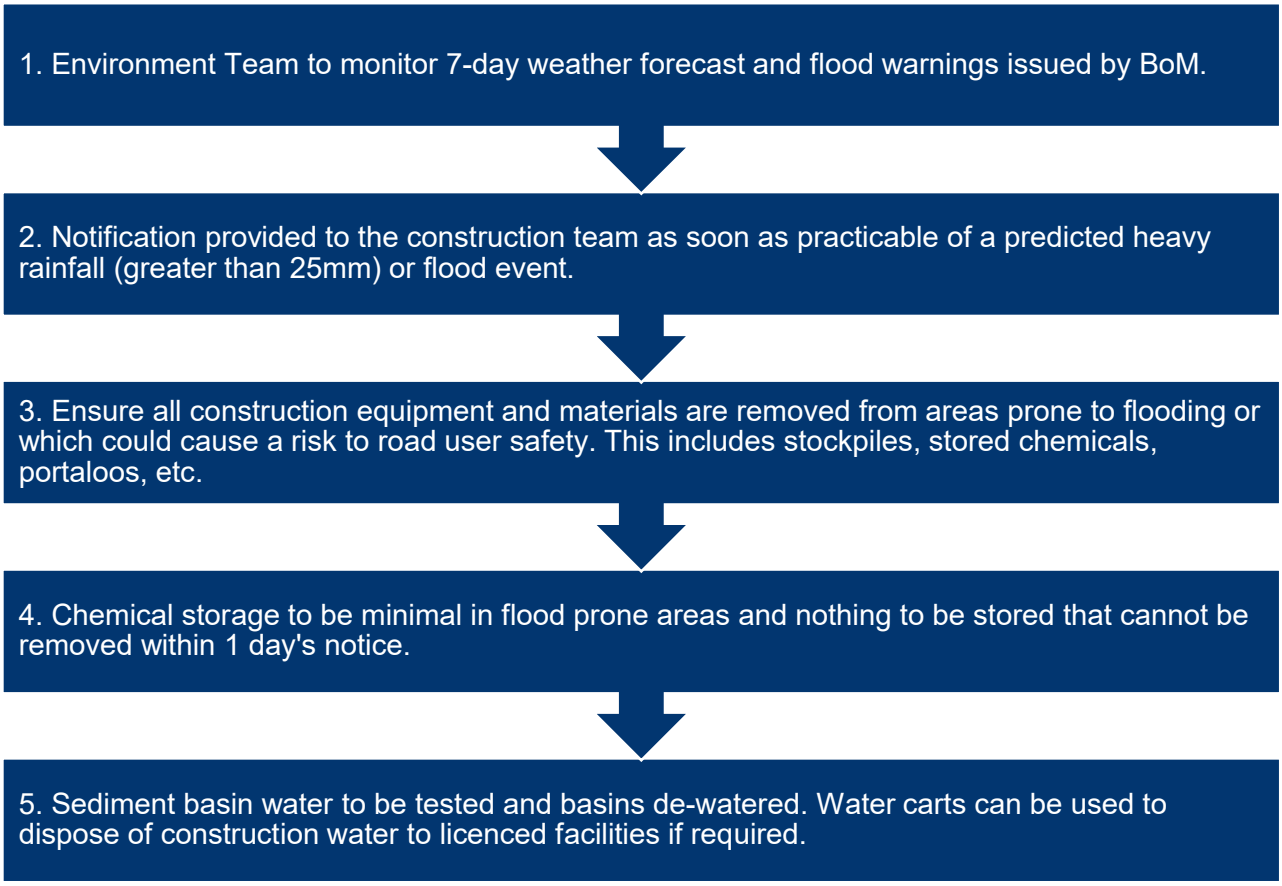

Figure 3: Heavy rainfall and flood event contingency planning process

Flood sensitive areas will have limited stockpiling or storage of potentially hazardous or contaminating material.

As part of the EIS and Amendment Report, flood studies were undertaken. This included assessment of the camp and compound locations. During detailed design permanent structures such as tower locations are being assessed for flood impacts if they are located within the 1% AEP to determine if additional flood immunity is required. The 1% AEP flood maps are provided in Appendix G.

Additional flood mitigation measures are outlined in the Project's Bushfire Emergency Management and Evacuation Plan (BFEMEP) and Traffic and Transport Management Plan (TTMP) which includes a Flood Response Plan.

7.5 SPILL MANAGEMENT

Spills will be managed in accordance with the Spill Response Procedure in Appendix E and the incident management procedures outlined in Section 3.8 of the CEMP.

7.6 CONTAMINATED LAND MANAGEMENT

7.6.1.1 INVESTIGATION AND VERIFICATION

Prior to the commencement of any work that would result in the disturbance of AECs identified as having a moderate risk or greater , where this contamination has not been previously removed or remediated as identified in the Project's EIS (UMM SC2), further assessment will be required prior to construction. The investigations will be undertaken in accordance with the Assessment of Site Contamination (NEPM 2013). If required, the remedial process to achieve a Section A Site Audit Statement will be followed. This process will detail the required management and verification processes relevant to the risk posed. Further information on this process is detailed in Table 21.

Any remediation required for the Project will be undertaken based on a site-specific RAP. The RAP will define remedial goals and objectives, performance criteria for remedial effort and remediation methodology. A validation report will be prepared after remedial effort and be in accordance with the NSW EPA Guidelines for Consultants Reporting on Contaminated Land (NSW EPA, 2020).

Note, where geotechnical investigations are required in contaminated areas, this will be managed through the preparation and implementation of an EWMS which will outline the testing and disposal of waste material and backfill with clean/inert material. This work would not trigger the contamination investigation and verification process described below.

7.6.1.2 DETAILED SITE INVESTIGATION

Where a Detailed Site Investigation is required to be prepared, this will be submitted to Transgrid for information.

7.6.1.3 REMEDIAL ACTION PLAN

Where a RAP is required to make the land suitable for proposed final land use, the RAP will be prepared and submitted to Transgrid for information prior to undertaking the remediation.

If remediation is required, the sustainability hierarchy for remediation will be considered. This includes:

1. If practicable, onsite treatment of the contamination so that it is destroyed or the associated risk is reduced to an acceptable level.
2. Offsite treatment of excavated soil, so that the contamination is destroyed, or the associated risk is reduced to an acceptable level, after which soil is returned to the site.
3. Consolidation and isolation of the soil on site by containment with a properly designed barrier.
4. Removal of contaminated material to an approved site or facility, followed, where necessary, by replacement with appropriate material.
5. Where the assessment indicates remediation would have no net environmental benefit or would have a net adverse environmental effect, implementation of an appropriate management strategy.

The RAP will outline how this hierarchy was applied. Where no readily available or economically feasible method is available for remediation, the appropriate regulatory controls will be adopted or other forms of remediation will be developed.

The sustainability appraisal of remediation options will include indicators from the sustainability dimensions; social, economic and environment, as described in Table 1 of 'A framework for assessing the sustainability of Soil and Groundwater Remediation' (SuRF 2009).

7.6.1.4 SITE AUDIT STATEMENT

A Section B Site Audit Statement validating the RAP must be prepared prior to commencing remediation. A Section A Site Audit Statement must be prepared after the completion of remediation, certifying that the RAP was appropriately implemented and the land is appropriate for the nominated future land use. This must be provided to Transgrid and prior to commencement of operation.

Table 21 Contamination investigation and verification process

Detailed Site Investigation	RAP	Section B Site Audit Statement	Site Validation	Section A Site Audit Statement
– In accordance with S.105 of CLM Act 1997 – comprehensively prepared – Prepared by a 'Certified Environmental Practitioner' – Include review of all previous reports and use of data – Construction team workshop to understand methodologies and sub-surface impacts, focus on areas of high risk – Integration with project GIS, survey, and data management – Overlain with relevant plans (e.g. spoil and water management)	– In accordance with S.105 of CLM Act 1997, include required Sec. B audit statement – NEPM remediation hierarchy to maximise outcomes, waste while considering objectives and limitations of project – Site controls will include transparent excavation, waste and disposal tracking/ reporting – Will integrate with the unexpected finds protocol and all work health and safety (WHS) requirements	– must be prepared by an NSW EPA-accredited Site Auditor that certifies that the Remedial Action Plan – changes to the Remedial Action Plan must be re-approved in writing by the NSW EPA accredited Site Auditor	– In accordance with S.105 of CLM Act 1997 – Environmental consultant oversight during remediation to accurately validate – Include preparation of long-term environmental management plans (if required) – Preparation of site validation report including waste documentation	– In accordance with S.105 of CLM Act 1997 – Declare individual site/ area as suitable for intended land-use and specify any ongoing management requirement including survey/as-built – Fulfil requirements of NSW EPA Site Auditor Scheme 2017

7.6.1.5 UNEXPECTED FINDS

The discovery of unexpected contamination on the Project will be managed in accordance with the Unexpected Finds Procedure (Appendix B: Unexpected Contaminated Finds Procedure). An unexpected find is any contaminated material not already managed under existing controls or anticipated under the EIS.

In line with Figure 1 of Appendix B: Unexpected Contaminated Finds Procedure, if suspected contamination is uncovered during delivery of the Project, the following will occur:

1. Works will cease immediately within the vicinity of the find and will be demarcated.
2. The situation will be assessed by the Environment and Sustainability Manager and Site Supervisor with contaminated land specialist consultation occurring if required.
3. Further assessment and management will be undertaken to determine if contamination poses a risk to human or ecological receptors.
4. Reporting under the 'Reportable Event' category in accordance with the Transgrid Reporting Procedure

5. Where it is deemed that the contamination has been, or could have been caused, or changed by AGJV's operations, the EPA will be notified in accordance with Section 60 of the CLM Act.
6. Any unexpected finds will be recorded in an Unexpected Finds Register maintained by AGJVs environmental team.
7. Notification and reporting to Authorities such as the EPA will be undertaken in accordance with the CEMP, NSW EPA Guidelines on the Duty to Report Contamination (2015) and CLM Act 1997 where relevant.

7.6.1.6 WASTE

All contaminated material waste will be managed in accordance with a Waste Management Sub-Plan. All waste will be tested prior to disposal, in accordance with the EPA Waste Classification Guidelines, and disposed at an appropriately licensed facility. Appropriate records and disposal dockets retained for audit purposes.

7.6.1.7 ASBESTOS INCLUDING NATURALLY OCCURRING ASBESTOS

It is a requirement of the *Work Health and Safety Act 2011* to manage and report asbestos within all workplaces. Any asbestos found on site will be managed in accordance with an Asbestos Management Plan, which will be prepared and retained onsite. Any non-friable asbestos >10m^2, or friable asbestos that will be disturbed will be done so under NSW SafeWork licenced conditions. This includes the engagement of an appropriately licenced removalist (Class A/B) working under an Asbestos Removal Control Plan and SafeWork NSW notification/removal permit (as required).

7.6.1.8 PRE AND POST CONDITION LAND ASSESSMENTS

Prior to the commencement of construction, a pre-condition land assessment will be undertaken to assess the pre-existing conditions of compounds, laydowns and worker accommodation facilities. At the completion of construction, before handing the land back to the landowner, post-condition land assessments will be completed to ensure the land meets pre-existing conditions.

7.7 MANAGEMENT AND MITIGATION MEASURES

Management and mitigation measures relevant to the Project are outlined in Table 22 below. These will be implemented to minimise impacts on soil and water and ensure all commitments and requirements of the HumeLink project approval are met. These specific management and mitigation measures have been developed to address the requirements of applicable legislation, the CoA and commitments of the UMMs.

Table 22 Soil and Water management and mitigation measures

ID	Measure/Requirement	When to implement	Responsibility	Reference
General				
SW1.	Training will be provided to relevant project personnel, including subcontractors on soil, contamination, surface water and groundwater, Unexpected Finds Protocol requirements through inductions, toolboxes or targeted training. All Project personnel will undertake the Project induction, including content as specified in this Plan.	Prior to construction Construction	Construction Manager HR/Training Manager Environment & Sustainability Manager	UMM SC7
SW2.	Site personnel will be trained in the Spill Response and Management Procedure and the protocol to be implemented in the event of a spill or leak.	Construction	Construction Manager HR/Training Manager Environment & Sustainability Manager	UMM SC4
Erosion and Sediment				
SW3.	Progressive Erosion and Sediment Control Plans will be developed and implemented onsite, in accordance with Section 7.1 of this Plan. Inspections of installed measures will be incorporated into weekly environmental inspections as well as ad hoc / informal daily inspections.	Construction	Construction Manager Site Superintendent / Site supervisors Environment & Sustainability Manager	UMM SW1 UMM B26 CoA B19 CoA B20 CoA 21 (a)
SW4.	Erosion and sediment controls will be checked and maintained weekly, prior to forecast heavy rainfall and following heavy rain (refer to Section 7.4), and actions recorded in the Environmental Inspection Checklist, in accordance with Section 8.3 of this Plan.	Construction	Construction Manager Site Superintendent / Site supervisors Environment & Sustainability Manager	UMM B26
SW5.	Stockpile management will occur in accordance with Section 7.2 of this plan.	Construction	Construction Manager Site Superintendent / Site supervisors Environment & Sustainability Manager	Good Practice UMM B35

ID	Measure/Requirement	When to implement	Responsibility	Reference
SW6.	Prior to forecast potential heavy rainfall and flood events, sites will be inspected for areas requiring additional management measures. Controls to be implemented in accordance with Section 7.4	Construction	Environment & Sustainability Manager Site Superintendent / Site supervisors	CoA B24 (c)
SW7.	Vehicle traffic shall be confined to designated access tracks as far as practicable. Track construction will be carried out to cause minimum disturbance to soil and vegetation both on and adjacent to the track. Tracks will be routed to follow the natural contour of the land as far as practicable to minimise the amount of cut and fill and soil disturbance. For any temporary access tracks, the disturbed surfaces and formed areas will be revegetated in accordance with the approved CEMP or Managing Urban Stormwater: Soils and Construction - Volume 2C Unsealed Roads (DECC, 2008a). In addition, other erosion control mechanisms will be put in place during the initial track construction work to contain any sediment that may erode from the disturbed surfaces.	Construction	Environment & Sustainability Manager Site Superintendent / Site supervisors	UMM B29
SW8.	Areas disturbed by construction (including waterway crossings) will be reformed or remediated to resemble the pre-work condition and form wherever possible or alternatively to a stable design form, as appropriate following the completion of construction work. This may include revegetation to stabilise bank sediments. Waterway banks impacted by the project will be reinstated such that bank stability at the crossing location is the same or better than prior to construction. Stabilising materials such as rock armouring, hydro mulch, jute matting, or other suitable geotextile materials may be utilised where necessary. Any temporary stream crossings will be removed and rehabilitated at the completion of their operational use	Construction	Environment & Sustainability Manager Site Superintendent / Site supervisors	UMM B32
SW9.	All disturbed lands/areas must be managed throughout the construction work (in accordance with the relevant Managing Urban Stormwater (Landcom, 2004) (Blue Book) or comparable best practice guidelines. Including; • vegetation removal, restoration, and management • stockpiling, erosion and sediment management • stabilisation / rehabilitation of disturbed lands/areas must be undertaken within suitable timeframes • temporary erosion and sediment controls must be maintained (and not removed) until rehabilitation measures are providing effective stabilisation of disturbed lands/areas. Disturbed areas (including areas not required for operation) will be stabilised/rehabilitated to a standard either:	Construction	Environment & Sustainability Manager Site Superintendent / Site supervisors	UMM B18

ID	Measure/Requirement	When to implement	Responsibility	Reference
	• as agreed with the landowner • in accordance with the relevant Managing Urban Stormwater (Blue Book) or comparable best practice guidelines			
Water				
SW10.	Any reuse of treated water from a Project Wastewater Treatment Plant (WWTP) for dust suppression purposes will be managed to ensure the following: • Water quality criteria have been met • No runoff occurs into waterways, farm dams or other sensitive environments and/or off-site • No direct contact by any person (public, local community or workers) with reuse water or application area (where necessary controls such as exclusion areas and/or personal protective equipment may be required to ensure no direct contact).	Construction	Environment & Sustainability Manager	Good Practice POEO Act
SW11.	Water accumulating within any excavation, trap basin, or low point on site that cannot be re-used in construction or dust suppression will be tested and, if necessary, treated prior to discharge in accordance with the Project Dewatering Procedure (Appendix C), or disposed of to a licenced facility.	Construction	Environment & Sustainability Manager	CoA B20
SW12.	Water will not be actively discharged from site until necessary approvals and permits/ licences are obtained, including the Dewatering Permit, as described in Appendix C: Dewatering Procedure of this Plan. To be valid, the Dewatering Permit must be signed by the Environment & Sustainability Manager or delegate.	Prior to construction Construction	Environment & Sustainability Manager	CoA B20 CoA B21(a) UMM B26
SW13.	Prior to forecast potential heavy rainfall and flood events, sites will be inspected for areas requiring additional management measures. Controls to be implemented in accordance with Section 7.4	Construction	Environment & Sustainability Manager Site Superintendent / Site supervisors	Good Practice
SW14.	Dewatering Procedure (Appendix C: Dewatering Procedure) that will be implemented for the discharge of any runoff or stormwater which collects within construction areas (such as sediment basins, trenches, sumps) to minimise the potential for soil and water impacts. Volumes of water that are dewatered will be recorded in the Dewatering Permit. Records will be provided to the relevant authority upon request.	Construction	Environment & Sustainability Manager / Delegate Site Superintendent / Site supervisors	CoA B20 CoA B21 (a) UMM B26
SW15.	Groundwater dewatering activities will not be discharged to watercourses unless the following is conducted prior to discharge: • Dewatering assessment (including volume estimates and an assessment for groundwater contamination)	Construction	Environment & Sustainability Manager / Delegate	UMM SW5

ID	Measure/Requirement	When to implement	Responsibility	Reference
	• Dewatering procedures to be developed and incorporated into this Plan (SWMP) • The Dewatering procedure will be in line with the minimal impact criteria listed within the NSW Aquifer Interference Policy, relevant water sharing plans (WSPs) and licencing requirements where relevant. Section 5.3 of this Plan determines no additional requirements are relevant to the procedure. • Obtain water supply works approvals and water access licences where needed. Water Access Licence (WAL) (if dewatering volumes exceed 3 ML/year). Further treatment or offsite disposal of groundwater would be undertaken in accordance with the results of the assessment.		Site Superintendent / Site supervisors	
SW16.	All construction activities on waterfront land will be in accordance with the Guidelines for Controlled Activity – In-stream works (DPE 2022), Guidelines for Controlled Activity – Watercourse Crossings (DPE 2022), Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries 2003) and the Policy and Guidelines for Fish Habitat and Conservation and Management (NSW Fisheries, 2013), unless DCCEEW agrees otherwise.	Construction	Environment & Sustainability Manager / Delegate Site Superintendent / Site supervisors Site Engineers	CoA B22 (a) UMM SW2
SW17.	Design of scour protection that minimise impact on flow conditions and natural functioning of the waterway (where possible) will be included for any infrastructure that is within a waterway channel.	Construction	Environment & Sustainability Manager / Delegate Site Superintendent / Site supervisors Site Engineers	UMM SW2 UMM B26
SW18.	Water quality monitoring as detailed in the Water Quality Monitoring Plan (Appendix A of the SWMP) will be implemented to establish baseline water quality conditions in waterways of high sensitivity that may be impacted by nearby construction and to detect any changes in water quality that may be attributable to the project during construction.	Pre-construction Construction	Environment & Sustainability Manager / Delegate	UMM SW3 UMM B26
SW19.	Water supply options and management will be undertaken in accordance with agreements between the construction contractors and relevant landowners water users and suppliers. Groundwater and surface water allocations purchased from existing registered bores/users must be extracted in accordance with the conditions stated in the associated Water Access Licences(s) (WAL(s)) and Water Supply Works approval(s). Copies of existing Water Access Licence (WAL) agreements or Water Supply Works Approvals (WSWA) from the applicable water suppliers/landholders will be requested and maintained on file. Compliance with the terms of any agreements (WAL or WSWA) will be monitored monthly.	Construction	Construction Manager Site Engineers Community Manager	UMM SW4 CoA B18

ID	Measure/Requirement	When to implement	Responsibility	Reference
SW20.	Alternative construction methodologies will be investigated and implemented as required to minimise impacts to groundwater dependent ecosystems and registered groundwater bores, if identified to be directly impacted during detailed design. Make good provisions will need to be made to the groundwater user(s) for bores that will be affected in line with the minimal impact criteria listed within the NSW Aquifer Interference Policy.	Design Construction	Environment & Sustainability Manager / Delegate Construction Manager	UMM SW5
SW21.	Volumes of water taken (including water taken under a licence or under an exemption provision) during construction is to be recorded.	Construction	Environment & Sustainability Manager / Delegate	Good Practice
Waterway Crossings				
SW22.	Waterway crossings will be designed to consider the following factors where practicable: • The use or upgrade of existing crossings rather than constructing new crossings • Minimise disturbance footprint and micro-siting to minimise impacts to riverine and habitat features such as riffles and rapids and native vegetation including native instream, fringing, and riparian vegetation within the access track alignment. • Constructed perpendicular to the flow of water and positioned away from channel bends and preferably in straight stream sections with shallow gradients with well-defined channel geometries and shallow stream gradients, in stable dry reaches. • Minimise flooding and erosive effects where in-stream structures are required. •	Design Construction	Environment & Sustainability Manager / Delegate Construction Manager Design Manager	UMM B30
SW23.	Crossing structures will be designed so that the existing nominal flow velocity, low flow conditions and fish passage are maintained wherever possible. This will include the following considerations: • Minimise the impact of essential instream structures by mimicking natural flows (DPI, 2005b). • Following Fairfull (2013), for waterway crossings incorporating culverts, a minimum of 300 mm of water should pool through the structure, with a centrally placed low-flow cell being preferable. • In line with Cotterell (1998), aim to maintain water velocities of 0.3 m/s or less over or through instream crossing structures.	Design Construction	Environment & Sustainability Manager / Delegate Construction Manager Design Manager	UMM B31
SW24.	In addition to standard erosion and sediment control measures, the following procedures and considerations will be incorporated into construction methodologies for waterway crossings, where appropriate and practicable:	Construction	Supervisor	UMM B35

ID	Measure/Requirement	When to implement	Responsibility	Reference
	• Minimise disturbance to native vegetation, including instream, fringing and riparian vegetation within the indicative disturbance area. • Any coarse woody debris or boulders located within instream work sites will be temporarily relocated during construction and then returned to the watercourse, at locations where scour risk can be avoided and risk of dislodgment / downstream damage is minimal. • Waterway crossing work will be constructed during no or low flow conditions and under calm weather conditions. Work will also be timed to occur outside of any locally high seasonal flow periods. • Silt curtains or coffer dams will be deployed around instream work sites where required, to protect against any impacts to water quality or indirect impacts to retained vegetation. These measures will be situated so to avoid blocking fish passage wherever practical and removed as soon as they are no longer required • Flow diversion measures will be installed on bunded waterway crossings as appropriate or where construction during no or low flow conditions is not feasible. Flow diversion measures may include pumps to ensure that water can be moved from one side of blockages to the other with screened inlets to prevent the entrapment of aquatic fauna and outlet structures that are designed to avoid scouring of the channel. • **Where waterways are bunded or flow obstructed, all obstructions to flow will need to be removed as soon as practical after watercourse crossing** or as soon as practical after construction has been completed.		Environment & Sustainability Manager / Delegate Construction Manager	
Flooding				
SW25.	Detail Design of sites to consider flood assessments undertaken during the EIS and any relevant additional studies to ensure that the development does not materially alter the flood storage capacity, flows or characteristics in the development area or off-site.	Design Construction	Design Manager Supervisor Environment & Sustainability Manager	CoA B23
SW26.	Detailed construction planning would consider flood risk at construction areas and earthworks for new access tracks, including the need for cross drainage culverts and bridges (which is to be appropriately sized to minimise flood impact) Measures to minimise potential flood risks at construction areas would be implemented, where practicable	Design Construction	Design Manager Supervisor Environment & Sustainability Manager	UMM HF2
SW27.	Suitable on-site drainage design and stormwater management strategies and plans will be implemented to limit adverse flood impacts on surrounding properties during construction.	Design Construction	Design Manager Supervisor Environment & Sustainability Manager	UMM HF1

ID	Measure/Requirement	When to implement	Responsibility	Reference
SW28.	Where possible, existing drainage and overland flowpaths will be maintained at construction compounds, combined worker accommodation facilities and construction compounds and Bannaby 500 kV substation. Where filling is required, suitable drainage design and stormwater management strategies and plans will be implemented to limit adverse flood impacts on surrounding properties. Selective placement of sensitive or vulnerable infrastructure (eg electrical equipment, buildings, machinery, stockpiles, pedestrianised areas etc) will be allocated to areas away from drainage lines. On site detention will be incorporated where increases in site stormwater discharges exceed predevelopment flows and will be designed in accordance with Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom, 2004), and Volumes 2A (DECC, 2008a) and 2C (DECC, 2008b), commonly referred to as the 'Blue Book'."	Design Construction	Design Manager Supervisor Environment & Sustainability Manager	UMM HF4
SW29.	Where possible, overland flow paths up to the 5% AEP event for construction compounds and 2% AEP for combined worker accommodation facilities and construction compounds are to remain unobstructed from bulk filling, site infrastructure and/or stockpiling. Selective placement of sensitive or vulnerable infrastructure (eg electrical equipment, buildings, machinery, stockpiles, pedestrianised areas etc) will be considered in flood prone areas. Where bulk filling of flood prone land is required, a flood impact assessment is required to demonstrate the impact of proposed works with consideration of mitigation measures to minimise any downstream impacts.	Design Construction	Design Manager Supervisor Environment & Sustainability Manager	UMM HF3
SW30.	Vehicles and machinery will be properly maintained and routinely inspected to minimise the risk of fuel/oil leaks.	Construction	Maintenance Manager	Good Practice
SW31.	All chemicals, fuels or other hazardous substances will be stored in accordance with the supplier's instructions, any relevant legislations or Australian Standards or the applicable guidelines. The capacity of any bunded area will be 130% of the largest chemical volume contained within the bunded area. The location of the bunded enclosure/s will be shown on the site plans and will be located as far away from streams as practicable, and appropriately protected against flooding or runoff. Chemical stores will not be located within 50m of aquatic habitat, flood prone areas or on slopes steeper that 1:10. Components of any concrete batching plant or substation to be bunded as required.	Construction	All personnel Environment & Sustainability Manager WHS Manager Site Superintendent / Site supervisors	UMM SC4 UMM HR9 UMM B35 CoA B21
SW32.	Spill kits to be made available at all work areas. Spill kits will be maintained at all times on site and in site vehicles. All spills will be promptly reported to the Environmental team.	Construction	All personnel Environment & Sustainability Manager WHS Manager	UMM SC4 UMM B35 Good Practice

ID	Measure/Requirement	When to implement	Responsibility	Reference
	In the event of a spill, the Spill Response Procedure is to be implemented (Appendix E of the SWMP).			
SW33.	Where practicable, designated plant refuelling areas, plant service/maintenance areas and concrete/plant wash down areas will be located at least 5 metres from native vegetation and at least 50 metres from: • a natural surface drainage area, and • a built drainage structure such as a storm water pipe or box culvert. Spill prevention measures to be implemented where practicable (eg drip trays, automatic shutoff valves).	Construction	Design Manager Construction Manager Environment & Sustainability Manager	UMM B35 Good Practice
SW34.	Dangerous goods and hazardous substances will be transported in accordance with relevant legislation and codes, including the Dangerous Goods (Road and Rail Transport) Act 2008, Road and Rail Transport (Dangerous Goods) (Road) Regulation 1998 and the Australian Code for the Transport of Dangerous Goods by Road and Rail (National Transport Commission, 2018)	Construction	Construction Manager Project Engineers Traffic Manager Environment & Sustainability Manager	UMM HR10
Additional Soil Assessment and Management				
SW35.	A visual inspection would be undertaken in areas mapped as moderate to high risk saline soils prior to ground disturbance. Areas of known or suspected salinity will be subject to further testing as required. Excavated saline soils will be managed in accordance with: • Book 4 Dryland Salinity: Productive use of Saline Land and Water (NSW DECC 2008) • Salinity Training Manual (DPI, 2014) Erosion controls will be implemented to manage saline soils in accordance with The Blue Book (Landcom 2004) Prior to construction, materials will be selected to withstand acidic or high saline soil and groundwater environment (where applicable). During construction, existing areas of waterlogging and poor drainage will be avoided, where possible, when building access tracks and permanent structures	Construction	Construction Manager Site Superintendent / Site supervisors Environment & Sustainability Manager / Delegate	UMM SC1
SW36.	Prior to ground disturbance in areas of known potential acid sulfate soil or rock occurrence on-site field testing will be carried out to determine the presence of actual and/or potential acid sulfate soils. Acid Sulfate Soils/Rock to be managed in accordance with the Acid Sulfate Soil Manual (ASSMAC, 1998).	Construction	Site Superintendent / Site supervisors Environment & Sustainability Manager / Delegate	UMM SC3
Contamination Assessment and Management				
SW37.	Disturbance to areas identified as medium risk of contamination (including NOA) will be avoided or minimised where practicable during detailed design and construction	Design	Construction Manager	UMM SC2

ID	Measure/Requirement	When to implement	Responsibility	Reference
		Construction	Site Superintendent / Site supervisors Environment & Sustainability Manager / Delegate	
SW38.	A site-specific assessment will be undertaken for any areas identified as moderate risk of contamination which will be disturbed during construction. These investigations will be undertaken in accordance with the assessment of site contamination NEPM 2013	Construction	Construction Manager Site Superintendent / Site supervisors Environment & Sustainability Manager and Delegate	UMM SC2
SW39.	Site-specific Remedial Action Plans will be developed as required for any remediation required for the project. A validation report will be prepared after remediation in accordance with the NSW EPA Guidelines for Consultants Reporting on Contaminated Land (NSW EPA 2020b)	Construction	Construction Manager Site Superintendent / Site supervisors Environment & Sustainability Manager / Delegate	UMM SC2
SW40.	An Asbestos Management Plan will be prepared in accordance with the NSW Government Code of Practice How to Manage and Control Asbestos in the Workplace (SafeWork, 2020). The Asbestos Management Plan will include the following measures: • management or isolation of areas mapped as medium to high risk of NOA, where direct disturbance of NOA is confirmed to be required for project construction works • placement of suitable signage around the work areas • list of appropriate personal protective equipment, including Respiratory Protective Equipment • implementation of dust suppression controls including wetting surfaces, covering disturbed surfaces and the use of sealed air-conditioned vehicles to minimise potential asbestos impacts to workers • decontamination of the workers' coveralls, personal protective equipment, equipment and work site • procedures for the disposal of NOA material or waste, if required • implementation of air monitoring using pumps and sample filter grid cowls for asbestos fibres and dusts if it is suspected that exposure to NOA dust during work might exceed safe levels of airborne asbestos. The air monitoring pumps, and reporting, must be undertaken by a licensed asbestos assessor.	Construction	WHS Manager Site Superintendent / Site supervisors Environment & Sustainability Manager / Delegate	UMM SC5

ID	Measure/Requirement	When to implement	Responsibility	Reference
SW41.	A waste register will be kept detailing the waste volumes, types, and disposal locations. A stockpile register will be kept when excavations and stripping of surface of soil contamination occurs. Waste disposal records will be kept.	Construction	Environment & Sustainability Manager / Delegate Project Engineers	UMM SC6
SW42.	Engineering fill material for use on site will be validated to confirm it meets the classification of VENM / ENM prior to transported to site. Records for the importation of engineering fill and excavated nature materials (ENM) will be kept.	Construction	Site Superintendent / Site supervisors Environment & Sustainability Manager / Delegate Project Engineers	UMM SC6 UMM B35
SW43.	The discovery of any unexpected contamination during construction will be managed in accordance with an Unexpected Contaminants Finds Protocol (Appendix B of the SWMP).	Construction	Site Superintendent / Site supervisors Environment & Sustainability Manager / Delegate Project Engineers	UMM SC7
Waste				
WA 1	Stockpiles will be: • engineered with correct height/batters (Less than 3m in height), • segregated and labelled • located away from sensitive receivers, ecological areas and waterways. • Sediment controls will be implemented in accordance with the PESCP and Managing Urban Stormwater – Soils and Construction (Landcom, 2004)	Construction	Site Supervisor Plant Operator Environment Team	UMM W2

8. COMPLIANCE MANAGEMENT

8.1 ROLES AND RESPONSIBILITIES

The Contractors organisational structure and overall roles and responsibilities are outlined in Section 3.5 of the CEMP. The Project environmental management structure incorporates the following site personnel:

- Environment & Sustainability Manager responsible for overall management of the CEMP and CEMP sub-plans, including this SWMP.
- Environmental Advisors to assist in implementing and monitoring measures in the CEMP and CEMP sub-plans, including this SWMP.

The contractor's Project Director, in consultation with functional managers, will ensure that appropriate resources are available to effectively manage the implementation of the CEMP and CEMP sub-plans during delivery of the Project. All contractor staff, subcontractors and visitors are required to operate in accordance with this SWMP and related environmental management plans during construction.

Specialist consultants and subcontractors will be engaged for environmental support roles, as required, and ongoing advice throughout construction. Specific responsibilities for the implementation of mitigation measures are detailed in Section 7 of this SWMP.

8.2 TRAINING

All employees, contractors and utility staff working on site will undergo site induction training relating to soil and water management issues. The induction training will address elements related to soil and water management including:

- Existence and requirements of this SWMP
- Relevant legislation
- Roles and responsibilities for soil and water management
- Procedures to be implemented in the event of an unexpected discovery of contaminated land
- Water quality management and protection measures
- Dewatering
- Emergency spill procedures
- Unexpected Finds
- Location and type of known potential contaminants and management of them.

Awareness training will also be provided to personnel with a key role in soil and water management. This may include:

- Spill kit training
- Blue Book training
- Emergency incident / response training
- Water quality monitoring training
- Erosion and sediment control training.

Further details regarding staff induction and training are outlined in Section 3.6 of the CEMP.

Records of training, including attendance, will be retained by AGJV.

8.3 MONITORING AND INSPECTION

The impacts and environmental performance of the Project relevant to soil and water, and the effectiveness of the management measures will be monitored through the monitoring program outlined in Table 23

Table 23: Monitoring Program

Item	Scope	Frequency	Responsibility	Records/ reporting
Weather forecasts and observations	Monitoring of weather forecasts (including rainfall radar) to determine when adverse weather conditions are predicted.	Weekly weather forecast; and Daily monitoring when adverse weather is predicted.	Environmental Advisor Supervisors	BOM website Pre-starts
Water Quality Discharge	Construction water that requires discharge will be tested (as required) prior to reuse/discharge and managed in accordance with the Dewatering Procedure.	Prior to water discharge.	Supervisors Environment & Sustainability Manager or delegate	Dewatering Permit
Water use monitoring	Construction water consumption and compliance against any WAL agreements.	Monthly	Environment & Sustainability Manager, Environmental Advisor	Construction water use register
Water Quality Monitoring Plan	Monitoring of water quality in relevant waterways to establish baseline water quality conditions prior to construction and to monitor water quality during construction in accordance with the WQMP.	Prior to construction During Construction as outlined in the WQMP	Environment & Sustainability Manager, Environmental Advisor	Water Quality Records Appendix A: Water Quality Monitoring
Weekly inspections	Inspection of the environmental controls and implementation of the soil and water mitigation measures. These inspections also include waterway crossings.	Weekly[1] After heavy rainfall events[2] Before a site shutdown of > 3 days[3]	Environmental Advisor Supervisors	Weekly Environmental Inspection Checklist
Basin Inspections	Inspection of sediment basins.	Pre-rainfall to ensure capacity Post- Rainfall to determine if maintenance is required During dewatering to monitor water discharge	Environmental Advisor Supervisors	Weekly Environmental Inspection Checklist Dewatering Permit
CPESC Inspection	Inspection of the environmental controls and implementation of the soil and water mitigation measures. These inspections also include waterway crossings.	Frequency will be determined according to the requirements of construction activities.	Environmental Advisor Supervisors	Follow up CPESC reporting

1 Daily checks will be conducted as part of ad-hoc/informal site inspections.

2 A heavy rainfall event is rainfall exceeding 25 mm in 24 hours.

3. Before a site closure of three days or more.

Maintenance identified on the Environmental Inspection Checklist will be implemented within the time periods nominated. Site supervisors will undertake daily informal erosion and sediment control checks and record any issues within site diaries. Site supervisors will ensure controls are maintained and in working order between inspections.

External inspections may also be undertaken by the following entities:

- EPA
- Site Auditor (regarding contamination management)
- Transgrid
- DPHI
- Environmental Representative.

8.4 AUDITING

Audits will be undertaken to assess the effectiveness of the management measures and overall compliance with this Plan, and other relevant approvals, licences and guidelines. Audit requirements are detailed in Section 3.9 of the CEMP.

In line with CoA C13, independent audits will be undertaken in accordance with the Independent Audit Post Approval Requirements (2020).

8.5 INCIDENTS AND NON-COMPLIANCES

All incidents and non-compliances will be managed in accordance with Sections 3.8 and 3.9 of the CEMP.

8.6 REPORTING

Reporting requirements and responsibilities are documented in the CEMP. Reporting which will be undertaken in accordance with the SWMP is summarised in Table 24. Reporting on water quality monitoring results is detailed in the WQMP (Appendix A).

Table 24: Reporting Requirements

Item	Scope	Frequency	Responsibility	Recipient
Unexpected Find	Reporting of unexpected contamination finds will be undertaken in accordance with Transgrid procedure.	As required	Environment & Sustainability Manager	Transgrid Environmental Representative (if required) Relevant agencies (if required)
Water Take	Volumes of water taken (including water taken under a licence or under an exemption provision) during construction will be provided during the independent audit when requested.	Monthly[1]	Environment & Sustainability Manager	Independent Auditor, upon request Environmental Representative (if required)
Groundwater intercepted during aquifer	An exemption within the Water Management (General) Regulation 2018 allows for 3ML	Bi-annually	Environment & Sustainability Manager	Transgrid NRAR

[1] Water takes are monitored using water meters or through number of water carts and data is gathered monthly for reporting.

Item	Scope	Frequency	Responsibility	Recipient
interference activities	per project per year to be intercepted during aquifer interference activities without the need for a water access licence. Where there is the potential for water take to exceed the 3ML provision, additional approvals and sufficient entitlement will be obtained. In such a situation, reporting will be as per the conditions of the licence and CoA C13.			Environmental Representative (if required)
Contamination	The Duty to Report Contamination will be considered per the CLM Act 1997. The project will work with the certified environmental practitioner consulted with the notification triggers including unsuitable lands, prescribed contaminant levels or off-site (including foreseeable) migration of contaminants from site by any means.	As required / When triggered by the CLM Act 1997	Environment & Sustainability Manager	Transgrid Environmental Representative (if required) Relevant agencies (if required)

8.7 CONTINGENCY PLAN

Although the Project has been assessed through the environmental impact assessment process and potential impacts identified, unpredicted impacts may occur as the Project progresses. In the event that unexpected impacts are identified, the action or cause will be categorised and managed as required:

- An emergency or environmental incident in accordance with Section 3.8 of the CEMP,
- A non-compliance or non-conformance in accordance with Section 3.9 of the CEMP, and/or
- A trivial impact, requiring no further assessment or action.

Reporting of the unpredicted impacts would be in line with the above processes and as described in Section 3.9.6 of the CEMP.

The need for corrective and preventative actions may arise from incidents, audits, management reviews or other sources. The actions will be managed in accordance with the Project's environmental management system to ensure that the required actions are tracked and closed out in a timely manner. The completion of the required actions will be recorded and will include details on the source of the action (e.g. audit, inspection or other), the action required, target close out date, actual close out date and the person responsible.

The following steps will occur for corrective and/or preventative actions as relevant:

a) determine the relevant impact assessment criterion/criteria, below which the impact should be reduced, consistent with the requirements of this SWMP
b) identify options to reduce the unexpected impacts to below the relevant criterion/criteria and appropriate timeframe for implementation
c) implement the selected measure(s) to reduce the unexpected impacts, and
d) identify and implement an appropriate monitoring program to determine the effectiveness of the selected measure(s) to reduce the unexpected impact.

If monitoring identifies that the unexpected impacts have not been reduced to below the nominated criterion/criteria, items b) to d) of the contingency process will be repeated.

9. REVIEW AND IMPROVEMENT

9.1 CONTINUOUS IMPROVEMENT

As outlined in Section 3.11 of the CEMP, management reviews will be undertaken as part of the continual improvement process. The reviews will be initiated by the Environment and Sustainability Manager and include relevant Project team members and stakeholders. Continuous improvement as detailed in Section 9 of this Plan will be achieved by the ongoing evaluation of environmental management performance against planning approval requirements, environmental policies, objectives and targets for the purpose of identifying opportunities for improvement.

The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of environmental management and performance
- Determine the cause or causes of non-conformances and other issues
- Develop and implement a plan of corrective and preventative action to address any non-conformances and other issues
- Verify the effectiveness of the corrective and preventative actions
- Document any changes in procedures resulting from process improvement
- Make comparisons with objectives and targets outlined in Section 2.2 of this Plan.

9.2 PLAN UPDATE AND AMENDMENT

This SWMP will be reviewed at least annually and updated, if required, in accordance with Section 3.11 of the CEMP. This includes the review and, if necessary, revision of this SWMP in accordance with CoA C2 within three months of the following:

- Submission of an incident report under CoA C10 of the Infrastructure Approval
- Submission of an audit report under CoA C14 of the Infrastructure Approval
- Any modifications to the Infrastructure Approval, or
- The issue of a direction of the Planning Secretary under condition A3 which requires a review.

The SWMP has been prepared in accordance with CoA B67:

- Within 4 months of the commencement of the Enabling Works, the Proponent must update the approved management plans for the development to incorporate any relevant aspects of the Enabling Works Management Plan, unless otherwise agreed by the Planning Secretary.

Any updates to the SWMP will be approved as described in Section 3.11 of the CEMP.

APPENDIX A: WATER QUALITY MONITORING PLAN

HumeLink East

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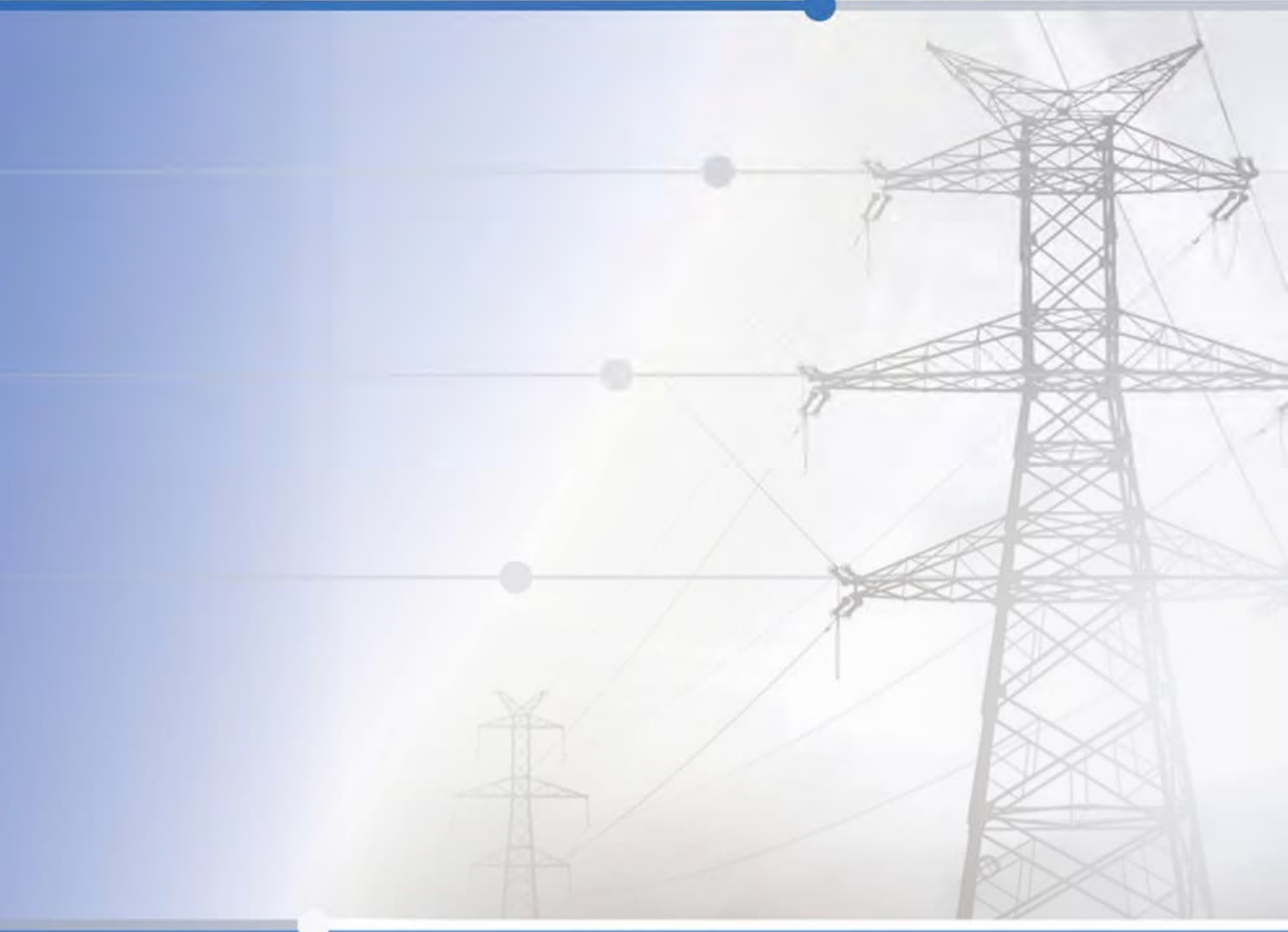

Water Quality Monitoring Plan

HLE-AGJ-ENV-ALE-PLN-0000-00001 | Rev 01.5

I. APPROVAL

	Name	Signature	Date
Prepared By:	Ciara Moriarty		05/05/2025
Approved By:	Jacqueline McKenzie		05/05/2025
Principle Endorsement:	Carel Nagel		05/05/2025

II. DOCUMENT STATUS – REVISION HISTORY

Revision History				
Rev:	**Date:**	**Pages:**	**Revised By:**	**Description:**
A	15/12/2023	All	A.Conroy	For submission to Transgrid
B	30/01/2024	All	A.Conroy	Update to address Transgrid comments
C	11/06/2024	All	A.Conroy	Updated for UMMs and Amendment Report
D	17/06/2024	All	A.Conroy	Update to address Transgrid comments
00	25/06/2024	Nil	A.Conroy	Final for submission to Transgrid. IFU
01.1	16/09/2024	All	A Conroy	Updated to address external consultation comments
01.2	19/12/2024	All	A.Conroy	Updated to address ER comments
01.3	24/02/2025	All	A. Conroy, K Bedingfield	Updated to address Stakeholder, SEEC and EPIC comments
01.4	7/4/2025	Section 6.1, 6.2 and 11	K Bedingfield, G Wilson	Updated to address ER comments
01.5	05/05/2025	Various	C Moriarty	Updated to address DPHI Comments

III. TERMS AND DEFINITIONS

Term/Acronym	Definition
ACM	Asbestos containing materials
CEMP	Construction Environmental Management Plan
CLM Act	*Contaminated Land Management Act 1997*
DO	Dissolved oxygen
EC	Electrical conductivity
EIS	Environmental Impact Statement
EPA	NSW Environment Protection Authority
EWMS	Environmental Work Method Statement
NATA	National Association of Testing Authorities
NTU	Nephelometric turbidity units
PESCP	Progressive Erosion and Sediment Control Plan
POEO Act	*Protection of the Environment Operations Act 1997*
PPE	Personal protective equipment
SDS	Safety Data Sheet
SDWC	Sydney Drinking Water Catchment
SWMP	Soil and Water Management Sub Plan
SWMS	Safe Work Method Statement
the Project	HumeLink East
TSS	Total suspended solids
WQMP	Water Quality Monitoring Plan

CONTENTS

1. INTRODUCTION

1.1 CONTEXT

The Water Quality Monitoring Plan (WQMP or 'the Plan') forms part of the Soil and Water Management Sub Plan (SWMP) for the HumeLink East Project (the Project).

1.2 PURPOSE

This WQMP has been prepared to meet the requirements of the EIS and is to be implemented as a supplement to the Soil and Water Management Plan. The Plan has been prepared in accordance with the Transgrid guidance standards and the EPA Publication 'Approved Methods for the Sampling and Analysis of Water'.

1.3 OBJECTIVES

The objective of this WQMP is to observe and assess the impact of the Project on water quality in the relevant waterways in the Project Area.

To achieve this objective, this document stipulates the monitoring locations, parameters and frequencies for surface monitoring and covers the pre-construction and construction phases of the Project. The information collected as part of the WQMP will be used to inform project management responses aimed at reducing or halting any adverse impacts detected.

2. TRAINING

All staff that undertake monitoring required under the WQMP will be trained in the technical and administrative requirements of this WQMP, including equipment calibration, sample collection, sample labelling and sample cross contamination processes. Records of staff deemed competent to undertake water quality monitoring will be held by the Environment and Sustainability Manager.

3. SCOPE

This WQMP applies to the sampling, analysis and reporting of water quality of any existing waterbodies that the Project may impact upon. For information relating to water discharge and reuse refer to the Appendix C Dewatering Procedure of the SWMP.

4. MONITORING EQUIPMENT

4.1 EQUIPMENT

Water quality monitoring will primarily be undertaken using a multi-parameter water meter. On occasion, if needed due to equipment malfunction or other unforeseen circumstances, pH test strips and turbidity tubes may be utilised for assessing water quality to authorise sediment basin discharge.

Where samples are required, samples would be collected in a manner that complies with Australian Standard AS/NZS 5667.1 1998 and the EPA Publication 'Approved Methods for the Sampling and Analysis of Water'.

When laboratory testing is required, samples will be sent to a NATA accredited lab.

4.2 CALIBRATION

All monitoring equipment is to be calibrated in accordance with the manufacturer's specifications and records of calibration are to be kept on a register which is maintained by the Environmental Team.

5. BASELINE MONITORING

5.1 SURFACE WATER

A summary of existing surface water is outlined in Section 5.2 of the SWMP. The Project will undertake monitoring of water quality in waterways of high sensitivity to establish baseline water quality conditions, as per the Updated Mitigation Measures (SW3) identified in Table 1.

Parameters to be monitored include:

- Total dissolved solids
- Total suspended solids
- Total nitrogen
- Total phosphorus

Additional testing parameters may include:

- pH
- Electrical Conductivity (EC)
- Dissolved Oxygen (DO)
- Temperature
- Visual Oil and Grease
- Turbidity
- Any other analytical suites as required based on a risk assessment (this may include metals or pesticides for example).

Monitoring will be undertaken at such times as the environmental staff believe a representative sample can be achieved (i.e. >300mm flow level) and where safe to do so.

If identified by the Project ecologist, additional monitoring may be undertaken in accordance with the Biodiversity Management Plan.

Table 1: Updated Mitigation Measures relevant to the Water Quality Monitoring Plan

Reference	Impact	Measure/Requirement	Timing	Relevant Locations
SW3	Surface and Groundwater Quality – monitoring	Water quality monitoring will be implemented to establish baseline water quality conditions in waterways of high sensitivity that may be impacted by nearby construction and to detect any changes in water quality that may be attributable to the Project during construction. The frequency, location and duration of sampling will be detailed in a monitoring program. Monitoring locations will include: • at a minimum two monitoring locations (one located upstream and one downstream of the transmission line crossing) for waterways with a Strahler 4th stream order or higher within the Sydney Drinking Water Catchment (SDWC) where construction activities within 200 metres of the waterway will be carried out and could result in impacts • monitoring for total dissolved solids, total suspended solids, total nitrogen, and total phosphorus.	Detailed Design Construction	All Locations

5.2 FARM DAMS

Existing farm dams that will be utilised for construction purposes will have baseline monitoring undertaken pending landowner approval. All farm dams within 50 metres downstream of the

construction footprint and within the approved Project boundary will be risk assessed against the construction scope of works and potential for impacts. Where impacts may occur baseline monitoring will be undertaken at the relevant dam pending landowner approval.

Parameters to be monitored include:

- Total dissolved solids
- Total suspended solids
- Total nitrogen
- Total phosphorus.

Additional testing parameters may include:

- pH
- Electrical Conductivity (EC)
- Dissolved Oxygen (DO)
- Temperature
- Visual Oil and Grease
- Turbidity.

6. CONSTRUCTION WATER QUALITY OBJECTIVES

6.1 SURFACE WATER

The objective of construction surface water quality monitoring is to ensure that water quality of local waterways is maintained during construction. The Selected Water Quality Objectives across a range of parameters for each catchment is outlined in Table 2 below. These values were obtained from Technical Report 12 – Surface Water and Groundwater Impact Assessment.

Table 2 below will be updated as required to reflect baseline data once it has been received (if applicable).

Table 2: Selected Water Quality Objectives across Catchments

Selected Water Quality Objective				
Parameter	**Units**	**Hawkesbury-Nepean catchment**	**Lachlan catchment**	**Murrumbidgee catchment – unregulated streams and Lake George catchment & Major regulated rivers**
Total dissolved solids	mg/L	N/A	N/A	N/A
Total suspended solids	mg/L	N/A	N/A	N/A
Total nitrogen	mg/L	0.74	0.74	0.74
Total phosphorus.	mg/L	0.04	0.04	0.04
pH	pH units	6.5 to 8.0	6.5 to 8.0	6.5-8.0
Electrical Conductivity (EC)	µS/cm	125-2200	125-2200	125 - 2200

Selected Water Quality Objective				
Dissolved Oxygen (DO)	%SAT	58-110	58-110	85-110
Temperature	°C	16-34	16-34	16-34
Turbidity	NTU	50	50	50
Oil and Grease	Visible	Oil and petrochemicals should not be noticeable as a visible film on the water, nor should they be detectable by odour	Oil and petrochemicals should not be noticeable as a visible film on the water, nor should they be detectable by odour	Oil and petrochemicals should not be noticeable as a visible film on the water, nor should they be detectable by odour

Where non-compliances with water quality criteria are observed, the Project will determine whether these changes are the result of construction activities, where possible.

To determine whether an observed change in water quality may be the result of Project activities, if a change in any of the parameters identified in Table 2 is greater than 20% and a visual change between the upstream and downstream monitoring results is observed, an investigation into what may be causing the change will be initiated. A 20% allowance is considered reasonable to allow for natural fluctuations in water quality and is consistent with other State Significant Infrastructure projects (for example SSI-10051 and SSI-10038). All results and a summary of investigation will be detailed in the Surface Water Quality Monitoring Event Record (Appendix B) or equivalent electronic format.

6.2 SEDIMENT BASIN

Prior to an authorised discharge of water from a Project sediment basin, the water must meet the water quality criteria provided in Table 3. The criteria are consistent with the WQO outlined in in Section 6.1. This will be documented in a Dewatering Permit. Discharges will be supervised by site personnel.

Table 3: Water Quality Criteria for Discharge from a Sediment Basin

Parameter	Units	Water Quality Criteria
pH	pH units	6.5 to 8.0
Turbidity	NTU	<50
Oil and Grease	Visible	Nil

If an event occurs that may impact on the quality of water in a sediment basin, additional procedures will be put in place to ensure the Project does not cause water pollution as defined in section 120 of the POEO Act. These procedures would be developed on a case-by-case basis, in conjunction with specialist consultants, as required.

6.3 FARM DAMS

Construction-phase monitoring of farm dams will only occur if required due to a complaint from a landowner or an observed change in water quality. The farm dam will be tested against the water quality objectives outlined in Section 5.2 and compared against baseline results or nearby waterbodies if applicable.

7. MONITORING LOCATIONS AND FREQUENCY

7.1 SURFACE WATER

Based on an assessment of environmental sensitivity, surface water monitoring will be undertaken for the waterways of high sensitivity with a Strahler 4th stream order or higher within the SDWC where construction activities occur within 200 metres of the waterway. Appendix A outlines indicative waterways, noting these may change subject to access and other site constraints.

Monitoring for surface water will be split into:

- Pre-Construction Baseline Monitoring - at least 2 months prior to construction in the vicinity of a waterway that has been identified as having potential to be impacted (and where access can be obtained).
- Construction Monitoring - monthly during construction until the surface works in the vicinity of the waterways that were disturbed during construction are stabilised and no longer pose a significant sedimentation risk to the waterways. For perennial waterways, monitoring would target post-rainfall events where a representative sample can be obtained (i.e. >300mm flow level, as described in Section 5.1)

Sample locations will occur downstream and upstream of the Project alignment. Specific locations will be subject to site inspection and will be determined prior to the commencement of monitoring. Site selection will consider factors including safety, ease of access, and avoiding water stagnation locations.

Should other waterways be identified to require construction phase monitoring due to environmental sensitivity, e.g. pre-clearing assessments of aquatic ecology, this WQMP will be updated with the additional locations.

Post-rainfall monitoring would be completed on a risk-based and/or responsive approach. When the post-rainfall inspection has identified that water quality objectives are not or may not be achieved post-rainfall monitoring may be undertaken when it is safe to do so.

7.2 INSTREAM MONITORING LIMITATIONS

Sampling will not be undertaken where there is a risk to the safety of the staff undertaking sampling or if the amount of water flowing at the time is insufficient to enable a representative sample to be taken (to be determined by the environment officer undertaking the sampling at the time).

7.3 SEDIMENT BASIN

Sediment basins will be sampled near the spillway (where practicable) of the basin, using an extendable pole that allows sampling at mid-water. Sediment basins to be sampled prior to any discharge in accordance with Appendix C – Dewatering Procedure of the SWMP.

8. SAMPLING PROTOCOL

8.1 SURFACE WATER

Samples will be retrieved from the waterway with an extendable pole prior to testing for physical parameters or sampled in situ where waterway depth allows. Samples will be taken downstream and upstream of the Project alignment. The order of sampling will be downstream followed by upstream (where practicable).

Bottled samples will then be stored in a cooler or refrigerator and transported to a NATA accredited laboratory for analysis. All batches of sampled water will be accompanied by a Chain of Custody document detailing the number of samples, the sender and the details of each individual sample.

8.2 SEDIMENT BASINS

Samples will be retrieved from close to the spillway (where practicable). Following retrieval, field pH will be tested and recorded along with the presence or absence of oil or grease (visual assessment).

Sampled water will then be transferred into a sample bottle provided by a NATA accredited laboratory and labelled. The labelling convention will consist of the following:

- Sediment Basin ID Number;
- Sampling Date and Time;
- Sampler;
- Project Name: HumeLink East; and
- Analytes Required: pH and NTU.

9. NON-CONFORMANCE

9.1 SURFACE WATER

Where an increase in any of the parameters identified in Table 2 is greater than 20% and a visual change is apparent between the upstream and downstream monitoring results is observed, an investigation into what may be causing the change will be initiated. All results and a summary of investigation will be detailed in the Surface Water Quality Monitoring Event Record (refer to Appendix B for the indicative form).

Should the water quality at any time during monitoring be as such to trigger an incident as described in Section 3.8 of the CEMP and/or a notifiable incident under the POEO Act 1997, AGJV will notify Transgrid as well as the appropriate regulatory authority and any other relevant authorities if required to comply with the POEO Act. The triggers for this notification are:

- If the actual or potential harm to the health or safety of human beings or ecosystems is not trivial; and
- If actual or potential loss or property damage (including clean-up costs) associated with an environmental incident exceeds $10,000.

9.2 SEDIMENT BASIN

Where sediment basin sampling identifies a non-conformance with the Water Quality Objectives the water will not be discharged, and the water will be treated and/or reused onsite.

The following treatment methods may be implemented where required and documented on the Dewatering Permit:

- Flocculation to reduce NTU;
- Oil and grease removal; and
- pH adjustment.

Sediment basin water will be re-tested following treatment prior to discharge. This process is repeated until the water meets the Water Quality Objectives.

10. MONITORING RECORDS

10.1 SURFACE WATER

Surface water monitoring events will be recorded on the Surface Water Quality Monitoring Event Record form in the field.

10.2 SEDIMENT BASIN

All sediment basin sampling events will be recorded on the Dewatering Permit in the field.

Sediment basin discharge records will be maintained, along with soft copies of the NATA accredited laboratory analysis.

11. REPORTING

A Water Quality register will be kept by the environmental team. This register will compare water quality results against the water quality objectives. Non-conformances with the Water Quality Objectives will be managed as detailed in Section 9. Reporting to be undertaken in accordance with the WQMP is summarised in Table 4. Any positive water quality trends are to be highlighted and reported to the sustainability team for potential further investigation.

Table 4: Water quality reporting requirements

Item	Scope	Frequency	Responsibility	Recipient
Monthly reporting	All monitoring undertaken within the month would be summarized for incorporation in Project Monthly Reports.	Monthly	Environmental Manager	ER Transgrid
Monitoring reporting	Monitoring reports will include the results of monitoring undertaken during the reporting period. The monitoring results will be evaluated in relation to the relevant predictions and criteria, resulting in an assessment of the effectiveness of the soil and water management system. Reporting of water quality matters on the project website in accordance with CoA C15.	Annual	Environmental Manager	ER Transgrid Public (via project website)

In addition to the above, water quality monitoring results, non-compliances and follow up actions will be discussed during the Client meetings and/or client reports as required.

APPENDIX A: WATERWAYS

Waterway	Catchment	Strahler order (29/02/2024)	Within SDWC
Bannaby Creek	Hawkesbury-Nepean	4	Yes
Conners Creek	Hawkesbury-Nepean	4	Yes
Kerrawary Creek	Hawkesbury-Nepean	4	Yes
Myrtle Creek	Hawkesbury-Nepean	4	Yes
Cowpers Creek	Hawkesbury-Nepean	4	Yes
Turrallo Creek	Hawkesbury-Nepean	5	Yes
Tarlo River	Hawkesbury-Nepean	5	Yes
Pejar Creek	Hawkesbury-Nepean	4	Yes
Wollondilly Creek	Hawkesbury-Nepean	5	Yes
Middle Creek	Hawkesbury-Nepean	5	Yes
Melamalong River	Hawkesbury-Nepean	4	Yes

APPENDIX B: INDICATIVE SURFACE WATER QUALITY MONITORING EVENT RECORD

Surface Water Quality Monitoring Event Record

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Surface Water Quality Monitoring Event Record				
Work Lot:		**Date:**		
Record rainfall for previous 24 hours:		**Rainfall**	**mm**	
Upstream Monitoring Location:		**Time sample taken:**		
Upstream Field Analysis		**Result**	**Max[B] ***	**Min[B]***
Total dissolved solids (TDS)				
Total suspended solids (TSS)				
Total nitrogen				
Total phosphorus				
Additional Parameters:				
pH				
NTU				
Temperature				
Electrical Conductivity (EC) mS				
Dissolved Oxygen (DO)				
Is oil and/or grease visible on the surface of the water?				
Downstream Monitoring Location:		**Time sample taken:**		
Downstream Field Analysis		**Result**	**Max[B] ***	**Min[B]***
Total dissolved solids (TDS)				
Total suspended solids (TSS)				
Total nitrogen				
Total phosphorus				
Additional Parameters:				
pH				
NTU				
Temperature				
Electrical Conductivity (EC) mS				
Dissolved Oxygen (DO)				
Is oil and/or grease visible on the surface of the water?				
Investigation				
Undertake detailed site investigation to identify and record potential sources for non-conformances with Water Quality Objectives. Report directly to the Environmental Manager.				
Additional comments:				
Conducted by:				

*Max[B] = Maximum concentration recorded during background water quality monitoring.

*Min[B] = Minimum concentration recorded during background water quality monitoring.

APPENDIX B: UNEXPECTED CONTAMINATED FINDS PROCEDURE

HumeLink East

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Unexpected Contaminated Finds Procedure

HLE-AGJ-ENV-ALE-PRD-0000-00008 | Rev 01.2

I. APPROVAL

	Name	Signature	Date
Prepared By:	Amy-Lee Conroy		19/12/2024
Approved By:	Jacqueline McKenzie		19/12/2024
Principle Endorsement:	Carel Nagel		19/12/2024

II. DOCUMENT STATUS – REVISION HISTORY

Revision History				
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A	15/12/2023	All	A.Conroy	For submission to TransGrid
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00	25/06/2024	Nil	A.Conroy	Final for submission to Transgrid. IFU.
01.1	30/10/24	2	A.Conroy	Address comments from external consultation
01.2	19/12/2024	2	A.Conroy	Address ER comments

III. TERMS AND DEFINITIONS

Term/Acronym	Definition
ACM	Asbestos containing materials
CLM Act	*Contaminated Land Management Act 1997*
DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
DPHI	NSW Department of Planning, Housing and Infrastructure
EPA	Environment Protection Authority
EWMS	Environmental Work Method Statement
OEH	(former) NSW Office of Environment and Heritage
PPE	Personal protective equipment
RAP	Remedial Action Plan
SDS	Safety Data Sheet
SWMP	Soil and Water Management Sub Plan
SWMS	Safe Work Method Statement
the Project	HumeLink East
UCFP	Unexpected Contamination Finds Procedure

1. INTRODUCTION

1.1 CONTEXT

This Unexpected Contaminated Finds Procedure (UCFP) has been prepared for the HumeLink East project (the Project).

1.2 PURPOSE

The scope of this UCFP is to describe how the Project proposes to identify, contain, and dispose of unexpected finds of contamination during construction works.

1.3 OBJECTIVES

The key objective of this UCFP is to provide instruction on the management of potential unexpected finds to protect the environment from contamination. To achieve this objective, the Project will undertake the following:

- Ensure all personnel who are engaged in activities that may potentially expose, impact on, or handle contamination are aware of and have access to this procedure.
- Ensure this procedure is appropriately communicated to all personnel.

2. UNEXPECTED FINDS

2.1 IDENTIFICATION

In the event that an uncharacteristic material (e.g. soil, sediment, slurry, water or other foreign material) is discovered, this UCFP should be implemented.

Signs of potential contamination may include, but are not limited to:

- Soils distinctively different to other soils on-site – both in texture, colour, smell and moisture content
- Underground tanks and structures (e.g. former fuel tanks)
- Appear to be concentrated to a localised area (i.e. waste burial pits)
- Soil or water that is stained, oil soaked or containing a petroleum sheen or shows seepage
- Includes other products such as batteries etc
- May contain offensive odours, including sulphur-based leachate impacts or sewerage, including acid sulfate soils
- Buried building products and debris/waste or other human-derived materials (eg fuel drums, machinery)
- Potential asbestos-containing materials
- Buried animal carcasses or evidence of decomposition including potential remains.
- Unexploded ordinance

In the event of an Unexpected Find, works should be immediately ceased in the vicinity of the Find and the steps in this UCFP should be followed.

2.2 PERSONAL PROTECTIVE EQUIPMENT

Prior to any contamination investigation or management, appropriate personal protective equipment (PPE) must be worn. This may include but not limited to:

- Eye goggles
- Face mask
- Rubber boots
- Rubber gloves
- Long sleeves and pants.

Advice should be sought from the Safety team or relevant representative.

Where the cause of contamination is known, safety management requirements are detailed in Project safety documents and other documents such as Safety Data Sheets (SDS) and should be referenced.

2.3 UNEXPECTED CONTAMINATED FINDS PROCEDURE

All unexpected finds of potential contamination will follow the process shown in Figure 1.

2.3.1 ASSESSMENT

The Environment and Sustainability Manager will notify Transgrid and evaluate the situation and, if considered necessary, commission a suitably qualified contamination specialist to undertake a contamination investigation in the area of the find. A report of the investigation will be prepared to determine the nature, extent and degree of any contamination, assess the requirement to notify the NSW Environmental Protection Authority (EPA), and advise on the need for remediation or other action in consultation with Transgrid. The Environment and Sustainability Manager will also determine if notification to DPHI, DCCEEW (Cwlth), local councils or other agencies as required in accordance with Section 3.9 of the CEMP and in consultation with Transgrid.

The level of reporting must be appropriate for the identified contamination in accordance with relevant EPA guidelines, including Guidelines for Consultants Reporting on Contaminated Sites (NSW Office of Environment and Heritage (OEH), 2020).

2.3.2 MANAGEMENT AND MITIGATION

The Environment and Sustainability Manager (in consultation with a contamination specialist) will determine the appropriate management measures to be implemented and/or the requirement for an EPA-accredited contamination site auditor. This may include treatment or offsite disposal. If the material is to be disposed of off-site, the waste facility must be appropriately licensed (refer to the Project Waste Management Plan).

If the material is determined to contain asbestos or asbestos containing materials (ACM), it will be managed in accordance with an Asbestos Management Plan, which will be prepared and retained on-site. Any non-friable asbestos >10m2, or friable asbestos that will be disturbed will be done so under NSW SafeWork licenced conditions. This includes the engagement of an appropriately licenced removalist (Class A/B) working under an Asbestos Removal Control Plan and SafeWork NSW notification/removal permit (as required). It is a requirement of the *Work Health and Safety Act 2011* to manage and report asbestos within all workplaces.

Material will be classified in accordance with the Waste Classification Guidelines (EPA 2014) for offsite disposal or an assessment of contaminants of concern against the adopted soil assessment criteria. If necessary, the Environment and Sustainability Manager will liaise with the relevant Authorities to determine appropriate management options.

In the unlikely event unexpected acid sulfate soils are found, the Unexpected Contaminated Finds Protocol would be followed, which is in accordance with the Acid Sulfate Soil Manual (Acid Sulfate Soil Management Advisory Committee, 1998). The manual includes procedures for the investigation, handling, treatment and management of such soils

2.3.3 REMEDIATION

If required, contaminated soils will be treated and validated in accordance with an approved Remedial Action Plan (RAP) to be developed in consultation the qualified contamination specialist with consideration for the remediation hierarchy. The RAP must be prepared in accordance with EPA guidelines on contaminated land management, and include the following:

- Testing requirements for any contaminated material prior to its disposal off site
- Validation Plan, which must include the area in the immediate vicinity of (both below and adjacent to) the known contamination

- Implications of the validation results on the waste classification for material that may be excavated in the vicinity of the known contamination.

Remediation of the contaminated material, or its removal and disposal, will be undertaken in accordance with the relevant RAP. Remedial actions will be incorporated into specific safe work method statements (SWMS) and environmental work method statements (EWMS) and communicated to the Project team and subcontractors through toolbox meetings.

Recommencement of works will occur once remedial works have been implemented to the satisfaction of the Environment and Sustainability Manager or the Site Auditor (if applicable).

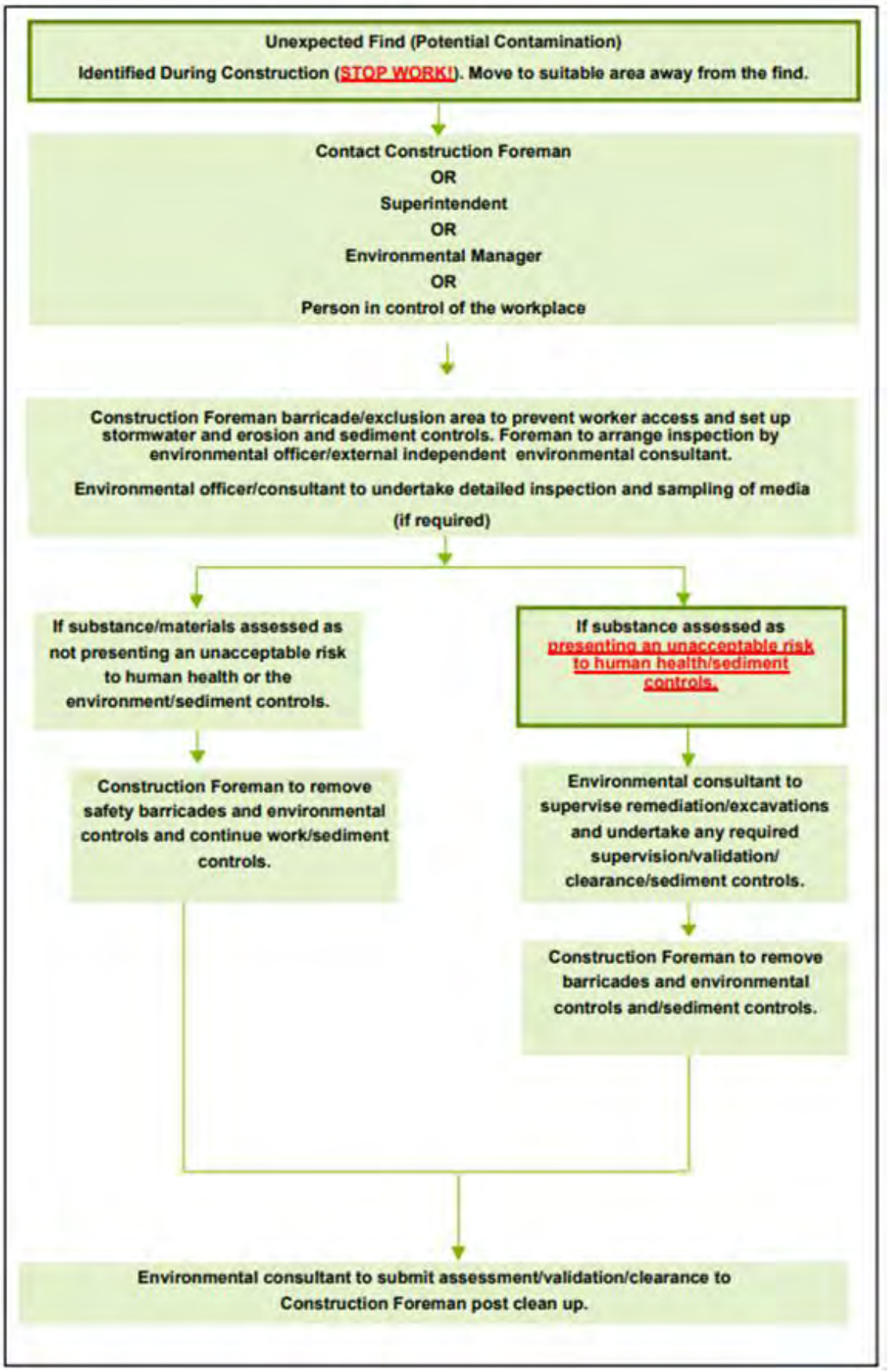

Figure 1 - Unexpected finds of potential contamination procedure flow chart (Detailed in the EIS)

3. ROLES AND RESPONSIBILITIES

3.1 SITE SUPERVISOR

- Ensure this UCFP is implemented throughout construction
- Enforce and stop work immediately upon becoming aware of a suspected unexpected contamination find
- Inform the Environment and Sustainability Manager of unexpected find
- Assist the Environment and Sustainability Manager in recording details of unexpected finds
- Work with the Environment and Sustainability Manager to develop a plan for managing and/or remediating the unexpected find
- Ensure asbestos removalist (if required) are appropriately licensed
- Recommence work only following approval from the Environment and Sustainability Manager.

3.2 ENVIRONMENT AND SUSTAINABILITY MANAGER

- Ensure this UCFP is implemented throughout construction
- Record details of unexpected find and notify and/or consult with Transgrid and environmental regulators (including EPA) as required
- Engage a suitably qualified contaminated land consultant
- Assist the suitably qualified contaminated land consultant in the investigation and assessment of unexpected find
- Work with Site Supervisor to develop a plan for managing and/or remediating the unexpected find
- In coordination with the Site Supervisor, implement the plan for the management and/or remediation of the unexpected find
- Following successful management of the unexpected finds, issue the Site Supervisor with approval to recommence work
- Delegate the above actions to the Project Environmental Team as required.

3.3 CONTAMINATION SPECIALIST

A suitably qualified contamination specialist will be engaged to:

- Identify the potential hazard to human health and/or the environment in accordance with applicable legislative requirements
- Undertake sampling of unexpected finds for laboratory analysis
- Undertake waste classification of any waste to be removed from site in accordance with the NSW EPA Waste Classification requirements
- Report on findings of any contamination investigation
- Assist in development of management and mitigation measures where required
- Issue asbestos clearance certification (if required)
- Prepare RAP (if required).

4. REPORTING AND NOTIFICATION

If suspected contamination is uncovered, the following reporting will occur as applicable:

- Any required Project reporting and notifications, including incident notifications, in accordance with Section 3.9 of the CEMP.
- Any confirmed contamination will be recorded in an Unexpected Contamination Finds Register maintained by the Project.
- If material is to be disposed offsite, material tracking will be undertaken as required in accordance with the *Protection of the Environment Operations Act 1997*.

- Notification and reporting to EPA will be undertaken in accordance NSW EPA Guidelines on the Duty to Report Contamination (2009) and *Contaminated Land Management Act 1997* (CLM Act).
- Where it is deemed that the contamination has been, or could have been caused, or changed by Project works, the EPA will be notified in accordance with Section 60 of the CLM Act.

Refer to Appendix G of the CEMP for a list of emergency contacts.

APPENDIX C: DEWATERING PROCEDURE

HumeLink East

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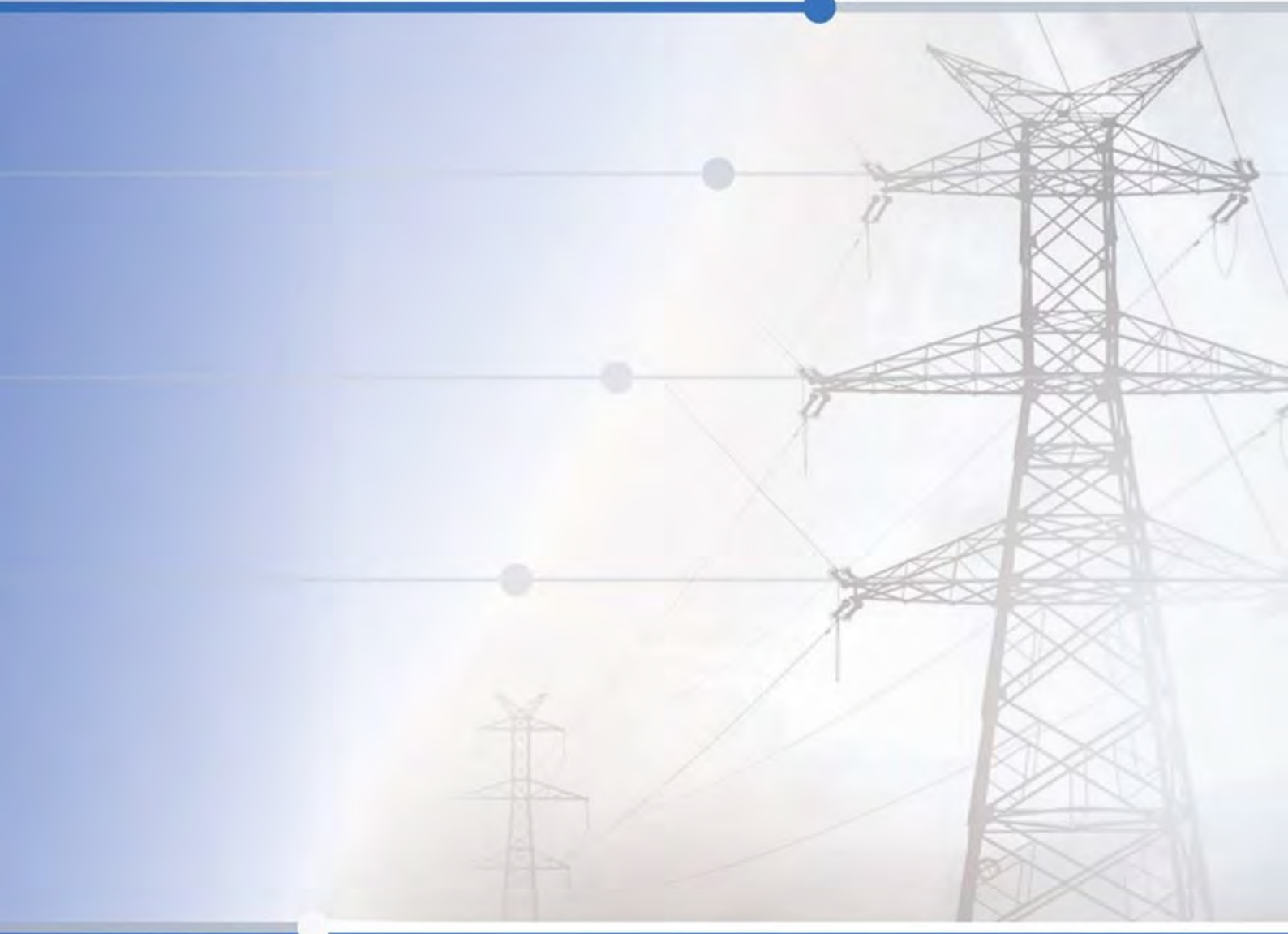

Dewatering Procedure

HLE-AGJ-ENV-ALE-PRD-0000-00002 | Rev 01.4

I. APPROVAL

	Name	Signature	Date
Prepared By:	Gregor Wilson		7/4/2025
Approved By:	Jacqueline McKenzie		7/4/2025
Principle Endorsement:	Carel Nagel		7/4/2025

II. DOCUMENT STATUS – REVISION HISTORY

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Rev:	**Date:**	**Pages:**	**Revised By:**	**Description:**
A	15/12/2023	All	A.Conroy	Prepared for use for construction works
B	30/01/2024	All	A.Conroy	Update to address Transgrid comments
00	25/06/2024	Nil	J.McKenzie	Final for submission to Transgrid. IFU.
01.1	21/10/24	1	A.Conroy	Update to include Water Treatment Plants
01.2	19/12/2024	All	A.Conroy	Update to address ER comments
01.3	24/02/2025	All	K Bedingfield	Update to address Stakeholder, SEEC and EPIC comments
01.4	7/4/2025	Section 6	G Wilson	Update to address ER comments

III. TERMS AND DEFINITIONS

Term/Acronym	Definition
ACM	Asbestos containing materials
Blue Book	Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom, 2004), and Volumes 2A (DEC, 2008b) and 2C (DECC, 2008a)
CEMP	Construction Environmental Management Plan
CoA	Minister's Conditions of Approval
CPESC	Certified Professional in Erosion and Sediment Control
CLM Act	*Contaminated Land Management Act 1997*
DPHI	Department of Planning, Housing and Infrastructure
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
EWMS	Environmental Work Method Statement
IECA	International Erosion Control Association (Australasia)
NTU	Nephelometric turbidity units
PPE	Personal protective equipment
SWMP	Soil and Water Management Sub Plan
SDS	Safety Data Sheet
SWMS	Safe Work Method Statement
the Project	HumeLink East
TSS	Total suspended solids
WQMP	Water Quality Management Plan

1. INTRODUCTION

1.1 CONTEXT

The Dewatering Procedure forms part of the Soil and Water Management Sub Plan (SWMP) for the HumeLink East Project (the Project).

1.2 PURPOSE

The purpose of the Dewatering Procedure is to outline how HumeLink East proposes to manage dewatering activities during the construction of the Project.

This procedure covers the following activities:

- Dewatering activities conducted by site personnel (including subcontractors) for surface water captured in sediment basins, trenches, excavations, boreholes and sumps.
- Dewatering of wheel washes, vehicle washdown location and bunded areas.

This procedure does not outline the operation and management (including discharge requirements) of the Water Treatment Plants for the Accommodation Camps (refer to the Accommodation Camps Management Plan).

2. TRAINING

All personnel involved in dewatering activities will undergo specific training relating to this Procedure and be toolboxed on the dewatering Environmental Work Method Statement (EWMS).

3. DEWATERING PROCESS

Water may be detained on the Project in sediment basins or other areas, particularly after a rain event or due to groundwater ingress such as trenches, excavations, boreholes and sumps.

A Dewatering Permit is required for all dewatering for the Project and needs approval by a member of the Environmental Team prior to commencement. There are two options for dewatering including:

1. Reuse on site
2. Discharge.

A summary of the dewatering process followed on the Project is shown in Figure 1.

3.1 REUSE

During construction, the Project may reuse or take water on-site from a range of sources such as sediment basins, trenches, piles, sumps and open excavations. Generally, water will be taken via a pump or standpipe arrangement into a water cart and transported to the intended usage site. Water will be reused for various construction activities such as, but not limited to, dust suppression throughout the Project footprint (including at transmission tower construction areas, onto and adjacent to access tracks, unsealed roads, and unsealed areas in construction compounds and accommodation camps), soil compaction, wheel wash, vehicle washdown areas and irrigation/watering of vegetation for site restoration/rehabilitation.

Water reuse requires a visual screening for oil and grease and where reused for watering or irrigation it must meet the water quality requirements for pH and turbidity outlined in Section 4.1.

The following will be considered when reusing water for construction activities:

- Water is not to be reused near food crops or used in a manner which may result in overspray onto food crops
- The reuse area is clear of sensitive receiving environments such as waterways, farm dams, threatened flora and endangered ecological communities or areas of contamination.

In the event that water is required to be used within or in close proximity to sensitive areas, the Environment and Sustainability Manager (or delegate) is to undertake an assessment prior to water reuse to determine if there is potential impact to the sensitive areas.

3.2 DISCHARGE

Discharge typically involves pumping or active release of water detained within a sediment basin or collected in other construction areas to reinstate capacity. The action usually results in a 'point source' discharge of detained water to a location on- or off-site, however discharge may also occur through spray application. Discharge occurs when the water is not able to be reused on site.

Discharge needs to meet the water quality requirements outlined in Table 1 in Section 4.1. This requirement applies to any discharge to environment that cannot be contained on site.

Discharge locations will consider the following (where practicable):

- Discharge to occur to areas of existing vegetation or stabilised discharge points to assist with the management of runoff
- No discharge to areas which may directly or indirectly impact sensitive receiving environments (waterways, farm dams, heritage features, threatened flora, endangered ecological communities) or areas of contamination.

If erosion or scouring is observed during discharge, the following will occur:

- Pump to be shut off
- The erosion or scouring repaired/rectified
- Additional measures taken to avoid further erosion/scouring such as reduction in flow rate, dissipation of flows, or additional ground protection
- If needed, the discharge point will be moved to an approved alternative location before recommencement of dewatering operations.

Relevant details will be recorded on the Dewatering Permit.

Water Quality Criteria for Discharge (Table 1)

Parameter	Units	Criteria
pH	pH units	6.5 to 8.0
Turbidity	NTU	50
Oil & Grease	Visible	Nil

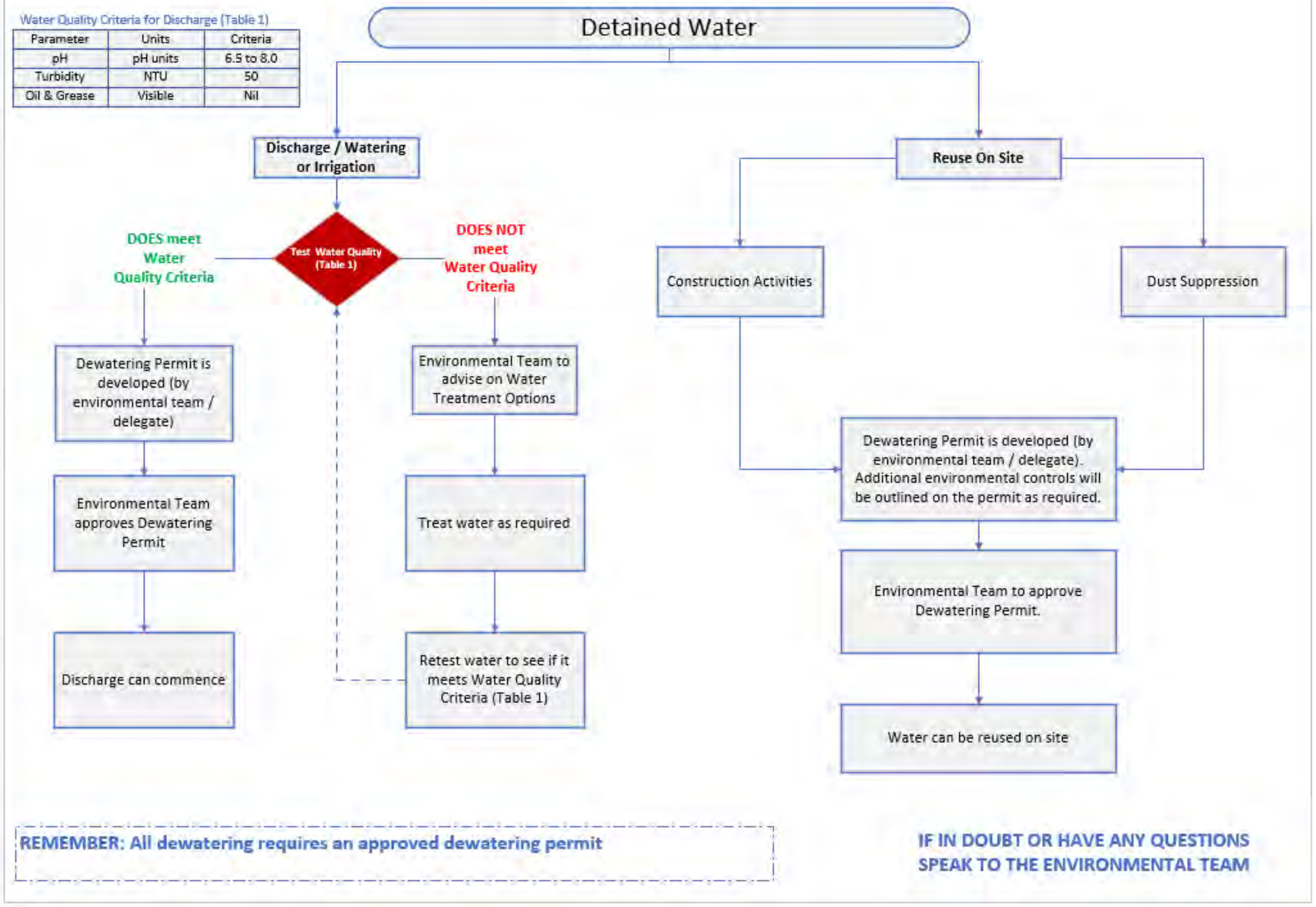

Figure 1: HumeLink East Dewatering Process

4. SEDIMENT BASINS

Construction Sediment Basins are structures designed to meet the sediment control requirements for the construction stage and ensure containment and treatment of runoff from exposed and active work areas for a design rainfall event.

The requirement for a sediment basin can be determined when there is an annual soil loss greater than 150m^3/year calculated in accordance with Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom, 2004) and Volumes 2A (DEC, 2008) and 2C (DECC, 2008) (referred to as the Blue Book). Generally, sediment basins will be constructed where the soil loss calculations indicate they are required, however, they may also be constructed where there is high-risk environmental area or for water storage and supply. Most of the basins constructed for the Project will be for water storage. Sediment basins will be constructed and operated in accordance with the Blue Book and the location will be reflected in the relevant Progressive Erosion and Sediment Control Plan (refer SWMP Section 7.1).

Where possible, permanent water quality basins will be used for the management of sediment loads in the construction stage, prior to conversion to operational basins upon completion of the Project.

4.1 SEDIMENT BASIN DEWATERING

A Dewatering Permit is required for dewatering of sediment basins or any retain watered on site and needs approval by a member of the Environmental Team prior to commencement. There are two options for dewatering a sediment basin. These include:

1. Reuse on-site outlined in Section 3.1
2. Controlled discharge outlined in Section 3.2.

An uncontrolled discharge of a basin, typically due to heavy rain events when the design capacity of the basin is exceeded, will not conform to the process outlined in this procedure and may not meet water quality criteria. As such, design of the sediment basin will include a spillway to direct the water to an appropriate discharge location to minimise impacts of any uncontrolled discharge. Where observed, uncontrolled discharges will be recorded in the post rainfall inspections.

4.1.1 TIMING

Where water is not required for beneficial reuse, or when capacity for a rainfall event needs to be reinstated, water detained in the basin will be dewatered within the designed rainfall period (typically within 5 calendar days of a rainfall event that creates measurable inflow to the basin). This ensures sufficient basin capacity is maintained for expected/unexpected rainfall. As per the Blue Book, if rainfall occurs again during the designed rainfall days, then the requirement restarts.

However, most basins constructed for the Project will be for water storage and beneficial reuse during the Project. As such, captured water in sediment basins may be retained for periods greater than 5 days to enable beneficial reuse of water for construction activities and dust suppression purposes. Where water is retained for longer than 5 days, and forecast rainfall is likely to produce measurable basin inflows, the basin will be managed to reinstate sufficient storage capacity. This will include the flocculation or other treatment of the basin prior to discharge, should it be required to meet discharge criteria.

The Environmental Team along with the construction team will monitor the weather forecasts and the volume of water in the basins and an assessment will be made on whether dewatering the basin is required.

4.1.2 WATER QUALITY CRITERIA

Prior to discharge detained water must meet the water quality criteria within Table 1.

Table 1: Water Quality Criteria for Discharge

Parameter	Units	Water Quality Criteria
pH	pH units	6.5 to 8.0
Turbidity	NTU	50
Oil and Grease	Visible	Nil

Where treatment is required to achieve the water quality criteria, it will:

- Be appropriately timed to ensure dewatering is complete within designed rainfall period of the rainfall event;
- Cease treatment if additional rainfall is predicted within the designed rainfall period that is likely to generate runoff that would adversely affect the treatment process or downstream environment; and
- Recommence treatment only after any predicted rain is no longer forecast within the design rainfall period.

Reuse of water will occur in accordance with Section 3.1 of this procedure.

4.1.3 TREATMENT

There may be times that the water quality in the basin does not meet the criteria outlined within Table 1 for discharge, when this occurs treatment is required.

Where the level of turbidity within the sediment basin does not meet the criteria treatment will typically occur with flocculants.

Where the pH of the basin does not meet the criteria, the pH may need to be adjusted by either raising the pH or lowering the pH.

1. To raise the pH of a basin, hydrated lime is typically applied. Application of the lime will consider the total volume of water which requires treating.
2. To lower pH, pool acid is typically applied. Application of the acid will consider the total volume of water which requires treating.

The safety requirements should be followed as outlined in the relevant safety data sheet.

4.1.4 INSPECTIONS

Sediment basins will be inspected pre-rainfall, post-rainfall and during dewatering.

Sediment basins will be inspected as part of pre-rainfall inspection to determine if adequate design capacity is available for the upcoming predicted rainfall event and if water extraction from the sediment basin is required. The inspection to be undertaken on working days.

Sediment basins will be inspected as part of the post-rainfall inspections to determine if any maintenance is required. The inspections will occur within the next working day, if safe to do.

Prior to dewatering of sediment basins for discharge, the water quality will be assessed as stipulated in Section 4.1.2. The Supervisor (or delegate) undertaking the dewatering activity will conduct a visual inspection prior to and during dewatering to ensure that the pump or siphon inlet is elevated above the basin settling zone to ensure settled sediments are not being disturbed by the discharge and to ensure this is maintained during dewatering.

5. SEDIMENT BASIN MAINTENANCE

In summary, the following will be carried out to maintain the sediment basins:

- After dewatering the sediment basin, a visual inspection will be made to determine if sediment has accumulated above the sediment storage zone;

- If sediment has accumulated above the sediment storage zone, desilting of the basin will be scheduled;
- Sediment extracted from the sediment basin will be either:
    - Stockpiled and managed in accordance with the stockpile requirements detailed within the SWMP;
    - Incorporated into earthworks where suitable; or
    - Disposed in an appropriate manner.

6. WHEEL WASHDOWNS AND CHEMICAL BUNDS

Water from wheel wash downs and chemical bunds may contain weeds, pathogens, biocides, antifungals, disinfectants and other chemicals, in addition to turbidity, oil and grease and variations in pH. Therefore, the management of the water from wheel wash bays and chemical bunds will be managed separately.

For chemical bunds, there is a risk of any chemical contamination. Therefore, wastewater will be managed in accordance with the Waste Management Plan, including testing and offsite disposal to a licensed facility where required.

For wheel washes, there is a greater risk of biological contamination. Wastewater will be directed to a sump protected by erosion and sediment controls. Material will be allowed to dry out and will then be manually removed and disposed of in accordance with the Waste Management Plan.

7. REPORTING AND RECORD KEEPING

Dewatering activities will be recorded on the Dewatering Permit. The Dewatering Permit will include, but is not limited to the following information:

- Date and location of proposed discharge
- Water quality results including sampling date
- Volume of water
- Treatment details (as required), including the quantities, time and date added.

Any non-compliances and follow up actions will be reported to Transgrid and DPHI as described in the CEMP.

Water volumes or ‘takes’ will be recorded as required by CoA C13 and will be made available for the Independent Audit. ‘Water take’ is understood to refer to the water used by the Project. Estimated volumes of reused water will also be recorded to inform total ‘water take’ for the Project.

APPENDIX D: EROSION AND SEDIMENT CONTROL STRATEGY

HumeLink East

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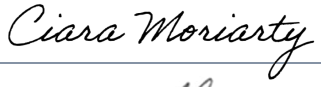
Erosion and Sediment Control Strategy

HLE-AGJ-ENV-ALE-PLN-0000-00002 | Rev 01.3

I. APPROVAL

	Name	Signature	Date
Prepared By:	Ciara Moriarty		06/05/2025
Approved By:	Jacqueline McKenzie		06/05/2025
Principle Endorsement:	Carel Nagel		06/05/2025

II. DOCUMENT STATUS – REVISION HISTORY

Revision History				
Rev:	**Date:**	**Pages:**	**Revised By:**	**Description:**
A	15/12/2023	All	A.Conroy	For submission to TransGrid
B	30/01/2024	All	A.Conroy	Update to address Transgrid comments
00	25/06/2024	Nil	J.McKenzie	Final for submission to Transgrid. IFU.
01.1	19/12/2024	All	A.Conroy	Update to address ER comments
01.2	24/02/2025	All	K Bedingfield	Update to address Stakeholder, SEEC and EPIC comments
01.3	06/05/2025	Various	C Moriarty	Update to address DPHI comments

III. TERMS AND DEFINITIONS

Term/Acronym	Definition
AGJV	Acciona Genus Joint Venture
Blue Book	Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom, 2004), Volume 2A (DEC, 2008) and Volume 2C (DECC, 2008)
CPESC	Certified Professional in Erosion and Sediment Control
EIS	Environmental Impact Statement
ESCS	Erosion and Sediment Control Strategy
PESCP	Progressive Erosion and Sediment Control Plans
SWMP	Soil and Water Management Sub Plan
the Project	HumeLink East

CONTENTS

1. INTRODUCTION

1.1 CONTEXT

This Erosion and Sediment Control Strategy (ESCS) has been prepared for the HumeLink East Project (the Project).

1.2 PURPOSE

The scope of this ESCS is to facilitate the effective management and implementation of controls and measures to mitigate impacts associated with the construction activities for The Project. This Strategy will outline the overarching principles to be considered and integrated into the development of the progressive erosion and sediment control plans (PESCPs). The PESCPs will be prepared and implemented progressively during the construction of HumeLink East and will provide more detailed information and specific measures or approval requirements (where relevant).

1.3 OBJECTIVES

The key objective of this Strategy is to provide instruction on the management of erosion and to protect the environment from erosion and sedimentation. To achieve this objective, Acciona Genus Joint Venture (AGJV) will undertake the following:

- Ensure all activities that may potentially expose, impact on, or contribute to erosion are managed in accordance with this procedure.
- Ensure the management of erosion and sediment control is appropriately communicated to all personnel.

2. ENVIRONMENTAL REQUIREMENTS

The ESCS will approach erosion and sediment management in accordance with the following guidelines:

- Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom, 2004), and Volumes 2A (DEC, 2008b) and 2C (DECC, 2008a), commonly referred to as the ‘Blue Book’
- Best Practice Erosion and Sediment Control (IECA, 2008)
- Transgrid's Environmental Guidance Notes
- Guidelines for controlled activities (Riparian corridors (DPE, 2022c) and Watercourse crossings (DPE, 2022b)).

3. EXISTING ENVIRONMENT

Section 5 of the Soil and Water Management Sub Plan (SWMP) outlines the existing environment related to the Project. Additional information can be found in Chapters 16 and 17 of the Project Environmental Impact Statement (EIS), Technical Report 10 – Phase 1 Contamination Assessment, and Technical Report 12 – Surface Water and Groundwater Impact Assessment.

4. KEY MANAGEMENT STRATEGIES

The principal strategy for managing erosion and sediment on a construction site is to take all reasonable and practicable measures to minimise the short and long-term soil erosion and the adverse effects of sediment transportation.

For context, the term ‘reasonable’ means an action based on sound judgement and affordable cost, while ‘practicable’ is an action capable of being implemented with available means, with reason or with prudence. Therefore, each construction site demands a unique set of erosion and sediment control measures. Implementation of erosion and sediment controls measures should represent an appropriate balance between the recommended implementation of the control and common sense, while considering the existing environment and site conditions. There may be situations/locations where erosion and/or sediment control measures are not required or become obsolete depending on the current activities occurring on site at the time.

4.1 PROGRESSIVE EROSION AND SEDIMENT CONTROL PLANS (PESCP)

Due to the spatial extent of the Project, staged PESCPs will be developed under this strategy throughout the construction period. A Certified Professional in Erosion and Sediment Control (CPESC) will be engaged to develop initial PESCPs (and soil loss and design calculations as required), alongside AGJV, to detail the erosion control measures to be utilised across a range of different receiving environments and landforms on the Project.

Environmental staff will subsequently use the initial PESCP as a basis to develop site specific PESCPs (typically for each work area) in consultation with Project Engineers, Superintendents and Supervisors.

For high-risk environments, such as works near major watercourses or in steep or highly erodible terrain, the PESCPs will be prepared or reviewed by the CPESC. This will ensure that erosion and sediment control management is incorporated into the planning stage of construction activities and is coordinated in its approach. PESCPs will be updated as required as sites and associated erosion and sediment control requirements change as the works progress. The PESCP will detail the processes, responsibilities and measures to manage potential soil and water quality impacts in accordance with the guidelines and principles outlined in Section 4.2. A site specific PESCP register will be implemented and made available to site personnel for reference. The process for the preparation, review and auditing of PESCPs is detailed in the SWMP.

PESCPs will incorporate the following aspects:

- Title, date and revision number
- Details regarding the implementation period and staging
- A layout of the site, including the location of access tracks, ancillary infrastructure, stockpile locations and any other relevant features that may impact soils or water
- Protected vegetation, heritage, potential contaminated sites and disturbed (cleared) areas
- The location of temporary and permanent erosion and sediment control measures proposed to manage stormwater prior to discharge (including vegetated treatment systems)
- Notes on establishment and maintenance of controls, progressive stabilisation/rehabilitation and relevant site-specific information
- Review and signoff from CPESC (for initial PESCPs and all high-risk environments PESCPs).

A draft ESCP Template is included in Annexure B. This is an indictive plan, that will then be updated to the site-specific environment and required controls and then reviewed by a CPESC for high risk areas.

4.2 KEY PRINCIPLES

The PESCPs will draw upon best management practices and principles to mitigate the overall environmental impact during construction. The objective of these is to minimise the pollution of ground and surface waters resulting from construction activities. This includes specific structures and measures to minimise erosion and sedimentation to be implemented in conjunction with various site management techniques. The following fundamental erosion and sedimentation management principles from relevant guidelines will apply to all areas and stages of the construction program:

- Integrate erosion and sediment management measures with construction planning (i.e. assess the risk)
- Develop effective and flexible PESCPs based on site conditions and weather conditions
- Stage approach to minimise the extent of ground disturbance.
- Control water flows around and through the work areas
- Implement erosion control strategies and controls to reduce the risk of the generation of sediment
- Implement sediment control strategies and controls to reduce the risk of off-site pollution
- Progressive stabilisation following completion of each work area
- Monitor controls and strategies including maintenance requirements and adjust as required to meet standards.

The above key principles have guided the development of erosion and sediment control principles to be implemented on HumeLink East and are described in more detail below.

A compliance matrix is provided in Annexure A detailing how the HumeLink East Principles address the relevant guidelines list in Section 2.

HUMELINK EAST PRINCIPLE 1 – APPROPRIATE PLANNING

Prior to vegetation and soil disturbance, erosion and sediment control issues will be considered and integrated into construction planning, programming and site documentation, including:

- Identify high-risk areas and high-risk construction activities, taking into account the existing environment, that are likely to impact erosion and sediment issues
- Consider sensitive areas and features including, but not limited to, the location of known heritage features both within and adjacent to the construction area, biodiversity flora and fauna, watercourses and riparian land
- Develop the site layout and construction process to prevent or minimise environmental harm due to erosion and sediment control issues (e.g. material stockpiles to be located away from surface water flow paths)
- Construction planning to minimise extent/duration of soil disturbance
- Prepare effective and flexible PESCPs that are adjusted and adapted to changing site and weather conditions. The initial PESCP will be prepared prior to soil disturbance activities and implemented concurrently with relevant site activities where required.

HUMELINK EAST PRINCIPLE 2 – STAGE APPROACH AND MINIMISE GROUND DISTURBANCE

To minimise erosion of disturbance areas, aim to complete works and stabilise disturbed areas progressively in a staged approach.

- Schedule works to minimise the extent and duration that any areas are exposed to erosive effects of wind, rain and flowing water
- Where reasonable and practicable, stage clearing in conjunction with construction sequencing to minimise exposed areas
- Review weather forecast and conditions prior to any ground disturbance.

HUMELINK EAST PRINCIPLE 3 – CONTROL WATER MOVEMENT AROUND AND THROUGH SITE

To reduce erosion and surface water runoff volumes that will require treatment and to maximise the efficiency of sediment controls, aim to:

- Separate ‘clean’ run-off from construction water run-off. Divert clean water around the construction site and erosion controls
- Design drainage systems (temporary or permanent) to be appropriately sized
- Design and construct waterway crossings to maintain existing or natural hydraulic, hydrologic, geomorphic and ecological functions of the watercourse
- Consider scour protection for waterway crossings during design
- Manage areas that are susceptible to concentrated flow
- Break up slope lengths and catchment area where possible to reduce runoff volumes and velocities

HUMELINK EAST PRINCIPLE 4 – USE EROSION CONTROLS TO MINIMISE ON-SITE DAMAGE

To minimise erosion of disturbed areas, aim to:

- Line and protect drains (where reasonable and feasible)
- Protect the soil surface from raindrop impact
- Protect the soil surface to minimise erosion
- Convey run-off in a non-erosive manner
- Appropriately size erosion and sediment controls

- Stabilise access tracks where practicable and reasonable
- Shape unsealed roads to promote effective drainage

HUMELINK EAST PRINCIPLE 5 – USE SEDIMENT CONTROLS TO MINIMISE OFF-SITE DAMAGE

To minimise impacts to offsite areas as a result of erosion of the site, aim to:

- Where reasonable and practicable, sediment should be trapped as close to its source as possible while not impeding works
- Sediment control measures to be appropriate for the soil type, weather conditions, treatment stand, and scope of works
- Soil loss and design calculations will be completed at the development of PESCPs. Calculation information will be kept on file.
- Protect adjacent properties and downstream environments
- Intercept and capture construction run-off prior to leaving the site boundary
- Chemically treat sediment laden water to remove suspended soil particles (where required).

HUMELINK EAST PRINCIPLE 6 – MINIMISE IMPACTS ON WATERFRONT LAND AND WATER CROSSINGS

To minimise impacts on waterfront lands and water crossings, aim to:

- Minimise the design and construction footprint and extent (including crossings) of proposed disturbances within the watercourse and riparian corridor.
- Minimise the extent of vegetation clearing generally within vegetated riparian corridors wherever practicable in constructing the transmission line structures
- Minimise impact to Riparian zones, including retention of tree trunks bases, shrub and ground stratum where practicable
- Manage all stormwater discharges in accordance with the Dewatering Procedure (SWMP Appendix C).

HUMELINK EAST PRINCIPLE 7 – PROGRESSIVELY STABILISE DISTURBED AREAS

To minimise disturbed areas, aim to:

- Strip and stockpile topsoil material for reuse in the restoration / stabilisation phase and retain/reuse topsoil at the source location where feasible
- Manage topsoil to preserve its long-term value
- Progressively stabilise and commence rehabilitation of disturbed areas following completion of works in the area
- Apply erosion controls to temporarily stabilise areas as required.

HUMELINK EAST PRINCIPLE 8 – INSPECT AND MAINTAIN CONTROL MEASURES

The effectiveness of erosion and sediment controls is dependent on the selection of appropriate controls/techniques and the maintenance of these controls. To ensure that erosion and sediment control measures are adequate, HumeLink East will:

- Inspect control measures regularly (weekly environmental inspections, prior to and after rainfall events)
- Maintain, modify and/or implement new control measures as identified during inspections
- Update/develop PESCPs plans as required
- Remove temporary control measures once an area has been stabilised.

5. EROSION AND SEDIMENT CONTROLS

Erosion control is the priority of any erosion and sediment control strategy. Erosion control measures generally function by reducing the duration of soil exposure to erosive forces, either by holding the soil in place or by shielding it. Measures to be used include a variety of construction practices, structural

controls and vegetative measures aimed at managing runoff at a non-erosive velocity, and the protection of disturbed soil surfaces.

Effective and practical erosion control is achieved through:

- Effective shaping of and providing effective drainage for access tracks and roads
- Limiting area of disturbance and implementing progressive stabilisation to limit time of disturbance / exposure to erosion
- Integrating measures which reduce volume of water moving over exposed surfaces
    - These include diversions of non-site water safely around the site, but also measures within the construction area to reduce the sizes of local catchments and take water to regular outlets or some stable conveyance, pipe or lined channel
- Utilising measures which slow the movement of water over exposed areas to velocities which do not lead to scour of the surface. This may be achieved via creating flat gradients in channels and formations, introducing roughness or installing flow checking measures within channels, and
- Providing additional protection, cover or stability to exposed surfaces so that it is less readily eroded. Options, depending on site constraints, include additional compaction, spray on stabilisers (tackifiers), mulches, blankets and temporary vegetation.

These approaches will be included in the planning of the works and development of the PESCP. A range of typical erosion control measures are expected to be used within this Project.

6. KEY EROSION CONTROLS

Key erosion controls that may be utilised on the Project include but are not limited to:

- Minimising disturbance and progressive stabilisation
    - Construction areas will be kept to the minimum area required to allow for construction and access and effective working conditions
    - Progressive stabilisation will be implemented on site and scheduled into the construction program as a work activity.
- Lined Channels
    - Channels may be lined and protected with concrete, rock, geotextile, plastic, jute or similar to prevent erosion based on the slope
    - Both the inlet and outlet will be designed to convey the predicted water flows without overtopping
    - Batter chutes may also be utilised.
- Diversion Measures
    - Can include banks, berms, gravel socks and scratch drains to move clean water away from site to assist in reducing site erosion
    - These measures are very effective at limiting the potential for erosion.
- Slow Movement of Water
    - Measures to slow the movement of water can include check dams and temporary detention areas typically formed out of rock, mulch or gravel/sandbags or similar materials
    - Typically used in drains or against a formation or cut
    - They are inexpensive and easily implemented on site.
- Surface Protection
    - Where there is a lack of available space for sediment control, temporary and immediate protection will be achieved through covering the soil surface using geotextile, mulch, soil binders (tackifier) or plastic
    - This approach can also be applied as part of the construction works to secure areas which may be difficult to access removing a potential ongoing maintenance concern.

7. KEY SEDIMENT CONTROLS

Key sediment controls that may be utilised on the Project include but are not limited to:

- Sediment Basins
  - Sediment basins will be constructed where the soil loss calculations indicate they are required (ie annual soil loss greater than 150m^3 per year calculated in accordance with the Blue Book), or where there is high-risk environmental area or for water storage and supply.
  - Sediment basins will be constructed and operated in accordance with the Blue Book and the location will be reflected in the relevant PESCP.
  - Where possible, permanent water quality basins will be used for the management of sediment loads in the construction stage, prior to conversion to operational basins upon completion of the Project.
  - The EIS notes a diverse range of soil types across the Project footprint, with the predominant soils either sand or clay-based or a mixture of the two. Therefore, all basins on the Project are likely to be Type D or Type F as per the Bluebook and Best Practice Erosion and Sediment Control (IECA, 2008). An example plan view and cross-section diagram for the Type D and Type F sediment basin is provided in Figure 1.

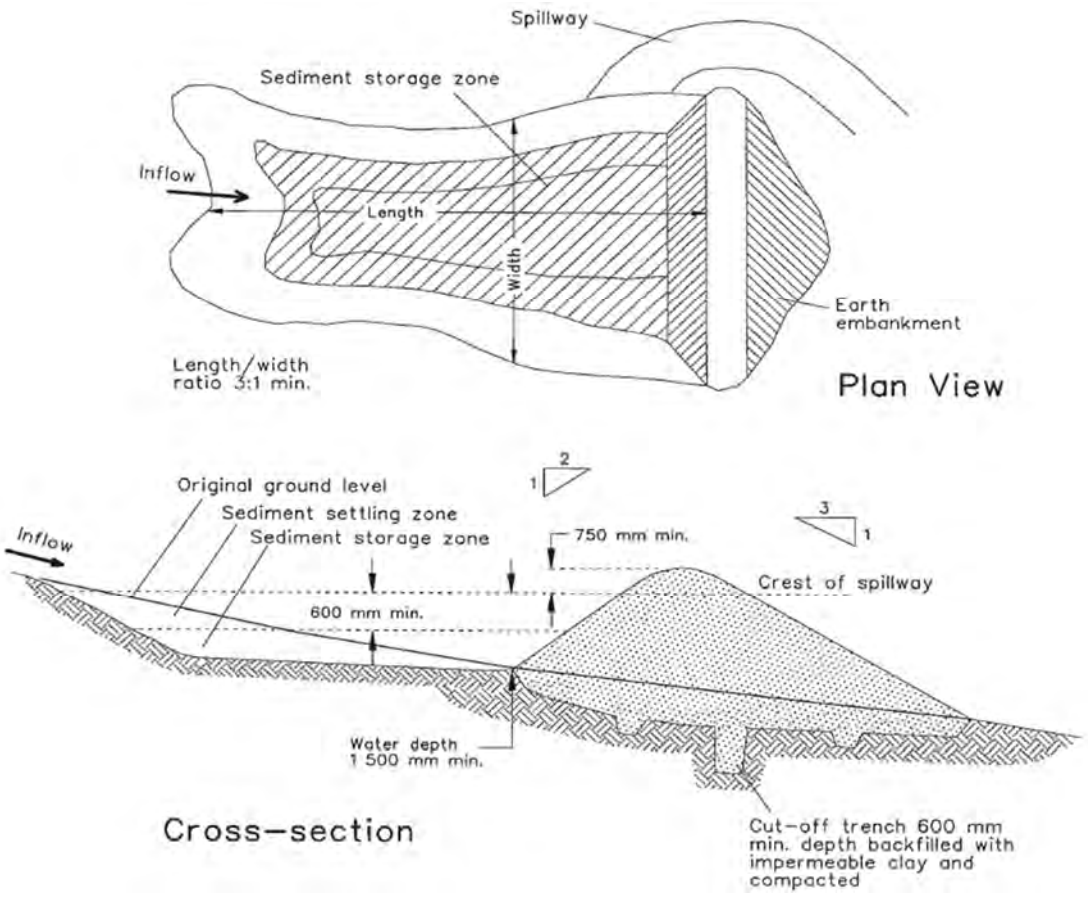


Figure 1: Typical section through Type D and Type F sediment basin (Source: Bluebook, 2004)

- Sediment Traps
  - Sediment traps are typically smaller systems that are designed to capture sediment

- These sediment controls may need to be removed to allow progress of works, and as such must be easily reinstated at the end of each day's work. Examples of sediment traps include, but are not limited to:
    - **Perimeter banks:** Typically installed on relatively flat areas where the catchment disturbance does not warrant a basin to be installed. Key to their effective use is ensuring they are on the contour of the slope and that they are regularly inspected and maintained.
    - **Rock Berms / Check Dams:** Rock berms are formed by the wrapping of rock with geotextile fabric to form a sediment trap. Typically used along drainage lines and adjacent to watercourses where clearing of vegetation is to be minimised. Berms can be formed out of smaller or graded aggregate without geotextile. These measures may be used on relatively flat areas in temporary drains and/or integrated into an earth berm to provide a stable and permeable section at the spillway.
    - **Sediment Fence:** Sediment fence must be used as a control measure on the contour of the slope to ensure effective operation. Installation of sediment fence will be in accordance with the Blue Book and best practice guidelines to ensure the effectiveness of the control.
    - **Mulch:** Mulch generated from clearing can be utilised as a sediment control measure. Mulch may be formed as a long berm on the contour as an alternative to sediment fence and without the need to trench or form a berm around a sediment trap and may be covered with fabric to prevent its movement by water flows.

8. IMPLEMENTATION

8.1 TRAINING

A key component of this ESCS is the training and supervision of staff involved in the construction of the Project. Initial training would be undertaken upon commencement of the Project through inductions and specific training to key staff on implementation and maintenance. Additional training will be conducted throughout construction with targeted personnel identified through training needs analysis to ensure best practice is implemented during the Project. Records of this training will be maintained.

8.2 INSPECTION

Weekly environmental inspections of erosion and sediment controls will be undertaken by the environmental team to identify if any maintenance is required on erosion and sediment control. This may include desilting, replacing ineffective controls or implementing additional controls.

A CPESC will be engaged to undertake regular inspections throughout the duration of the Project. Inspection frequency will be determined according to the requirements of construction activities. It is anticipated that in the early stages of the Project, inspections will be conducted more regularly and then reduced in the latter stages of the Project as the site becomes more stable and risk is reduced.

All permanent and temporary erosion and sediment control works will be inspected as outlined in Section 8.3 of the SWMP.

8.3 MAINTENANCE AND REPORTING

The site environmental checklist will be completed during the weekly inspection of erosion and sediment controls identifying any corrective actions, additional controls or maintenance activities to be undertaken for the effective operation of site controls. This will include any follow up maintenance required after rain events to ensure capacity and functionality of controls. Any modifications required will be documented on the checklist and provided to the relevant supervisor to action. Records identifying the closure of actions will be maintained to document closure of actions. Reporting of the effectiveness of controls will

be done during team meetings (environment and construction) and client meetings and detailed in the monthly report (if required). Toolboxes or training may be undertaken if deemed necessary based on the outcomes of the reporting.

ANNEXURE A – COMPLIANCE MATRIX

HumeLink East ESC Principles are:

1. HumeLink East Principle 1 – Appropriate Planning
2. HumeLink East Principle 2 – Stage Approach and Minimise Ground Disturbance
3. HumeLink East Principle 3 – Control water movement Around and Through Site
4. HumeLink East Principle 4 – Use erosion controls to Minimise On-Site Damage
5. HumeLink East Principle 5 – Use sediment controls to Minimise Off-Site Damage
6. HumeLink East Principle 6 – Minimise Impacts on Waterfront Land and Water Crossings
7. HumeLink East Principle 7 – Progressively Stabilise Disturbed Areas
8. HumeLink East Principle 8 – Inspect and Maintain Control Measures

- Further detail on these principles is included in Section 4.2. The Compliance matrix below demonstrates compliance of these key principles against the following objectives :Principles of Construction Site Erosion and Sediment Control (IECA 2018)
- Blue Book management principles (Landcom 2004)
- Transgrid's Environmental Handbook
- Guidelines for controlled activities (Riparian corridors (DPE, 2022) and Watercourse crossings (DPE, 2022))

No.	Principle / objective	HumeLink East ESC Principles								
		1	2	3	4	5	6	7	8	N/A
Principles of Construction Site Erosion and Sediment Control (IECA 2018)										
1	Appropriately integrate the development into the site									✓*
2	Integrate erosion and sediment control issues into site and construction planning	✓								
3	Develop effective and flexible erosion and sediment control plans based on the anticipated soil, weather and construction conditions	✓								
4	Minimise the extent and duration of soil disturbance		✓				✓			
5	Control water movement through the site			✓						
6	Minimise soil erosion				✓		✓			
7	Promptly stabilise disturbed areas							✓		
8	Maximise sediment retention on the site					✓				
9	Maintain all erosion and sediment control measures in proper working order at all times								✓	
10	Monitor the site and adjust erosion and sediment control practices to maintain the required performance standard								✓	
Blue Book management principles (Landcom 2004)										
1	Assess the soil and water implications of a project at the planning stage	✓								
2	Plan for erosion and sediment control and assess site constraints during the design phase and before any earthworks begin	✓								
3	Minimise the area of soil disturbed and exposed to erosion		✓							
4	Conserve topsoil for later site rehabilitation / revegetation							✓		

No.	Principle / objective	HumeLink East ESC Principles								
		1	2	3	4	5	6	7	8	N/A
5	Control water flow from the top of and through the project area – divert up-slope 'clean' water away from disturbed areas and ensure concentrated flows are below erosive levels			✓						
6	Rehabilitate disturbed lands quickly							✓		
7	Maintain erosion and sediment control appropriately during the construction phase								✓	
Transgrid's Environmental Handbook										
1	Assess the soil and water risks present or potential on the work site	✓								
2	Minimise the areas disturbed		✓							
3	Conserve topsoil / spoil where required for reuse							✓		
4	Control Water flows around and through works			✓						
5	Stabilise/rehabilitate disturbed areas progressively							✓		
6	Inspect and maintain all control measure								✓	
7	Remove sediment controls when site is stable								✓	
Guidelines for controlled activities (Riparian corridors (DPE, 2022) and Watercourse crossings (DPE, 2022))										
1	Establish and preserve the integrity of riparian corridors						✓			
2	Seek to minimise disturbance and harm of riparian corridors		✓				✓			
3	Minimise the number of creek crossings of riparian corridors						✓			
4	Manage run-off before discharging into riparian corridors			✓			✓			
5	Design and construct waterway crossings to maintain existing or natural hydraulic, hydrologic, geomorphic and ecological functions of the watercourse. This includes the requirement for scour protection.			✓						
6	Stabilise/rehabilitate disturbed areas progressively						✓			

* To be managed through the permanent design process

ANNEXURE B – DRAFT ESCP TEMPLATE

HumeLink East	DRAFT Erosion and Sediment Control Plan (ESCP) Project: HumeLink East Work Package /Location: Example Location	**Revision**: A **Date**: XXXX **Page:** 1 of

Endorsed:		**Prepared by:**	
Revision Number:		**Reviewed by:**	
Revision Date:		**Reason for update:**	

GENERAL NOTES:

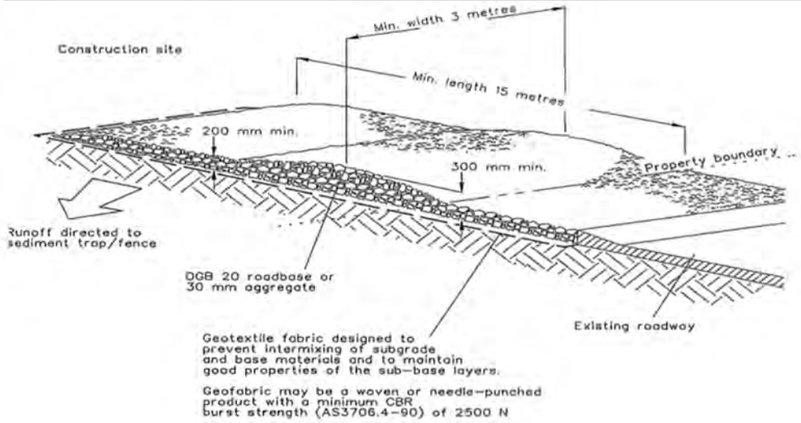
1. This Erosion and sediment control plan (ESCP) should be read in conjunction with the project soil and water management plan and the sensitive area plans.
2. All erosion and sediment controls generally to be constructed and maintained in accordance with the 'blue book'.
3. All existing vegetated or undisturbed areas outside of the works are to be regarded as no-go zones and are to be delineated with flagging or tape where required.
4. Temporary controls additional to those shown on this plan may be required by the progression of works or weather conditions. PESCPs will be developed to detail environmental erosion and sediment controls for construction stages.
5. Any tracking of sediments to roadways to be controlled by stabilised access/egress points and removed as required.
6. The principal of 'minimal disturbance' to be implemented until topsoil stripping of the catchment is required.
7. Areas that are not disturbed or used (>20 days) are to be stabilised to managed dust. This could include the use of hessian, mulches or stabilisers to cover exposes areas as soon as possible after completion of earthworks where it is not possible to re-vegetate or cover with topsoil. Watercarts to be utilised during active works. All plant and vehicles to utilise existing tracks.
8. Dust controls to be regularly conducted with water carts and soil stockpiles stabilised with temporary cover if required. High dust generating activities to be monitored and ceased during periods of high winds.
9. Construction activities to be modified, reduced or controlled during high or unfavourable wind conditions if they have a potential to increase off-site dust generation.
10. Controls will be inspected prior to, during and post rainfall causing runoff and at a minimum weekly. Maintenance and repairs to be carried out as required.
11. 'Clean water' flow is to be maintained around the site with separation between construction or 'dirty' waters if run-on water catchments are present.
12. Slope breaks to be installed where required prior to rainfall
13. Sediment basins and dewatering activities are to be managed in accordance with the Soil and Water Management Plan (SWMP) and relevant Environmental Work Method Statements (EWMS).
14. 'Dirty water' that cannot be directed to sediment basin must be diverted to local temporary control measures (e.g. sediment fences, mulch bunds, turkey nests or sumps).
15. Disturbed areas are to be progressively revegetated with sterile cover crop or permanent revegetation design. Temporary controls are to remain until site is stabilised (70% soil surface cover).
16. Numbering (1, 2, 3) indicates order of works and control implementation.
17. Controls shown on plan are indicative only. Exact location will be modified to suit site conditions and function provided they are located within clearing limits and EIS limits where appropriate.

Key Contacts:	
General Senior Supervisor	
Supervisor:	
Environmental Manager:	
Site Engineer:	
Place Manager (Community / Property)	

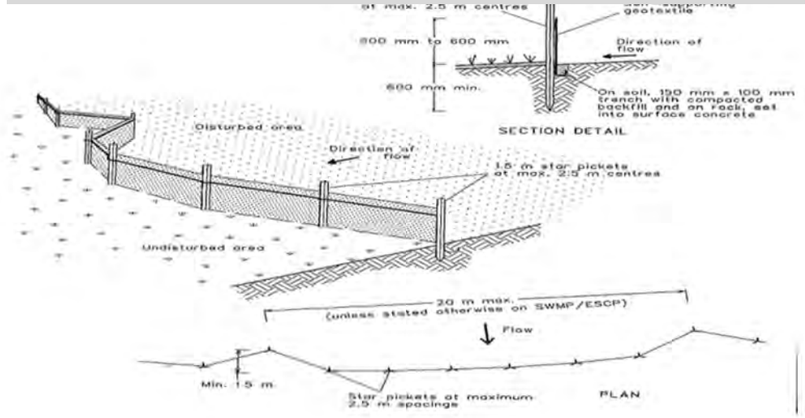
LEGEND

ECSP STAGING	1
PROJECT BOUNDARY	
SEDIMENT FENCE	
SLOPE BREAK	
CLEAN WATER FLOW (CONCENTRATED)	
CLEAN WATER FLOW (SHEET)	
DIRTY WATER FLOW	
STABILISED ACCESS	
WHEEL WASH /BIOSECURITY CHECK POINT	
SPILLWAY / BATTER CHUTE (LINED)	
SUMP	
SEDIMENT BASIN	
PIPE	
CHECK (SANDBAGS / ROCK)	
MULCH / EARTH BUND	

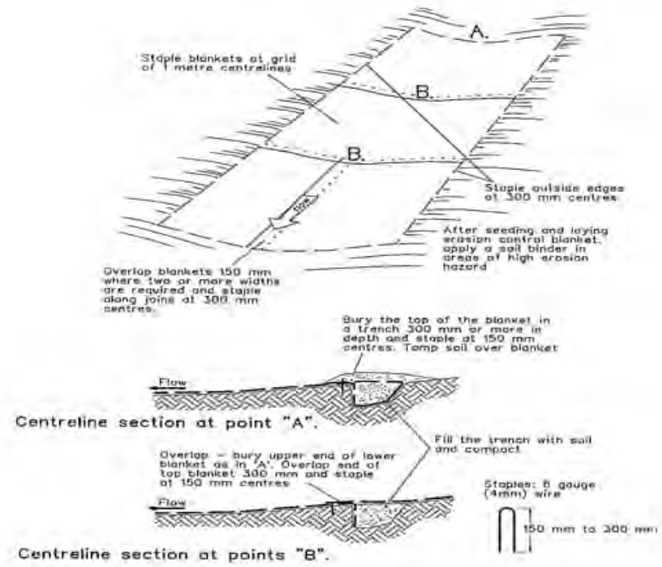
STABILISED ACCESS/ERGRESS POINT SD 6-14



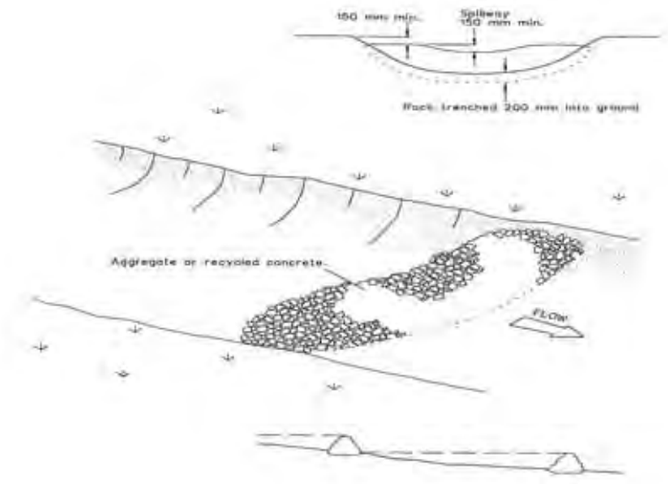
SEDIMENT FENCE SD 6-8



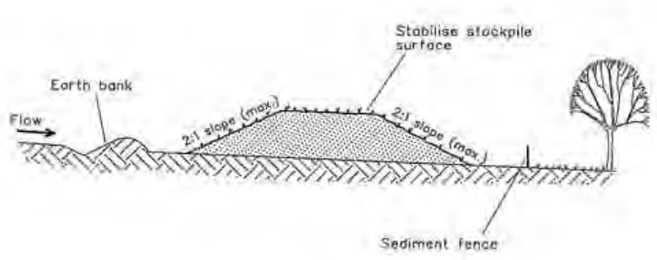
CONCENTRATED FLOW LINE SD 5-7



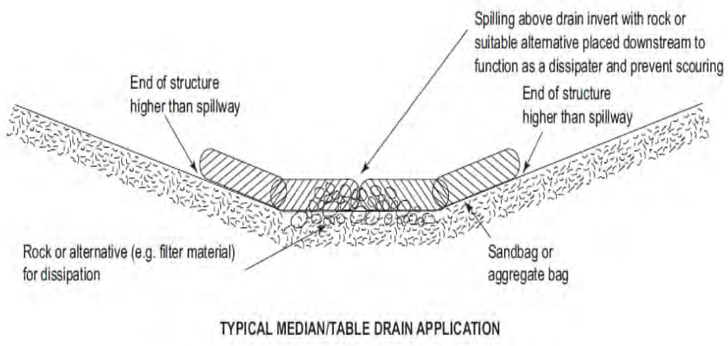
ROCK CHECK DAMS SD 5-4



STOCKILE SD 4-1



SANDBAG BUND Figure C.3



TYPICAL MEDIAN/TABLE DRAIN APPLICATION

Construction Sequence

1. **X**
2. **X**
3. **X**

Note:

LEGEND

ECSP STAGING	1
PROJECT BOUNDARY	
SEDIMENT FENCE	
SLOPE BREAK	
CLEAN WATER FLOW (CONCENTRATED)	
CLEAN WATER FLOW (SHEET)	
DIRTY WATER FLOW	
STABILISED ACCESS	*
WHEEL WASH /BIOSECURITY CHECK POINT	
SPILLWAY / BATTER CHUTE (LINED)	
SUMP	
SEDIMENT BASIN	
PIPE	
CHECK (SANDBAGS / ROCK)	
MULCH / EARTH BUND	

APPENDIX E: SPILL RESPONSE PROCEDURE

HumeLink East

acciona | GENUS

Spill Response Procedure

HLE-AGJ-ENV-ALE-PRD-0000-00003| Rev 01.2

DOCUMENT STATUS

Revision	Date	Description of change
Rev A	15/12/2023	For submission to TransGrid
Rev 01.1	21/10/24	Updated to address comments from consultation.
Rev 01.2	19/12/2024	Updated to address ER Comments

Spill Response Procedure

Initial assessment of the spill: determine the **type of spill kit** to be used based on the substance **spilled.**
Refer to Safety Data Sheet for Details

Operator

Containable spill?
(managed with site resources)

No

Contact the HAZMAT (NSW Fire Brigade: Ph. 000) if the spill is of a hazardous nature or not manageable with the resources available on site. Consult with Environmental Manager

Site Supervisor

Notify site warden, evacuate the area and cordon off. Refer to the Emergency Response Plan.

Site Supervisor

Notify DHPI under the Approval (MCoA A19, A20 and C10) (as required)

Environmental Manager / Delegate

Notify relevant authorities (if required under the POEO Act)

Environmental Manager / Delegate

If a spill occurs in the SDWC, Notify WaterNSW (1800 061 069)

Environmental Manager / Delegate

Yes

Locate closest spill kit. Spill kits are available in the following locations:
- Site utes and trucks
- Site location as shown in environmental documents

Operator

Wear adequate **PPE for the type of spill.** As a minimum the following must be worn (refer to spill kit instructions and SDS):
- Gloves
- Protective footwear
- Face mask where required

All attending the spill

Stop the source of the spill/leak if safe to do so.

Contain the spill and protect any drains/waterway channels near the spill.

Notify site supervisor as soon as practicable. Site Supervisor to notify Environmental Team

Environmental Team to report spill as outlined in the CEMP

Clean up the spill using absorbent materials from the spill kit.

Place used spill kit materials and any spill generated waste in the waste bag found within the spill kit. Dispose in designated bin. Spilled liquid waste to be placed into a labelled sealed container. The container is to comply with Australian/New Zealand Standards

Transport and disposal by EPA approved licensed contractor (if required) to a licenced facility. Refer to CEMP Waste Management Sub-Plan

Site Supervisor

Replace spill kit equipment used immediately after the event

Site Supervisor

NOTES

Spill Kit Materials:

Booms
Deploy booms first to contain spill. Floating booms to be used for spills in waterways to prevent spreading. If there is a possibility of contamination of a waterway floating booms are to be installed before

Granules / Particulate
If the booms alone cannot absorb the spill/leak, then use absorbent granules to soak up spilled liquid. Absorbent granules are best for small spill/ leaks

Pillows
Cushion shaped products containing absorbent fibers, used directly under a leak or drip.

Pads
Thin absorbent mats placed over spills and used like blotting paper

APPENDIX F: LAND SALINITY MAPS

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

0 500 1,000 m

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

DRAFT

Acciona Genus JV
Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 1

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

0 500 1,000 m

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

Acciona Genus JV
Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 2

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

760000E 761000E 762000E 763000E 764000E 765000E 766000E 767000E 768000E 769000E 770000E

6187000N 6186000N 6185000N 6184000N 6183000N 6182000N 6181000N 6180000N 6179000N

5C1/5C2-025 AT 028 Lot 2 5C1/5C2-026 AT 029 Lot 3 5C1/5C2-027 5C1/5C2-028 5C1/5C2-029 AT 030 5C1/5C2-030 5C1/5C2-031 AT 032 5C1/5C2-032 5C1/5C2-033 AT 034 AT 033 5C1/5C2-034 AT 036 AT 035 5C1/5C2-035 5C1/5C2-036 AT 038 AT 037 5C1/5C2-037 AT 039 5C1/5C2-038 AT 040 5C1/5C2-039 5C1/5C2-040 AT 042 West AT 042 5C1/5C2-041 5C1/5C2-042 5C1/5C2-043 AT 044 5C1/5C2-044 5C1/5C2-045 AT 047 5C1/5C2-046 AT 048 5C1/5C2-047 5C1/5C2-048 5C1/5C2-049 5C1/5C2-050 AT 050

0 500 1,000 m

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

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Acciona Genus JV
Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 3

epic
A Montrose Environmental Company

Overview

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

0 500 1,000 m

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

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Acciona Genus JV
Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 4

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

0 500 1,000 m

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

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Acciona Genus JV
Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 5

epic
A Montrose Environmental Company

Overview

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

0 500 1,000 m

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

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Acciona Genus JV
Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 6

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

714000E 715000E 716000E 717000E 718000E 719000E 720000E 721000E 722000E 723000E 724000E

6170000N 6169000N 6168000N 6167000N 6166000N 6165000N 6164000N 6163000N 6162000N 6161000N

N0005619 N0004619 N0003619 N0002619 N0001619

BIALA CREEK
HUMES CREEK
MERRILL CREEK
HEFFERNANS CREEK

Lot 7
Lot 8
AEC02
AT 130
AT 132
AT 133
AT 134
AT 135
AT 137
AT 138
AT 139
AT 141
AT 143
AT 143 to 144
AT 146
AT 149
AT 150
AT 152
5C1/5C2-130
5C1/5C2-131
5C1/5C2-132
5C1/5C2-133
5C1/5C2-134
5C1/5C2-135
5C1/5C2-136
5C1/5C2-137
5C1/5C2-138
5C1/5C2-139
5C1/5C2-140
5C1/5C2-141
5C1/5C2-142
5C1/5C2-143
5C1/5C2-144
5C1/5C2-145
5C1/5C2-147
5C1/5C2-148
5C1/5C2-149
5C1/5C2-150
5C1/5C2-151
5C1/5C2-152
5C1/5C2-152.1
5C1/5C2-153

0 500 1,000 m

Scale: 1:35,000@ A3
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Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 7

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

0 500 1,000 m

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

Acciona Genus JV
Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 8

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

692000E 693000E 694000E 695000E 696000E 697000E 698000E 699000E 700000E 701000E 702000E 703000E

6162000N 6161000N 6160000N 6159000N 6158000N 6157000N 6156000N 6155000N 6154000N 6153000N

Lot 8 Lot 9 Lot 10

AT 175 AT 176 AT 177 AT 179 AT 182 AT 186 AT 188 to 189 AT 190 AT 194 to 194p1 AT 195 AT 196 AT 197

5C1/5C2-175 5C1/5C2-176 5C1/5C2-177 5C1/5C2-179 5C1/5C2-180 5C1/5C2-181 5C1/5C2-182 5C1/5C2-183 5C1/5C2-184 5C1/5C2-185 5C1/5C2-186 5C1/5C2-187 5C1/5C2-188 5C1/5C2-189 5C1/5C2-190 5C1/5C2-191 5C1/5C2-192 5C1/5C2-193 5C1/5C2-194 5C1/5C2-194.1 5C1/5C2-195 5C1/5C2-196

AEC03

Dalton

FLACKNELL CREEK
FELLED TIMBER CREEK
JERRAWA CREEK
OOLONG CREEK
BASIN CREEK

0 500 1,000 m

Scale: 1:35,000@ A3
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Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 9

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

AEC04 & AC06 - Woodhouselee compound

Lot 9 · Lot 10 · Lot 11

AT 193 to 193 · AT 194p1 · AT 195 · AT 196 · AT 197 · AT 202 · AT 204 · AT 206 · AT 207 · AT 209 to 214 · AT 213 · AT 216

5C1/5C2-193 · 5C1/5C2-194 · 5C1/5C2-194.1 · 5C1/5C2-195 · 5C1/5C2-196 · 5C1/5C2-197 · 5C1/5C2-198 · 5C1/5C2-199 · 5C1/5C2-200 · 5C1/5C2-201 · 5C1/5C2-202 · 5C1/5C2-203 · 5C1/5C2-204 · 5C1/5C2-205.1 · 5C1/5C2-206 · 5C1/5C2-207 · 5C1/5C2-208 · 5C1/5C2-209 · 5C1/5C2-210 · 5C1/5C2-212 · 5C1/5C2-213 · 5C1/5C2-215 · 5C1/5C2-216

BUNTON CREEK · BUNTON CREEK · BLAKNEY CREEK · CATHERINES CREEK · FELLIED TIMBER CREEK · SHEEP STATION CREEK

0 500 1,000 m

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

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Acciona Genus JV
Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 10

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

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Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 11

Filepath: ...SCL\SCL230070.01 Acciona Genus JV Humelink East CLM\Workspaces\SCL230070.111. Soil and Water Management Sub Plan\Rev A\Figure X Hydrogeological landscapes assessment.qgz

SCL230070.11 Rev A 07/02/2025

epic
A Montrose Environmental Company

Overview

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

DERRINGULLEN CREEK
LUKE RYANS CREEK
BANGO CREEK
YASS RIVER
Yass compound
Lot 12
Lot 11
Lot 13
AT 230
AT 231
AT 233
AT 236
AT 237
AT 238
AT 239
AT 242
AT 243 to 245
AT 247
AT 249
AT B W 47
AT 226
5C1/5C2-223
5C1/5C2-224
5C1/5C2-225
5C1/5C2-226
5C1/5C2-227
5C1/5C2-228
5C1/5C2-229
5C1/5C2-230
5C1/5C2-231
5C1/5C2-232
5C1/5C2-233
5C1/5C2-235
5C1/5C2-236
5C1/5C2-237
5C1/5C2-238
5C1/5C2-239
5C1/5C2-240
5C1/5C2-241
5C1/5C2-242
5C1/5C2-243
5C1/5C2-244
5C1/5C2-245
5C1/5C2-246
5C1/5C2-247
5C1/5C2-249

0 500 1,000 m
Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

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671000E 672000E 673000E 674000E 675000E 676000E 677000E 678000E 679000E 680000E 681000E
6155000N 6154000N 6153000N 6152000N 6151000N 6150000N 6149000N 6148000N 6147000N 6146000N

Acciona Genus JV
Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 12

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55
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Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020 - land salinity - Lot 13

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SCL230070.11 Rev A 07/02/2025

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

0 500 1,000 m

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

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Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 14

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

650000E 651000E 652000E 653000E 654000E 655000E 656000E 657000E 658000E 659000E 660000E

6144000N 6143000N 6142000N 6141000N 6140000N 6139000N 6138000N 6137000N 6136000N 6135000N

BOGOLONG CREEK

AT 273 AT 278 AT 276 AT 275 AT 274 AT 277 AT 279 AT 280 AT 284 AT 285 AT 287 AT 289 AT 290 AT 295 AT 296A to 297A AT 294 to 298 AT3 W 52

5C1/5C2-274 5C1/5C2-275 5C1/5C2-276 5C1/5C2-279 5C1/5C2-280 5C1/5C2-281 5C1/5C2-282 5C1/5C2-283 5C1/5C2-284 5C1/5C2-285 5C1/5C2-286 5C1/5C2-287 5C1/5C2-288 5C1/5C2-289 5C1/5C2-290 5C1/5C2-291 5C1/5C2-292 5C1/5C2-294 5C1/5C2-295 5C1/5C2-296A 5C1/5C2-296B 5C1/5C2-297A

Lot 14 Lot 15 Lot 16

0 500 1,000 m

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

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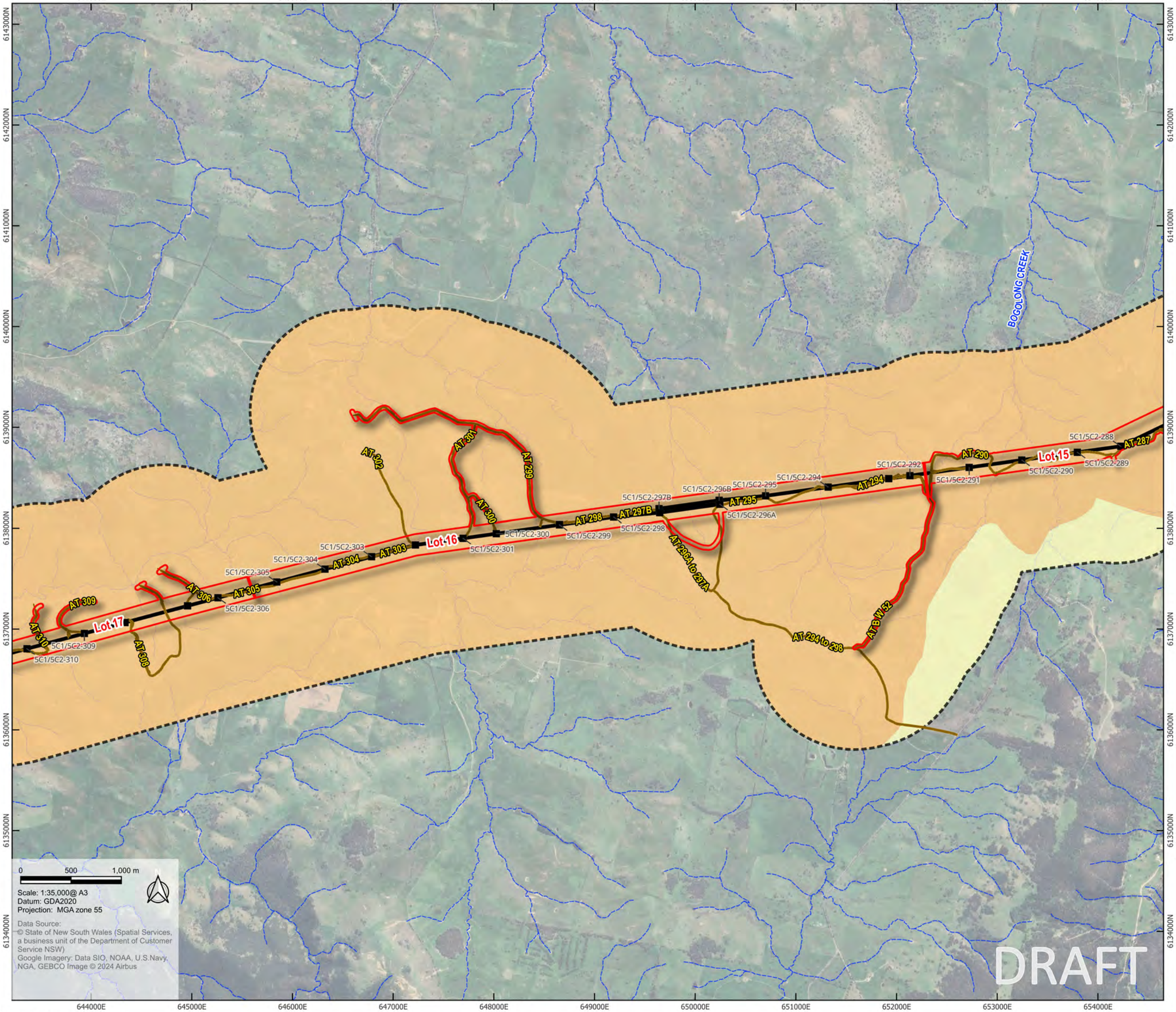
Acciona Genus JV
Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 15



epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

Acciona Genus JV
Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 16

epic
A Montrose Environmental Company

Overview

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

638000E 639000E 640000E 641000E 642000E 643000E 644000E 645000E 646000E 647000E 648000E

6141000N 6140000N 6139000N 6138000N 6137000N 6136000N 6135000N 6134000N 6133000N 6132000N

AT 299 AT 300 AT 301 AT 302 AT 303 AT 304 AT 305 AT 306 AT 308 AT 309 AT 310 AT 313 AT 320 AT 324 to 328

Lot 16 Lot 17 Lot 18

5C1/5C2-300 5C1/5C2-303 5C1/5C2-304 5C1/5C2-305 5C1/5C2-306 5C1/5C2-308 5C1/5C2-309 5C1/5C2-310 5C1/5C2-311 5C1/5C2-312 5C1/5C2-313 5C1/5C2-314 5C1/5C2-315 5C1/5C2-317 5C1/5C2-318 5C1/5C2-319 5C1/5C2-320 5C1/5C2-321 5C1/5C2-322 5C1/5C2-324 5C1/5C2-325

LITTLE OAK CREEK

0 500 1,000 m

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Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 17

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

SPRING CREEK
ROCKY CREEK
DICKS GULLY
OAKY CREEK
MARCHEMS CREEK
AT 334
AT 334 to 335
AT 335
AT 336
AT 337
AT 331
AT 332
AT 333
AT 324 to 328
AT 328
AT 328 to 331
AT 329
AT 330
AT 320
AT 313
Lot 17
Lot 18
Lot 19
5C1/5C2-312
5C1/5C2-313
5C1/5C2-315
5C1/5C2-316
5C1/5C2-317
5C1/5C2-318
5C1/5C2-319
5C1/5C2-320
5C1/5C2-321
5C1/5C2-322
5C1/5C2-324
5C1/5C2-326
5C1/5C2-327
5C1/5C2-329
5C1/5C2-330
5C1/5C2-332
5C1/5C2-333
5C1/5C2-334
5C1/5C2-335
5C1/5C2-336
5C1/5C2-337
5C1/5C2-338

0 500 1,000 m
Scale: 1:35,000@ A3
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Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 18

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epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

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Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020 - land salinity - Lot 19

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

0 500 1,000 m

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

Acciona Genus JV
Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 20

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

621000E 622000E 623000E 624000E 625000E 626000E 627000E 628000E 629000E 630000E 631000E

6124000N 6123000N 6122000N 6121000N 6120000N 6119000N 6118000N 6117000N 6116000N 6115000N

AT 361 5C1/5C2-361 5C1/5C2-362 5C1/5C2-363 Lot 21 5C1/5C2-364 AT 364 AT 365 5C1/5C2-365 5C1/5C2-366 AT 367 AT 368 5C1/5C2-367 5C1/5C2-368 AT 369B AT 369 5C1/5C2-369 AT 370 5C1/5C2-370 5G1/5C2-371 AT 372 5G1/5C2-372 5C1/5C2-373 AT 374 5C1/5C2-374 AT 374C 5C1/5C2-375 AT 376 5C1/5C2-376 AT 377B 5C1/5C2-378 AT 379 5C1/5C2-379 5G1/5C2-380 5C1/5C2-381 AT 380E1 AT 380 to 381 Lot 22

AC04 - Adjungbilly compound

Adjungbilly

0 500 1,000 m

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Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 21

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

0 500 1,000 m

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

DRAFT

Acciona Genus JV
Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020 - land salinity - Lot 22

epic
A Montrose Environmental Company

Overview

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

0 500 1,000 m

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

DRAFT

Acciona Genus JV
Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 23

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

0 500 1,000 m

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

Data Source:
© State of New South Wales (Spatial Services, a business unit of the Department of Customer Service NSW)
Google Imagery: Data SIO, NOAA, U.S.Navy. NGA, GEBCO Image © 2024 Airbus

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Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 24

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

0 500 1,000 m

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

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Acciona Genus JV
Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 25

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

Acciona Genus JV
Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020 - land salinity - Lot 26

epic
A Montrose Environmental Company

Legend

- Project boundary
- 200m buffer of project area
- Project support compound
- AEC boundary
- Alignment - access track
- Alignment design
- Alignment - tower pad

Watercourses

- Rivers
- Minor watercourses

Hydrogeological landscapes 2020 (1:250k) - Salt land

- High
- Moderate
- Low
- Water

599000E 600000E 601000E 602000E 603000E 604000E 605000E 606000E 607000E 608000E 609000E

N0005609 N0004609 N0003609 N0002609 N0001609 N0000609 N0006809 N0008809 N0007809 N0009809

5C1/5C2-445 5C1/5C2-446 5C1/5C2-447 5C1/5C2-448 5C1/5C2-448.1 5C1/5C2-449 5C1/5C2-450 5C1/5C2-451 5C1/5C2-452 5C1/5C2-453 5C1/5C2-453.1 5C1/5C2-454 5C1/5C2-455 5C1/5C2-456 5C1/5C2-457 5C1/5C2-458 5C1/5C2-459 5C1/5C2-460 5C1/5C2-461 5C1/5C2-462 5C1/5C2-463 5C1/5C2-464 5C1/5C2-465

AT 446 448 AT 449 AT 450 AT 451 AT 452 AT 453 AT 454A AT 455 AT 457 AT 458 AT 459 AT 463 AT B W77 B W78 AT 465

Lot 26 Lot 27

C19 - Gadara Road compoound

DOG TRAP CREEK

0 500 1,000 m

Scale: 1:35,000@ A3
Datum: GDA2020
Projection: MGA zone 55

Data Source:
© State of New South Wales (Spatial Services, a business unit of the Department of Customer Service NSW)
Google Imagery: Data SIO, NOAA, U.S.Navy. NGA, GEBCO Image © 2024 Airbus

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Acciona Genus JV
Humelink East
Soil and Water Management Sub Plan

Figure F1
Hydrogeological landscapes 2020
- land salinity - Lot 27

APPENDIX G: 1% AEP MAPPING

HumeLink East Project

1% AEP flood depth (m) at Brungle Creek - Murumbidgee Catchment

Legend

Project Construction Boundary

Flood Depth (m)

- <= 0.03
- 0.03 - 0.1
- 0.10 - 0.25
- 0.25 - 0.5
- 0.50 - 0.75
- 0.75 - 1
- 1.00 - 1.5
- > 1.5

N

500 Meters

Projection : GDA 2020 MGA Zone 55

HumeLink East

acciona | GENUS

HumeLink East Project

1% AEP flood depth (m) at Tumut River/ Gocup Creek - Murumbidgee Catchment

Legend

Project Construction Boundary

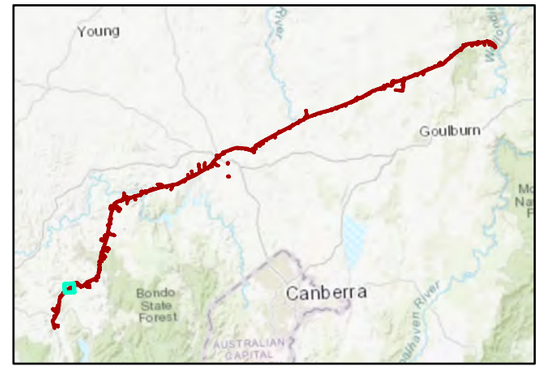
Flood Depth (m)

- <= 0.03
- 0.03 - 0.1
- 0.10 - 0.25
- 0.25 - 0.5
- 0.50 - 0.75
- 0.75 - 1
- 1.00 - 1.5
- > 1.5

N

500 Meters

Projection : GDA 2020 MGA Zone 55



HumeLink East

acciona | GENUS

HumeLink East Project

1% AEP flood depth (m) at Adjungbilly Creek - Murumbidgee Catchment

Legend

- Project Construction Boundary

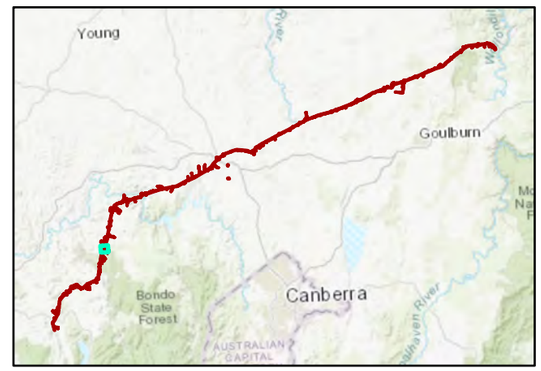
Flood Depth (m)

- <= 0.03
- 0.03 - 0.1
- 0.10 - 0.25
- 0.25 - 0.5
- 0.50 - 0.75
- 0.75 - 1
- 1.00 - 1.5
- > 1.5

N

500 Meters

Projection : GDA 2020 MGA Zone 55



HumeLink East

acciona | GENUS

HumeLink East Project

1% AEP flood depth (m) at O'Briens Creek - Murumbidgee Catchment

Legend

Project Construction Boundary

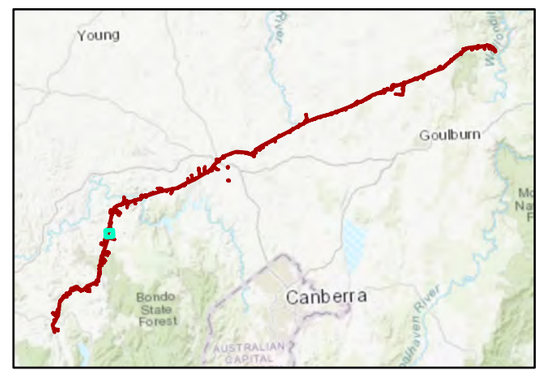
Flood Depth (m)

- <= 0.03
- 0.03 - 0.1
- 0.10 - 0.25
- 0.25 - 0.5
- 0.50 - 0.75
- 0.75 - 1
- 1.00 - 1.5
- > 1.5

N

500 Meters

Projection : GDA 2020 MGA Zone 55



HumeLink East

acciona | GENUS

HumeLink East Project

1% AEP flood depth (m) at Cart Road Creek (1) - Murumbidgee Catchment

Legend

Project Construction Boundary

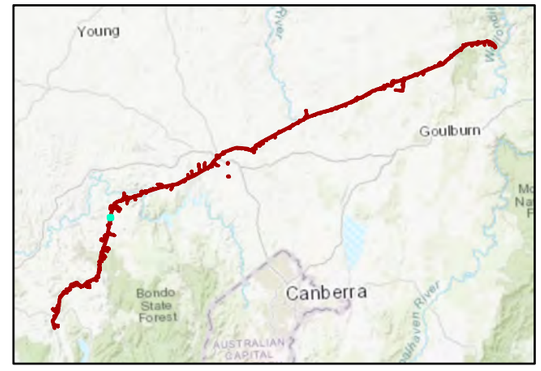
Flood Depth (m)

- <= 0.03
- 0.03 - 0.1
- 0.10 - 0.25
- 0.25 - 0.5
- 0.50 - 0.75
- 0.75 - 1
- 1.00 - 1.5
- > 1.5

N

500 Meters

Projection : GDA 2020 MGA Zone 55



HumeLink East

acciona | GENUS

HumeLink East Project

1% AEP flood depth (m) at Yellow Clay Creek - Murumbidgee Catchment

Legend

Project Construction Boundary

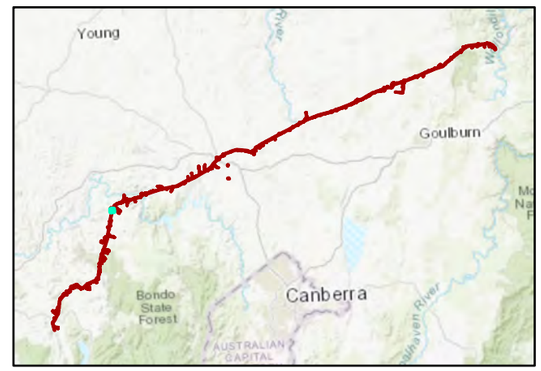
Flood Depth (m)

- <= 0.03
- 0.03 - 0.1
- 0.10 - 0.25
- 0.25 - 0.5
- 0.50 - 0.75
- 0.75 - 1
- 1.00 - 1.5
- > 1.5

N

500 Meters

Projection : GDA 2020 MGA Zone 55



HumeLink East

acciona | GENUS

HumeLink East Project

1% AEP flood depth (m) at Bannaby Creek (2) - Wollondilly Catchment

Legend

Project Construction Boundary

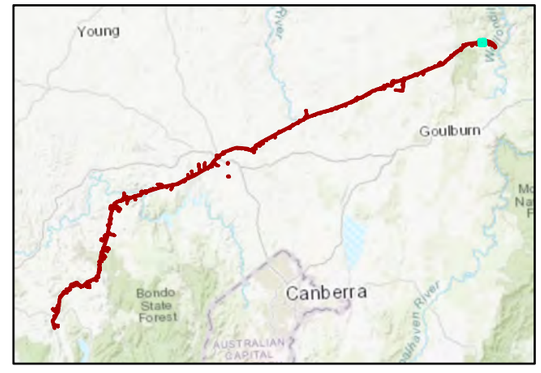
Flood Depth (m)

- <= 0.03
- 0.03 - 0.1
- 0.10 - 0.25
- 0.25 - 0.5
- 0.50 - 0.75
- 0.75 - 1
- 1.00 - 1.5
- > 1.5

N

500 Meters

Projection : GDA 2020 MGA Zone 55



HumeLink East

acciona | GENUS

HumeLink East Project

1% AEP flood depth (m) at Jerrawa Creek - Lachlan Catchment

Legend

Project Construction Boundary

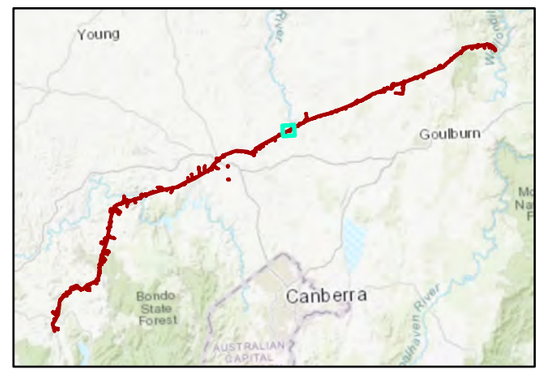
Flood Depth (m)

- <= 0.03
- 0.03 - 0.1
- 0.10 - 0.25
- 0.25 - 0.5
- 0.50 - 0.75
- 0.75 - 1
- 1.00 - 1.5
- > 1.5

N

500 Meters

Projection : GDA 2020 MGA Zone 55



HumeLink East

acciona | GENUS

HumeLink East Project

1% AEP flood depth (m) at Myrtle Creek

Legend

Project Construction Boundary

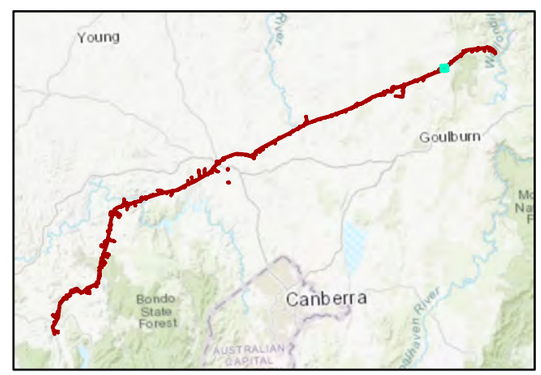
Flood Depth (m)

- <= 0.03
- 0.03 - 0.1
- 0.10 - 0.25
- 0.25 - 0.5
- 0.50 - 0.75
- 0.75 - 1
- 1.00 - 1.5
- > 1.5

N

500 Meters

Projection : GDA 2020 MGA Zone 55



HumeLink East

acciona | GENUS

HumeLink East Project

1% AEP flood depth (m) at Tarlo River

Legend

Project Construction Boundary

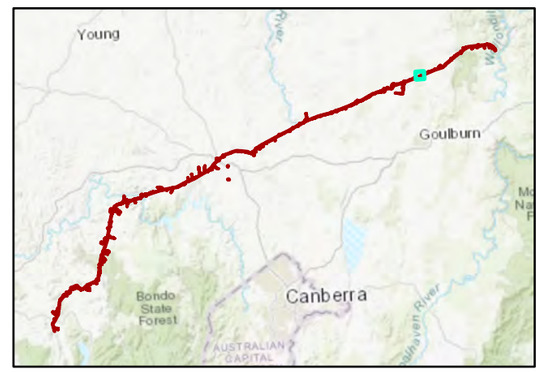
Flood Depth (m)

- <= 0.03
- 0.03 - 0.1
- 0.10 - 0.25
- 0.25 - 0.5
- 0.50 - 0.75
- 0.75 - 1
- 1.00 - 1.5
- > 1.5

N

500 Meters

Projection : GDA 2020 MGA Zone 55



HumeLink East

acciona | GENUS

HumeLink East Project

1% AEP flood depth (m) at Humes Creek

Legend

Project Construction Boundary

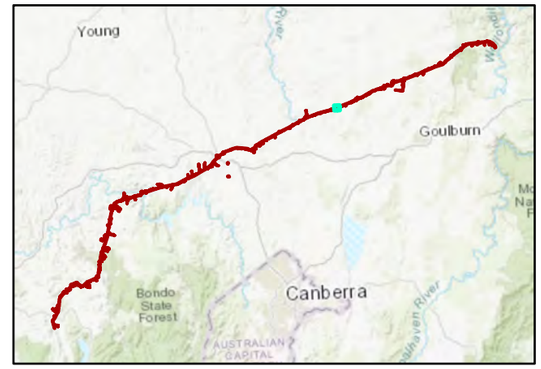
Flood Depth (m)

- <= 0.03
- 0.03 - 0.1
- 0.10 - 0.25
- 0.25 - 0.5
- 0.50 - 0.75
- 0.75 - 1
- 1.00 - 1.5
- > 1.5

N

500 Meters

Projection : GDA 2020 MGA Zone 55



HumeLink East

acciona | GENUS

HumeLink East Project

1% AEP flood depth (m) at Merril Creek

Legend

Project Construction Boundary

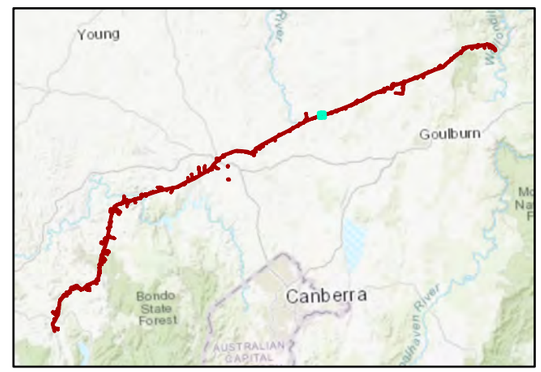
Flood Depth (m)

- <= 0.03
- 0.03 - 0.1
- 0.10 - 0.25
- 0.25 - 0.5
- 0.50 - 0.75
- 0.75 - 1
- 1.00 - 1.5
- > 1.5

N

500 Meters

Projection : GDA 2020 MGA Zone 55



HumeLink East

acciona | GENUS

HumeLink East Project

1% AEP flood depth (m) at Lachlan River

Legend

- Project Construction Boundary

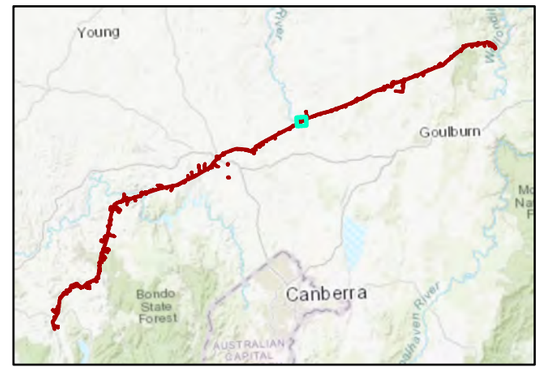
Flood Depth (m)

- <= 0.03
- 0.03 - 0.1
- 0.10 - 0.25
- 0.25 - 0.5
- 0.50 - 0.75
- 0.75 - 1
- 1.00 - 1.5
- > 1.5

N

500 Meters

Projection : GDA 2020 MGA Zone 55



HumeLink East

acciona | GENUS

HumeLink East Project

1% AEP flood depth (m) at Felled Timber Creek

Legend

Project Construction Boundary

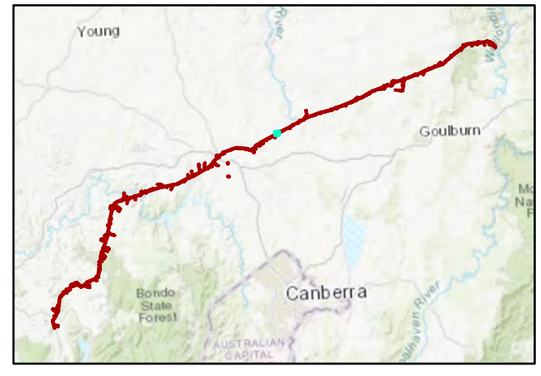
Flood Depth (m)

- <= 0.03
- 0.03 - 0.1
- 0.10 - 0.25
- 0.25 - 0.5
- 0.50 - 0.75
- 0.75 - 1
- 1.00 - 1.5
- > 1.5

N

500 Meters

Projection : GDA 2020 MGA Zone 55



HumeLink East

acciona | GENUS

HumeLink East Project

1% AEP flood depth (m) at Flacknell Creek

Legend

Project Construction Boundary

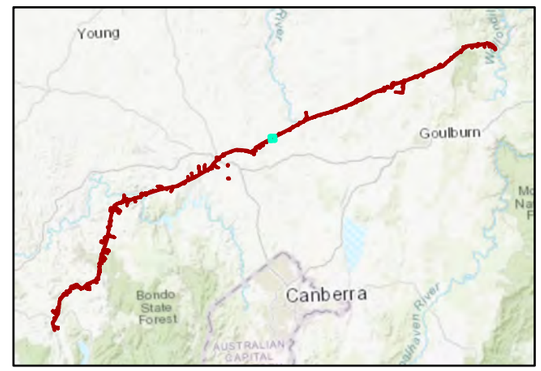
Flood Depth (m)

- <= 0.03
- 0.03 - 0.1
- 0.10 - 0.25
- 0.25 - 0.5
- 0.50 - 0.75
- 0.75 - 1
- 1.00 - 1.5
- > 1.5

N

500 Meters

Projection : GDA 2020 MGA Zone 55



HumeLink East

acciona | GENUS

HumeLink East Project

1% AEP flood depth (m) at Bogolong Creek

Legend

Project Construction Boundary

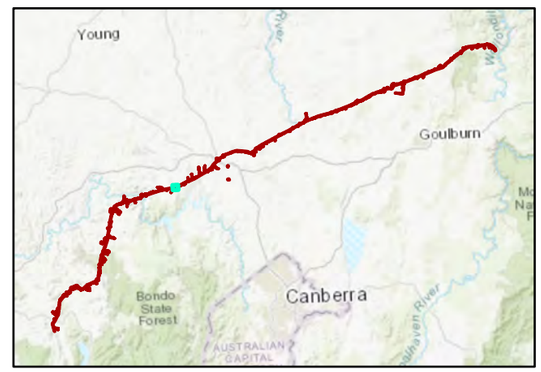
Flood Depth (m)

- <= 0.03
- 0.03 - 0.1
- 0.10 - 0.25
- 0.25 - 0.5
- 0.50 - 0.75
- 0.75 - 1
- 1.00 - 1.5
- > 1.5

N

500 Meters

Projection : GDA 2020 MGA Zone 55



HumeLink East

acciona | GENUS

HumeLink East Project

1% AEP flood depth (m) at Murrumbidgee River

Legend

Project Construction Boundary

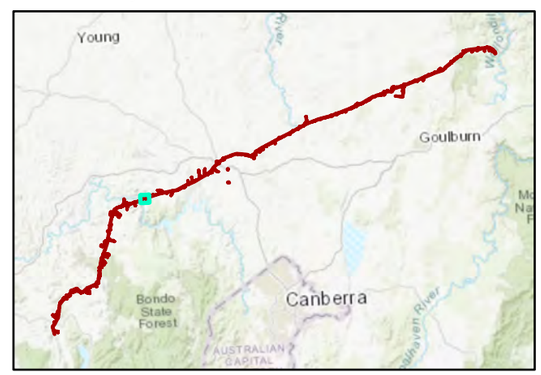
Flood Depth (m)

- <= 0.03
- 0.03 - 0.1
- 0.10 - 0.25
- 0.25 - 0.5
- 0.50 - 0.75
- 0.75 - 1
- 1.00 - 1.5
- > 1.5

N

500 Meters

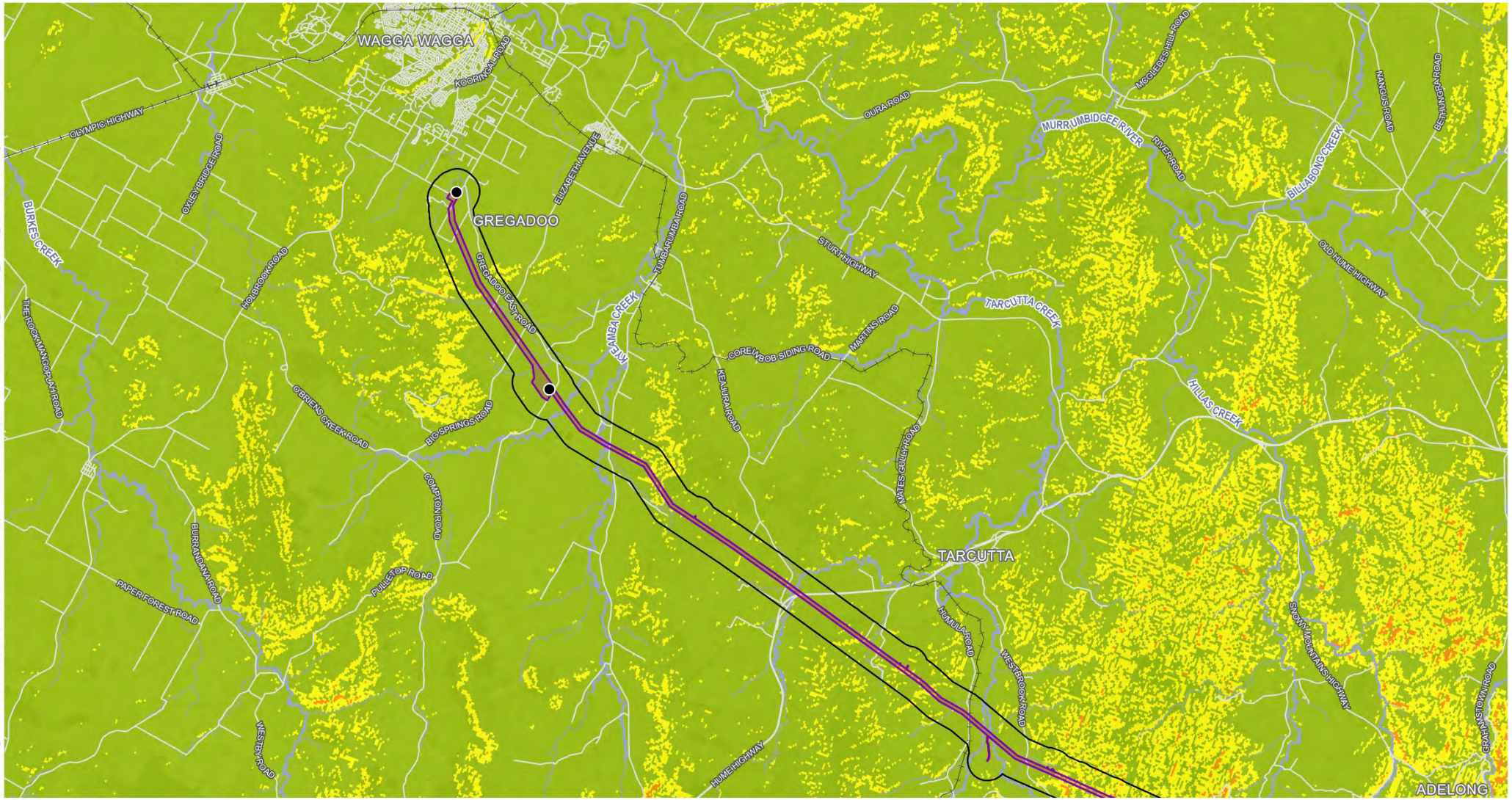
Projection : GDA 2020 MGA Zone 55



HumeLink East

acciona | GENUS

APPENDIX H MODELLED SOIL EROSION



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Source: *Aurecon, Transgrid, DPIE, Spatial Services (DCS), ESRI Basemap*

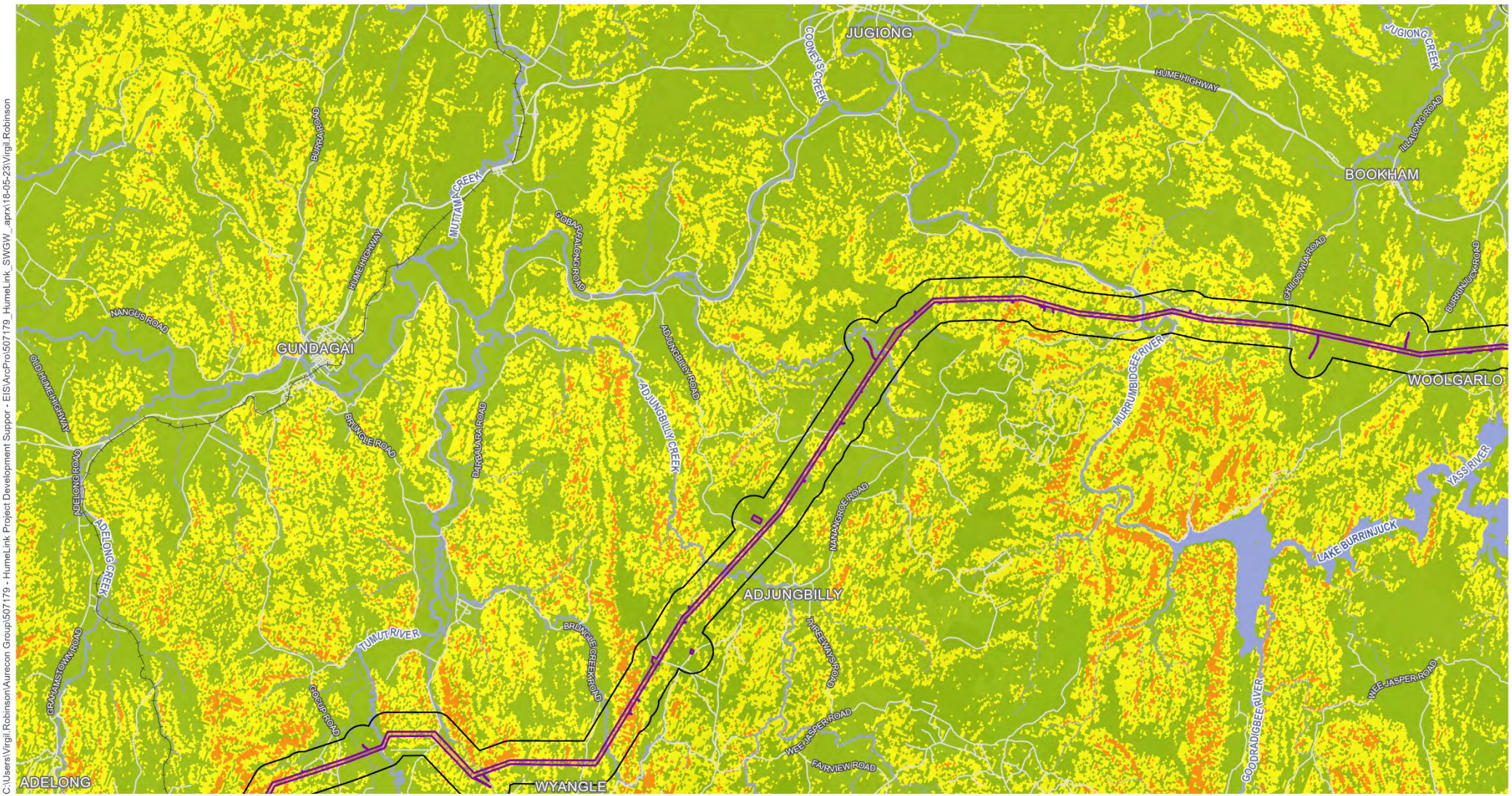
1:200,000

0 4 8km

Projection: GDA 1994 MGA Zone 55

HumeLink **Surface Water and Groundwater**

Figure 5-18a: Modelled soil erosion



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Project footprint

Surface water and groundwater study area

Railway

Watercourse

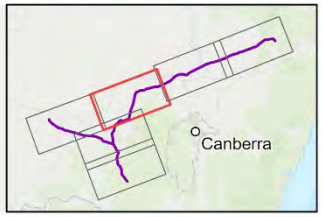
Substation

Soil erosion, bare

Low: up to 200 t ha^{-1} yr^{-1}

Moderate: between 200 and 1000 t ha^{-1} yr^{-1}

High: greater than 1000 t ha^{-1} yr^{-1}



Source: *Aurecon, Transgrid, DPIE, Spatial Services (DCS), ESRI Basemap*

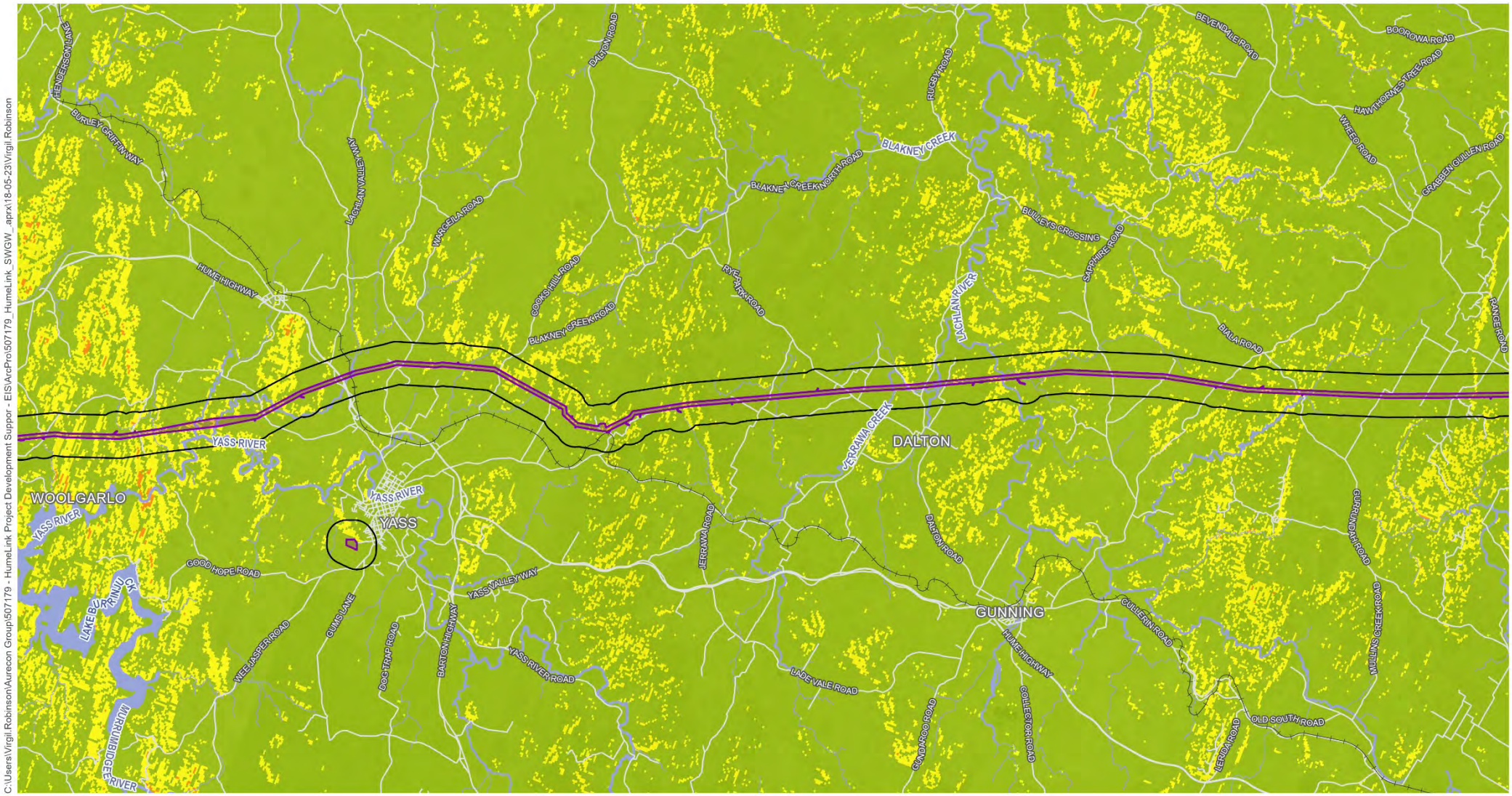
1:200,000

0 4 8km

Projection: GDA 1994 MGA Zone 55

HumeLink **Surface Water and Groundwater**

Figure 5-18b: Modelled soil erosion



Source: *Aurecon, Transgrid, DPIE, Spatial Services (DCS), ESRI Basemap*

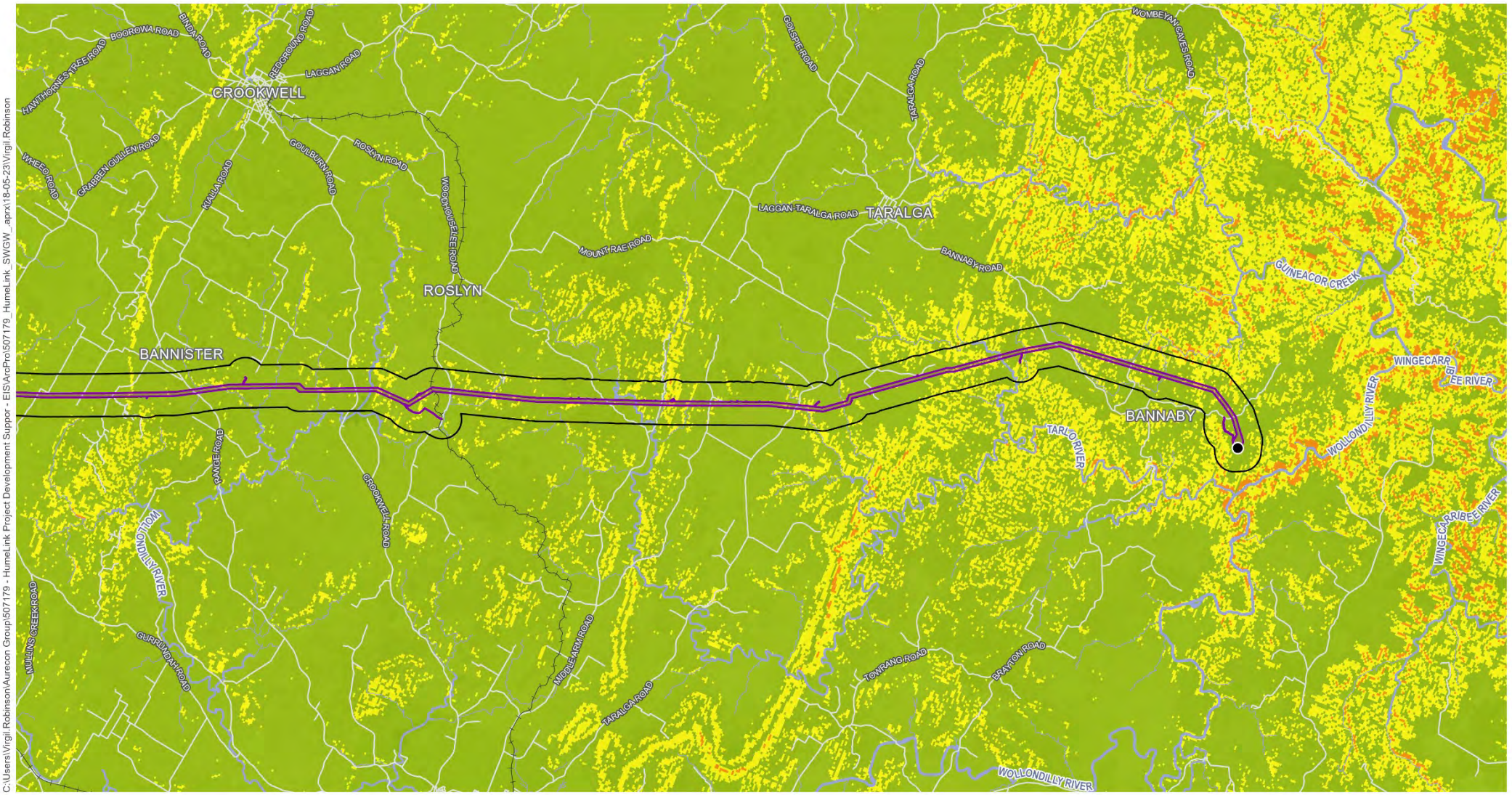
1:200,000

0 4 8km

Projection: GDA 1994 MGA Zone 55

HumeLink **Surface Water and Groundwater**

Figure 5-18c: Modelled soil erosion



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Project footprint

Surface water and groundwater study area

Railway

Watercourse

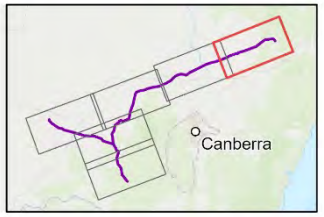
Substation

Soil erosion, bare

Low: up to 200 t ha^{-1} yr^{-1}

Moderate: between 200 and 1000 t ha^{-1} yr^{-1}

High: greater than 1000 t ha^{-1} yr^{-1}



Source: *Aurecon, Transgrid, DPIE, Spatial Services (DCS), ESRI Basemap*

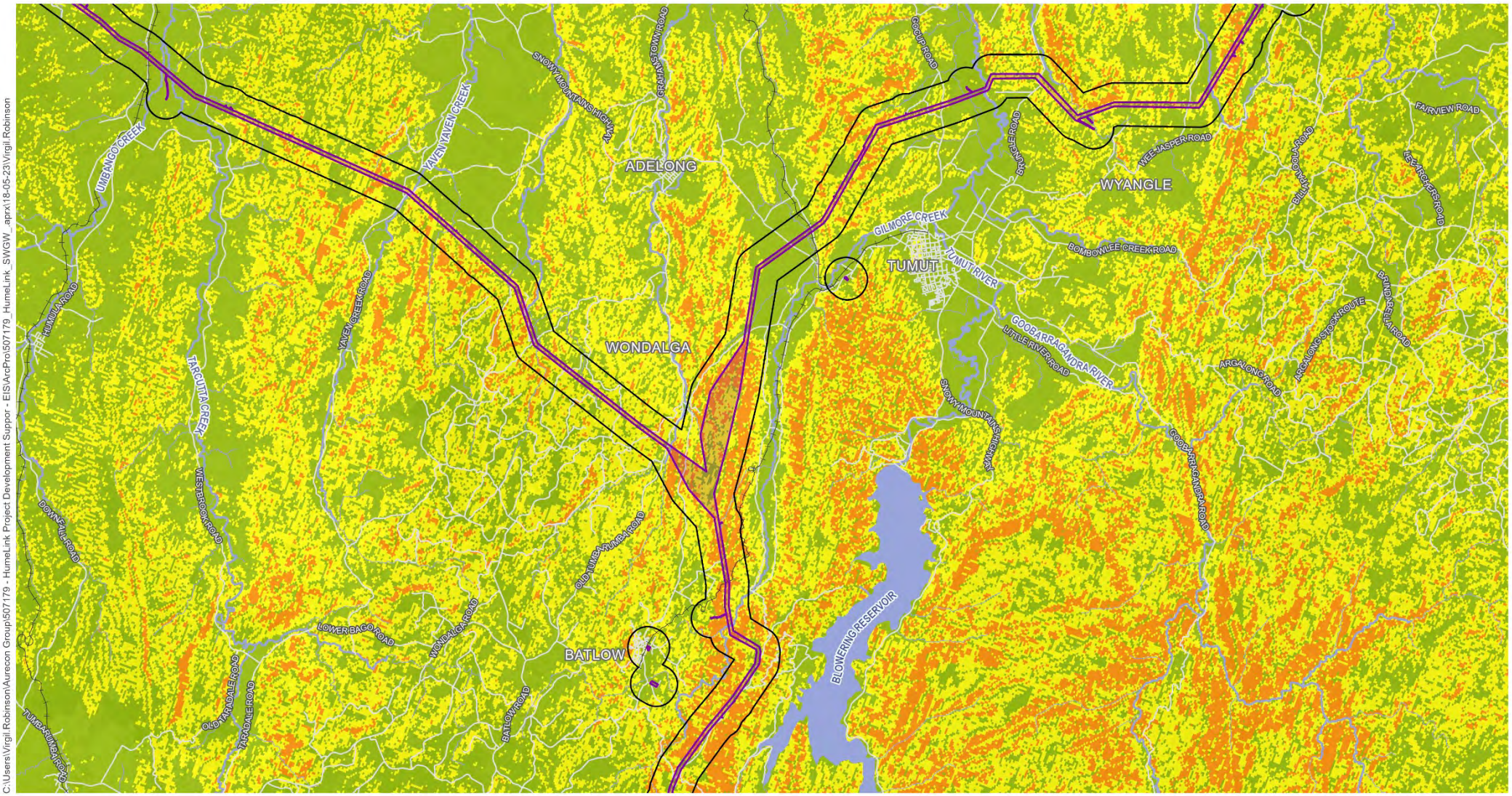
1:200,000

0 4 8km

Projection: GDA 1994 MGA Zone 55

HumeLink **Surface Water and Groundwater**

Figure 5-18d: Modelled soil erosion



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Source: *Aurecon, Transgrid, DPIE, Spatial Services (DCS), ESRI Basemap*

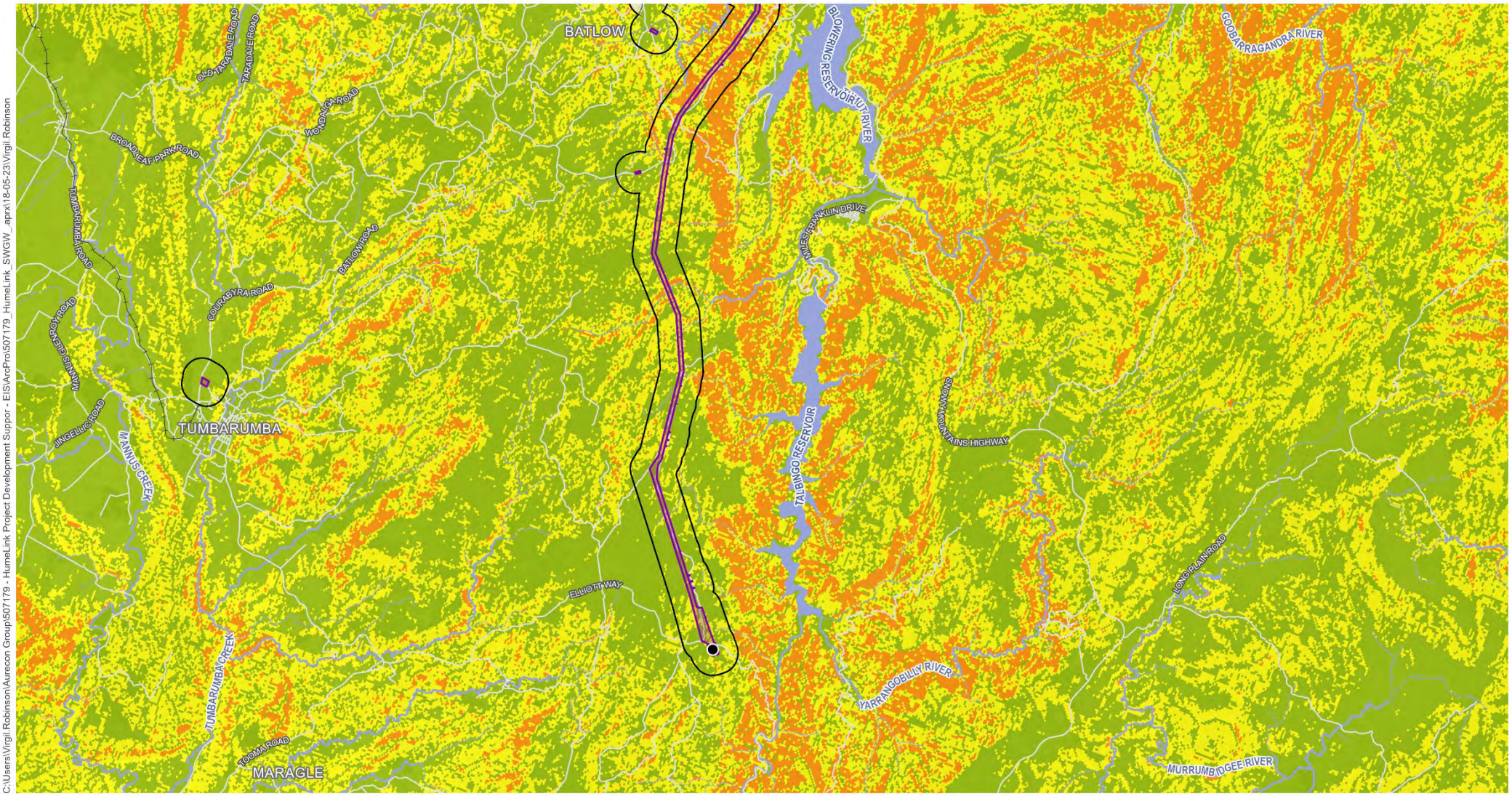
1:200,000

0 4 8km

Projection: GDA 1994 MGA Zone 55

HumeLink **Surface Water and Groundwater**

Figure 5-18e: Modelled soil erosion



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Project footprint

Surface water and groundwater study area

Railway

Watercourse

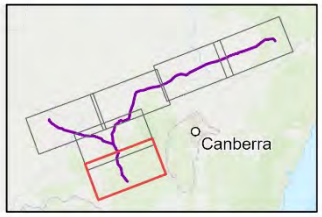
Substation

Soil erosion, bare

Low: up to 200 t ha^{-1} yr^{-1}

Moderate: between 200 and 1000 t ha^{-1} yr^{-1}

High: greater than 1000 t ha^{-1} yr^{-1}



Source: *Aurecon, Transgrid, DPIE, Spatial Services (DCS), ESRI Basemap*

1:200,000

0 4 8km

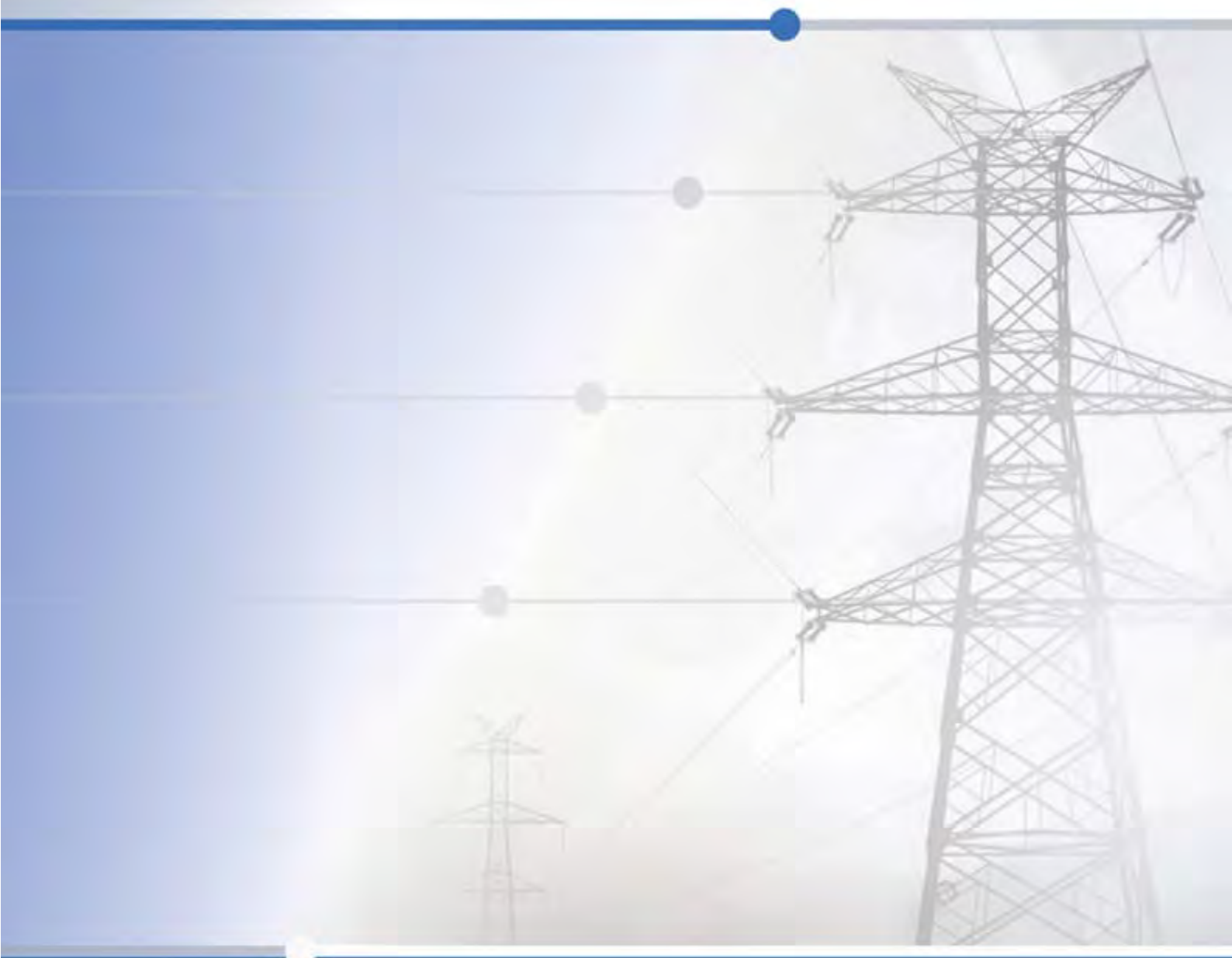
Projection: GDA 1994 MGA Zone 55

HumeLink **Surface Water and Groundwater**

Figure 5-18f: Modelled soil erosion

APPENDIX I ASBESTOS MANAGEMENT PLAN

HumeLink East



HLE-AGJ-MGT-ALE-PLN-0000-00035

Asbestos Management Plan

Rev 01

CONTENTS

1. APPROVALS

	Name	Signature	Date
Author:	Ciara Moriarty		23/05/2025
Sponsor:	Peter Scott		23/05/2025
Project Director:	Carel Nagel		23/05/2025

The authorized use of this document shall only be once approved by way of presence of signatories under section 1 Approvals.

2. DOCUMENT CONTROL – REVISION HISTORY

Revision History

Rev	Date	Pages	Revised By	Description
A	10/12/24	All	P. Scott	Original
B	22/01/2025	12-15	P. Scott	Incorporate Transgrid feedback – Issued for Review
00	28/01/25	All	P. Scott	Issued for Use
01	23/05/2025	12-14, Pg.19	C. Moriarty	Minor administrative amendments in response to DPHI comments

2.1 GENERAL REQUIREMENTS

The Project Director is responsible for the distribution of this Management Plan. The controlled master version of this document is available for distribution as appropriate and maintained on RIB | CX. All circulated hard copies of this document are deemed to be uncontrolled. The implementation of this Management Plan is under the authority of AGJV and the Project Director. All personnel employed on the Project will perform their duties in accordance with the requirements of this Management Plan, supporting management plans, and related procedures.

3. KEY PROJECT DETAILS

KEY PROJECT DETAILS		
Client Information		
Name:		Transgrid
Key Representative:		Jeremy Roberts
Details:	ABN:	70 250995 390
	Address:	Level 1, 180 Thomas Street Sydney NSW 2000
	Phone:	02 9284 3000
	Website:	https://www.transgrid.com.au/
Project Information		
Name:		The HumeLink East Project
Reference No. (client):		P0016465.HLE
Address:		NSW
Contractor Information		
Principal Contractor:		Acciona Construction Australia
Details:	ABN:	54 712 082 915
	Address:	Level 2, 55 Harrington Street, The Rocks, NSW 2000
	Phone:	Contractor Phone
Key Representative:		Carel Nagel
Reference No. (Contractor):		C3055
Project Stakeholder Information		
Relevant Discipline Authority:		Relevant Authority
Relevant Local Councils:		Cootamundra Gundagai Regional Council, Snowy Valleys Council, Upper Lachlan Shire Council, Yass Valley Council, Goulburn Mulwaree Council
Document Information		
Current Document Revision:		B
Current Document Revision Date:		22/01/2025

4. ABBREVIATIONS / DEFINITIONS

Term	Description
AG JV	A joint venture comprising of ACCIONA and GENUS
Asbestos Related Work	Work involving asbestos (other than asbestos removal work to which Part 8.7 of WHS Regulations 2017 applies) that is permitted under the exceptions set out in clause 419(3), (4) and (5)
Class A Removalist	A Class A asbestos removal licence is issued by SafeWork NSW for businesses removing any amount of friable asbestos (material that contains asbestos and is in a powder form or that can be crumbled, pulverised or reduced to a powder by hand pressure when dry). Class A licence holders are also authorised to carry out Class B asbestos removal work.
Class B Removalist	A class B asbestos removal licence is issued by SafeWork NSW for businesses removing non-friable asbestos and covers work for the removal of: - More than ten square metres of non-friable asbestos. - Dust or debris associated with the removal of the above. - Any asbestos contaminated non-friable asbestos.
CoP	Code of Practice
Employee	A person employed by AG JV under a contract of employment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
Exposure	The state of having no protection from something harmful
Friable Asbestos	Friable asbestos is a material containing asbestos that when dry, is in powder form or may be crushed or pulverised into powder form using your hand. This material poses a higher risk of exposing people to airborne asbestos fibres.
Licenced Asbestos Assessor	A licenced asbestos assessor is licenced by SafeWork NSW to undertake the following activities: - Air monitoring during Class A asbestos removal work. - Clearance inspections for Class A asbestos removal work. - Issuing clearance certificates in relation to Class A asbestos removal work. Where the asbestos removal work must be carried out by the holder of a Class A asbestos removal licence, the clearance inspection must be carried out by a licensed asbestos assessor. A clearance certificate must be issued by a licensed asbestos assessor before the asbestos removal area can be re-occupied.
Licenced Asbestos Removal Contractor	A licenced asbestos removal contractor is licenced by SafeWork NSW to undertake asbestos removal works. Non-friable or friable dependant of the Class (A or B) of licence attained.
LOQ	Limit of Quantitation
MFM	Membrane Filter Method
MPF	Minimum Protection Factor
NATA	National Association of Testing Authorities
NOA	Naturally Occurring Asbestos
NHMRC	National Health and Medical Research Council
Non-friable	Non-friable or bonded asbestos products are solid and you can't crumble them in your hand—the asbestos has been mixed with a bonding compound such as cement.
Occupational Hygienist	A person who holds a professional grade of membership (e.g., Provisional, Full Member (MAOIH) or Fellow Member (FAIOH)) with the Australian Institute of Occupational Hygienists (AIOH), along with experience in the assessment and control of occupational health hazards, relevant to the activities and processes inherent to the work performed.
OHH	Occupational Health and Hygiene
OHHW	Occupational Health, Hygiene & Wellbeing

Term	Description
OHHWMP	Occupational Health, Hygiene & Wellbeing Management Plan
Persons Conducting a Business or Undertaking	Is an employer, corporation, partnership, unincorporated association that has the primary duty of care for workplace health and safety - (AG JV is a PCBU).
PPE	Personal Protective Equipment
RACI	Responsible, Accountable, Consulted, and Informed Chart
Remediation	Reducing the risks posed by contamination (e.g., asbestos-containing materials) on a property, this could be by on-site (containment) or off-site (removal) methodologies.
RPE	Respiratory Protective Equipment
RPP	Respiratory Protection Program
SEM	Scanning Electron Microscope
SWA	SafeWork Australia
SWTC	Scope of Work and Technical Criteria
WasteLocate	WasteLocate is a tracking tool which tracks the transportation of asbestos or tyre waste from pick up to disposal using GPS.
WES	Workplace Exposure Standard
WHS	Work Health and Safety

5. INTRODUCTION

The purpose of this Plan is to describe the ACCIONA and GENUS Joint Venture (AG JV) process for managing asbestos. Asbestos is the generic name applied to six naturally occurring fibrous silicate minerals. Asbestos is a known carcinogen and exposure can lead to lung cancer, ovarian cancer, laryngeal cancer, mesothelioma and asbestosis.

Asbestos is likely to be encountered in non-friable and/or friable form during the following:

- Demolition of structures.
- Excavation through fill soils during infrastructure works.
- Removal / replacement of utility services (water supply, electrical and communication conduits / pits.
- Disturbance or excavation of areas where naturally occurring asbestos (NOA) is present.

In accordance with the Work Health and Safety Regulation, 2017 any construction task that involves working with asbestos is defined High Risk Construction Work. Elimination of the risks to a worker's health and safety must be sought in the first instance. If it is not reasonably practicable to eliminate, all effort must be made to minimise those risks so far as is reasonably practicable.

5.1 PURPOSE AND SCOPE

This Asbestos Management Plan (AMP) describes AG JV's processes, responsibilities, and management system for the delivery of asbestos management and remediation works on the HumeLink East Project.

This Plan applies to all AG JV workers and workplaces managed by AG JV. Workers include any personnel employed or contracted to work with or on behalf of AG JV (including their workers) and volunteers. Workplaces includes all permanent offices, tender offices, operational facilities and project sites.

5.2 OBJECTIVES

The overall aim for AG JV is to comply with the obligations outlined within WHS legislation. The objectives of this Plan are:

- To apply standard procedures that reduce risks resulting from the works.
- To ensure all workers are provided with appropriate training, equipment, and support, to consistently perform their duties in a safe manner.
- To ensure unexpected asbestos contaminated soils and/or materials will be identified, signposted, covered and segregated from site activities by the erection of physical barriers until it is assessed and remediated.
- Ensure appropriate controls and procedures are implemented to protect the public, Project staff and the environment from areas of asbestos contaminated materials, in accordance with Part 8 of the NSW Work Health and Safety Regulation (2017).

Areas identified as asbestos contaminated during the exploratory surveys undertaken during the EIS will be addressed in accordance with legislative requirements in the course of completing the Scope of Works and Technical Criteria (SWTC) applicable to the Project.

6. PROJECT OVERVIEW

The HumeLink project is a once-in-a-generation investment in Australia's high voltage transmission network and is planned to support the transition to a low emissions generation portfolio. This project is a critical part of AEMO's ISP, connecting a new 500 kV transmission link through Wagga Wagga, Bannaby and Maragle to the existing transmission network, and supporting large scale renewable energy generation.

HumeLink will reinforce Transgrid's transmission network in southern NSW to improve the flow of electricity from new generation sources in southern and western NSW to major demand centres in the State, and to customers across the NEM.

The project will be delivered under two separate Contract Packages - HumeLink East and HumeLink West. HumeLink East and HumeLink West will join and integrate together to form HumeLink, and enable the Project to operate safely, reliably and efficiently as part of Transgrid's network and the NEM as a whole.

AG JV has been contracted to deliver the HumeLink East package. An overview of the scope of works for the HumeLink East package is provided below. *Figure 1* shows an indicative high-level scope of each Contract Package. Note that the transmission line lengths shown in *Figure 1* are approximate only based on Employer's Concept Design.

Figure 1: Indicative High-Level Scope of HumeLink East and HumeLink West

The project scope of HumeLink East includes all works and activities associated with:

- Augmenting the existing Bannaby 500 kV substation;
- Delivering a new 500 kV double circuit transmission line connecting the augmented Bannaby 500 kV substation to the Interface Point where it will connect with HumeLink West; and
- Delivering the infrastructure required at the Interface Point to enable the connection of the HumeLink West and HumeLink East transmission line works – including the interface tower and associated infrastructure.

7. SAFETY AND ENVIRONMENTAL REQUIREMENTS

7.1 RELEVANT LEGISLATION AND GUIDELINES

7.1.1 LEGISLATION

- Contaminated Land and Management Act (NSW, 1997).
- Protection of the Environment Operations Act (NSW, 1997).
- Protection of the Environment Operations (Waste) Regulation (NSW, 2014).
- The Work Health & Safety Act (NSW, 2011).
- The Work Health and Safety Regulation (NSW, 2017).

7.1.2 CODES OF PRACTICE

- How to Manage & Control Asbestos in the Workplace: Code of Practice (SafeWork NSW, 2022).
- How to Safely Remove Asbestos: Code of Practice (SafeWork NSW, 2022).

7.1.3 GUIDELINES

- Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment 3rd Edition (NOHSC: 3008, 1995).
- Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres, 2nd Edition (NOHSC: 3003, 2005).
- Managing Asbestos in or on Soil (NSW SafeWork, 2014).
- National Environmental Protection Measure (NEPM, 2013).
- Waste Classification Guidelines: Part 1: Classifying Waste (NSW EPA, 2014).
- Workplace Exposure Standards for Airborne Contaminants (Safe Work Australia, 2024).
- Code of practice - How to safely remove asbestos, SafeWork NSW, December 2022.
- Mapping of naturally occurring asbestos in NSW – Known and potential for occurrence (Heads of Asbestos Coordination Authorities – HACA, 2015).
- Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia (WA DoH, 2021).
- Naturally Occurring Asbestos, Asbestos Management Plan Guide (Insight Communications in consultation with HACA, 2021).

7.1.4 STANDARDS AND OTHER SPECIFICATIONS

- Australian Standard AS2601 – Demolition of Structures (2001).
- The JV Decontamination and Remediation Specification.
- Australian Standard AS/NZS 1715 – Selection, use and maintenance of respiratory protective equipment (2009).
- Australian Standard AS/NZS 1716 – Respiratory Protective Devices (2012).
- Australian Standard AS 1319 – Safety signs for the occupational environment (1994).
- HLE-AGJ-WHS-ALE-PRD-0000-00003Asbestos Management Procedure.
- ACCIONA 1400-000-030.01 HSV-PRO Health Surveillance and Exposure Monitoring Procedure.
- ACCIONA ‘Lucidity’ Site Inspection Form Asbestos Removal.

8. RESPONSIBILITIES

R = Responsible	A = Accountable	C = Consult	I = Informed
The person who does the work to achieve the task. They have the responsibility for getting the work done or decision made.	The person who is accountable for the correct and thorough completion of the task	The people who provide information for the Project and with whom there is two-way communication	The people who are kept informed about progress and with whom there is one-way communication

	Project Director	Construction Director	Commercial Team	Safety Manager	Environment Manager	Projects Occupational Hygienist	Site Management (Incl. Supervisor)	Engineers	Training Team	Workers
Engage the services of a Licenced Asbestos Removal Contractor, competent Asbestos Assessor, and contaminated land specialist	I	A	C	R	R	C	I	I	I	I
Provide resources including personnel, time and finances to ensure compliance with this AMP.	A	R	C	I	I	I	R	I	I	I
Stop the works if asbestos is identified.	R	R	R	R	R	R	A	R	R	R
AMP Communication and Consultation	I	I	I	A	C	C	R	R	I	I
Training, Competency Awareness and Needs analysis	I	I	I	C	R	R	I	I	A	I
Compliance with SWMS, ARCP and the inclusion of OHHW	I	R	C	R	I	R	R	A	I	R
Selection, management and implementation of medical surveillance and health monitoring	A	R	R	C	I	C	I	I	I	I
Inspection and audits	I	I	I	A	A	R	R	R	I	C
Continuous improvement and review process	I	I	I	A	A	R	I	I	I	C

9. EXISTING ENVIRONMENT

The known and suspected presence of, or risk of exposure to, ACM or Naturally Occurring Asbestos (NOA) across the HumeLink East Project is outlined in the table below.

Location	Potential Asbestos Contamination	Exposure Risk
NOA	Potential NOA associated with the Coolac Serpentinite Belt, see Figure 1 for NOA risk zones	Low to High – NOA which may be exposed during piling, excavation activities and roadworks.
Former building footprints	Potential ACM associated with former building which were located on the project footprint.	Low – ACM unlikely to be exposed during excavation activities due to extensive site walks and investigations.
AEC	Potential ACM in Areas of Environmental Concern. Notably in filled areas and farm dumps.	Low – Extent of ACM and asbestos in soil will likely be identified during DSI and controls will be put in place.
Under current road services	Potential asbestos containing fibre cement fragments associated with fill materials imported under the roadways during previous construction / upgrade activities.	Low – ACM unlikely to be exposed during excavation activities.
Utility service trenches throughout the site.	Potential asbestos containing fibre cement fragments, due to previous maintenance / upgrade activities.	Moderate – ACM likely to be exposed during excavation activities.
Concrete slabs (various areas of the site)	Potential asbestos containing fibre cement sheets utilised as formwork during previous construction activities	Moderate – ACM likely to be exposed during excavation activities.
Various locations within the work activity footprint	Shallow asbestos soil contamination in the form of asbestos containing fibre cement fragments within locations where surficial ACM has previously been identified.	High – ACM highly-likely to be exposed during excavation activities, due to former extensive vehicle movements, fly tipping and illegal dumping.

Table 1: Potential asbestos presence

9.1 SITE ASBESTOS SUMMARY

Details of known asbestos situations across the Humelink East project are detailed in the following documents (asbestos registers/ surveys and NOA testing):

Additional information to assist in recognition of NOA is provided in Appendix A.

10. ASBESTOS MANAGEMENT

This document contains procedures and requirements that are to be implemented as a minimum during the works to ensure the appropriate management of risks associated with ACM, including manufactured product as well as NOA, occurring on the site.

This document does not provide safety information specific to construction and other demolition or excavation activities carried out by contractors, such as the safe operation, maintenance, and inspection of plant.

Contractors will be required to prepare their own Safe Work Method Statements (SWMS) for the High-Risk Construction Work activities for which they are contracted. All parties working on the Project will comply with all applicable Work Health and Safety legislation, regulations, codes, and guidelines.

10.1 IDENTIFICATION OF ASBESTOS

When acquiring a building/structure (asset) or site the Project Manager must identify asbestos and assess its ongoing management. This will require one or more of the documents listed below:

- AG JV owned or leased assets will require a hazardous building materials survey if the structure was built before 2003.

- AG JV project sites where structures are required to be demolished or refurbished will require a destructive asbestos building material survey if the structure was built before 2003.
- AG JV project sites will require DSI to be undertaken prior to works commencing at designated Areas of Environmental Concern (AECs) and works compound sites. This may include a Remediation Action Plan (RAP) and subsequent remediation and validation reporting).
- AG JV assets and sites will require an asbestos management plan (AMP) and asbestos register if the structure or site is suspected of containing asbestos.
- Health Risk Assessment in accordance with 1400-000-030.01 HSV-PRO Health Surveillance and Exposure Monitoring Procedure using the 0000-050-100.01 RSK-REG Project Risk Register. Risk must be assessed and controlled in accordance with the Hierarchy of Controls.

Testing of soils and rock is to be undertaken in areas of mapped low to high risk NOA. Documentation of NOA confirmation testing is to include:

- Sample location – map and coordinates
- Lithological log showing sample depth and strata
- NATA approved test reports as per Australian Standard AS 4964-2004: Method for the qualitative identification of asbestos in bulk samples

Only persons competent in the identification of asbestos containing materials and/or asbestos contamination such as licenced asbestos assessor, occupational hygienist, asbestos consultant, land contamination consultant can undertake the above investigations. Any suspected asbestos containing materials identified during the investigations must be analysed by NATA accredited laboratory or be deemed asbestos. The risk associated with the presence of asbestos within an asset or on site must be managed in accordance with this procedure, any contaminated land documentation (DSI, RAP), the 0000-050-030.01 RSKPRO Risk Management Hazard Identification procedure and captured within the 0000-050-100.01 RSK-REG Project Risk Register.

10.2 INADVERTENT IMPORTATION OF ASBESTOS CONTAINING MATERIALS

Importation of asbestos containing materials into Australia or onto site is prohibited by Australian Law. The Project Manager is responsible to mitigate the potential of inadvertent importation of asbestos containing materials into the country or onto site. The system must incorporate AG JV supply chain and should include, but not limited to:

- Describing all prohibited and restricted products, including asbestos.
- Quality control requirements.
- Inspection or testing programs to identify asbestos from source sites.

10.3 NOA MANAGEMENT

In accordance with applicable guidelines, the following NOA management principles are to be applied where NOA disturbance is likely to occur as a result of construction works:

- In areas mapped as NOA risk, works should assume NOA is present unless adequate site-specific testing has shown otherwise.
- NOA risk assessment for each construction site to be undertaken and approved by the project Licensed Asbestos Assessor (LAA) – refer NOA Risk Assessment format.
- Where possible, works are to be designed and conducted to minimise disturbance of NOA materials.
- NOA risk assessment to be informed by site specific testing and works specifications, including cut and fill details of NOA areas to be disturbed.
- Where NOA risk is present, disturbance or removal works should cease when windspeed at the site causes potential for excess airborne fibres
- Management measures that are similar to those applied to friable asbestos will usually apply.
- NOA exposure controls during works to include:
    - Site control/ signage
    - Water dust suppression
    - Personal Protective Equipment (PPE)
    - Decontamination and waste management

- Approved NOA exposure controls are to be incorporated into AG JV and contractor Asbestos Removal Control Plans (ARCP) and SWMS
- In principle, sites are to be rehabilitated post construction generally to 'as found' risk level, allowing for future safe site use. Rehabilitation methods may include (but not limited to):
    - Undertake offsite lawful disposal of asbestos contaminated wastes, including PPE and excess NOA materials, to landfill(s) licensed to accept asbestos wastes
    - NOA materials to remain onsite under minimum 200 - 500mm asbestos free stabilised materials and/ or engineered slab or footing. Thickness of cover materials may be reduced (to minimum 200mm), where:
        - Cover is unlikely to be eroded, due to the presence of other barriers
        - Greater thickness would unfavourably alter the landform
    - Successful rehabilitation of construction site to be signed off by the LAA or asbestos consultant.

10.4 UNEXPECTED ASBESTOS FINDS PROTOCOL

In the event the above investigations do not identify asbestos containing materials a contingency process must be implemented to ensure asbestos is identified and controlled. The asbestos finds protocol flowchart below outlines the appropriate process to be followed:

Step 1	STOP WORK Cease work and inform AGJV site supervisor IMMEDIATELY!
Step 2	Site Supervisor to notify Project Engineer, HSEQ personnel, erect fencing, and signage and/ or cover suspected materials to mitigate potential disturbance. (Note: Fencing can include asbestos tape, flagging, pedestrian fencing, or ATF)
Step 3	Asbestos consultant to determine nature/ extent and provide recommendations. (This may include sampling material and laboratory analysis at a NATA accredited laboratory)
Step 4	Licensed asbestos removal contractor, asbestos consultant in consultation with Project Engineer/ HSEQs to discuss remediation method in line with relevant legislation, code of practice, Australian Standards and the expectations of the Office of the Federal Safety Commissioner.
Step 5	Removal by Licensed Contractor (with required regulator notifications and ARCP) in accordance with agreed remediation methodology. All asbestos waste must be disposed at a landfill lawfully licensed to accept asbestos waste. Removal to be recorded in detail (quantity, nature, location) within the asbestos register and records of waste receipt retained.
Step 6	Clearance certificate provided by Independent Asbestos Consultant for the area in which asbestos was removed. (Note: The licensed asbestos removal contractor cannot issue the clearance certificate.) Additional Site Validation Reporting (SVR) will also be undertaken in line with CLM Act,

10.5 RISK ASSESSMENT

Where considered appropriate, separate risk assessments may be held at different stages of the project where the potential for the disturbance of asbestos may be present prior to commencement of the relevant phase of work activity and/or work area.

Risk assessment is to include for NOA construction sites which will take into account site specific testing of soil and rock, including the adequacy of this testing.

These risk assessments will be completed in consultation with the LAA and will consider the potential for exposure to asbestos and may include a review of previous works and monitoring results that may be available. It will determine the requirements for controls, such as water suppression, PPE, decontamination, and asbestos monitoring at each stage of the work activity.

Asbestos is a known inhalation hazard. As such, appropriate measures are to be put in place to prevent / minimise the generation of airborne dust and fibres.

10.6 PROVISION OF ASBESTOS REGISTER

Where asbestos has been identified in the workplace or is likely to be present, an asbestos register must be prepared. If an asbestos register is not provided by the client, or if a register provided is deemed not fit-for-purpose (for example, it is greater than five years since last review), then the Project Engineer must organise for the development of an Asbestos Register.

In accordance with Part 8.6 of the Work Health and Safety Regulation (NSW, 2017) the asbestos register must record any asbestos that has been identified or is likely to be present at the workplace. This would include:

- The location, type and condition of the asbestos.
- Details of any asbestos assumed to be in the workplace.
- Results of any analysis that confirms a material at the workplace is or is not asbestos.
- Dates when the identification was carried out.
- Details of inaccessible areas.

The Asbestos Register will be accessible on the project drive or by request to the Environmental Team. A hard copy can be produced at any of the AG JV site offices. An example Register is in Appendix B.

10.7 ASBESTOS REMOVAL

AG JV will not undertake removal of asbestos containing materials or asbestos contamination on any asset or site, regardless of type or quantity. AG JV will engage a licenced asbestos removal contractor as required by relevant legislation, Code of Practice and Australian Standards. There are two types of licences: Class A and Class B. The type of licence required will depend on the type and quantity of asbestos or ACM that is being removed at a workplace. Further information is available from the Safe Work Australia Model Code of Practice How to Safely Remove Asbestos.

10.8 REGULATOR NOTIFICATION

Prior to any asbestos removal works, the licensed asbestos removal contractor must notify the relevant State Regulator in accordance with the relevant notification system.

10.9 ASBESTOS REMOVAL CONTROL PLAN

In accordance with relevant legislation, Code of Practice and Australian Standards, prior to any planned asbestos removal work, the licenced asbestos removal contractor must provide to AG JV a copy of the ARCP. This plan will also address the asbestos removal methodology. The ARCP will be located at the entrance to the asbestos removal area or with the licenced asbestos removal contractor supervisor and available onsite as a notification to the client, workers and other affected parties at all times.

The ARCP will be reviewed prior to the commencement of asbestos removal activities.

10.10 SAFE WORK METHOD STATEMENTS

In accordance with the WHS regulation 2017, a SWMS will be prepared for high-risk construction work that involves, or is likely to involve, the disturbance of asbestos.

10.11 SITE ACCESS

Asbestos contaminated areas will be designated ‘Restricted Areas’ with only authorised persons allowed access. Authorised persons will be documented within the ARCP and must be approved by the Occupational hygienist.

Access should be limited to the following:

- Personnel entry and exit points, exiting through a personal decontamination area.

- Vehicle entry and exit point, exiting through vehicle decontamination area/s.

10.12 SIGNAGE AND WARNING SIGNS

Regulations require the Licenced Asbestos Removal Contractor to install warning signs and contact details at the entrance to the site and around the site.

Suitable warning signs will be placed around the area of works. The signs shall conform to AS1319-1994 and the NSW WHS Regulation 2017. The licenced asbestos removal contractor shall ensure that such signs remain secure and in good condition for the duration of the works. Warning notices such as the examples shown below shall be displayed at each entry point. The licenced asbestos removal contractor will check signs daily to ensure they remain in place, secure and relevant.

10.13 AIR MONITORING AND ASBESTOS FIBRES

Asbestos fibre air monitoring (AAM) will be mandatory during any asbestos remediation works and any handling of asbestos containing materials. Air monitoring will be performed by person/s independent of the licenced asbestos removal contractor. All asbestos fibre air monitoring samples must be analysed by a NATA accredited laboratory and results communicated to workers no later than the following work day.

10.14 ASBESTOS CLEARANCE CERTIFICATES AND SITE VALIDATION REPORTS

The clearance inspection is to assess the adequacy of the removal/remediation works undertaken and must be documented prior to the removal of the asset or site being reoccupied. In order to avoid any potential conflict of interest, air monitoring and clearance inspections should be performed by person/s independent of the licenced asbestos removal contractor. In summary the licenced asbestos removal contractor cannot provide the clearance certificate.

SVR will be completed in accordance with CLM Act once asbestos in soil has been removed from site and any remediation is complete.

Note: This may not be achievable for regional works due to lack of qualified staff, in these circumstances discussion with the regulator should be undertaken.

10.15 GENERAL DUST CONTROL

During piling or excavation of potential asbestos containing materials within the project site boundaries, the following dust control procedures must be employed:

- To minimise the potential for dust to be generated, removal areas will be maintained in a moist condition (and/or suitable dust suppression additives applied). This may include wetting down of the exposed materials using a water spray and dust suppressors on plant and equipment).
- Ensuring vehicles leave via the designated (stabilised) site access.
- Securely covering all loads entering or exiting the site.
- Covering of all stockpiles of contaminated soil on a risk-based approach.
- Covering or wetting down soil during haulage around site on a risk-based approach.

Note: Risk-based approach refers to a risk assessment conducted by the licenced asbestos removal contractor or asbestos consultant and approved by the projects nominated Occupational hygienist.

10.16 TRANSPORT OF WASTE MATERIALS OFF-SITE

In the event that asbestos contamination is to be removed off-site it will be done so in accordance with Part 7 of the Protection of the Environment Operations (Waste) Regulation (NSW, 2014). During the transport of asbestos waste, the following will be observed:

- Dispose of the waste lawfully by engaging a reputable waste haulage contractor to ensure compliance with WasteLocate (this can be a licensed asbestos removal contractor).

    - Waste transporters are required to report the movement of more than 100 kg of asbestos waste or more than 10 square metres of asbestos sheeting within NSW.
- Any part of any vehicle in which the person transports the waste is covered, and leak-proof, during the transportation.
- If the waste consists of bonded asbestos material – it is securely packaged during the transportation.
- If the waste consists of friable asbestos materials – it is kept in a sealed container during transportation.
- If the waste consists of asbestos-contaminated soils – it is wetted down prior to transportation.
- Trucks may also be wrapped with 200-micron plastic if required by landfill

All appropriate road rules will be observed, and state roads will be selected as far as practicable over local roads when deciding on the transport route to the off-site material disposal location.

10.17 REUSE AND RECYCLE

The reuse or recycling of asbestos waste is prohibited. Asbestos removal control measures must be implemented that prevent the contamination of potentially recyclable construction materials. Clearance certification must be obtained from an independent competent person prior to earthworks/construction to mitigate the risk of contamination of recyclable products during earthworks/construction.

10.18 ASBESTOS RELATED WORK

During the delivery of HumeLink East, some workers will be required to undertake 'Asbestos Related Work' which is defined by WHS Regulation, 2017 as work involving asbestos (other than asbestos removal work to which Part 8.7 applies) that is permitted under the exceptions set out in clause 419(3), (4) and (5).

AG JV may request workers to carry out works that involve asbestos under the existing exceptions outlined within clause 419, these may include but not limited to:

- Requesting an asbestos consultant, to conduct sampling and identification of suspected asbestos containing materials or contaminated soils in accordance with this Regulation.
- Organising the transport of asbestos or asbestos waste in accordance with the Protection of the Environment Operations Act 1997.
- Demonstrations, education or practical training in relation to asbestos or ACM.
- Management in accordance with WHS Regulation of in situ asbestos that was installed or fixed before 31 December 2003 including management of legacy asbestos contamination (with no disturbance).
- Work that disturbs asbestos during mining operations that involve the extraction of, or exploration for, a mineral other than asbestos including geotechnical investigations.

The above exceptions only relate to the requirement to hold a licence and in some cases the requirement for health monitoring (in the case that works are not conducted on a regular or ongoing bases and have been assessed by a competent person) and does not exclude the person or Person Conducting a Business or an Undertaking (PCBU) from using risk mitigation controls.

10.19 HEALTH SURVEILLANCE

Workers carrying out asbestos removal of asbestos related works have a statutory requirement under the WHS regulations to undertake health surveillance. Health surveillance must be undertaken, and results reported to the state regulator in accordance with the relevant State Work Health and Safety Regulations, applicable Australian Standards and Codes of Practice.

10.20 EMERGENCY PROCESS

Emergency response will be undertaken in accordance with the AG JV Emergency Critical Response Procedure. In addition to emergencies listed within the above procedure, Table 2 below outlines control asbestos fibre air monitoring action levels specific to asbestos removal works and the required control actions.

Action Level	Responsibilities	Control Action
<0.01 fibres/ml	Licensed Asbestos Removal Contractor	1. Continue with existing control measures.
≥0.01 fibres/ml and ≤0.02 fibres/ml	Asbestos consultant	1. Asbestos consultant to notify the Contractor and Client representative of results as soon as practicable.
	Asbestos consultant Licensed Asbestos Removal Contractor	2. Asbestos consultant, Contractor and Client representative to investigate potential cause for the exceedance. 3. Existing controls to be reviewed and new and/or improved controls to be implemented where applicable.
≥0.02 fibres/ml	Asbestos consultant	1. Asbestos consultant to notify Contractor and Client representative of results as soon as practicable.
	Licensed Asbestos Removal Contractor	2. Stop work immediately. 3. Contractor to notify the regulator by phone or in writing with air monitoring result and that removal works have ceased.
	Client Representative Licensed Asbestos Removal Contractor	4. Erect signage and barricades around asbestos work area to restrict access.
	Asbestos consultant client representative Licensed Asbestos Removal Contractor	5. Conduct an investigation into the cause for the exceedance. This is to be performed by thorough visual inspection of the work area and equipment in consultation with workers. 6. Once suspected cause is identified existing controls to be reviewed and new and/or improved controls to be implemented.
	Asbestos consultant	7. Conduct additional air monitoring around the asbestos work area once new controls have been implemented. 8. Works must not recommence until air monitoring results are <0.01 fibres/ml

Table 2: Asbestos Fibre Air Monitoring Actions

11. TRAINING AND COMPETENCY

All workers are to be appropriately trained and deemed competent as per the requirements listed in WHS Regulation and Model Code of Practice: How to Manage and Control Asbestos in the Workplace.

11.1 SITE INDUCTION

AG JV assets or sites where asbestos has been identified must communicate the presence, of asbestos to all workers. The site induction must provide location, type, restricted zones in place, signage and health effects.

11.2 ASBESTOS AWARENESS TRAINING

AG JV nominated asbestos consultant or occupational hygienist will provide asbestos awareness training for workers carrying out asbestos related works and workers onsite which have the potential to encounter unexpected finds of asbestos.

11.3 ACCREDITED TRAINING

Accredited training to the following competencies is required for Air Monitoring, Licenced Asbestos Removal Contractors, and Licenced Asbestos Assessors in accordance with the relevant legislation, codes of practice and Australian standards:

- Friable (Class A) or non-friable (Class B) asbestos removal supervisor – CPCCDE4008.
- Friable asbestos removal worker (Class A) – CPCCDE3015.
- Non-friable asbestos removal worker (Class B) – CPCCDE3014.
- Licenced Asbestos Assessor – Hold a LAA licence issued regulator

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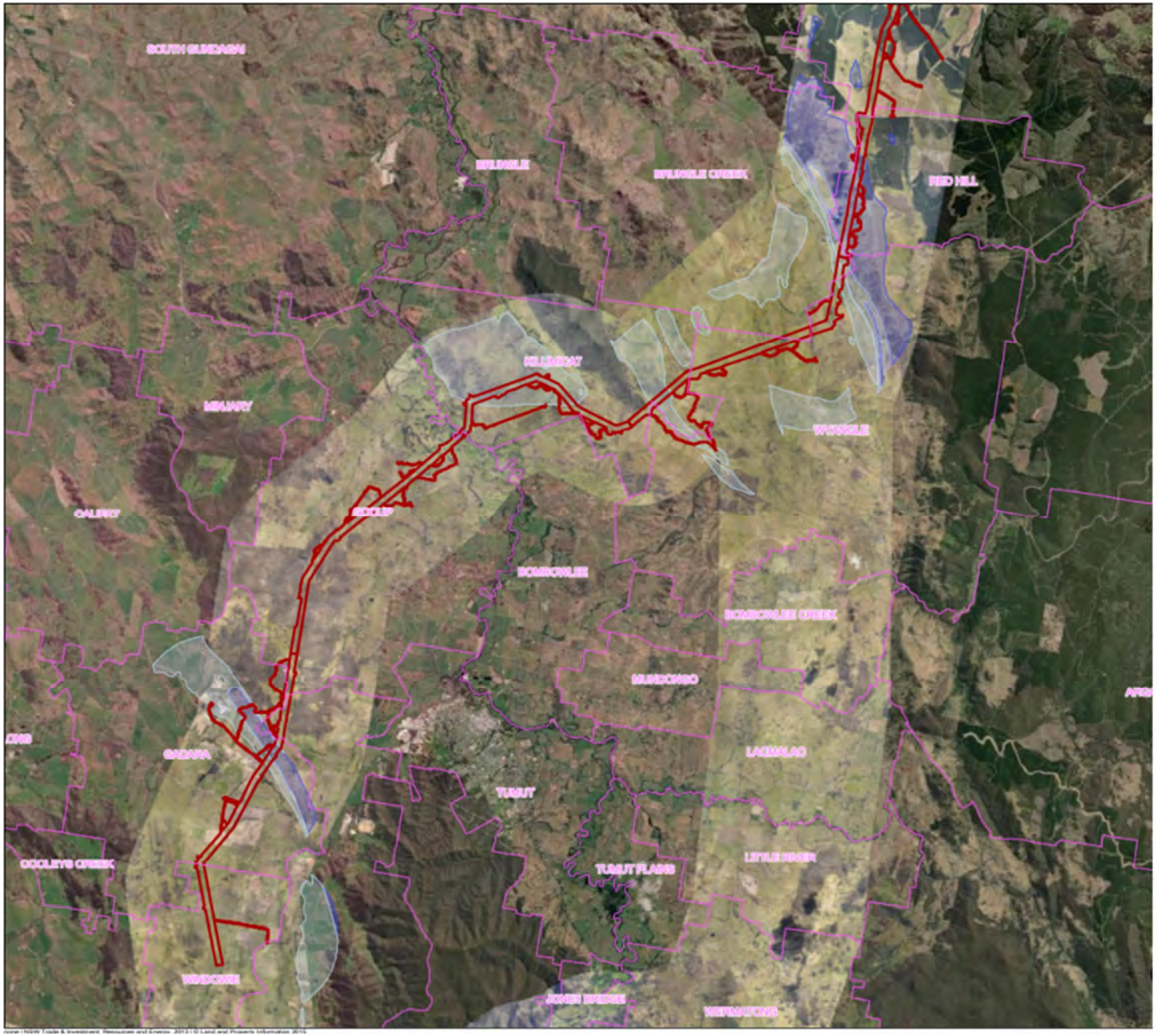
Appendix A: Naturally Occurring Asbestos Map



HumeLink

Map Title

Legend

BASE DATA

Administrative Boundaries - Suburb

CONSTRUCTION

Project Construction Boundary

ENVIRONMENT

Contamination

Low Asbestos Potential

Low Asbestos Potential

Medium Asbestos Potential

Medium Asbestos Potential

High Asbestos Potential

High Asbestos Potential

Notes

0 3.5 7 km

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Appendix B: Asbestos Register (Example)

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HumeLink Asbestos Register

Item	Date	Work Location	Type	Condition	Made Safe (Y or N)	Waste Classification	Waste Classification Date	Classification (Contaminant)	Clearance Certificate Number	Clearance Certificate Date	Qty (m^3)	Status