

Springvale MPPS Water Treatment Facility Operational Environmental Management Plan



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1. INTRODUCTION

1.1. Background

The Springvale and Angus Place Mines are located in the western coalfields of New South Wales near Lithgow. The Springvale Mine is the primary source of coal for Mount Piper Power Station (MPPS), which is the newest and most efficient coal-fired power station in New South Wales.

The Springvale Coal Mine is owned by Springvale Coal Pty Limited (Springvale Coal), a joint venture comprising Boulder Mining Pty Limited and Centennial Springvale Pty Limited.

MPPS is owned and operated by EnergyAustralia NSW Pty Limited (EA), and is a key part of the New South Wales' electricity system, supplying approximately 15% of the State's energy requirements.

In addition to coal, MPPS requires water of low salinity for its cooling water system. This need is currently supplied from a number of alternate water sources including storage dams owned and operated by EA, which are fed by a combination of local rainfall and discharge water from the Springvale and Angus Place Mines. Freshwater is also sourced from the Fish River scheme and the Thompsons Creek Reservoir (TCR). The Springvale Water Treatment Project was initiated to improve the environmental outcomes and water quality in the Upper Coxs River catchment and to achieve compliance with the water management.

1.1.1. Customer and Project Co

- Boulder Mining Pty Limited (ABN 85 112 796 308) (Boulder Mining);
- Centennial Springvale Pty Limited (ABN 64 052 096 812) (Centennial Springvale); and
- EnergyAustralia NSW Pty Limited (ABN 75 163 935 635) (EA)

together making up the Customer.

The obligations and liabilities of each of the Springvale Coal Joint Venture Participants (Boulder Mining and Centennial Springvale) and EA are in accordance with the participating interests set out in the WTSC. The overall project consortium structure is provided in **Figure 1**.

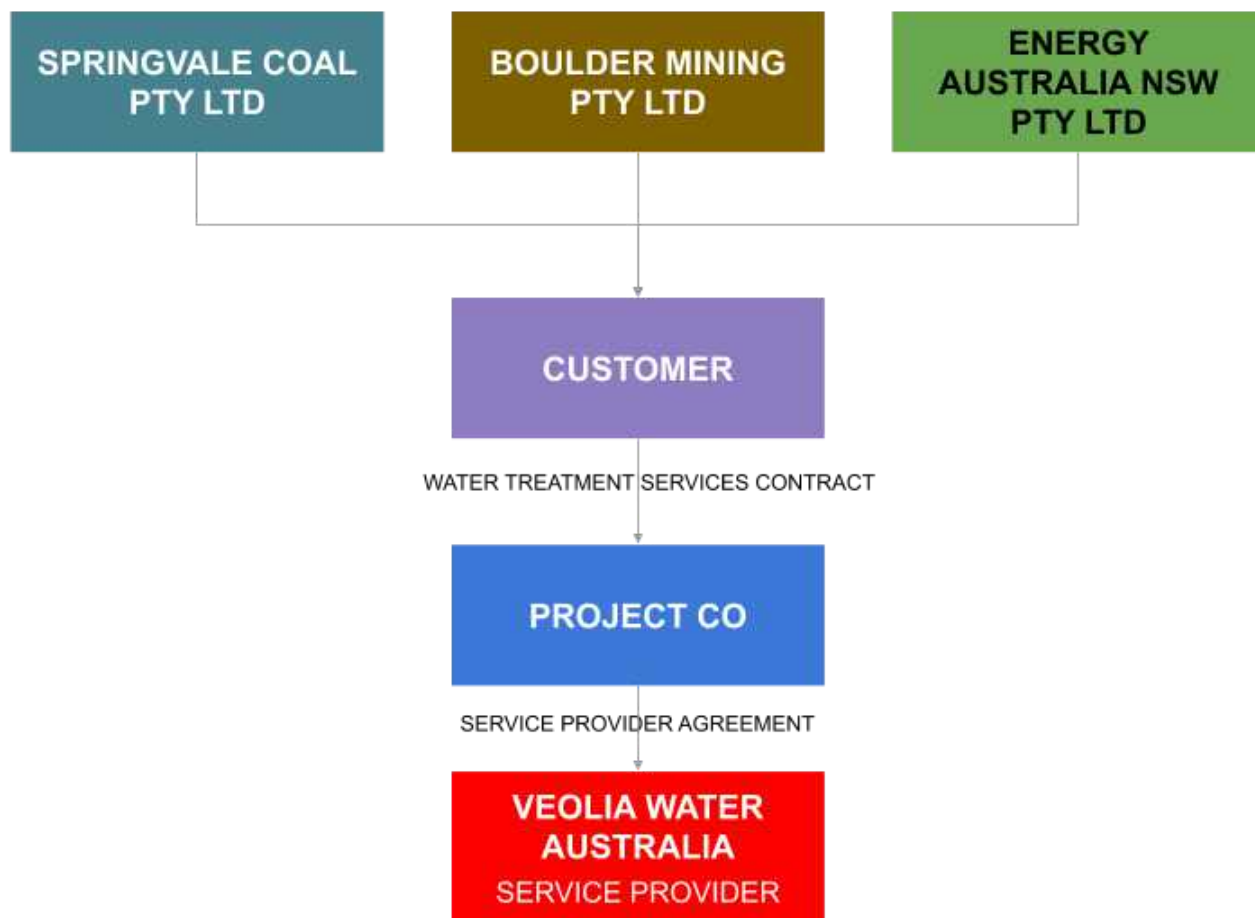


Figure 1 – Consortium Structure

1.2. Purpose of the OEMP

The Operational Management Plan (OMP) (MAN-3649) outlines the management approach used by Veolia in its capacity to operate the Facility. This plan provides an overview of all subsidiary management plans and their relationship to provide a full overview of how Veolia manages the operations of the Facility. This Operational Environmental Management Plan (OEMP), complements the OMP and describes the environmental management framework adopted at the Facility to comply with the requirements of the CoDC, Veolia systems and contractual obligations.

1.3. Objectives of the OEMP

The objectives of this OEMP are to:

- Provide a working environmental management tool to follow during the operation of the Facility;
- Provide all operational personnel with sufficient information to undertake their activities in accordance with legal and other relevant environmental requirements;

- Identify the environmental activities and impacts associated with operation of the Facility and to provide management measures to minimise and manage impacts on the environment and community;
- Provide a means of implementing the recommended mitigation measures for the key environmental issues associated with operations of the Facility;
- Provide guidance to ensure the Facility is operated in accordance with the recommendations provided in the *Licensing Guide (EPA NSW, 2016)*;
- Provide a guide for the interaction with relevant government authorities and other relevant stakeholders, including the community during operations; and
- Provide a guide for the interaction with the Customer Representative and Project Co in relation to OEMP issues.

This OEMP is a live document and outlines the management strategies and control measures which will be reviewed and updated, where necessary, to reflect changes introduced by the operations and maintenance team, site specific outcomes, non-conformances and recommendations arising out of inspections, meetings and audits.

Undertaking operations in accordance with the requirements of the OEMP will assist Veolia, Project Co and the Customer Representative to comply with the regulatory and policy requirements in a systematic manner and to continually improve environmental performance

1.4. Veolia's Overall Management System

Veolia has developed and implemented an integrated Business Management System (BMS) to assist in meeting the corporate objective of its operations through sustainable development.

Veolia manages environmental performance in line with its environmental standards, risk management framework and continual improvement processes, which is supported by appropriate environmental governance and specialised personnel. Veolia's Environmental Management System has been [certified to the ISO 14001 standard](#).

NOTE: All document [hyperlinks](#) included in this Plan relate to Veolia ANZ's Business Management System (BMS), can only be opened on Veolia's network and can't be accessed by external users. Document codes have been included as a reference where an external user can request from Veolia to provide.

1.4.1. Environmental policies

Veolia's business strategy is guided by its corporate policies and practices linked to delivering excellence in one or more of these elements.

Veolia has developed a suite of company-wide policies in support of the sound management of its facilities. All policies have been endorsed by Veolia's Executive Committee and are reviewed periodically. All Veolia employees are required to commit to the implementation of these policies.

Veolia environmental policies support minimisation of emissions to land, air and water and the wise use of natural resources. This commitment is documented in Veolia's environmental and sustainability policies (see below).

1.4.1.1. Environment policy

Veolia is committed to minimising the environmental impacts of its operations and continually improving its environmental performance within a framework of sustainable development by:

- Effectively managing our significant environmental impacts, monitoring progress and reviewing environmental performance against objectives and targets on a regular basis;
- Driving continual improvement, and meeting the requirements of ISO 14001 environmental management systems standard as part of the integrated business management system;
- Complying with applicable environmental legislation, contractual and other necessary requirements related to our activities and assist customers and suppliers to use products and services in an environmentally sensitive way;
- Striving to ensure that our policies, objectives and achievements are communicated to all persons working for and on behalf of the business and to educate and train employees and ensure competence in environmental issues and the environmental effects of their activities;
- Preventing pollution and harm to the natural, heritage and built environments and to reduce the use of all raw materials, energy and supplies; and
- Consulting with relevant stakeholders, taking into account local environmental conditions and working with local communities to achieve shared and lasting outcomes.

All managers, employees, contractors and visitors are responsible for being aware of, and complying with this policy.

1.4.1.2. Sustainability policy

For Veolia, sustainable development means adopting business strategies and activities that meet the needs of Veolia and its stakeholders today, while protecting, supporting and enhancing the human and natural resources that will be needed in the future. This outcome is expressed clearly in *Veolia's Sustainability Policy*:

- Being ethically responsible, to create value in what we do, and to use sound risk and hazard management principles in conducting our business. As part of its 'non-negotiables' Veolia will comply with all relevant legislation including pollution prevention and will strive to develop and improve our integrated business management system to support a consistent and disciplined approach to business processes. We will ensure that appropriate resources (both internally and externally) are utilised to assist in achieving our goals;
- Partnering in innovation and to understand and support our customers in achieving their business objectives;
- Attracting and retaining diverse and talented employees. This will include providing development opportunities so our employees are continually learning, communicating, providing workplace consultation, and creating an 'Always Safe' workplace, with an aspiration of no workplace injury or illness for our employees, visitors and contractors. Continually designing and implementing sustainable solutions to develop access to resources and to protect and replenish them. Additionally, Veolia is committed to providing environmental leadership in its operations and solutions, which includes the management of its own environmental impacts, improving waste, water, energy and carbon outcomes, as well as protecting and conserving biodiversity and natural capital.

2. FACILITY DESCRIPTION

2.1. Facility Location

Springvale Mine is an underground coal mine located in the western coalfield of NSW, approximately 15 kilometres (km) west of Lithgow. The MPPS is located about 8 km west of the Springvale Mine pit top at Lot 363 Boulder Road, Blackmans Flat, NSW.

2.2. SMPPS WTF Overview

The WTF is capable of receiving 36 ML/day of mine water on a regular basis with occasional flow peak up to 42 ML/day and has been designed to operate continuously 24 hours per day, seven days per week.

If sustained incoming mine water flows are 9 ML/d the WTF, and limited water is available in the buffer pond, the plant will be shut down and flow diverted to the mine water buffer pond (103 ML). The WTF will restart when the flow is sustained in excess of 9.5 ML/d for the defined period and/or the Pond reaches a level to support extended operation (at least 24 hours at minimum flow).

2.3. WTS Description

The WTS includes the following elements:

- Approximately 15 km of pipeline to transfer up to 42 ML/day of mine water to the WTF for treatment and later reuse at MPPS in cooling water system or release to Thompson Creek Reservoir (TCR);
- Pipeline to TCR for release of excess treated water;
- Pipeline to the Springvale Coal Services site for residuals disposal to the reject emplacement area.

2.4. WTF Description

2.4.1. Chemical Storage

The WTF comprises of the following components:

- Desalination plant,
- Optimised Pre-treatment and Unique Separation (OPUS) treatment plant,
- Clarifier thickener,
- Brine Crystalliser,
- Storage Ponds and Transfer System.

A site layout plan is provided in [Appendix C – The WTF Site Layout](#).

Mine water is transferred from the Springvale underground coal mine to the WTF for treatment via the WTS pipeline. The treated water will primarily be used at the MPPS in cooling towers, however if the MPPS requires less cooling water than the current rate of WTF production, the excess treated water will be sent to

the Clean Water Pond.

If the Clean Water Pond is almost full, excess treated water will be discharged to TCR. The intent of using the Clean Water Pond for treated water buffering is to provide for 'intraday' storage capacity for treated water and to minimise the discharge of treated water to TCR.

Sludge from the WTF treatment plant is transferred to the thickener. The thickened sludge is transferred to Springvale Coal Services residuals emplacement area (REA).

The mixed salt crystalliser is the final component of the Brine concentration process. The Crystalliser receives OPUS Reverse Osmosis (RO) concentrate from the crystalliser feed tank. Distillate from the Crystalliser is transferred to the Clean Water Pond and is used as part of the combined clean water return to the cooling tower. The mixed salt slurry from the Crystalliser is dewatered using a centrifuge decanter and subsequently transported to, and disposed of, at the MPPS ash emplacement area. The concentrate from the dewatering process is recycled to the Crystalliser feed.

The WTF utilises a number of chemicals as part of the treatment process. A single delivery bund is built for liquid chemical tanker deliveries which is fitted with a blind sump and must effectively contain at least 10 m³ of the chemicals.

All flammable liquids are stored within a bund of 110% capacity of the volume of those flammable liquids so that any release of raw or burning fuel does not cause a fire or impact on surface water. A *Hazardous Substances and Dangerous Goods Register* is maintained on ChemAlert to record all chemicals used at the WTF. The bunded area is equipped with blind sumps. Each blind sump is fitted with a permanent 'snorkel' which enables operating staff to connect a temporary pump to discharge neutralised chemical spills or rainwater to the appropriate WTF drain network.

Chemical dosing hose leak detection panels have been installed around the site for immediate detection of leaks and for the prevention of chemical spills.

Veolia's High Risk Management Standard (HRMS) - Hazardous Materials, Chemicals Delivery, Storage and Handling (STA-119), the Hazardous Materials - Delivery, Storage & Handling Procedure (PRO-123) and SMPPS Chemical Spill Cleanup, Disposal Procedure (PRO-11147) provides direction and information to effectively manage the risks of the storage and handling of chemicals within Veolia sites.

2.5. Utilities

Two potable water tanks, minimum 25 kL each, for bulk potable water deliveries are installed on the WTF site. The potable water pumping system is suitable for all demands (occupation requirements and safety showers). The WTF sewage system is connected to a septic tank which will be regularly serviced by a licenced waste contractor.

The footprint of the operational Facility is partially located within what was once the Newnes State Forest but is now part of the Gardens of Stone National Park, extending from the Newnes Plateau in the east into lower lying vegetated and disturbed lands in the west. In the west, the connected vegetation occurs for a distance of more than two kilometres to the north, east and south-east.

The Gardens of Stone National Park and Wollemi National Park to the north, Blue Mountains National Park to the east and Ben Bullen State Forest to the north-west.

The western half of the Facility footprint is located largely on disturbed lands due to existing farming lands, roads, easements and mining lands. Remnant vegetation exists to the south of the pipeline, which tentatively

connects to the northern side. Castlereagh Highway creates a wide disconnection between vegetation tracts further north, and that situated to the north of these western portions of the Facility footprint.

2.6. Property

The remainder of the Facility is located within land owned by, or under access agreements with, the Springvale Coal unincorporated joint venture participants [Centennial Springvale (50%) and Boulder Mining (50%)] and land owned by EA.

Operation of the pipeline is predominantly located on Springvale owned lands with some sections of the pipeline crossing land owned by Forestry Corporation of NSW, Crown lands and privately owned property.

Land Holdings traversed by the Facility operational footprint, are shown in **Table 1**.

Table 1 – Lot and DP Properties in the Facility Footprint

Owner	Lot and Deposited Plant (DP)
EnergyAustralia Pty Ltd	Lot 191 DP 629212 Lot 101 DP 8294410 Lot 2 DP 702619 Lot 15 DP 804929 Lot 3 and 5 DP 829137 Lot 101 and 103 DP 1164619 Lot 1 and 5 DP 1087684 Lot 1 DP 829065 Lot 9 DP 804929
Centennial Springvale Pty Ltd and Boulder Mining Pty Ltd	Lot 1 DP 88503 Lot 501 DP 825541 Lot 2 DP 126483 Lot 13 and 357 DP 751651 Lot 2 DP 1151441
Lithgow City Council	Wolgan Road Shelly Road Brays Lane
Janette Winifred Hunt (Private)	Lot 371 DP 751651
National Parks and Wildlife Service	Part Lot 502 DP 822541 L3t 3 DP 1151441
Roads and Maritime Services (RMS)	Castlereagh Highway
Crown Lands	Various paper roads

3. STATUTORY REQUIREMENTS

This section provides an overview of the environmental planning and statutory context for the operations and maintenance of the Facility.

Veolia is committed to complying with all of its legal obligations and other voluntary commitments made by the company. Compliance to applicable regulatory requirements concerning the Facility will be achieved through:

- Identifying and accessing legal and other requirements which are directly applicable to the organisation;
- Consulting and involving relevant government agencies;
- Internally communicating relevant information regarding legal and other requirements;
- Continually auditing, reviewing and upgrading company systems, management plans and supporting documentation; and
- Providing relevant training.

3.1. Development Approvals

The NSW Department of Planning, Industry and Environment (DPIE), (formerly the Department of Planning and Environment (D&E) assessed the Facility as a State Significant Development (SSD 7592) under Section 89(C) of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The then DP&E delegated SSD 7592 to the Planning Assessment Commission (PAC) for determination under the Minister's delegation of 14 September 2011. The project was determined by PAC on 19 June 2017. The Conditions of Development Consent (CoDC) are provided in [Appendix A1 – Conditions of Development Consent](#).

3.2. Relevant Environmental Legislation

The regulatory framework for the site is outlined within the Legislation Register, which is provided in [Appendix A2 – Key Legislation](#). The register identifies relevant legislative instruments, their key objectives and relevance to the operation of the Facility.

The register will be revised and updated in conjunction with the management review outlined in 6.7. Review of the OEMP or when there has been a change to relevant legislation.

3.3. Permits and Licences

[Appendix A3 – Summary of Consents and Approvals](#) provides a summary of the consents and approvals that may be required during operations. These are additional to the Development Consent.

The sections below summarise the licences that will be required during operation of the Facility.

3.3.1. Water Access Licences

The Facility uses TCR as both a water supply storage and a release point for excess treated water.

The current Water Access Licences (WALs) in place for the operation of the Coxs River water supply system were reviewed for the operation of the Facility. The WAL conditions and combined approval issued to EA authorises the taking and use of water from the Coxs River for power generation purposes and includes

Lilyvale Dam (Lake Lyell), Wallerawang Dam (Lake Wallace) and TCR.

These licence conditions define EA's water access rights and obligations and regulate the operation and management of its water management works. There are no proposed changes to current WALs held by EA.

3.3.2. Environmental Protection Licence

Following consultation with the Environment Protection Authority (EPA) it was considered that the operation of the Facility does not require an Environmental Protection Licence (EPL).

3.4. Veolia Contract Obligations

The OEMP is consistent with the environmental management policies for MPPS and the environmental management policies for the Springvale Mine, the Angus Place Mine and Springvale Coal Services Operations, part of Western Coal Services (Western Coal Services).

4. ENVIRONMENTAL MANAGEMENT

4.1. Facility Management

The SMPPS WTF management team is responsible for the implementation of this OEMP, providing the necessary resources and ensuring that all environmental commitments are properly fulfilled. Performance against this OEMP will be assessed by way of environmental audits.

Site specific roles and responsibilities prescribed by this plan, and the supporting plans and procedures are detailed in the SMPPS WTF's Operational Management Plan (OMP) (MAN-3649). Additional information regarding responsibilities are detailed in position descriptions and referenced procedures.

The lines of responsibility for environmental management are detailed in the organisation charts.

4.2. Environmental Performance Criteria

The SMPPS WTF environmental performance is measured against progress and achievements on objectives, targets and program milestones.

A number of objectives and associated performance criteria has been developed for the Facility based on Federal, State and Local Legislation, the Customer Representative Project Scope Requirements and the CoDC. The criteria guide management and mitigation measures to minimise environmental impacts. Performance criteria for the operational Facility are detailed in Table 2.

Table 2 – Environmental Performance Criteria

Aspect	Performance Criteria	Management Measure	Timing	Responsibility
Statutory	<ul style="list-style-type: none"> No written warnings or infringement notices 	<ul style="list-style-type: none"> Implementation of the OEMP and sub-plans Compliance tracking Monthly inspections - WTS & WTF Monthly reporting assists with tracking & monitoring Annual reporting and progress reporting 	Ongoing	Operations Manager
Social	<ul style="list-style-type: none"> 100% of complaints to be responded to within agreed timeframes of the OMP 	<ul style="list-style-type: none"> Implementation of the Operational Management Plan (OMP) (MAN-3649) (section 11) 	Ongoing and as required	Operations Manager
Water Quality	<ul style="list-style-type: none"> 100% compliance with Water Management Plan (WMP) No impacts to surface water No erosion and sedimentation on site 100% compliance with treated water performance standards set up in the WMP 100% compliance with residuals performance standards set up in the WMP 	<ul style="list-style-type: none"> Implement WMP (MAN-3659) 	Ongoing	Operations Manager
Biodiversity	<ul style="list-style-type: none"> 100% compliance Biodiversity Management Plan (BMP) No impacts to native vegetation and fauna No increase in diversity or coverage of weed species within the water transfer system corridor and immediate area 	<ul style="list-style-type: none"> BMP MAN-3654 recommendations included in OEMP Maintain habitat connectivity in the surrounding landscape Undertake weed management as required 	Ongoing and as required	Environmental Nominee
Aboriginal Cultural Heritage	<ul style="list-style-type: none"> 100% compliance with approved Aboriginal Cultural Heritage Management Plan (ACHMP) No Prevent accidental harm to previously undiscovered items of Aboriginal heritage items 	<ul style="list-style-type: none"> All management recommendations within approved ACHMP (MAN-3655) implemented Follow contingency requirements set out within approved ACHMP in the event of unexpected discovery of Aboriginal cultural heritage 	Ongoing	Environmental Nominee
Noise and Vibration	<ul style="list-style-type: none"> No complaints relating to noise and vibration 	<ul style="list-style-type: none"> Stop work and investigate noise complaints Additional noise mitigation measures will be implemented if assessed as being required (See Section 5.3.4) 	As required	Environmental Nominee

Traffic and Transport	<ul style="list-style-type: none"> No complaints/incidents relating to site traffic and transport 	<ul style="list-style-type: none"> Traffic Management Plan (MAN-7031). (See Section 5.3.5) 	Ongoing	Environmental Nominee
Waste	<ul style="list-style-type: none"> Minimisation of generating waste during operations and maintenance 	<ul style="list-style-type: none"> Monitor waste levels and ensure diversion of materials from landfill where possible Waste management guidelines implemented (See Section 5.3.6.3) 	Ongoing	Environmental Nominee
Bushfire Risk	<ul style="list-style-type: none"> Minimise Bushfire Risk 	<ul style="list-style-type: none"> Incident and Emergency Response Management Plan (MAN-3651). 	Ongoing	Environmental Nominee

4.2.1. Contingency Plan

Where significant risks to environmental or heritage values, that were previously unknown, are identified during the operation of the Facility, then contingency measures will be implemented to ensure impacts are minimised.

A summary of contingency measures detailed in the supporting management plans to the OEMP are outlined in Table 3.

Table 3 – Summary of Contingency Measures

Risk	Contingency Measures	Plan References	Responsibilities
Noise exceedance Vibration impact	<ul style="list-style-type: none"> Elevated levels of noise or vibration may be identified either by receipt of a noise complaint from a third party suggesting that there is excessive noise from the Facility O&M or by detection of noise as a result of continual monitoring by EA Monitor noise and vibration levels to confirm validity of amenity impacts/complaint and implement further noise and vibration controls if required 	See 5.3.4. Noise and Vibration of this OEMP	Energy Australia
Discovery and/or accidental damage to items of Aboriginal cultural heritage significance	<ul style="list-style-type: none"> Implement contingencies set out within approved ACHMP, including 'stop work' upon discovery/damage to item 	Sections 5.3 of ACHMP [MAN-3655]	Environmental Nominee Operations Manager
Air quality and odour	<ul style="list-style-type: none"> Air quality issues or odour may be identified either by receipt of a complaint from a third party or by detection during routine monitoring by site personnel. Investigate the potential air quality issue and/or odour to assess the validity of amenity impacts/complaint. Implement further controls if required. 	Section 5.3.6.4 of this OEMP	Environmental Nominee Operations Manager

4.3. Roles and Responsibility

Environmental management is the responsibility of all individuals and organisations involved with the Operations and Maintenance of the WTF and WTS. Personnel and subcontractors will be made aware of

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potential environmental issues associated with operation of the Facility and their environmental responsibilities through induction, training and awareness methods.

The roles and responsibilities of personnel specifically responsible for implementation of this OEMP are summarised in **Table 4**. Responsibilities and accountabilities are detailed in **Table 5**.

Table 4 – Roles and Responsibilities for WTF O&M Team

Role	Responsibility
Operations Manager (OM)	<ul style="list-style-type: none"> ● Ensuring Veolia’s commitment to Safety, Health, Environment and Quality (SHEQ) are clearly understood and followed; ● Providing adequate resources to achieve the objectives and targets of the OEMP; ● Effectively managing operations to minimise environmental impacts; ● Encouraging and promoting environmental awareness with subordinates; ● Ensuring activities are managed in compliance with licensing and regulatory requirements; ● Ensuring management plan update requirements are met; ● Ensuring regulatory reporting requirements are met; ● Participate in environmental audits; ● Managing regulatory requirements and communication with government agencies where required; ● Communication with and reporting environmental performance to the Customer Representative; ● Ensuring the implementation of this OEMP and the mitigation measures contained within.
Operations and Maintenance Supervisors (O&MS)	<ul style="list-style-type: none"> ● Ensuring Veolia’s commitment to SHEQ requirements are clearly understood and followed at a site level; ● Managing resources to achieve the objectives and targets of the OEMP; ● Ensuring site operations to minimise environmental impacts; ● Ensuring activities are implemented in compliance with site licensing and regulatory requirements; ● Encouraging and promoting environmental awareness with subordinates; ● Communicating relevant environmental requirements to workers prior to commencement of hazardous work; ● Documenting identified environmental risks as part of site operations and services delivered; ● Ensuring activities are conducted in compliance with site licensing and regulatory requirements; ● Ensuring implementation of environmental plans where required; ● Adhering to the requirements of this OEMP and the mitigation measures contained within.
Environment Nominee (EN)/Compliance Supervisor (CS)	<ul style="list-style-type: none"> ● Ensuring Veolia’s commitment to SHEQ requirements are clearly understood and followed at a site level;Appointed by the Operations Manager to control and verify implementation of the OEMP; ● Review and update of management plans (annual, incidents, modifications); ● Ensuring Annual Review is completed and submitted as per required timeframe; ● Lead incident reviews; ● Participate in environmental audits; ● Encouraging and promoting environmental awareness with subordinates; ● Ensuring activities are managed in compliance with licensing and regulatory requirements; ● Managing regulatory requirements and communication with government agencies where required; ● Communication with and reporting environmental performance to the Customer Representative.

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	<ul style="list-style-type: none"> Ensuring the implementation of this OEMP and the mitigation measures contained within. Granted authority by the Operations Manager to stop a particular task or activity in circumstances where environmental controls have not been implemented to prevent harm to the environment, or environmental controls have been shown to be ineffective or inadequate; Prescribes corrective action that will be implemented before work recommences.
Operations/ Maintenance Teams (OT)	<ul style="list-style-type: none"> Responsible for their own environmental performance for operational activities; Reports environmental incidents to Environmental Nominee, Operations Site Supervisor and People & Safety Team.
NSW Environmental Advisor	<ul style="list-style-type: none"> Supporting the NSW State Manager - Water, Operations Manager, Operations Site Supervisor and People & Safety Team to meet the OEMP requirements; Providing technical advice to the NSW State Manager - Water, Operations Manager, Operations Site Supervisor and People & Safety Team to meet the OEMP requirements; Organising environmental systems and compliance audits of site operations to determine compliance with the CoDC, this OEMP and Veolia BMS requirements.

Table 5 – RACI Matrix for WTF O&M Team

R - Responsible; A - Accountable; C - Consult; I - Inform	OM	O&MS	EN&CS	OT
Ultimately responsible for Environmental Performance of the Facility	R	C	C	I
Review, authorise and ensure implementation of the OEMP	R	I	C	I
Assign environmental responsibilities to Facility personnel	R	C	C	I
Ensure appropriate environmental training is identified and training is provided to personnel	R	I	A	I
Monitor environmental performance to ensure compatibility and continued effectiveness with the policy and objectives	R	I	C	I
Participate in the review of the Facility's Environmental Management System	R	I	R	I
Ensure correct and ongoing implementation of the OEMP	R	C	C	I
Liaise with the Facility staff for ongoing monitoring and maintenance of environmental controls	R	C	A	C
Ensure reporting of near misses, non-conforming incidents and practices	R	A	R	C
Conduct and report regular inspections and monitoring requirements	R	C	R	I
Ensure actions relating to environmental non-conformances, incidents and/or inspections are acted upon and closed out in a timely manner	R	C	R	I
Actively participate in and facilitate SQE Risk Management workshops	R	I	R	C
Assist with updating of OEMP as required	R	I	R	I
Prepare monthly environmental reports	R	I	R	I
Liaise with client environmental representative	R	I	R	C
Manage and track compliance with all statutory requirements, environmental approvals, licences and permits	R	I	R	C
Complaints management in consultation with Community and Stakeholder Manager, where it related to complaints of an environmental nature	R	I	R	C
Ensure environmental controls are established prior to commencement of O&M activities	R	A	C	C

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Ensure EN participates in preparation of SHEQ Risk Management documentation	R	I	C	A
Identify and report environmental non-conformance	R	C	A	C
Ensure and verify that corrective action is taken when required for non-conforming work	R	A	A	A
Ensure OEMP requirements are communicated to all personnel under his/her control	R	C	C	C
Be aware of all approval/contractual conditions relation to his/her work area	R	R	R	R
Perform surveillance and monitoring of environmental controls to ensure that they are established and maintained	R	A	C	C
Ensure rectifications of environmental controls are carried out as required	R	C	R	C
Comply with the Facility approval and environmental management conditions	R	A	R	C
Ensure no reuse of any materials into a receiving environment without prior approval	R	C	R	C

4.3.1. Contractor Management

The relationship between Veolia and Contractors is managed through the overarching Operational Management Plan (OMP) (MAN-3649).

Consultants (e.g. Ecologist, Environmental Planner, and Designer) will be appointed if required, to advise on aspects of environmental issues during operation of the Facility.

All Contractor personnel share responsibility with the Facility team for environmental management and performance. Veolia will ensure that relevant plans, procedures and other documentation associated with the Environmental Management System are made available to Contractors, as required, to fulfil any responsibilities they may have, and to communicate any requirements or responsibilities to their workers.

Refer to OMP section 12 for more details.

4.4. Training and Awareness

All personnel shall undergo general environmental awareness training and training relevant to their responsibilities under the OEMP; the level of which would be dependent on the exposure to environmental hazards and their involvement in environmental management.

Environmental training and awareness will be provided as detailed in **Table 6**.

Table 6 – Environmental Training and Awareness

Training	Outcomes	Responsibility
Inductions	<p>All site personnel will undergo site inductions prior to commencement. This will include, but not limited to:</p> <ul style="list-style-type: none"> • Purpose, objectives and key issues of the OEMP; • Conditions of environmental licences, permits and approvals; • Emergency Response Procedures and reporting processes for environmental incidents; • Responsibilities and key contacts; • Awareness of waste management and the procedures to follow for recycling and disposal; <p>Induction records will be maintained to confirm all personnel have been appropriately inducted;</p> <p>Inductions will be reviewed regularly and updated as required (e.g. when significant site changes have occurred or within the environmental framework)</p>	<p>Environmental Nominee</p> <p>Compliance Supervisor</p>
Pre-Start Meetings	<ul style="list-style-type: none"> • Pre-start meetings will be held at the beginning of each shift. 	Operations and Maintenance Supervisors
Toolbox Meetings	<ul style="list-style-type: none"> • Environmental awareness training will be provided to workers via toolbox meetings; • Toolbox meetings will be recorded, and records maintained; • Any relevant outcomes or findings of site environmental inspections / audits shall be communicated to operations and maintenance personnel; • Positive feedback shall be presented at Toolbox meetings. 	<p>Operations and Maintenance Supervisors</p> <p>in consultation with NSW SHEQ team</p>
Specialised Training	<p>Examples of training include (but not limited to):</p> <ul style="list-style-type: none"> • Spill Prevention and Awareness; • Environmental Awareness; • Risk Based Investigation; • Other as identified within the SMPPS WTF Training Matrix 	<p>Operations Manager, Operations and Maintenance Supervisors</p> <p>in consultation with the People & Safety Team</p>
SHEQ Alerts	<ul style="list-style-type: none"> • Provide SHEQ alerts to site personnel as they are communicated. These will be communicated at toolbox meetings and posted on SHEQ Noticeboards. 	<p>VANZ People & Safety Team to publish alerts</p> <p>Local Health and Safety Advisor to communicate and post</p>

4.5. Community Consultation and Complaints Management

Veolia is committed to meaningful stakeholder engagement. Key external stakeholders for the Facility are state and local government departments and statutory authorities that are responsible for issuing relevant environmental approvals and permits, as well as the local community and community groups.

Liaison with these stakeholders during O&M is critical to ensure that all of the legislative and statutory obligations are met, all received complaints are investigated and addressed.

4.5.1. Communication Lines

Communications lines for community enquiries or feedback are provided in **Table 7**.

Table 7 – Community Contact Details

Type of Communication	Contact
General email	office.springvale@veolia.com
24/7 Community Line	0436 482 794

4.5.2. Complaints Management

Complaints or adverse reports received from any external source by the Veolia site office shall be deemed to be public complaints and shall be reported to the Operation Manager.

The Project Co and Customer Representative will be notified of all public complaints. All public complaints received (either written or verbal) will be documented to contain the following information:

- the nature and extent of the complaint;
- the method by which the complaint was made;
- the name and address of the person lodging the complaint;
- details of location, date, time and effects of the complaint;
- the action taken to address the complaint including follow up contact with the complainant.

Details of all complaints received will be kept in the Facility’s register and logged in Veolia Incident and Issue Management System RIVO to ensure that a response is provided to the complainant as soon as practicable.

Veolia’s Environmental Nominee shall investigate and determine appropriate corrective/preventive actions to be taken to address all environmental complaints. The complainant shall be informed in writing the results of the investigation and action to be taken to rectify or address the matter(s). Where no action is taken the reasons why are to be recorded. Also, refer to Operational Management Plan (OMP) (MAN-3649) section 9 and 11 for more detail.

4.5.3. Complaints Escalation Procedure

If the Veolia Environmental Nominee is unable to resolve the complaint, it will be escalated to the representatives described in **Table 8** in the following instances:

- The complaint cannot be resolved within agreed time frame;
- The site receives three different complaints within a 24 hour-period;
- The complaint could result in media or ministerial interest or community protest;
- The complainant is not satisfied with the outcome, even with the assistance of an independent mediator as a qualified consultant (lawyer, engineer, etc.).

Table 8 – Complaint Escalation Process

Type of Complaint	Escalation Process
Environmental issues (noise/ vibration/ dust /water etc.).	Refer to the NSW Environmental Advisor or National Environmental Compliance Manager.

	If not resolved advise Project Co and Customer Representative
Health and Safety issues	Refer to the local Health and Safety Advisor or National Health and Safety Manager - Water team. If not resolved advise Project Co and Customer Representative
Operational issues	Refer to Operations Manager or NSW State Manager Water If not resolved refer to Project Co and Customer Representative

4.6. Incident and Emergency Management

A key objective of this OEMP is to identify potential risks, and to develop, and maintain measures to manage them via the Springvale Risk Registers.

Notwithstanding this, Veolia recognises that unforeseen incidents can arise.

Veolia operates under incident and emergency response plans whenever a major incident, emergency or crisis could lead to health, safety or environmental issues.

Veolia’s approach to incident and emergency response management includes:

- **Risk Analysis:** The identification of hazards and risks that could impact the community, environmental and operational implications;
- **Prevention:** The planning and documentation of prevention and mitigation activities for all major hazards, and allocation of responsibility for their implementation;
- **Preparedness:** The development, implementation and review of specific incident management plans and processes to manage identified risks, the training of staff, and establishment of facilities to ensure the company can respond effectively to an incident;
- **Response:** The issue of warnings and establishment of processes for effective notification of incidents, and mobilisation of resources to combat the incident or threat; and
- **Recovery:** The return to normal operations, management of debriefs, and implementation of lessons learnt from the response process.

The following priorities are adopted when combating an incident / crisis:

- Protection of human life and welfare;
- Protection of the environment; and
- Protection of Veolia’s assets.

4.6.1. Environmental Incident Definition

The CoDC defines an incident as “An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance”, where “material harm”, in accordance with the POEO Act is harm that

- *involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial, or*
- *results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)*

Environmental incidents are classified as follows:

- Notifiable incidents are those “pollution incidents” that trigger the threshold of material harm, as stipulated by the POEO Act, likely to have actual or potential significant impacts on people or the biophysical environment. A pollution incident includes a leak, spill or escape of a substance or circumstances where this is likely to occur.
- Non-notifiable incidents are those that do not trigger the threshold but have the potential to impact on human health and the environment.

4.6.1. Environmental Incident Response

Notification, reporting, responses, corrective actions and reviews associated with Environmental incidents, emergencies and/or crises are conducted in accordance with the Incident and Emergency Response Management Plan (IERMP) (MAN-3651).

The IERMP outlines the management and response elements to ensure Environmental incidents or emergencies are appropriately and effectively responded to. A flow chart of the IERMP response has been shown in [Figure 2](#) and section reference provided below:

- Reporting of the incident - outlines the immediate onsite reporting requirements associated with incidents. It also includes all hours contact details of key site personnel who are to be contacted in the event of any incident, their roles and responsibilities.
- Classification of the incident - outlines how an incident is to be classified and provides a classification matrix (e.g. No Impact, Minor, Moderate, Major or Crisis) in order to score and then action the relevant further notification and additional response required.
- Stakeholder notification - outlines the stakeholder notification requirements and timeframes based on initial incident classification. It also includes all hours contact details of key stakeholders and entities required to be notified in the event of an Environmental Water incident.
- Responding to the incident - outlines immediate response procedures associated with Environmental emergencies or crises as well as response requirements associated with any original incident classification. This includes general, emergency, environmental, water, water quality and unplanned incident response procedures. Specific notification and reporting requirements are defined in emergency and crisis response procedures.
- Escalation - outlines emergencies, crises or certain incident classifications that warrant escalation within the management structure and stakeholders. This includes crisis or incident management team (IMT or CMT) assembling, working methods and quality system definition.
- Incident Investigation - outlines the level of incident investigation and record requirements based on Environmental Water incident classification. Includes references to basic, general and ICAM investigation requirements, response and management.
- Incident Management System - outlines Veolia’s incident management and reporting database (Rivo) and procedures on how to use it.
- Incident or Emergency Termination - outlines the requirements, specifications and responsibilities of when an incident can be closed/terminated or emergency is over.
- Evaluation and Review - outlines the steps and response required after an incident, crisis or emergency. This includes completion of records and reviews/updates to relevant Plans, Procedures and Registers.

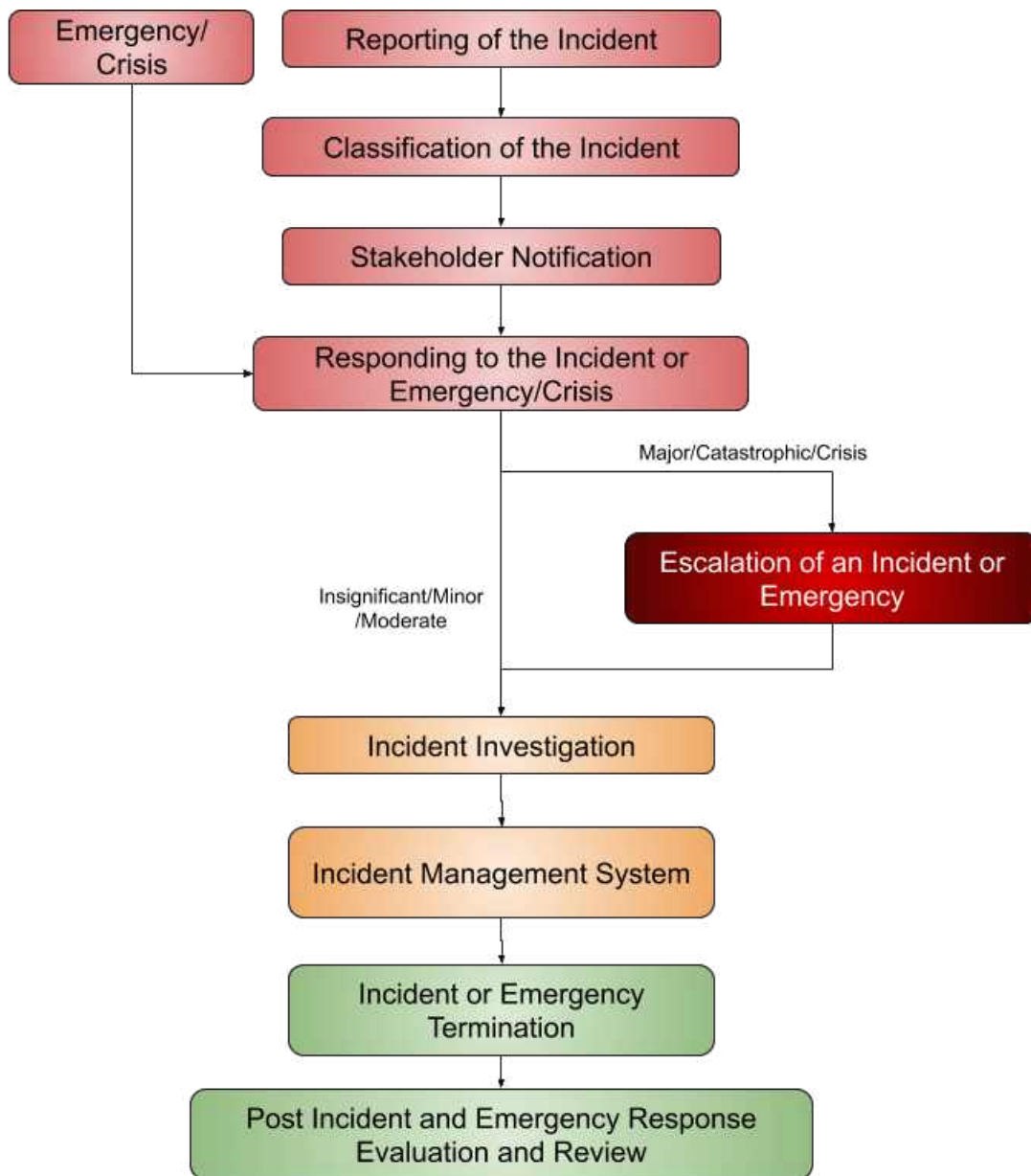


Figure 2 - Incident and Emergency Flow Chart

The IERMP also describes and outlines other relevant Environmental incident and emergency response requirements, including:

- Regulatory and contractual references;
- Governance, Roles and Responsibilities;
- Incident and Risk Management Framework;
- Incident Prevention and Preparedness;
- External Communication Protocols;
- Training;
- Audits; and
- Document Control and Records.

4.6.3. Environmental Incident Notification

[Figure 3](#) outlines the stakeholder incident notification process which is followed in the event of a potential Environmental incident, emergency or crisis. It is also captured in the Incident and Emergency Response Management Plan (IERMP) (MAN-3651).

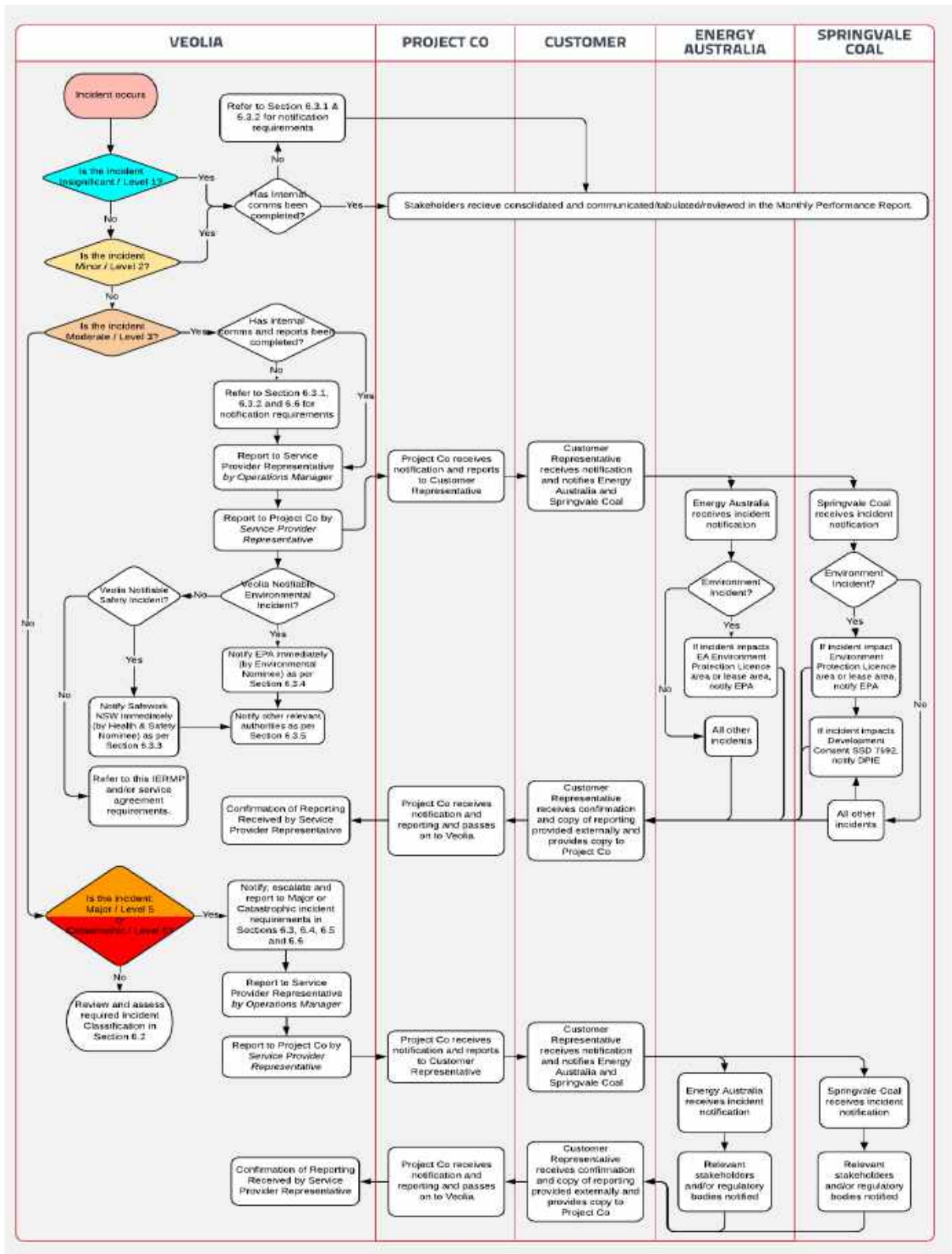


Figure 3. Stakeholder Incident Notification Flowchart

5. IMPLEMENTATION

This section addresses the key risks and environmental performance issues associated with the operation of the Facility and the environmental controls established to manage the key risks. Specific management measures for each relevant environmental aspect are detailed within the aspect specific OEMP sub-plan.

The key operational aspects include:

- Surface water quality
- Biodiversity
- Aboriginal cultural heritage
- Noise and vibration
- Traffic
- Air quality
- Bushfire ignition

5.1. Risk Assessment

The Veolia Board and executive management team are committed to a coordinated approach to risk management throughout the company's operations, ensuring any issues that could affect the company's and stakeholder's performance, values, or reputation are identified and addressed.

The environmental risk management process used by Veolia is consistent with ISO 31000:2009 – Risk Management and Veolia's Risk Management Procedure [PRO-263]. This procedure describes the process for effectively promoting risk-based thinking and managing risk through identification, analysis, evaluation, effective treatment, monitoring and reporting, and to define roles and responsibilities in relation to these tasks.

Veolia has undertaken a risk assessment to identify the potential hazards and environmental risks and are documented in the Springvale Environmental Risk Register [TEM-16738]. In addition, job specific Job Safety and Environmental Analysis (JSEA) are compiled for activities where required. All contractors are required to provide their own JSEA/SWMS and are issued with a permit to work prior to any work commencement.

Facility environmental impacts were identified and evaluated in the Environmental Impact Statement¹ (EIS) (GHD, 2016a) through reviewing the Facility in the context of the existing environmental and operational settings within western coalfields, engagement with government and community stakeholders and through a preliminary environmental risk assessment process. A summary of the potential environmental impacts is listed in **Table 9** below and forms the basis of the environmental risk assessment.

¹ Springvale Water Treatment Project State Significant Development 7592, Environmental Impact Statement, Volume 1 - Main Report, GHD, September 2016.

Table 9 – Potential Environmental Impacts

Environmental Aspect	Potential Impacts	Comment	Preliminary Risk Ranking	Key issue? (Yes/No)
Social and economic	Potential for negative social impacts in relation to increased traffic, biodiversity disturbance, noise, and air pollution, as well as decreased visual amenity	The Project will provide beneficial effects on water resources in the region. The Project is located within an Industrial precinct within a low population density area. The closest sensitive receiver is approximately 2.3 kilometres east of the proposed WTF location.	Moderate	No. Refer to Section 5.3.6.8
Water resources	Divert Untreated mine water to Cox River	The Project has the potential to impact the environment through the quantity and quality of Cox River with discharge via TCR.	Moderate	Yes. Supplementary management plan is required. Refer to Section 5.3.1
Water resources	Discharge of treated mine water out of envelope to Thompson Creek Reservoir	The Project has the potential to impact the environment through the quantity and quality of treated water being discharged into Thompson Creek Reservoir.	Moderate	Water management plan in place
Biodiversity	Potential weeds infestation of cleared areas	The WTS corridor (approx. 6km) traverses areas of native bushland on the Newnes Plateau. The majority of the Project application area has been previously modified and features regrowth native vegetation of varying age.	Moderate	Yes Refer to Section 5.3.2
Aboriginal Cultural Heritage	Potential impacts upon Aboriginal artefacts of cultural heritage values	The Project has been developed to avoid any direct impacts or disturbance of Aboriginal heritage sites.	Low	Aboriginal Culture Heritage Plan (MAN-3655)
Non - Aboriginal Cultural Heritage	Potential impacts upon Non - Aboriginal artefacts of cultural heritage values	A review of the applicable State and Federal heritage register was undertaken to identify any non-aboriginal heritage items within the vicinity of the proposed site (EIS, 2016). There are two historic non-aboriginal heritage items identified in or abutting the Project application area: the Cottage (I191) and the European Surveyor's Tree (EST JN1).	Low	No. Refer to Section 5.3.6.7

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		These items of heritage are unlikely to be directly impacted by the Facility operation.		
Traffic and Access	Additional vehicles for operation of the WTF plant (chemicals deliveries, etc.). Impact upon the capacity or safety of the existing roads	The Facility operation will generate a low number of operational vehicles that would access the WTF and WTS. This is not considered to pose constraints to the existing traffic arrangements.	Low	<i>Hazardous Materials - Delivery, Storage & Handling Procedure (PRO-123)</i>
Noise and Vibration	Noise impact on adjacent receivers from site operation	The WTF is not considered to be a significant noise source and the WTF site is not located in proximity to any sensitive receivers. Operational noise levels are anticipated to comply with the operational noise criteria assessed in the EIS.	Low	No. Refer to Section 5.3.4
Air Quality	Odour emission	The dewatered mixed salt slurry and brine will be stored in outdoor storage containers and ponds, but these will not have any appreciable odour. The Facility is not expected to result in any significant air quality impacts during operation.	Low	No. Refer to Section 5.3.6.4
	Minor greenhouse gas emission	The operation of the Facility is not expected to generate any significant air emission and contribute to surrounding pollutant levels given the small volumes of pollutants emitted from plan/vehicle exhausts.	Low	
Residual waste generation from pretreatment process which will be disposed at Springvale Coal Services Reject Emplacement Area	Leaching of residual waste from the Reject Emplacement Area.	Leaching of residual.	Moderate	Waste Services standard terms & conditions
Contamination (Spill, Leaks from Equipment,	Site contamination and risk of human and environmental health risks from exposure	No soil or groundwater impacts were identified as part of onsite assessments. To ensure suitable controls are addressed during the operations, management strategies for disturbance of soil on site,	Moderate	Yes Refer to Section 4.6 and 5.3.6.1

Tanks and Pipelines)		ERSED control measures have been detailed in the Water Management Plan [MAN-3659]. Any chemical spills or leaks from site infrastructure will be managed through the SV Chemical Spill Cleanup, Disposal Procedure (PRO-11147).		
Visual Amenity	Impacts to the visual amenity of the surround area	The WTF infrastructure is not visible from any towns including Portland. For distance viewers in National Park or agricultural land, the WTF infrastructure is blended into the existing MPPS buildings. The WTS is predominantly buried, with only small sections of pipeline installed above the ground. The impact considered is low as there is limited visibility due to surrounding vegetation and the existing mine infrastructure.	Low	No. Refer to Section 5.3.6.6
Hazard and Risk	Occurrence of hazards or risks on-site	Potential risks associated with the operation include: <ul style="list-style-type: none"> • fire/ explosion within buildings, • medical emergencies, • spills and • bushfire. 	High	Springvale Risk Register [TEM-10325]

Note *: Impacts to human health and/or environment

5.2. Supporting Management Plans

The Facility has plans in place to take actions addressing significant environmental aspects, compliance obligations and the risks and opportunities they present, as well as its objectives. These have been incorporated in the supporting management plans to provide the management and control measures to be implemented to minimise potential adverse impacts on the environment.

The key environmental aspects of the project, including surface water, Aboriginal cultural heritage, biodiversity, noise, vibration and traffic are summarised briefly in the following sections. However, the relevant sub-plans to this OEMP provide the specific detailed control measures being implemented to manage the complete range of environmental aspects. These sub-plans are listed below and presented as separate documents in **Appendix B**.

- Appendix B1 – Water Management Plan (WMP) [MAN-3659];
- Appendix B2 – Biodiversity Management Plan (BMP) [MAN-3654];
- Appendix B3 – Aboriginal Cultural Heritage Management Plan (ACHMP) [MAN-3655]

5.3. Key Environmental Issues

The following key environmental issues, identified via the risk assessment, were modelled to obtain predicted impacts. These have been addressed in supplementary Environmental Management Plans (EMPs) appended to this plan. These management plans include identified mitigation measures.

5.3.1. Surface Water Quality

Sensitive waterways located in proximity to the Facility include Wangcol Creek and Coxs River. Additionally, there are stormwater systems along the water transfer pipeline corridor.

The operation of the Facility has a positive environmental impact on surface water quality as it eliminates the discharge of mine water through LDP009 to Sawyers Swamp Creek, thereby returning the creek to a more natural flow pattern. The increased level of treatment and the reduction in discharges to the upper Coxs River catchment results in a reduction in salinity concentrations and salt loads to all downstream storages on the Coxs River including Lake Burragorang.

Suitable control measures have been detailed in the Water Management Plan (WMP) [MAN-3659].

5.3.2. Biodiversity

During operation the main issues relating to biodiversity include:

- Weed management,
- Pest species management,
- Bushfire management,
- Maintenance activities by staff working in the pipeline corridor.

The management strategy relating to these issues is described in detail in the Biodiversity Management Plan (BMP) [MAN-3654].

5.3.3. Aboriginal Cultural Heritage

The Aboriginal cultural heritage assessment² undertaken as part of the EIS (RPS, 2016), identified seven Aboriginal Heritage sites in the vicinity of the Project area. These include three artefact scatters, three isolated finds and one scarred tree site. The significance of these sites was considered low.

A 'no go zone' has been installed around the site to ensure its protection from potential surface impacts during operation.

The remaining sites are all located outside the Facility operational boundary and will not be impacted during operations of the Facility.

Nonetheless, details of control measures to minimise potential impact on the Aboriginal cultural heritage are outlined in the Aboriginal Cultural Heritage Management Plan (ACHMP) [MAN-3655].

² RPS (2016b), Cultural Heritage Impact Assessment: Springvale Coal Mine Water Transfer Pipeline

5.3.4. Noise and Vibration

Operational noise is predicted to be insignificant due to the minimal traffic impacts associated with operation of the Facility & the location.

In the event of noise complaints received, a review of operations and maintenance activities, plant and equipment will be undertaken to resolve the issue.

Complaints will be addressed in accordance with the process described in *Stakeholders Management Section (11) of the Operational Management Plan (OMP) (MAN-3649)* and summarised in **Section 4.5**.

No vibration impacts on human comfort and structural damage are expected.

5.3.5. Traffic and Transport

An assessment of the traffic and transport impacts for the operation phase of the Facility was undertaken by GHD as part of the EIS (GHD, 2016a). The Facility experiences some internal traffic with local workers, deliveries and internal transfer of waste materials. The *Traffic Management Plan [MAN-7031]* describes the site layout, traffic conditions and controls implemented.

It is considered unlikely that the operation of the Castlereagh Highway will be impacted during the operation of the Facility.

5.3.6. Other Environmental Impacts

5.3.6.1. Soils and Contamination

Jacobs was commissioned by Veolia to undertake a Baseline Contaminated Site Investigation (BCSI) for portions of land occupied by the WTF and the WTS.

Groundwater beneath the WTF sites contains elevated concentrations (i.e. concentrations above the site acceptance criteria) of some heavy metals and hydrocarbon compounds. This is likely to be from groundwater coming in contact with overburden material containing remnants of coal, however, this cannot be conclusively determined. At the time of the BSCI, groundwater was only encountered in two of the seven groundwater wells installed, to the limit of the investigation (approximately 10m bgl). These wells were located in the northern most portion of the WTF within the operational areas of the MPPS and therefore dewatering is unlikely to be required.

Water Management Plan (*WMP*) [*MAN-3659*] has been developed to ensure any controls are carried out when required.

5.3.6.2. Bushfire Risk

The EIS (GHD, 2016a) states that the bushfire attack category of the Facility footprint is defined as Level 3 or extreme (RFS 2006), meaning there is a high risk of fire being experienced during operation of the Facility. However, given the frequency of bushfires on Newnes Plateau and the surrounding areas, the local flora and fauna have adapted to fire, and as such adverse environmental impacts from bushfires are expected to be low. Notwithstanding this, bushfire presents an operational risk to the maintenance of water infrastructure (Gravity tank compound, pipeline and access tracks) on the Newnes Plateau.

The operational risk of bushfire has been reduced through incorporation of mitigation and avoidance measures in the design, including the trenching of the transfer pipeline in areas of high bushfire hazard on Newnes Plateau and exclusion tracks surrounding the Water Treatment Facility boundary.

The Incident and Emergency Response Management Plan (MAN-3651) provides direction and outlines actions to be carried out in the event of a fire on site or an immediate bushfire / wildlife threat and includes provisions for the following:

- Perimeter asset protection zones;
- Fuel load reduction where necessary; and
- Works in hotter months of the year;
- Work restrictions during the threat period.

5.3.6.3. Waste

The following waste streams will be generated from the water treatment process:

- **Thickened sludge** from clarifier thickener which is transferred to Springvale Coal Service via the residuals transfer pipeline, installed as part of the WTS.
- **Neutralised Cleans In Place (CIP) waste** which is generated during periodic cleaning of the WTP RO system. CIP waste is combined with the thickened sludge for disposal to Springvale Coal Services via the residuals transfer pipeline.
- **Excess concentrate** from the OPUS RO will be transferred to the existing Energy Australia Brine Waste Ponds.
- **Lime Salt** is dewatered via Filter Press and stored in a bin for periodic transport to the ash mixing facility delivery point for disposal at the ash emplacement area.
- **Mixed Salt** from the centrifuge falls from an elevated centrifuge into a storage container on an ongoing basis, during normal business hours. As soon as containers are completely filled they will be transported via truck to the ash mixing facility delivery point for further disposal at the ash emplacement area. Once loaded, trucks will drive to the ash mixing facility delivery point, unload and return to the site.
- **Mother liquor (Centrate)** will be transferred to the existing Brine Ponds A/B and ultimately used for brine ash wetting.
- **Ion Exchange Waste** will be transferred to the existing Brine Ponds A/B and ultimately used for brine ash wetting.

Brine and Residuals Waste will be managed in accordance with a *Brine and Residuals Management Plan (BRWMP)* (GHD, 2019c). The BRWMP has been developed by GHD on behalf of the Customer Representative and outlines the operational requirements to effectively manage the brine and residuals waste streams from the Facility.

Waste is also generated on the Facility through offices, laboratory, lunchrooms and other site activities. These waste streams could potentially include:

- General solid waste (putrescible) – mixed residual waste
- General solid waste (non-putrescible) – recyclable materials (such as paper, plastic containers, glass containers and aluminium cans), cardboard and plastic packaging, and maintenance items consumables

- Liquid waste – wastewater and sewage generated from site offices/amenities.

Appropriate waste receptacles will be provided throughout the site to enable the segregation of recyclables and general waste on site.

Management strategies for waste generated during the Facility operation will be aimed at implementing effective controls and correct classification and disposal methods, such as materials reuse and recycling where possible. Any materials deemed beyond their useful life will be disposed of at an appropriately licensed facility.

Management strategies

All waste generated by the Facility during operation will be classified and managed in accordance with the NSW EPA (2014) ‘Waste Classification Guidelines’ and relevant regulatory requirements of the WARR Act and POEO Act.

In accordance with the WARR Act, waste management during operation will also adopt the principles of the waste hierarchy (See Figure 2.)



Figure 2 – Waste Hierarchy (Source NSW EPA³)

5.3.6.4. Air Quality and Odour

The operation of the Facility does not generate any significant air emissions or introduce any odour emissions.

The salt slurry/brine is stored in outdoor ponds; however, these do not have any appreciable odour.

Environmental Site Inspection Forms will be used to report on effectiveness of air quality control measures and any additional mitigation measures that may need to be implemented during adverse meteorological weather conditions (high wind conditions).

If deficiencies are identified and non-compliances with the environmental requirements observed, an Environmental Inspection Report or Environmental Improvement Notice will be issued, and relevant actions/mitigations will be enforced. Monitoring and inspections of the Facility are detailed in [Section 6.1](#).

³ <https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/warr-strategy/the-waste-hierarchy>

5.3.6.5. Greenhouse Gas

A quantitative greenhouse gas assessment was undertaken as part of the EIS (GHD, 2016a). The scope of the assessment was to quantify the greenhouse gas emissions associated with the Water Treatment Facility operation. The greenhouse gas assessment indicated that the Facility will contribute approximately 19,000 t CO₂-e to the total annual NSW greenhouse gas emissions.

Mitigation measures, outlined in **Table 10**, will be undertaken to minimise energy usage during the operation of the Facility to comply with requirements of the *National Greenhouse and Energy Reporting Scheme (2011)*.

Table 10 – GHD Mitigation Measures

Control Measures and Safeguards	Responsibility	Timing / Frequency
All vehicles leaving site carrying any waste will be filled to the maximum allowable, depending on truck size, to reduce the number of traffic movements required	Operations Manager	During Operations
Only necessary lighting is used during operational hours minimising excessive energy use.	Operations Manager	During Operations
All fuel, utility and materials used will be recorded for Veolia's emissions reporting obligations as required under the <i>National Greenhouse and Energy Reporting Scheme (2011)</i> .	Environment Nominee	During Operations

5.3.6.6. Visual

Potential visual impacts and changes to the local amenities during operation of the Facility, were assessed in the EIS (GHD, 2016a).

The WTF comprises containerised buildings, which fits in with the surrounding land use of the MPPS and is not visible from any towns, including Portland. It is visible from the mine and power station sites. The Facility is potentially visible from Ben Bullen State Forest to the north and isolated agricultural ridgetops to the south-west; however, the views are distant and the infrastructure blends into the existing site, resulting in a low visual impact.

Nevertheless, the mitigation measures, outlined in **Table 11**, will minimise any potential visual impacts during operations.

Table 11 – Visual Mitigation Measures

Control Measures and Safeguards	Responsibility	Timing / Frequency
All waste generated during operations will be removed and disposed of as soon as practicable	Operations Manager	As per operations schedule
Ensure all pipeline WTS areas are maintained to their natural environment	Operations Manager	Ongoing during operations
Maintain the site in an orderly manner and kept tidy and rubbish free	Operations Manager	Ongoing during operations
Minimise any material stockpiles, waste and vehicle parking	Operations Manager	Ongoing during operations

5.3.6.7. Non-Aboriginal Cultural Heritage

A review of applicable State and Federal heritage registers was undertaken to identify any non-Aboriginal heritage items within the vicinity of the Facility. Two historic non-Aboriginal heritage items have been identified in or abutting the Facility footprint:

- Cottage (I191)
- European Surveyor's Tree (EST JN1).

Potential impacts on these non-Aboriginal heritage items was undertaken as part of the EIS (GHD, 2016a). As these items of heritage significance adjoin the Facility footprint, they are not impacted by O&M of the Facility. **Table 12** outlined the mitigation measures to minimise any potential impacts to non-Aboriginal heritage during operation.

Table 12 – Mitigation Measures for Non-Aboriginal Heritage

Control Measures and Safeguards	Responsibility	Timing / Frequency
Should an item of non-aboriginal heritage significance, or suspected significance, be discovered during O&M activities, all work in the vicinity of the area will cease and the Environmental Nominee will be contacted as soon as possible to determine the subsequent course of action.	Environmental Nominee	During operations
In the event that suspected human skeletal remains are discovered, all works in the affected area will cease and the NSW Police and the NSW Coroner's office will be contacted	Environmental Nominee	During operations

5.3.6.8. Socio-Economic

An assessment of the potential O&M impacts on any socio-economic area was undertaken as part of the EIS (GHD, 2016a). No socio-economic impacts were identified for the O&M of the Facility.

The community engagement strategy outlined in section 11 of the Operational Management Plan (OMP) (MAN-3649) will be used during operation to address any potential issues as they arise.

6. MONITORING AND REVIEW

Environmental inspections (WTF & WTS), monitoring and reporting is required to ensure ongoing compliance with the CoDC and Veolia requirements during operation of the Facility. This section summarises these requirements.

6.1. Monitoring and Inspections

The Facility's environmental performance will be tracked through monitoring and inspections.

Table 13 – Summary of Monitoring and Inspections

Monitoring Type	Requirement	Responsibility
Inspection	<ul style="list-style-type: none"> • Monthly environmental inspections - WTF and WTS form part of Veolia's KPI's. 	Environmental Nominee,

	<ul style="list-style-type: none"> Corrective actions identified will be recorded in the RIVO Management System. 	
Monitoring	<ul style="list-style-type: none"> Specific monitoring requirements are included in the supporting management plans attached to this OEMP Monitoring results and any corrective actions identified will be recorded in the RIVO Management System. Monthly report records KPI's & statistics (including inspections completed) 	Refer to Table 14

Specific monitoring requirements are included in the supporting management plans and summarised in **Table 14**.

Table 14 – Summary of Monitoring Requirements

Aspect	Monitoring Required	Frequency	Reference Document	Type of monitoring	Responsibility
Water Quality	Surface water quality	As below:	Water Management Plan [MAN-3659] (Refer Table 10 of WMP for testing parameters)	Water quality sampling *Aquatic ecology monitoring	EA & Centennial Coal
	<ul style="list-style-type: none"> Wangcol Creek 	Monthly			
	<ul style="list-style-type: none"> *Coxs River 	Biannual			
	<ul style="list-style-type: none"> Thompsons Creek Reservoir 	Monthly / Weekly			
	<ul style="list-style-type: none"> Thompsons Creek 	Quarterly			
<ul style="list-style-type: none"> *Pipers Flat Creek 	Monthly/ Quarterly *Biannual				
Biodiversity	Rehabilitation <ul style="list-style-type: none"> Monitoring until area is stabilised Weed and hygiene controls in place Weed inspections No new weed incursion / establishment 	Monthly	Biodiversity Management Plan (BMP) [MAN-3654]	Monthly inspection	Veolia weed removal/ spraying (include method & chem)
Noise	<ul style="list-style-type: none"> Investigation to respond to complaints 	As required	Section 5.3.4	As required	Veolia EA
Air / odour	<ul style="list-style-type: none"> Investigation to respond to complaints 	As required	Section 5.3.6.4	As required	Veolia EA
Waste	<ul style="list-style-type: none"> Monitoring of waste 	Monthly	Section 5.3.6.3	Monthly Enviro inspection	Veolia Manager Enviro nominee
Cultural	<ul style="list-style-type: none"> Perform inspections of heritage sites when disturbance of the ground is required for maintenance work of the WTS. 	As required	Aboriginal Cultural Heritage Management Plan [MAN-3655]	As required	Enviro nominee

6.2. Calibration of monitoring equipment

All monitoring equipment will be calibrated in accordance with manufacturing instruction and prior to use.

Any equipment identified as having doubtful accuracy or precision will be removed from use and recalibrated. If any monitoring equipment is found to be out of calibration, the validity of the previous monitoring results will be assessed and documented.

Records of equipment will be recorded within Veolia's Asset Management System.

6.2.1. Specialist surveys, inspections and monitoring

Certain specialist environmental inspections may be performed by consultants and third parties. This is likely to include, but not be limited to:

- Soil sampling and analysis of contamination status;
- Groundwater sampling;
- Weed identification and eradication services;
- Noise monitoring if required in response to noise complaints.

6.3. Reporting

Table 15 summarises the reporting requirements during operation of the Facility. The sections below provide more details on the requirements for each of the reports.

Table 15 – Summary of Reporting Obligations

Type of Report	Frequency	Distribution	Report Inclusions
Annual Review	Annually (the end of March)	Veolia submits report to Project Co; Project Co provides report to Customer Representative; The Customer Representative determines other stakeholder reviews and who submits the report to DPIE.	Includes annual monitoring undertaken, summary of complaints environmental performance of the Project (Service Provider Agreement Annexure 6)
Performance report	Monthly	Veolia provides Report to Customer Representative;	A monthly summary of the WTF performance, including compliance tracking
Incident report	As required	Veolia submits report to Project Co. Project Co provides report to Customer Representative Customer Representative to notify Centennial Coal to submit the report to DPIE and/or other regulatory authorities, as required.	Date of incident, response actions undertaken, investigation, remedial action, etc
Emissions report	Annual	Report to Veolia corporate office for submission to the Federal Government under the <i>National Greenhouse and Energy Reporting Scheme</i> .	Fuel and energy data

6.3.1. Annual Review

Annual review of the environmental performance of the Facility will be completed by the Environmental Nominee, in consultation with the site operational team and the NSW Environmental Advisor, by the end of March each year for the previous calendar year. The review will be issued to the Customer Representative, via the Project Co. for submission to DPIE.

The review will:

- (a) Include a comprehensive review of the monitoring results and complaints records of the development over the past year, which includes a comparison of these results against the:
 - Relevant statutory requirements, limits or performance measures/criteria;
 - Monitoring results of previous years; and
 - Relevant predictions in the EIS*
- (b) Identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;*
- (c) Identify any trends in the monitoring data over the life of the development;*
- (d) Identify any discrepancies between the predicted and actual impacts of the development;*
- (e) Analyse the potential cause of any significant discrepancies; and*
- (f) Describe what measures will be implemented over the next year to improve the environmental performance of the development.*

6.3.2. Monthly Performance Reporting

During the operation of the Facility, all environmental performance data (See **Table 13**) will be collected and recorded for Veolia's reporting obligations. Monthly reports will be issued to the Project Co. Representative and the Customer Representative to ensure compliance with contractual and Customer requirements and as required under the contract obligations.

As a minimum, monthly reports must include the following:

- Safety incidents and statistics in each reporting period, including a cumulative list of such safety incidents;
- KPI's: One WTF Area Inspection per month to be completed by Supervisors & Managers
One WTS external inspection (e.g pipeline & valve inspection) from a Supervisor &/or a SHEQ representative.
- Community complaints in each reporting period, including a cumulative list of such community complaints;
- Environmental incidents in each reporting period, including a cumulative list of such environmental incidents;
- Regulatory issues;
- Information on any material non-compliances with CoDC;

6.4. Auditing

6.4.1. Internal audits

Business system audits are conducted by Veolia's national audit and governance personnel to support continuous improvement by ensuring that the management system and the business process are regularly assessed in a consistent and systematic manner and in accordance with Audit Procedure [PRO-161]. The procedure outlines the internal auditing principles, process, planning, program, reporting, corrective actions and reviews. It also references the training and competency assessment requirements for state and national based auditors and auditing guidelines. These audits include compliance with the OEMP.

In addition to system audits, environmental compliance audits are undertaken by suitably qualified and experienced personnel.

These audits are undertaken in accordance with the *VANZ SHEQ Internal Audit Schedule* and associated environmental compliance programs to verify:

- Effectiveness of the site's management system to meet business objectives;
- Whether the actions carried out conform to the stated intention of the management system;
- Adequacy of implemented controls to minimise high risk activities;
- Compliance with company policies, legislation and industry standards;
- Compliance with contractual and customer requirements;
- Whether the stated objectives in policy documents are being met; and
- Identify areas for continuous improvement.

6.4.2. External audits

As part of Veolia's commitment to having each of its operational sites [certified to ISO 14001](#), external certification and surveillance audits will be conducted by a registered certification body.

6.4.3. Customer Audits

The Customer may undertake scheduled or unscheduled audits on Veolia's Environmental Management System and OEMP at any time as well as participate as an observer on audits undertaken by Veolia.

6.4.4. Audit findings

Audit findings will be reported to management and management system representative(s) for inclusion in the management review processes.

Non-conformances and opportunities for improvement identified through internal and external audit processes will be recorded, reported and responded to via Veolia's audit management system, RIVO.

Results of any internal or external audits will be reported to the Customer via regular progress reporting through the Project. Co. Representative and the Customer Representative.

6.5. Non-compliances

A non-compliance as defined in Development Consent SSD 7592 is *“An occurrence, set of circumstances or development that is a breach of this consent”*.

Environmental inspection, observation and monitoring results are interpreted to identify actual and potential non-compliances, conformances and events that may result in nuisance, environmental harm and unacceptable loss of amenity or community complaints. Suspected non-compliances with the CoDC can be identified by anyone and should be reported to the Project Co and Customer.

The Project Co and/or Customer, and/or a public authority may also raise a non-conformance or improvement notice. Where non-conformances are identified during regular inspections, corrective actions are raised, tracked and closed out through the inspection records if the actions can be closed out within 72 hours.

All other non-conformances shall be recorded and reported as Environmental incidents in Veolia's incident reporting management system, RIVO.

6.5.1. Disputes and escalation procedure

Potential environmental incidents and non-compliances will be notified, classified, reported and investigated as per the procedures outlined in this OEMP and the complaints process outlined within Section 11 of the Operational Management Plan (OMP) (MAN-3649).

Issues shall be escalated to the Customer and ultimately DPIE, when it is not possible to reach a satisfactory agreement, even with the assistance of an independent mediator as qualified consultant (lawyer, engineer, etc.).

6.6. Corrective Action

The corrective action may involve supplementary monitoring to identify the source of the non-conformance, and/or may involve modification of operational techniques to avoid any recurrence or minimise its adverse effects.

Management reviews are scheduled to assess the progress of implemented corrective actions, its adequacy and effectiveness. Reviews are undertaken in accordance with the corporate Management Review Procedure [PRO-120]. The Procedure outlines the process, reviews, agenda's, minute capturing, reporting, training and governance, roles, responsibilities and requirements associated with senior management reviews.

6.7. Review of the OEMP

Annual management reviews of the OEMP and environmental performance will assess the continuing suitability, compliance with legislative requirements, adequacy and effectiveness of the on-site environmental management measures implemented. As per [Section 4.6](#), a review of the **OEMP will also be undertaken following environmental incidents and changes to the conditions of consent.**

This must be submitted to DPIE within 1 month of the submission of an incident report to DPIE or any modification to the conditions of consent. (Note: Other management plans may also require updating eg BMP, WMP, ACHMP, when incidents/conditions of consent are modified).

The inputs to the management review process will include (but not be limited to):

- Internal and external audits findings;
- Incidents management and investigation of non-compliance events, incidents, near misses and management of all complaints received;
- Implementation of all compliance and legislative changes as identified at a corporate level;
- Training and awareness;
- Monitoring results of the previous year; and
- Analysis of potential cause of any significant discrepancies between the predicted and actual impacts of the project.

The output of management review will include any decisions and actions related to:

- Possible changes to the management plans, procedures, practices, objectives and targets associated with the environmental management of the Facility O&M;
- Improvement of the effectiveness of the EMS and its processes; and
- Resource needs.

6.7.1. External Stakeholder (Management Plan Updates) Notification Procedure

Please refer to section 6.3.3. of Incident and Emergency Response Management Plan [MAN-3651] for the notification procedure.

7. ACRONYMS/DEFINITIONS

Acronyms	Definition
BCSI	Baseline Contaminated Site Investigation
Bgl	Below ground level
BMA	Biodiversity Management Areas
Centennial Springvale	Centennial Springvale Pty Limited (ABN 64 052 096 812)
CoDC	Conditions of Development Consent
D&C	Design and Construct
DP&E	NSW Department of Planning and Environment (now DPIE)
DPIE	NSW Department of Planning, Environment and Industry (formerly DP&E)
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPA	Environmental Protection Agency
EA	EnergyAustralia NSW Pty Limited (ABN 75 163 935 635)
EIS	Environmental Impact Statement
EMS	Environmental Management Strategy
EN	Veolia's Environmental Nominee
ERSED	Erosion and sediment controls
Facility	Water Transfer System (WTS) and the Water Treatment Facility (WTF) (together the Facility)
LDP	Licensed discharge point
MPPS	Mount Piper Power Station
OEMP	Operational Environmental Management Plan
O&M	Operations & Maintenance
O&MS	Operations and Maintenance Supervisors
OMP	Operational Management Plan
PAC	Planning Assessment Commission
Project Co	MP Water Trust
REA	Reject Emplacement Area
RIVO	Veolia ANZ Incident and Issue Management System
RMS	Roads and Maritime Services
SCSO	Springvale Coal Services
SEE	Statement of Environmental Effects
SHEQ	Safety, Health, Environment and Quality
Boulder Mining	Boulder Mining Pty Limited
SMPPS WTF	Springvale Mount Piper Power Station Water Treatment Facility
SPA	Service Provider Agreement
TCR	Thompson Creek Reserve
WAL	Water Access Licence

SV Operational Environmental Management Plan

Issue Date 06/03/2026

WTF	Water Treatment Facility
WTS	Water Transfer System
WTSC	Water Treatment Services Contract

8. REFERENCES

DP&E, 2017. Development Consent. Springvale Water Treatment Project SSD 7592. Dated 19 June 2017.

DPIE, 2019. Consolidated Consent for Modifications 1-4. Dated 5 November 2019.

GHD, 2016a. Springvale Water Treatment Project State Significant Development 7592 Environmental Impact Statement. Prepared by GHD Pty Ltd. Dated September 2016

GHD, 2016b. Springvale Water Treatment Project Amendment to Development Application. Prepared by GHD Pty Ltd. Dated December 2016

GHD, 2019a. Springvale Water Treatment Project Modification 3. Modification Report. Prepared by GHD Pty Ltd. Dated March 2019

GHD, 2019b. Springvale Water Treatment Project Modification 4. Modification Report. Prepared by GHD Pty Ltd. Dated September 2019;

GHD, 2019c. Springvale Water Treatment Project Brine and Residual Waste Disposal Plan. Dated May 2019

Jacobs, 2017. Springvale Water Treatment Project - Overview of the Biodiversity Management Areas. Dated October 2017.

DP&E, September 2018 Draft Environmental Management Plan Post Approval Guideline

APPENDICES

Appendix A1 – Conditions of Development Consent

[Department Link](#)

Appendix A2 – Key Legislation

Legislation	Objective	Applicability
Commonwealth Legislation	https://www.legislation.gov.au/	
<i>Environment Protection and Biodiversity (EPBC) Act 1999</i>	<p>The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) is an Act of the Parliament of Australia that provides a framework for protection of the Australian environment, including its biodiversity and its natural and culturally significant places.</p> <p>The objectives of the EPBC Act are to:</p> <ul style="list-style-type: none"> • provide for the protection of the environment, especially matters of national environmental significance • conserve Australian biodiversity • provide a streamlined national environmental assessment and approvals process • enhance the protection and management of important natural and cultural places • control the international movement of plants and animals (wildlife), wildlife specimens and products made or derived from wildlife • promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources • recognise the role of Indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity • promote the use of Indigenous peoples' knowledge of biodiversity with the involvement of, and in cooperation with, the owners of the knowledge. 	<p>Key sections under this Act that are relevant to the Facility include, but are not limited to:</p> <ul style="list-style-type: none"> • Section 18 and 18A: Offences relating to threatened species • Section 25: Requirement for approval of prescribed actions • Section 26 and 27A: Protection of the environment from actions involving Commonwealth land • Section 28: Requirement for approval of activities of Commonwealth agencies significantly affecting the environment.
State Legislation	https://www.legislation.nsw.gov.au/#/browse	
<i>Biodiversity Conservation Act 2016</i> Supersedes Parts 7-9 of the <i>National Parks and Wildlife (NPW) Act 1974</i>	<p>The purpose of this Act is to maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development (described in section 6(2) of the <i>Protection of the Environment Administration Act 1991</i>), and in particular—</p> <ol style="list-style-type: none"> (a) to conserve biodiversity at bioregional and State scales, (b) to maintain the diversity and quality of ecosystems and enhance their capacity to adapt to change and provide for the needs of future generations, (c) to improve, share and use knowledge, including local and traditional Aboriginal ecological knowledge, about biodiversity conservation, (d) to support biodiversity conservation in the context of a changing climate, (e) to support collating and sharing data, and monitoring and reporting on the status of biodiversity and the effectiveness of conservation actions, (f) to assess the extinction risk of species and ecological communities, and identify key threatening processes, through an independent and rigorous scientific process, (g) to regulate human interactions with wildlife by applying a risk-based approach, (h) to support conservation and threat abatement action to slow the rate of biodiversity loss and conserve threatened species and ecological communities in nature, ad 	<p>The EIS and Modifications assessed the impacts on threatened species.</p> <p>Operation of the Facility will be undertaken in accordance with the Biodiversity Management Plan (BMP) [MAN-3654].</p> <ul style="list-style-type: none"> • Part 2: Outlines requirements relating to the protection of animals and plants • Part 7: Outlines biodiversity assessment and approvals under Planning Act

	<ul style="list-style-type: none"> (i) to support and guide prioritised and strategic investment in biodiversity conservation, (j) to encourage and enable landholders to enter into voluntary agreements over land for the conservation of biodiversity, and (k) to establish a framework to avoid, minimise and offset the impacts of proposed development and land use change on biodiversity, and (l) to establish a scientific method for assessing the likely impacts on biodiversity values of proposed development and land use change, for calculating measures to offset those impacts and for assessing improvements in biodiversity values, and (m) to establish market-based conservation mechanisms through which the biodiversity impacts of development and land use change can be offset at landscape and site scales, and (n) to support public consultation and participation in biodiversity conservation and decision-making about biodiversity conservation, and (o) to make expert advice and knowledge available to assist the Minister in the administration of this Act. 	
<p>Biosecurity Act 2015 (and Biosecurity Regulation 2017)</p>	<ul style="list-style-type: none"> 1. The primary object of this Act is to provide a framework for the prevention, elimination and minimisation of biosecurity risks posed by biosecurity matter, dealing with biosecurity matter, carriers and potential carriers, and other activities that involve biosecurity matter, carriers or potential carriers. 2. The other objects of this Act are as follows: <ul style="list-style-type: none"> (a) to promote biosecurity as a shared responsibility between government, industry and communities, (b) to provide a framework for the timely and effective management of the following: <ul style="list-style-type: none"> (i) pests, diseases, contaminants and other biosecurity matter that are economically significant for primary production industries, (ii) threats to terrestrial and aquatic environments arising from pests, diseases, contaminants and other biosecurity matter, (iii) public health and safety risks arising from contaminants, non-indigenous animals, bees, weeds and other biosecurity matter known to contribute to human health problems, (iv) pests, diseases, contaminants and other biosecurity matter that may have an adverse effect on community activities and infrastructure, (c) to provide a framework for risk-based decision-making in relation to biosecurity, (d) to give effect to intergovernmental biosecurity agreements to which the State is a party, (e) to provide the means by which biosecurity requirements in other jurisdictions can be met, so as to maintain market access for industry. 	<ul style="list-style-type: none"> • Part 3: Establishes a general biosecurity duty requiring a person who is dealing with a biosecurity matter to ensure that, so far as is reasonably practicable the biosecurity risk is prevented, eliminated or minimised. • Part 4: Makes it an offence to fail to discharge a biosecurity duty in relation to a prohibited matter and includes a duty to notify the local control authority. • Schedule 1: Establishes special provisions relating to weeds, including a duty to control weeds on roads (where the road is not fenced on both sides) • Schedule 2: Lists 'prohibited matter' including terrestrial weeds. <p><i>Biosecurity Regulation 2017)</i></p> <p>Part 2: Establishes mandatory measures relating to biosecurity matters</p> <ul style="list-style-type: none"> • Part 6: Sets out the requirements for notifiable matters (i.e. prohibited matter or events and biosecurity events)

		<ul style="list-style-type: none"> • Schedule 1: Lists pests and diseases required to be notified • Schedule 3: Lists weeds that must not be imported into or sold in NSW
<p>Contaminated Land and Management (CLM) Act 1997</p>	<p>The principal object of the CLM Act is to establish a process for investigating and, where appropriate, remediating land that the Environmental Protection Authority (EPA) considers to be contaminated significantly enough to require regulation. Under the CLM Act, contamination of land is defined as:</p> <p>“the presence in, on or under the land of a substance at a concentration above the concentration at which the substance is normally present in, on or under (respectively) land in the same locality, being a presence that presents a risk of harm to human health or any other aspect of the environment” (CLM Act, s5).</p> <p>Land may be considered contaminated even if it became contaminated partly, or entirely, by the migration of contaminants into, onto or under the land from other land.</p>	<p>The impacts on soil at the WTF site have been mitigated through the application of erosion and sediment controls during the operation and maintenance phase of the Project. Any disturbances have been rehabilitated. The preliminary contamination assessment around the WTF found that, based on site investigation data, there is limited risk to human health during operation.</p>
<p>Crown Land Management Act 2016 <i>(Crown Lands Act 1989 was repealed June 2018)</i></p>	<p>The objects of this Act are:</p> <ol style="list-style-type: none"> to provide for the ownership, use and management of the Crown land of New South Wales, and to provide clarity concerning the law applicable to Crown land, and to require environmental, social, cultural heritage and economic considerations to be taken into account in decision-making about Crown land, and to provide for the consistent, efficient, fair and transparent management of Crown land for the benefit of the people of New South Wales, and to facilitate the use of Crown land by the Aboriginal people of New South Wales because of the spiritual, social, cultural and economic importance of land to Aboriginal people and, where appropriate, to enable the co-management of dedicated or reserved Crown land, and to provide for the management of Crown land having regard to the principles of Crown land management. 	<p>Access agreement to use Crown Lands within the Facility application area and two paper roads along the application area have been obtained.</p> <p>The EIS and Modifications (1-4) considered environmental, social, cultural heritage and economic aspects.</p> <p>An <i>ACHMP [MAN-3655]</i> and OEMP (this Plan) are in place for the operational stage for the Facility.</p>
<p>Environmental Planning and Assessment (EP&A) Act 1979</p>	<p>The objects of this Act are as follows</p> <ol style="list-style-type: none"> to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State’s natural and other resources, to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment, to promote the orderly and economic use and development of land, to promote the delivery and maintenance of affordable housing, to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats, to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage), to promote good design and amenity of the built environment, 	<p>The project was assessed under Section 89(C) of the Act and approved on 19 June 2019. Further modifications can be found here: Department Link</p> <p>The EIS and modifications outlined measures to:</p> <ul style="list-style-type: none"> • Prevent, minimise, and/or offset adverse environmental impacts including economic and social impacts; • Set standards and performance measures for acceptable environmental performance;

	<ul style="list-style-type: none"> (h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants, (i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State, (j) to provide increased opportunity for community participation in environmental planning and assessment. 	<ul style="list-style-type: none"> • For regular monitoring and reporting; • For the ongoing environmental management of the Project. <p>Further modifications can be found here: Department Link</p>
Fisheries Management Act 1994	<ol style="list-style-type: none"> 1. The objects of this Act are to conserve, develop and share the fishery resources of the State for the benefit of present and future generations. 2. In particular, the objects of this Act include— <ul style="list-style-type: none"> (a) to conserve fish stocks and key fish habitats, and (b) to conserve threatened species, populations and ecological communities of fish and marine vegetation, and (c) to promote ecologically sustainable development, including the conservation of biological diversity, and, consistently with those objects— <ul style="list-style-type: none"> (d) to promote viable commercial fishing and aquaculture industries, and (e) to promote quality recreational fishing opportunities, and (f) to appropriately share fisheries resources between the users of those resources, and (g) to provide social and economic benefits for the wider community of New South Wales, and (h) to recognise the spiritual, social and customary significance to Aboriginal persons of fisheries resources and to protect, and promote the continuation of, Aboriginal cultural fishing. 	<p>Part 7A: Conditions for threatened species conservation</p> <p>All waterways crossings were constructed in accordance with the requirement of the Act.</p>
Forestry Act 2012	<p>The main objective of the Forestry Act 2012 is to authorise forestry activities and for the management of Crown timber land and land owned by the Forestry Corporation of NSW.</p>	<p>As the pipeline will be partially located on land owned by the Forestry Corporation of NSW, an occupation permit (or a modification to the existing permit) was required/obtained.</p>
Heritage Act 1977	<p>The objects of this Act are as follows:</p> <ul style="list-style-type: none"> (a) to promote an understanding of the State's heritage, (b) to encourage the conservation of the State's heritage, (c) to provide for the identification and registration of items of State heritage significance, (d) to provide for the interim protection of items of State heritage significance, (e) to encourage the adaptive reuse of items of State heritage significance, (f) to constitute the Heritage Council of New South Wales and confer on it functions relating to the State's heritage, (g) to assist owners with the conservation of items of State heritage significance. 	<p>Section 146: Relating to the notification of impacts and heritage finds to the Heritage Council of NSW.</p> <p>The operation of the Facility will be undertaken in accordance with the <i>ACHMP [MAN-3655]</i> and the Heritage Council will be notified in the event of an unexpected find.</p>
National Parks and Wildlife (NPW) Act 1974	<ol style="list-style-type: none"> 3. The objects of the Act are as follows: <ul style="list-style-type: none"> (a) the conservation of nature, including, but not limited to, the conservation of: <ul style="list-style-type: none"> (i) habitat, ecosystems and ecosystem processes, and 	<p>Part 6 of the Act is relevant to Aboriginal objects and places.</p> <p>The potential for impacts upon Aboriginal cultural</p>

	<ul style="list-style-type: none"> (ii) biological diversity at the community, species and genetic levels, and (iii) landforms of significance, including geological features and processes, and (iv) landscapes and natural features of significance including wilderness and wild rivers, <p>(b) the conservation of objects, places or features (including biological diversity) of cultural value within the landscape, including, but not limited to:</p> <ul style="list-style-type: none"> (i) places, objects and features of significance to Aboriginal people, and (ii) places of social value to the people of New South Wales, and (iii) places of historic, architectural or scientific significance, <p>(c) fostering public appreciation, understanding and enjoyment of nature and cultural heritage and their conservation,</p> <p>(d) providing for the management of land reserved under this Act in accordance with the management principles applicable for each type of reservation.</p> <p>4. The objects of this Act are to be achieved by applying the principles of ecologically sustainable development.</p> <p>5. In carrying out functions under this Act, the Minister, the Chief Executive and the Service are to give effect to the following:</p> <ul style="list-style-type: none"> (a) the objects of this Act, (b) the public interest in the protection of the values for which land is reserved under this Act and the appropriate management of those lands. 	<p>heritage was considered in the EIS and the Modifications.</p> <p>There are currently no known constraints in relation to Aboriginal Cultural Heritage.</p> <p>An Aboriginal Heritage Impact Permit was required for construction of the Facility.</p> <p>The operation of the Facility will be undertaken in accordance with the <i>ACHMP [MAN-3655]</i></p> <p>The EIS and Modifications assessed the impacts on threatened species, Operation of the Facility will be undertaken in accordance with the BMP <i>[MAN-3654]</i>.</p>
<p>Protection of Environment Operations (POEO) Act 1997</p>	<p>The main object of the Protection of Environment Operations Act 1997 (POEO Act) is to regulate air, noise, water and land pollution. As well as imposing a general requirement not to cause pollution, the Act also allows pollution to occur through a system of licensing. Both the mines and power station are licenced under the POEO Act.</p>	<p>The existing Environment Protection Licences (EPL) held for the Springvale Mine, Angus Place Colliery and the MPPS were modified, to allow the transfer of mine water to the new WTF and for the transfer and management of residuals and brine to the Springvale Coal Services Site and MPPS.</p> <p>The Springvale Mine EPL was also modified to amend the timeframes to achieve Mine Water discharge limits for the Springvale Mine, which replicate the Springvale Mine Extension Planning Approval.</p> <p>Consultation with the EPA confirmed that an EPL is not required for the operation and maintenance of the Project under Schedule 1 of the POEO Act.</p> <p>Duty to immediately notify pollution incidents under s.148 where material harm is caused or threatened is a</p>

		requirement. Pollution incidents include events such as water leakages, chemical or fuel leakages, or any other contamination likely to occur during O&M stage must be reported to relevant authorities.
Roads Act 1993	<p>The objectives of the Roads Act 1993 are to:</p> <ul style="list-style-type: none"> • Set out the access rights to public roads; • Establish procedures for opening and closing public roads; • Provide for the classification of roads; and • Establish the roads and maritime services and confer functions associated with road works and maintenance to the roads and maritime services and other roads authorities. 	In the event that O&M requires works to be undertaken within any roads, approval under the Act will be required for any public roads and for any temporary modifications to traffic arrangements (eg. lane closures).
Rural Fires Act 1997		<ul style="list-style-type: none"> • Section 63: Duty of public authorities and owners and occupiers of land to prevent bushfires • Section 64: Duty of occupiers to extinguish fires or notify fire fighting authorities • Division 4: Bush fire danger period • Division 7: Offences
State Environmental Planning Policy (SEPP) (Sydney Drinking Water Catchment) 2011	<p>The aims of this Policy are:</p> <ol style="list-style-type: none"> (a) to provide for healthy water catchments that will deliver high quality water while permitting development that is compatible with that goal, and (b) to provide that a consent authority must not grant consent to a proposed development unless it is satisfied that the proposed development will have a neutral or beneficial effect on water quality, and (c) to support the maintenance or achievement of the water quality objectives for the Sydney drinking water catchment. 	The operations of the Facility will have a minimal impact on the quality and quantity of water discharged from the site and will minimise the demand for potable water at the Site.
Water Management (WM) Act 2000	<p>The Act aims to facilitate the sustainable and efficient use of water in such a way that benefits the environment and communities. It also provides for the preparation of water management plans that outline arrangements for water sharing, water source protection and drainage management. The Proposal site is located within the area covered by the 2010 Metropolitan Water Plan (NSW Office of Water, 2010); the key aims of which are to:</p> <ul style="list-style-type: none"> • Provide a secure supply of water to meet the medium-term needs of Sydney, while planning for long- term goals; • Protect the health of Sydney's rivers; and • Ensure water supplies are adequate throughout drought. 	<p>The Facility does not alter existing water extraction practices or represent an aquifer interference activity associated with the existing underground mining operations.</p> <p>Water extracted from Springvale Mine and Angus Place Colliery under existing licence entitlements will be transferred to the new water treatment plant prior to reuse or release to surface waters.</p>
Waste Avoidance and Resource Recovery	<p>The WARR Act is the principal piece of legislation governing waste and resource management in NSW. The Act seeks to maximise the utility of resources including waste and minimise disposal of resources to landfill. A Waste Management Plan has been prepared in consideration of the objectives of the WARR Act including:</p>	<p>Waste generated during operations will be managed in accordance with the requirements of this Act. See Section 5.3.6.3</p>

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<p><i>(WARR) Act 2001</i></p>	<ul style="list-style-type: none"> • Encouraging the most efficient use of resources; • Reducing environmental harm; • Ensuring that resources are managed against the waste hierarchy of avoidance, resource recovery, and disposal; • Diversion of waste from landfill; • Ensuring industry takes part in reducing and dealing with waste; and • Achieving integrated, state-wide waste and resource management planning and service delivery. 	
<p><i>Work Health and Safety (WHS) Act 2011</i></p>	<p>The main object of the WHS Act is to provide for a balanced and nationally consistent framework to secure the health and safety of workers and workplaces....</p>	<p>Workers and other persons will be given the highest level of protection against harm to their health, safety and welfare from hazards and risks arising from work or from specified types of substances or plant as is reasonably practicable.</p>

Appendix A3 – Summary of Consents and Approvals

Legislation / Guideline	Approval Licence /	Assessment Authority	Status
<i>Crown Lands Act 1989</i>	Approval	Lithgow City Council	Approval to be issued prior to any groundwater extraction, if required for any reason during operations of the Facility.
<i>Environmental Planning and Assessment Act 1979 (part 4A)</i>	Construction and Occupation Certificates	Accredited certifier or consent Authority	An occupation certificate gives approval to use or occupy a building (or other structure) in conjunction with the development consent
<i>Forestry Act 2012 (section 60)</i>	Occupational Permit	Forest Corporation	Permit issued for works within Newnes State Forest
<i>Inclosed Lands Protection Act 1901</i>	Consent / Lease Agreement	Owner of the Land (Janette Winifred Hunt)	Consent to access the land (if required during operation)
		Owner of the Land (Springvale Centennial)	
		Owner of the Land (EnergyAustralia)	
<i>Protection of Environment Operations (POEO) Act 1997</i>	Licences	EPA	Consultation with the EPA confirmed that an EPL is not required for the operation and maintenance of the Project under Schedule 1 of the POEO Act. Duty to notify pollution incidents incorporated in this OEMP and SV Incident and Emergency Response Plan.
<i>Road Act 1993 (section 183)</i>	Consent - Road Occupancy Licence (ROL)	RMS	Required for any works undertaken within the road reserve during operation of the Facility
<i>Water Management Act 2000 and Water Act 1912</i>	Approval	NSW Office of Water	Water Access Licences (WALs) are in place for the operation of the Coxs River water supply system. The WAL conditions and combined approval issued to EA authorises the take and use of water from the Coxs River for power generation purposes and includes Lilyvale Dam (Lake Lyell), Wallerawang Dam (Lake Wallace) and TCR.

Appendix B1 – Water Management Plan

- Water Management Plan (*WMP*) [MAN-3659];

Springvale MPPS Water Treatment Facility Water Management Plan (WMP)



1 Revision List

Rev	Date	Revision Comments	Prepared by	Reviewed by	Approved by
0	23/08/17	Draft for internal review	Sean Daykin Jacobs	Elena Ivanova Veolia	
1	25/08/17	Final	Sean Daykin Jacobs	Elena Ivanova Veolia	Huw Thomas Veolia
2	03/10/17	Update following EPA and WaterNSW review	Sean Daykin Jacobs	Elena Ivanova Veolia	Huw Thomas Veolia
3	16/10/17	Update following Energy Australia review	Sean Daykin Jacobs	Elena Ivanova Veolia	Huw Thomas Veolia
4	24/10/17	Update following DP&E review	Sean Daykin Jacobs	Elena Ivanova Veolia	Huw Thomas Veolia
5	27/10/17	Update following DP&E review	Sean Daykin Jacobs	Elena Ivanova Veolia	Huw Thomas Veolia
6	21/09/18	Updated following internal review including: 1. Induction Update 2. WTS testing methodology	Elena Ivanova Veolia	Simon Campbell Veolia	Simon Campbell Veolia
7	12/11/18	Update following DP&E review	Elena Ivanova Veolia	Simon Campbell Veolia	Simon Campbell Veolia
8	30/05/19	Updated following commissioning and operation review	Barbara Pitt Veolia	Jarrold Hodge Veolia	Fabiano Guittis Veolia
9	4/12/2019	Updated following internal review: 1. Commissioning methodology of the WTF 2. SSD7592 MOD3 3. SSD7592 MOD4	Elena Ivanova Arcadis	Jarrold Hodge Veolia	John Battaglia Veolia
10	19/12/2019	Updated to address DPIE comments Published in new document management system - BMS (version 1)	Elena Ivanova Arcadis	Jarrold Hodge Veolia	John Battaglia Veolia
11	17/11/2020	Annual review and update, Centennial Coal feedback (BMS versions 2 and 3)	Updated by Aaron Shultz Veolia	Ramona Bachu Environmental Compliance Manager	Michael Nicholson Operations Manager

Rev	Date	Revision Comments	Prepared by	Reviewed by	Approved by
12	17/12/2020	Updates conducted in accordance with DPIE Request for Additional Information (11/12/2020). Sections 7.7.4 and 11.1 updated to include with short paragraphs summarising each and any relevant process being referred to within a locked external plan.	Updated by Aaron Shultz Veolia	Ramona Bachu Environmental Compliance Manager	Michael Nicholson Operations Manager
13	19/03/2021	Annual Operations Review	Daniel Sanchez Castellanos Veolia	Jarrod Hodge Operations Supervisor	Michael Nicholson Operations Manager
14	03/05/2021	Review Following Environmental Incident (Rivo ID: 14639548)	Jarrod Hodge Operations Supervisor	Ramona Bachu Environmental Compliance Manager	Michael Nicholson Operations Manager
15	15/03/2022	Update prior to Facility Operations Manual Submission. Updated new Modification to SSD 7592 (MOD 6 & MOD 7)	Daniel Sanchez Castellanos Veolia	Jarrod Hodge Operations Supervisor	Michael Nicholson Operations Manager
16	25/11/2022	Review following Environmental Incident (RIVO ID: 18001193) Review following update of new modification to SSD 7592 (MOD 8) Remove obsolete references to commissioning activities	Caitlin Cooper Senior Process Engineer	Michael Nicholson Operations Manager	Michael Nicholson Operations Manager
17	09/08/2023	Insert Appendix A - Consultation Table, Add Appendix B - DPIE Consultation documents, Add Appendix C - Water NSW Consultation documents	Graham Brown Compliance Supervisor	Caitlin Cooper Senior Process Engineer	Michael Nicholson Operations Manager
18	27/02/2025	Scheduled Review and review following Environmental Incident (Rivo ID: 23455557) No changes made	Chantelle Handley Compliance Supervisor	Caitlin Cooper Senior Process Engineer	Shohidul Islam Operations Manager
19	10/04/2025	Review following Environmental Incident (Rivo ID: 23753095) and MOD 11 approval No changes made	Chantelle Handley Compliance Supervisor	Caitlin Cooper Senior Process Engineer	Shohidul Islam Operations Manager
20	10/06/2025	Update Treated Water Performance Criteria	Alessandro Ando Process Engineer	Chantelle Handley Compliance Supervisor	Shohidul Islam Operations Manager

21	25/07/2025	Addition of MOD 11 Interim Management Plan as Appendix D	Caitlin Cooper Senior Process Engineer	Chantelle Handley Compliance Supervisor	Shohidul Islam Operations Manager
22	21/10/2025	Review following Environmental Incidents (Rivo ID: 25314778 and Rivo ID: 25453504) - No changes made	Chantelle Handley Compliance Supervisor	Caitlin Cooper Snr Process Engineer	Shohidul Islam Operations Manager
23	09/03/2026	Annual Operations Update Review following Environmental Incident (Rivo ID: 26685080) Minor Administrative changes	Chantelle Handley Compliance Supervisor	Caitlin Cooper Snr Process Engineer	Shohidul Islam Operations Manager

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3 Introduction

3.1 Background

The Springvale and Angus Place Mines are located in the western coalfields of New South Wales near Lithgow. The Springvale Mine is the primary source of coal for Mount Piper Power Station (MPPS), which is the newest and most efficient coal-fired power station in New South Wales.

The Springvale Coal Mine is owned by Springvale Coal Pty Limited (Springvale Coal), a joint venture comprising Boulder Mining Pty Limited and Centennial Springvale Pty Limited.

MPPS is owned and operated by EnergyAustralia NSW Pty Limited (EA), and is a key part of the New South Wales' electricity system, supplying approximately 15% of the State's energy requirements.

In addition to coal, MPPS requires water of low salinity for its cooling water system.

This need is currently supplied from a number of alternate water sources including storage dams owned and operated by EA, which are fed by a combination of local rainfall and discharge water from the Springvale and Angus Place Mines. Freshwater is also sourced from the Fish River scheme and the Thompsons Creek Reservoir (TCR). The Springvale Water Treatment Project was initiated to improve the environmental outcomes and water quality in the Upper Cocks River catchment and to achieve compliance with the water management performance measures required under the Springvale Mine Extension Project (MEP) development consent.

The project received approval on 19 June 2017 for the construction and operation under State Significant Development (SSD 7592) in accordance with section 89(C) of the Environmental Planning and Assessment Act 1979 (EP&A Act).

Implementation of the Springvale Water Treatment Facility (WTF) will eliminate direct mine water discharges from the Springvale Delta Water Transfer Scheme (WTS) into the Cocks River catchment. The WTF involves the transfer of water from existing dewatering facilities on the Newnes Plateau to the new water treatment plant located at the MPPS.

Treated water is used as a priority within the MPPS cooling water system and excess treated water transferred to TCR for storage for subsequent reuse in the power station operations.

3.2 Project Overview

The Project is being delivered using Build Own Operate Transfer delivery method and involves the:

- financing, design, construction, testing and commissioning of a water transfer system to transfer Mine Water from the Springvale and Angus Place Mines to MPPS (Water Transfer System);
- financing, design, construction, testing and commissioning of a water treatment facility including brine treatment systems adjacent to MPPS to enable the beneficial reuse of treated water by MPPS for cooling purposes, and release of surplus treated water to the TCR, transfer of residuals to the residuals emplacement area and mixed salt and lime salt to the ash emplacement area; and

- operation and maintenance of the Water Transfer System (WTS) and the Water Treatment Facility (WTF) (together the Facility) for a term of 15 years.

The high-level commercial structure of the Project is outlined below

3.3 Customer and Project Co

A Project specific company was established to finance, design, construct, and commission and operate the Project. MP Water Pty Limited, which in its capacity as trustee for the MP Water Trust (Project Co) has entered into the Water Treatment Services Contract (WTSC) with:

- Boulder Mining Pty Limited (ABN 85 112 796 308) (Boulder Mining);
- Centennial Springvale Pty Limited (ABN 64 052 096 812) (Centennial Springvale); and
- EnergyAustralia NSW Pty Limited (ABN 75 163 935 635) (EA).

The above three entities are collectively referred to as 'the Customer'.

The obligations and liabilities of each of the Springvale Joint Venture Participants (Boulder Mining and Centennial Springvale) and EA will be in accordance with the participating interests set out in the WTSC.

The overall Project consortium structure is provided in Figure 1.

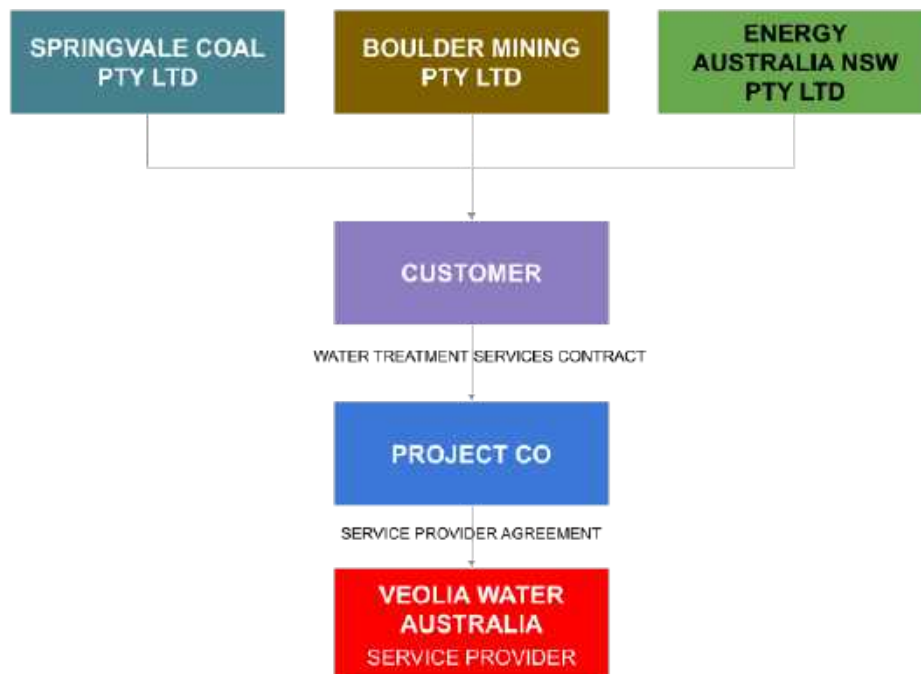


Figure 1 – Consortium Structure

3.3.1 Design and Construct Contract

Veolia was engaged by Project Co to design, construct and commission the Facility under the terms of the Design and Construct Contract (D&C Contract) dated 13 November 2017.

Veolia, in its capacity as Construction Contractor, had responsibility for delivery of the works as defined under the D&C Contract. Veolia engaged key partners to deliver the Project including:

- Veolia Water Solutions & Technologies, who provided engineering design and core process equipment including evaporation and crystallisation technology;
- Abergeldie Complex Infrastructure, who undertook all construction related activities; and
- Jacobs, who provided the balance of plant engineering design.

3.3.2 Services Provider Agreement

Veolia will operate and maintain the Facility for a 15 year Term, under the terms of the Services Provide Agreement dated 13 November 2017.

The overall Project consortium structure of the Facility commissioning and operational interactions is summarised in [Figure 2](#).

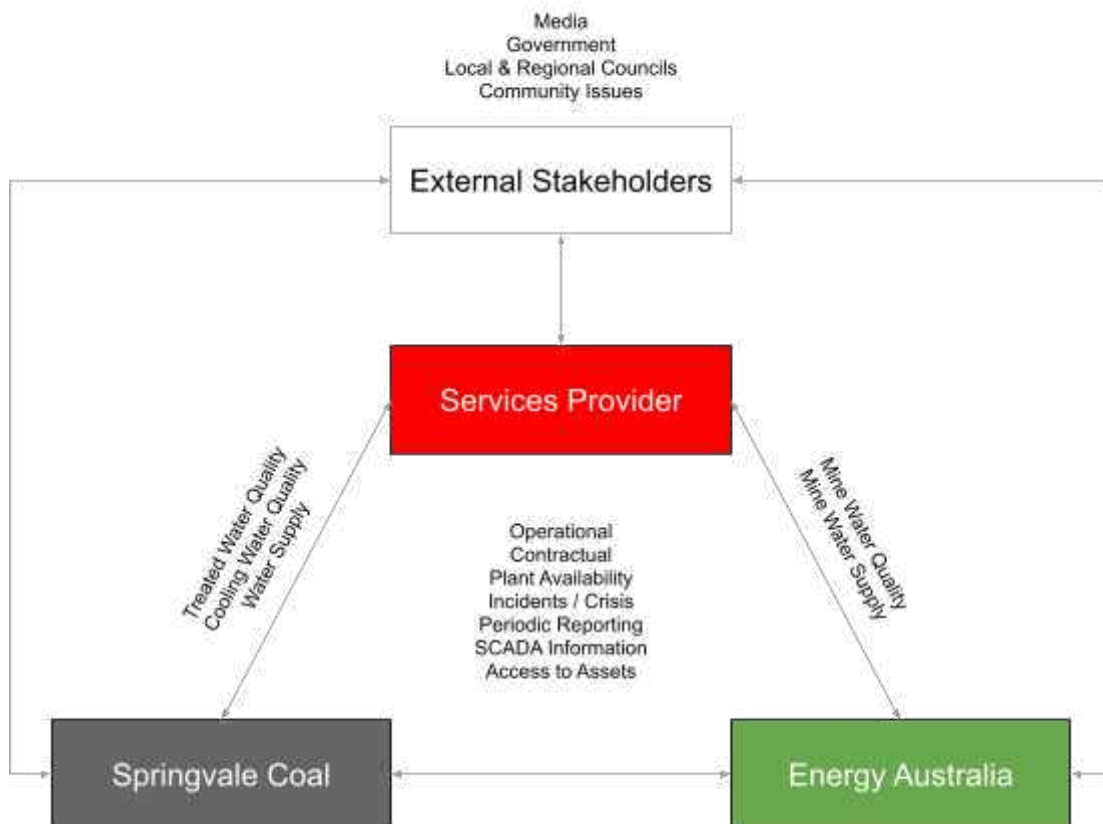


Figure 2 – Operations Interactions Structure

3.4 Objectives of the WMP

The primary objective of this WMP is to manage and minimise the impact of the construction, commissioning and operation of the Project Facility on the local water resources by:

- outlining procedures to ensure adherence to all guidelines and legislative requirements relevant to water management on the Facility;
- addressing the following conditions of the Development Consent (Consent) (DP&E, 2017):
 - Schedule 2, Conditions 1, 5 and 6
 - Schedule 3, Conditions 1, 3 and 4
 - Schedule 4, Conditions 2, 4, 5 and 6
- describing procedures to enable compliance with the water management performance measures detailed in Table 1 of the Development Consent.

The Commissioning and Testing Plan framework also forms part of the operational environmental management framework. This WMP has been developed in accordance with the conditions of the Development Consent (SSD 7592), the Project Environmental Impact Statement (EIS) (GHD, 2016a), the Development Application Amendments and assessments (GHD, 2016b, GHD, 2016c, GHD 2019a, GHD 2019b) and the Springvale Coal Services (known as Western Coal Services). This WMP was developed early on in the Project design phase and has been updated for the commissioning and operation of the Facility.

This Water Management Plan (WMP) also forms a sub-plan of the Springvale MPPS Water Treatment Operational Environmental Management Plan [MAN-3652] (OEMP), which details the operational environmental management framework for the WTF.

NOTE: All document [hyperlinks](#) included in this Plan relate to Veolia ANZ's Business Management System (BMS), can only be opened on Veolia's network and can't be accessed by external users. Document codes have been included as a reference where an external user can request from Veolia to provide.

4 Facility Overview

4.1 Facility Extents

The Facility, and hence this WMP, is limited to the following upstream and downstream extents. Water management aspects beyond these extents are addressed by the water management plans associated with Springvale Coal Mine, Springvale Coal Services Site (SCSS) and MPPS.

The approximate location of the Project extents is shown on [Figure 3](#).

4.1.1 Upstream Extent

The upstream extent of the Facility is at the outlet of the booster pump situated on the upstream side of the Newnes Plateau gravity tank. Water management is controlled Downstream of Mine Water Booster Station (WBS002).

4.1.2 Downstream Extents

The Facility has two downstream extents:

- Immediately upstream of the discharge point to TCR. The discharge and TCR is managed by Energy Australia.
- At the end of the pipeline that transfers residual material to the Reject Emplacement Area (REA) on the SCSS. Water management associated with the REA is in accordance with the SCSS Water Management Plan (Springvale Coal Services, 2017).

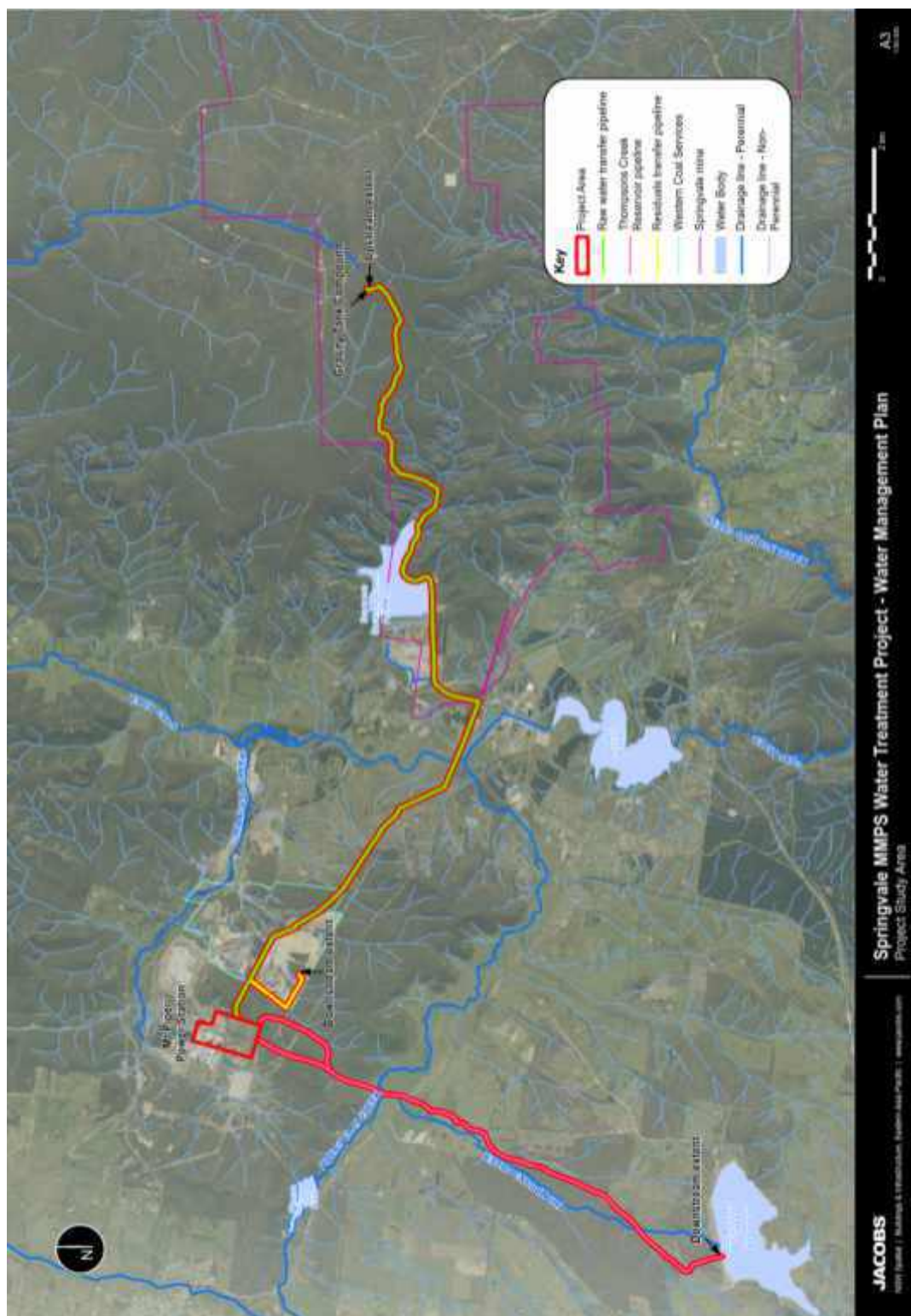


Figure 3 - Project Extents and Location

4.2 Staging of the Facility

Under Schedule 4, Condition 3 of SSD 7592, the Applicant may submit any strategy, plan or program required by this consent on a progressive basis with the approval of the Secretary.

Approval to progressively submit the management plans was received on 21 August 2017 from the then NSW Department of Planning and Environment (DP&E) (now NSW Department of Planning, Industry and Environment (DPIE)).

The progressive stages of the project include

- Construction
- Commissioning
- Operation.

4.2.1 Construction

The Water Transfer System (WTS) has been fully constructed and commissioned. between the existing dewatering facilities on the Newnes Plateau to a new water treatment facility located at the MPPS.

Any residual/minor works associated with stormwater management and internal access roads will be undertaken in accordance with the requirements of the *Construction Environmental Management Plan (CEMP)* [SMPPS-O-00-M13-00-03].

4.2.2 Commissioning

The Water Treatment Facility (WTF) has been fully commissioned in accordance with the *Commissioning and Testing Plan* [SMPPS-Z-03-M10-00-01].

The *Commissioning and Testing Plan* outlined the processes to be implemented by the D&C Project Team to ensure that the Facility is commissioned, all acceptance testing has been completed and handed over to the Operator in accordance with the WTSC and to the satisfaction of all parties.

Commissioning occurred 24 hours per day, 7 days per week for approximately six months, with commencement occurring in April 2019.

Commissioning incorporated the following sub-stages:

- **Pre-commissioning:**

This is the final checking/verification of individual components for correct installation and operation. For each component, the Project commissioning team verified that all required installation and operation checks had been carried out, with acceptable results. These checks were carried out prior to commissioning and recorded on a pre-commissioning checklist as evidence to confirm acceptable results.

- **Sub-System Commissioning:**

On completion of the pre-commissioning of Sub-system's components, the equipment within the Sub-system was set to operate in a controlled sequence to properly flush the equipment, confirm correct functionality, optimise all operational parameters and confirm reliable

operation. Each component of the Sub-system was brought online and tested as a Sub-system before each System was tested as an integral process.

- **System commissioning:**

This involved circulation of water throughout the system and when critical subsystems had been adequately commissioned and ready for start-up, the overall process was brought on-line sequentially.

- **Process Optimisation:**

On completion of all System commissioning tests, the system underwent process optimisation. The process optimisation ran for a period long enough to allow fine tuning of the system and to demonstrate readiness for Acceptance Testing.

- **Acceptance Testing.**

The system underwent an Acceptance Test. The Acceptance Test ran for 14 consecutive days to demonstrate the system is able to treat mine water and blowdown water to produce water products that comply with the Water Product Quality Standards.

Site Acceptance Tests had been conducted by the Project Construction and Commissioning team. Checks were generally performed before energisation, by the Construction team, and those after energisation were performed by the Commissioning team.

Onsite equipment performance tests had been conducted during commissioning as they required operating systems to reach duty points. An equipment performance test was used to check that key equipment's actual performance met the supplier guarantee or design criteria.

4.2.3 Operation

Following commissioning and Site Acceptance Testing, operation of the Facility as whole commenced.

5 Statutory Requirements

5.1 Relevant Legislation and Guidelines

Details about the legislation, planning instruments and guidelines considered during development of this plan are listed below, with specific details provided in the Legislation Register within Appendix A2 of the Springvale MPPS Water Treatment Operational Environmental Management Plan (OEMP)(MAN-3652).

- Water Management (WM) Act 2000;
- Water Management (General) Amendment (Aquifer Interference Regulation 2011) under the WM Act 2000;
- State Environmental Planning Policy (SEPP) (Sydney Drinking Water Catchment) 2011;
- Environmental Planning and Assessment (EP&A) Act 1979;
- Protection of the Environment Operations (POEO) Act 1997;

Additional legislation, standards and guidelines applicable to water management are:

- Water Sharing Plan for Greater Metropolitan Region Groundwater Sources and Unregulated River Water Sources (July 2011)
- Managing Urban Stormwater: Soils and Construction (the Blue Book), Volume 1, Volume 2A, Volume 2C and Volume 2E, Mines and Quarries (Landcom 2004);
- National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ 2000);
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC 2000);
- Guidelines for the Assessment and Management of Groundwater Contamination (DECC 2007);
- Policy and Guidelines for Fish Habitat Conservation and Management (DPI, 2013);
- Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries, 2003);
- Guidelines for Controlled Activities on Waterfront Land (DPI, 2007).

5.2 Development Consent

The NSW Department of Planning and Environment (DP&E) (now the Department of Planning, Industry and Environment – DPIE) assessed the State Significant Development (SSD 7592) in accordance with section 89(C) of the *Environmental Planning and Assessment Act 1979 (EP&A Act)*.

The then DP&E delegated SSD 7592 to the Planning Assessment Commission (PAC) for determination under the Minister's delegation of 14 September 2011. The project was determined by PAC on 19 June 2017.

Following approval, a number of Modification Applications were submitted and approved. These are summarised in [Table 1](#)

Table 1 – Summary of Facility Modifications

Modification Number	Description	Date of Determination
SSD 7592 MOD1	The modification included the following: <ul style="list-style-type: none"> include an amended brine management process a change to the pond strategy additional hydraulic controls minor changes to the pipeline alignments an increase in the estimated peak construction workforce. 	12 January 2018
SSD 7592 MOD2	Springvale Mine Extension Project. This modification returns the pipeline alignment near Skelly Road approved under SSD 7592 MOD1 to the original designed outlined in the EIS.	29 October 2018
SSD 7592 MOD3	The modification included the following: <ul style="list-style-type: none"> An amendment to allow pre-treatment filtration of incoming mine water with sequential bypass of desalination units during progressive commissioning of the water treatment plant; and The transfer of a maximum of 2,700 ML at up to 24 ML/day of filtered mine water to TCR using existing Coxs River Water Supply System pipeline from TCR to Mount Piper Power Station. <p>The interim water management strategy will provide up to an additional six months flexibility to the delivery program to allow the safe finalisation of construction, commissioning and operation of the water treatment facility. Implementation of the strategy will require minor modifications to the Springvale WTP development consent.</p>	31 May 2019
SSD 7592 MOD4	To increase the interim water storage strategy that was approved by MOD3, by transferring a further 3,060ML (up to a maximum of 5,760 ML) of partially treated mine water to TCR at a rate of up to 36 ML per day, until the end of January 2020	5 November 2019
SSD 7592 MOD5	To transfer up to a maximum of 5,760 megalitres of partially treated mine water to Thompsons Creek Reservoir, until 30 June 2020	31 January 2020
SSD 7592 MOD6*	Updated consent definitions Project application area for the Springvale WTP extended to incorporate Pond D and authorise receipt of up to 2.6 ML/day of mine water from the Angus Place transfer system as part of the Springvale WTP MPPS water management system (incorporating brine concentrators and associated pipeline connections) to treat out of envelope mine water delivered to Pond D. Treated mine water or distillate from the brine concentrators to contribute to make-up water requirements for the power station cooling water system Treatment of generated salt load by Springvale WTF and MPPS blowdown water management system to continue as per the OPUS process with the exception of up to 2.6 ML/day of incoming mine water treated via the brine concentrators	19 March 2021
SSD 7592 MOD7	An extension to the permissible time period for operation of the interim water management strategy outlined in MOD5 from 30 June 2020 to 31 October 2021.	8 June 2021

SSD 7592 MOD 8	An extension to the permissible time period for operation of the interim water management strategy outlined in MOD5 from 31 October 2021 to 31 October 2023.	

*Development consent modification not developed in coordination with Veolia to assess the impact on the operational and water management strategy of the Springvale water treatment facility or any other potential impacts. No consent conditions from MOD 6 have been included on this document and are solely the customer's responsibility.

Conditions relating specifically to the development of the WMP are summarised in [Table 2](#). The table also specifies where these conditions have been addressed within this plan.

The review process of the WMP is detailed in [Section 10.5](#) of this plan.

Table 2 – Development Consent Requirements (as amended)

Condition #	Definition	Document Reference										
Water Management Performance Measures												
3	The Applicant must comply with the performance measures in Table 1 below, to the satisfaction of the Secretary.											
	<table border="1"> <thead> <tr> <th>Feature</th> <th>Performance Measure</th> <th>Doc Ref</th> </tr> </thead> <tbody> <tr> <td rowspan="3">General</td> <td>Maintain separation between mine water and treated water management systems.</td> <td>Section 7.1.1</td> </tr> <tr> <td>Minimise the use of clean water on site.</td> <td>Section 7.1.2</td> </tr> <tr> <td>Design, install, operate and maintain water management systems in a proper and efficient manner.</td> <td>Section 7.1.3</td> </tr> </tbody> </table>	Feature	Performance Measure	Doc Ref	General	Maintain separation between mine water and treated water management systems.	Section 7.1.1	Minimise the use of clean water on site.	Section 7.1.2	Design, install, operate and maintain water management systems in a proper and efficient manner.	Section 7.1.3	
	Feature	Performance Measure	Doc Ref									
	General	Maintain separation between mine water and treated water management systems.	Section 7.1.1									
		Minimise the use of clean water on site.	Section 7.1.2									
		Design, install, operate and maintain water management systems in a proper and efficient manner.	Section 7.1.3									
	Upper Coxs River catchment, including Coxs River, Wangcol Creek, Pipers Flat Creek and Thompsons Creek	Negligible environmental consequences to surface water resources beyond those predicted in the EIS, including: <ul style="list-style-type: none"> negligible change in surface water flows beyond those predicted; negligible change in surface water quality beyond those predicted; and negligible impact to other surface water users beyond those predicted. Maintain or improve baseline channel stability.	Section 7.2									
Construction and operation of infrastructure	Design, install and maintain erosion and sediment controls generally in accordance with the series Managing Urban Stormwater: Soils and Construction including Volume 1, Volume 2A – Installation of Services and Volume 2C – Unsealed Roads. Design, install and maintain infrastructure within 40 m of watercourses generally in accordance with the Guidelines for Controlled Activities on Waterfront Land (DPI 2007), or its latest version. Design, install and maintain any creek crossings generally in accordance with the Policy and Guidelines for Fish Habitat Conservation and Management (DPI, 2013) and Why Do Fish Need To Cross The Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries 2003), or their latest versions.	Section 7.3.1 Section 7.3.4 Section 7.3.5										
Brine and residual waste	Minimise the production and transfer of brine and residual waste from the development. Ensure that any brine and residual waste that is transferred from the development complies with the relevant development consents for the Ash Emplacement Areas and the Western Coal Services Site.	Section 7.6										
Chemical and hydrocarbon storage	Chemical and hydrocarbon products to be stored in bunded areas in accordance with the relevant Australian Standards.	Section 7.7										
Water Management Plan												
4	Prior to the commencement of construction, the Applicant must prepare a Water Management Plan for the project, in consultation (Appendix A, B & C)	Water Management Plan										

	with EPA and WaterNSW, and to the satisfaction of the Secretary. This plan must:	(MAN-3659) - This Plan
4 (a)	be prepared by suitably qualified and experienced person/s whose appointment has been approved by the Secretary; and	The then DP&E endorsed Sean Daykin (Jacobs) on 21/08/2017
4 (b)	<ul style="list-style-type: none"> Detailed baseline data on surface water flows and quality in the watercourses that could potentially be affected by the proposal 	Section 6.1.6 & Section 6.2
4 (b)	<ul style="list-style-type: none"> A program to augment the baseline data over the life of the development 	Section 10.2
4 (b)	<ul style="list-style-type: none"> A detailed description of measures to ensure that the Applicant complies with the water management performance measures (Table 1); 	Section 7.3
4 (b)	<ul style="list-style-type: none"> A program to monitor and report on the performance measures 	Table 9
4 (b)	<ul style="list-style-type: none"> Reporting procedures for the results of the monitoring program 	Section 12 & Table 9
4 (b)	<ul style="list-style-type: none"> A plan to respond to any exceedances of the performance criteria, and mitigate any adverse surface water impacts of the proposal 	Section 9 & Section 11
4	The Applicant must implement the approved Water Management Plan for the development	The Plan
Brine and Residual Waste Disposal Plan		
5	Prior to the commissioning of the Water Treatment Plant, the Applicant must prepare a Brine and Residual Waste Disposal Plan, in consultation (Appendix A, B & C) with WaterNSW and the EPA, and to the satisfaction of the Secretary. This plan must:	Doc No. 115344_Rev1 Approved 14/5/19 by Steve O'Donoghue
Schedule 4 - Management Plan Requirements		
2	The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:	
2 (a)	detailed baseline data	Section 6.1 & Section 6.2
2 (b)	a description of: <ul style="list-style-type: none"> the relevant statutory requirements (including any relevant approval, licence or lease conditions); 	Section 5
	<ul style="list-style-type: none"> any relevant limits or performance measures/criteria; the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures 	Section 7
2 (c)	a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria	Section 6.2
2 (d)	a program to monitor and report on the:	Section 6.2

	<ul style="list-style-type: none"> impacts and environmental performance of the development; 	Section 7
	<ul style="list-style-type: none"> effectiveness of any management measures (see c above) 	Section 12
2 (e)	a contingency plan to manage any unpredicted impacts and their consequences	Section 11
2 (f)	a program to investigate and implement ways to improve the environmental performance of the development over time	Section 6.2
2 (g)	a protocol for managing and reporting any: <ul style="list-style-type: none"> incidents; 	Section 12.2 & Section 11.4
	<ul style="list-style-type: none"> complaints; 	Section 12.4
	<ul style="list-style-type: none"> non-compliances with statutory requirements; and 	Section 12.3
	<ul style="list-style-type: none"> exceedances of the criteria and/or performance criteria; and 	Section 9
2 (h)	a protocol for periodic review of the plan.	Section 12.5

5.3 Permits and Licences

5.3.1 Water Access Licences

The Facility will use TCR as both a water supply storage and release point for excess treated water.

The current Water Access Licences (WALs) in place for the operation of the Coxs River water supply system were reviewed for the operation of the Facility. The WAL conditions and combined approval issued to EA authorises the take and use of water from the Coxs River for power generation purposes and includes Lilyvale Dam (Lake Lyell), Wallerawang Dam (Lake Wallace) and TCR.

These licence conditions define EA's water access rights and obligations and regulate the operation and management of its water management works. There are no proposed changes to the current WALs held by EA.

5.3.2 Environmental Protection Licence

Following consultation (Appendix A, B & C) with the Environment Protection Authority (EPA) it was considered that the operation of the Facility will not require an Environmental Protection Licences (EPL).

5.4 Roles and Responsibilities

EA holds EPL 13007 for the operation of MPPS. Energy Australia and Springvale Coal applied for the Project jointly however; Springvale Coal is listed as holding the Development Consent.

Veolia is responsible for the operation of the Facility, which will take place on the leased premises of EA.

The roles and responsibilities matrix is shown in [Table 3](#). All parties have confirmed their commitments. In terms of Roles and Responsibilities, the Customer is NSW EnergyAustralia Pty Ltd and Springvale Coal Pty Ltd.

Table 3 – Roles and Responsibilities

Areas of Management	Veolia Responsibilities	Springvale Coal (Customer) Responsibilities	Springvale Coal Services (Customer) Responsibilities	Energy Australia (Customer) Responsibilities
EA Environmental Protection Licence (EPL 13007) for Mount Piper Power Station operations	To comply with requirements set up in the Contract between Veolia and Project Co.	Nil	Nil	To comply with the EPL requirements
Development Consent (SSD 7592) for the Springvale Water Treatment Project	To operate in accordance with the Development Consent as part of its responsibilities under the Contract between Veolia and Project Co.	Responsible for the Development Consent notifications to DPIE when made aware by the Customer via MP Water via Veolia	Nil	Nil
Thompson Creek Reservoir (TCR)	To comply with treated water performance standards for discharge of excess water to TCR (Table 6) and requirements set up in the Contract between Veolia and the Project Co. Do not adversely affect the current riparian water releases or water quality procedures that currently exist at TCR. Abide by the Licence discharge requirement as applied by the EPA.	Nil	Nil	To operate TCR and manage any associated riparian water releases in accordance with the existing water management scheme To regulate water levels in the TCR in accordance with the existing emergency response scheme
Residuals Emplacement Area (REA) (Development Consent SSD 5579 MOD 1)	To comply with residuals performance standards for discharge of residuals to REA (Table 7) and Comply with requirements set up in the Contract between Veolia and Project Co	Nil	To operate REA in accordance with relevant requirements of the Brine and Residuals Waste Disposal Plan and in accordance with the Development Consent (SSD 5579 MOD 1). Approved 14/5/19 by DPIE	Nil
Ash Repository (Ash and Brine Disposal Area)	To comply with relevant requirements of the Brine and Residuals Waste	Nil	Nil	To operate the existing Ash Repository management system

	Disposal Plan and requirements set up in the Contract between Veolia and Project Co.			in accordance with relevant requirements of the Brine and Residuals Waste Disposal Plan. Approved 14/5/19 by DPIE
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6 Implementation

6.1 Existing Environment

The existing environment is described in GHD (2016a, 2016b, 2016c) and RPS (2014) and as follows:

6.1.1 Topography

The MPPS site is located within the gently undulating Coxs River valley immediately adjacent to the SCSS. The local topography at the MPPS site is however relatively steep as the site is situated on a slope with a nor easterly aspect.

The dominant landforms in the region include the wooded hills and slopes of the Ben Bullen State Forest which occupies the catchment divide and surrounds the MPPS site and dominates all parts of the Project site that have not been impacted by the MPPS or SCSS developments.

6.1.2 Climate

The climate of the region is considered to be cool-temperate, with mild summers and cold winters.

The local climate is influenced by topography, altitude, and aspect. Monthly mean maximum temperatures typically range between 12°C and 28°C.

6.1.3 Rainfall

Daily rainfall data was obtained from SILO for the Lithgow (Birdwood St) station (Bureau of Meteorology (BoM) station number 63224). The average annual rainfall for the area is 867.8 mm.

This station is approximately 13 km south-east of the centre WTP site. The data period for this site was taken from January 1889 to July 2017.

The monthly average rainfall observed is summarised in [Figure 4](#). The distribution of the rainfall throughout the year is relatively uniform; however, rainfall is generally slightly higher during the warmer months (October through to March). The maximum monthly average occurs in January of 94.2 mm and the minimum monthly average occurs in September of 57.4 mm. Rainfall intensity is locally affected by the influence of the Great Dividing Range

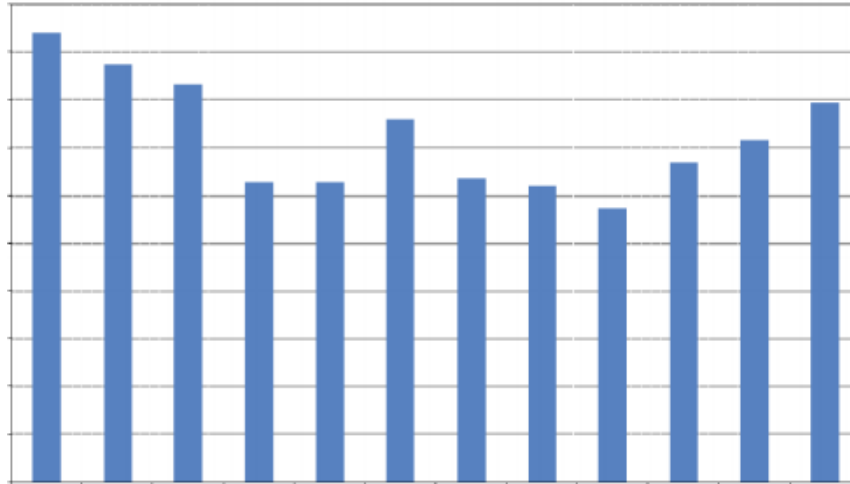


Figure 4 - Monthly Average Rainfall (063224)

6.1.4 Evaporation

Daily pan evaporation data from the Bathurst Agricultural Station (BoM station 63005) from 1966 to July 2017, is presented in [Figure 5](#). This station is the closest rainfall station, which records the daily evaporation. This data was used to derive average monthly evaporation rates. The average daily pan evaporation for the period is 3.7 mm/day.

The evaporation is higher in the summer months (December to February) and lower in the winter months (June to August). The maximum average evaporation rate of 6.7 mm/day occurs in January and the minimum average evaporation rate of 1.1 mm/day occurs in June.

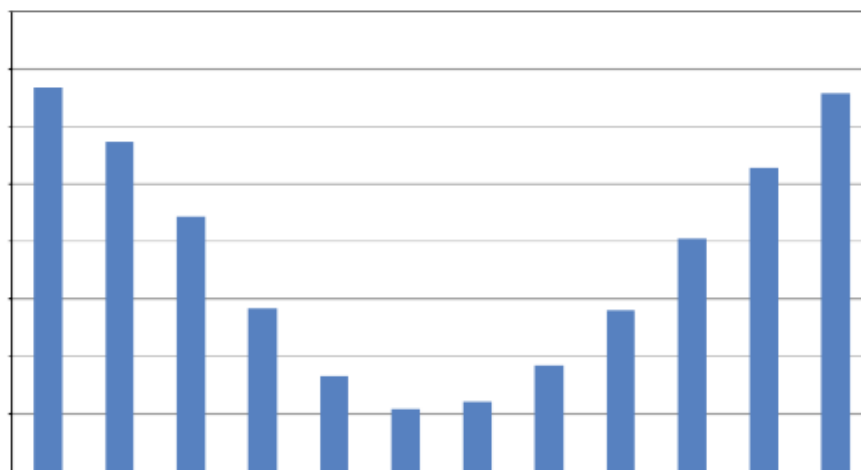


Figure 5 - Daily Average Evaporation (063005)

6.1.5 Geology

The Facility area is underlain by Permian rocks of the Shoalhaven group, with occurrences of early Triassic rocks of the Narrabeen group on top of ridges. The Shoalhaven group is overlain by the Illawarra Coal Measures in the vicinity of MPPS.

6.1.6 Surface Water Environment

The Facility (WTS and WTF) is situated in the Upper Coxs River Sub-catchment, which is within the Blue Mountains Western Catchment managed by the Hawkesbury-Nepean Catchment Management Authority (HNCMA).

The MPPS WTF site is located primarily south of Wangcol Creek and the WTS runs alongside Sawyers Swamp Creek and Sawyers Swamp Creek Ash Dam and will then cross the Coxs River via a horizontal directionally drilled bore.

Wangcol Creek

Wangcol Creek is a perennial stream that joins the Coxs River north of Lidsdale village at "Blue Lake", an old open cut mine void. A portion of Wangcol Creek lies near the Castlereagh Highway and its condition in the river valley varies from partly vegetated to cleared and degraded land.

A number of smaller tributaries enter Wangcol Creek that have headwaters in cleared land, mining areas, or the Ben Bullen State Forest. The dominant land use in the upstream catchment of Wangcol Creek is largely forestry with other land uses occupying a relatively small portion of the catchment area.

Coxs River

The Coxs River is a perennial river that drains a catchment area of approximately 1,700 km² and is part of the greater Hawkesbury/Nepean catchment. The river rises within the Ben Bullen State Forest east of Cullen Bullen and flows generally in a south-east direction through the Blue Mountains World Heritage Area and into Lake Burragorang (impounded by Warragamba Dam), which is the primary reservoir for drinking water supply to Sydney.

6.2 Aspects, Impacts, Risks and Predictions

The key findings and predictions that are relevant to this WMP have been taken from the Amended Springvale Water Treatment Project Water Resources Impact Assessment (GHD, 2016b).

The assessment of water resources was undertaken to determine the potential impact of the Facility on the surface water environment in the context of the local water cycle, surface water quality, the fish community within TCR, stream health and downstream water users.

Predicted impacts are summarised in the following sections.

6.2.1 Wangcol Creek

The results of the water and salt balance modelling indicated that, for the 50% power generation scenario, the amended Facility is predicted to increase the flow in Wangcol Creek at the confluence with the Coxs River by up to 2% on average compared to existing conditions, and by up to 4% compared to the do nothing scenario.

The electrical conductivity (EC) in Wangcol Creek was predicted to increase as a result of the discharges from the SCSS, by up to 16% compared to the do nothing scenario. However, future changes in the water management system at SCSS are shown to mitigate this increase, with only a 1% increase in EC compared to existing conditions.

6.2.2 Coxs River

For the results for the proposed conditions modelled in the 50% power generation scenario, inflows to Lake Wallace, Lake Lyell and Lake Burragorang from the Coxs River were predicted to decrease compared to existing conditions and the do nothing scenario.

The EC of inflows to the major reservoirs within the Coxs River was also predicted to decrease compared to both existing and do nothing scenarios, with a 47% to 48% reduction in salinity of flows into Lake Lyell and Lake Wallace. This occurs as a result of the desalination of mine water make, compared to the modelled discharge of untreated mine water to Sawyers Swamp Creek in the do nothing scenario.

6.2.3 Thompsons Creek Reservoir

The water and salt balance modelling results indicated that, for 0% and 25% power generation scenarios, the use of TCR to store excess treated water is not sustainable over the life of the Project.

A 50% power generation scenario is considered to best represent the operation of MPPS. The assessment of the 50% power generation scenario indicated that the operating level within TCR would need to be reduced to hold excess water during the peak supply of mine water. The reduction in water level would be approximately 1.2 m below the current operating level. This predicted change is within the historical fluctuation level of TCR.

The assessment of the 75% and 100% power generation scenarios indicated that the current operating level of TCR could be maintained (± 0.1 m). This is largely due to the fact that 100% of the water supplied by the Facility will be consumed by MPPS over the operational life of the Facility. A power generation requirement of 61% at MPPS was predicted to be the lower limit to maintain the current operating level of TCR (± 0.1 m).

The assessment of operational scenarios for emergency storage of excess treated water considered the maximum potential supply of 42 ML/day. The assessment indicated that to accommodate a five or ten day emergency storage of excess treated water would require an approximately 0.4 m and 0.6 m reduction in the operating water level in TCR respectively.

The treated water from the WTP is predicted to be considerably less saline than the water in TCR, with a neutral pH and low concentrations of metals and nutrients. Any effect on the water quality of TCR will be that of dilution, though minimal change is predicted due to the large volume of TCR and the improbability of a sustained, high-volume discharge of treated water to the reservoir.

Interim Water Management Strategy

An interim water management strategy for the commissioning stage of the Facility was assessed under SSD 7592 MOD 3, MOD4, MOD5, MOD7 and MOD 8.

Springvale Coal committed to eliminating mine water discharges from LDP009 to the Coxs River catchment by 30 June 2019 in accordance with the Springvale MEP consent.

The interim water management strategy had therefore been developed to provide a contingency for the scenario where the Facility had not been fully commissioned by the time mine water discharges are required to cease through LDP009.

The interim water management strategy involved the transfer of mine water from dewatering facilities on Newnes Plateau to the WTF. The strategy managed a total of 5,760 ML of mine water at inflows of up to 24 ML/day during the progressive commissioning of the WTF until 30 June 2020, under MOD 5. Under MOD 8, the operation of the interim water management plan has been extended to 31 October 2023.

The interim water management strategy for the WTF included the following procedure:

- Pre-treatment of incoming mine water including filtration to remove solids;
- Bypass of desalination system during the progressive commissioning of reverse osmosis treatment modules;
- Transfer of filtered mine water to TCR for storage and subsequent reuse within MPPS.

Quantitative modelling was undertaken by GHD (March and September 2019) for scenarios assuming a total of 5,760 ML of untreated mine water being transferred to TCR. This modelling was based on a series of conservative assumptions relating to the existing water quality in TCR, the mixing of the transferred water, and the speciation of metals in the reservoir following the transfers.

The assessment indicated that the transfers would not result in any exceedances of the default guideline values for water and sediment quality that are not currently observed under baseline conditions. It also demonstrated negligible electrical conductivity and flow volume changes within the greater Coxs River catchment, including those flowing into Lake Burragorang. These changes were within natural variability and the uncertainty of the model.

The modelling report concluded that the risk of impacts to environmental values within TCR and the receiving environments of Pipers Flat Creek and Coxs River (as compared to existing, or baseline conditions) are considered negligible from the proposed activity.

TCR Downstream Environment and Water Users

Negligible change to the water quality in the downstream receiving environments of Thompsons Creek and Pipers Flat Creek is predicted. Site specific guideline values (SSGVs) were derived based on the historical water quality monitoring record for Pipers Flat Creek. No exceedances of these SSGVs are predicted as a result of the Facility.

The Facility will not significantly alter downstream water users with respect to quality, however some users may experience an increased variation in surface water flow due to either the removal of constant flow rates or a greater dominance of natural catchment contributions.

TCR Fish Community

It is considered unlikely that the Facility will have an impact on the fish community. The temperature and the low hardness of the proposed release have the potential to be outside the ranges of trout tolerance, however these factors are not likely to affect the fish community given the size and depth of the impoundment.

The distribution of trout species within TCR is predicted to change in response to changes in water level and changes in the availability of preferred habitat, however this is not predicted to result in any mortality or reduction in survival of the species. The treated water releases are not predicted to be toxic to any of the fish species in TCR.

The responsibility for the management of TCR will remain with EA and is not considered part of the operation of the Facility.

Water Supply to TCR from SMWTP

Water balance modelling was undertaken as part of the Response to Submissions on Modification 4 indicated that spilling or additional riparian flow releases from Thompsons Creek Reservoir will not be required during the period of operation throughout the Interim Water Management Strategy ending 31st of January 2020 and extended to. Also, the potential for additional flow releases in the short to

medium term is also considered to be very low as the Coal supply from Springvale returned to MPPS in early November 2019.

The risk of spilling from Thompsons Creek Reservoir is a function of MPPS make-up water demand, mine water transfer volumes and climate.

The primary factor influencing the likelihood for the reservoir to spill is MPPS make-up water demand, which is influenced by power generation capacity and the availability of a coal supply to the power station.

Delays to the final commissioning of the water treatment facility unfortunately coincided with coal supply issues at the power station during the Modification 4 application to the Consent. This highlighted a concern by the Environmental Protection Agency on a potential risk to TCR under the modified bypass around the Reverse Osmosis system in the water treatment facility allowing the transfer of filtered mine water. This modification showed a minimal influence on the potential for TCR to spill as it was and is currently under the TCR's low operating level.

Following submission of Modification 4 considerable progress has been achieved in delivery of the water treatment facility and managing coal supply including:

1. Construction and commissioning of the reverse osmosis units resulting in the transfer of treated water with average EC of 439 since mid September, 2019.
2. Construction of the brine management units and initial commissioning activities completed.
3. Coal supply resumed mid November has enabled MPPS to return to normal operations.

Although Modification 4 to SSD7592 has provided flexibility to allow the ongoing commissioning and testing of the brine management stream it is extremely unlikely that the volume of 3,060 ML of filtered water will be required as at 5/12/19 on only 2050ML of MOD3 have been utilised. MOD4, MOD5, MOD 7 and MOD 8 have been requested to extend the time for the original MOD3 to be utilised. MOD 8 was required until 31 October 2023 with a total of 2612ML of filtered water used by the end of the MOD 7 allowance.

Condition 6 of Schedule 2 of SSD7592 states "The Applicant" must transfer all excess treated water via the Cops River Water Supply Pipeline to the Thompsons Creek Reservoir, except during emergency situations, subject to approval from the Secretary." It is noted in the condition that "An emergency situation may include any event where overtopping of Thompsons Creek Reservoir is likely to occur".

The existing consent includes provisions for situations which may lead to a potential overtopping of Thompsons Creek Reservoir which is covered in a Trigger Action Response Plan (TARP) which is captured in the Incident and Emergency Response Management Plan (IERMP) (MAN-3651).

TCR Operating Protocol

Thompson Creek Reservoir is a prescribed dam under the Dam Safety Act 2015 (DS Act) and is managed in accordance with the Dam Safety Regulations 2019 (DS Regulations). The DS Act and DS Regulations require an Operation and Maintenance Plan and Emergency Plans (Operating Protocols) to be developed for all prescribed dams. EnergyAustralia has developed and implemented the operating protocols for TCR as required under the DS Act and DS Regulations.

In the unlikely event that the operation of the SMWTP and the transfer of filtered water causes TCR to breach its operating protocols then water would stop being transferred to TCR. EnergyAustralia will ensure TCR is managed in accordance with its existing approved operating protocols at all times.

6.2.4 Groundwater

The Springvale Water Treatment Project Water Resources Impact Assessment (GHD, 2016b) documents the baseline groundwater condition. No likely impacts to the groundwater environment have been identified as a result of the operation of the Facility. The Baseline Site Condition Report is updated annually to identify any deterioration or shortfall in the conditions of the site.

7 Performance Measures

The following Section details the measures that will be taken to comply with the performance measures set out in Table 1 of Schedule 3, Condition 3 of the Development Consent (SSD 7592).

7.1 General

7.1.1 Maintain separation between mine water and treated water management systems

The mine water system including storage and transfer infrastructure is kept separate from the treated water at all times. The separation is maintained through a variety of design measures, which are themselves maintained by a comprehensive asset management process.

The Water Project Operating Protocol [MAN-3648], prepared by Veolia, describes a protocol for coordination between EA and the Customer Group, Project Co and Veolia for the integrated commissioning and operation of the WTF, MPPS, Springvale Mine and Angus Place Mine.

It sets out the operational interfaces and control philosophy for the various flows between each party's facility, including flow management under normal and abnormal operation requirements. It also describes the general communication protocol and process between the parties for coordination of maintenance activities and in the case of emergency situations.

The asset management process is detailed in the Operational Management Plan (MAN-3649) and includes conditions, inspections, routine performance assessment and a maintenance program.

7.1.2 Minimise the use of clean water onsite

Approximately 671 m³/day of treated mine water will be used as service water for the WTF equipment as required by technological processes.

Water for site use will be delivered by truck to meet demands.

7.1.3 Design, install, operate and maintain water management systems in a proper and efficient manner

The installation, operation and maintenance of water management systems will be carried out with adherence to the relevant procedures and standards as detailed in the Operational Management Plan (MAN-3649).

The following key elements relating to asset management demonstrate adherence with this condition.

Asset Management Strategy

Veolia's Asset Management Strategy [STA-311] seeks to achieve the following asset management specific high-level objectives:

- maintain the level of service (LOS), as detailed in the Operation Management Plan, delivered over the duration of the contract term;
- manage asset risks and the efficient delivery of services to ensure lowest lifecycle costs;

- continuously improve the asset management portfolio of services to achieve best value for Veolia and their clients.

Veolia will implement an asset management system, as per Asset Management Plan (MAN-3691) to enable the physical assets for the Facility to be maintained, repaired, rehabilitated and replaced in such a way as to ensure the following outcomes:

- no drop in LOS delivered over the duration of the contract;
- optimum equipment performance, reliability and availability;
- minimum total cost of ownership of each asset over its lifecycle;
- minimum business risks to all stakeholders;
- compliance with all statutory and contractual requirements.

The corporate Asset Management Policy [POL-12] details the business commitment to this outcome.

Veolia uses an integrated approach to asset management which considers all aspects of the asset's lifecycle including safety, operational performance, level of service, contractual requirements, maintenance requirements and the asset's whole of life costs.

Asset Management System

A Computerised Maintenance Management System (CMMS) will be used for scheduling, recording and analysing all maintenance activities.

The CMMS comprises an inventory of all managed assets. It includes performance and condition grading of all asset components, and other relevant data such as capacity, size and age. The information allows trending of asset condition and performance over the operating period.

The system is also used to capture data relating to all inspection and maintenance activities.

Summary of Relevant Assets and Treatment Process

The following assets are relevant to the water management system and will be managed in accordance with the asset management system:

- **Mine Water Receipt Points** – receive mine water;
- **Water Transfer System (WTS)** – transfer mine water to the WTF;
- **Mine Water Buffer Pond** – receives various streams from the MPPS mixed waters receipt point and blowdown receipt point 2 before treatment of these streams at the WTF;
- **Water Treatment Facility (WTF)** – treats mine water;
- **Water Product Delivery Points** – transfers the treated water to the MPPS treated water Delivery Point (TWDP1) and any volumes that exceed the prevailing treated water demand of MPPS to the Clean Water Pond Delivery Point (TWDP3), and if the clean water pond is unable to receive that water, transfers all remaining treated water as stabilised treated water to the TCR Delivery Point (TWDP2);
- **OPUS Treatment Plant** – treats combined blowdown brine from the Cooling Towers and mine water brine from the WTF at the Brine Treatment Facility (BTF);
- **Brine Crystalliser Plant** – the mixed salt crystalliser is the final component of the brine concentration process. The Crystalliser will receive OPUS Reverse Osmosis (RO) concentrate from the crystalliser feed tank and deliver brine concentrates to the brine waste ponds for subsequent disposal to the Ash Mixing Facility at delivery point BDP1;
- **Mixed Salt Storage and Transfer System** – delivers mixed salt from the Brine Crystalliser to the Ash Emplacement Delivery Point (SDP1);

- **Lime Salt Storage and Transfer System** – delivers lime salt from the OPUS Treatment Plant to the Ash Emplacement Delivery Point (SDP2).

7.2 Surface Water Resources

The performance measures relating to surface water resources specified in the Development Consent (as amended by MOD 1-5) require that there is no more than negligible changes beyond those predicted in the EIS (GHD 2016a & 2016b) to the following:

- surface water flows;
- surface water quality;
- other surface water users;
- channel stability.

Compliance with the performance measures will be assessed through a continuation of the current monitoring programs conducted by Springvale Coal and EA. Data will be assessed against the Contingency Plan ([Section 11](#)) and the documented actions will be taken in the event of a performance measure exceedance.

The existing data collection sites and monitoring data relevant to assessing the Project performance against the predictions made in the Project EIS are detailed in [Section 10.1](#).

7.3 Operation of Infrastructure

7.3.1 Erosion and sediment control

Excessive sedimentation may occur as a result of erosion of exposed soils migrating into drainage channels and watercourses particularly due to rainfall events. Sedimentation has the potential to affect the natural flow regime by altering flow rate and direction and decreasing the depth of channels, which can lead to an increased risk of flooding. It may also affect water quality and conditions for flora and fauna.

Progressive Erosion and Sediment Control Drawings (PESCD) had been developed for use as a practical guide to manage risks to soil and water associated with construction activities.

The PESCDs defined erosion and sediment controls for implementation by all employees and subcontractors, whilst undertaking works associated with the construction and commissioning stages of the Facility.

All design installation and maintenance of erosion and sediment controls are in general accordance with the latest version of the series Managing Urban Stormwater: Soils and Construction (Landcom, 2004) (also known as the “Blue Book”). The latest version of the Blue Book is available at: <http://www.environment.nsw.gov.au/stormwater/publications.htm>.

Selection of erosion and sediment control measures involve the following steps:

- identifying of the problem to be managed – erosion or sedimentation;
- in the case of erosion, differentiate between raindrop impact and concentrated flow;
- in the case of sedimentation, identifying if sediment is conveyed by sheet or concentrated flow;
- flow;

- selecting the appropriate techniques as outlined in Appendix F of the Managing Urban Stormwater: Soils and Construction, Volume 2e.

The Project was divided in six construction zones based upon construction activities and land management and the PESCDs were prepared for each construction zone to show the site layout.

The WTS installation (Zone 1 – Zone 6) has been completed and rehabilitated by the Construction Contractor. Maintenance and monitoring of the rehabilitated areas of the WTS are being undertaken in accordance with the Biodiversity Management Plan [MAN-3654].

The following control measures are currently being adopted in WTF (Zone 0):

- clean water diversions around the site;
- sediment fencing around the site;
- controlled site access location, with existing access routes are being utilised where possible;
- sediment dam constructed to collect 'dirty' water runoff from the WTF site;
- rolled erosion control products reduce erosion by completely covering the disturbed area;
- 'clean' stormwater from site is being diverted into the existing water management system present at MPPS; and
- rehabilitation of the WTF site will be undertaken using rock mulching material or concrete. Those areas not associated with the plant will be revegetated.

The PESCDs apply to all construction activities that disturb material or have the potential to result in environmental harm as a result of the migration of material from its original location. The plan endeavours to comply with conditions stated on development approvals, permits, licenses, sediment control plans and environmental impact assessments.

As a minimum requirement during construction, the maintenance of erosion and sediment controls include the following:

- general site inspections of construction works undertaken weekly and following significant rainfall events. During these inspections, water management and sediment control structures are inspected for capacity, structural integrity, effectiveness and level of sediment within structures, with the results recorded and reported on where appropriate;
- maintenance of the sediment and erosion control measures when visual defects are observed;
- maintenance of groundcover in areas of rehabilitation;
- sediment trapped behind fences is to be cleaned out and appropriately stockpiled;
- the maintenance of all erosion and sediment control measures are required until disturbance activities and site rehabilitation is complete.

7.3.2 Soils

The following summary of soil information has been taken from the Project EIS (GHD, 2016a). The soil landscapes which apply to the project area (incorporating both the WTF and WTS sites) and associated characteristics are detailed in [Table 4](#).

Table 4 – Soil Landscapes and Characteristics (GHD, 2016b)

Site	Soil Landscape	Typical Terrain	Soil Characteristics
WTS	Hassans Walls	Cliff and steep slopes / open forests and woodlands	Rock fall hazard, steep slopes, extreme water erosion, mass movement, localised shallows soils, high run on, non-cohesive soils.
	Cullen Bullen	Hill crests	Dispersibility, erodibility, hard setting surface, acidity, low fertility, low wet bearing strength.
	Newnes Plateau	Gently undulating wide crests and ridges	Acidity, high permeability, low fertility, aluminium toxicity, localised shallow soils.
	Deanes Creek	Narrow low lying valley swamps along drainage lines and open woodlands	High water tables, permanent water logging, acid soils, low fertility, high run on.
	Mount Sinai	Narrow undulating crests and steep side slopes	Extreme water erosion, rock, outcrop, steep slopes, acidity, highly permeable soils, low fertility.
	Lithgow	Lower slopes and poorly drained areas	Hard setting surface, acidity, aluminium toxicity, low fertility, high run on, permanent high water table, water logging, foundation hazard, acidity, low fertility.
	Pipers Flat	Alluvial areas	Low organic matter, erodibility, hard setting surface, low permeability, acidity, aluminium toxicity, low fertility, low wet bearing strength.
WTF	Lithgow	Lower slopes and poorly drained areas	Hard setting surface, acidity, aluminium toxicity, low fertility, high run on, permanent high water table, water logging, foundation hazard, acidity, low fertility.

The majority of the WTF site is located in an area of disturbed terrain. The Soil Landscapes of the Wallerawang 1:100,000 Sheet map and report (1993), classifies the disturbed terrain as follows:

- Landscape: made land on various geologies (unconsolidated);
- Soils: Dominated by Anthrosols in disturbed areas. Here most of the original soil has either been removed, buried or greatly disturbed. In gravel pits and quarries bedrock is often exposed whilst in landfill areas of transported earths, sediment and industrial, building and household wastes are found. These areas may be artificially topsoiled or covered by concrete and bitumen.

7.3.3 Acid Sulfate Soils

A review of the Lithgow Local Environmental Plan 2014 indicated that there are no known occurrences of Acid Sulfate Soils (ASS) within and/or adjacent to the WTF and WTS sites.

No ASS were detected in the Baseline Contaminated Site Investigation, undertaken by Jacobs in August 2017. Additionally, no suspected ASS was observed in the material excavated during construction of WTF and WTS.

7.3.4 Controlled activities on waterfront land

Construction activities within 40 m of watercourses are regulated by DPI Water under the Water Management Act (2000).

A Controlled Activity Approval was not required, as the proposed works were assessed in the original EIS (GHD, 2016b).

7.3.5 Waterway crossings

The WTS involved crossing ephemeral drainage channels on the Newnes Plateau and the Coxs River. Potential risks to surface water and groundwater values associated with the WTS included:

- erosion of exposed soils within the construction area and transport of sediment into drainage channels and watercourses particularly as a result of rainfall events;
- disruption to the groundwater and/or surface water flow regime;
- contamination due to spills and leaks.

All creek crossings were designed and installed in accordance with the Policy and Guidelines for Fish Habitat Conservation and Management (DPI, 2013) and Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries, 2003) or their latest versions.

The PESCDs were prepared prior to commencement of the waterways crossing construction works and were provided to WaterNSW four weeks beforehand for their review and comment.

The waterway crossing were as follows:

Ephemeral Channels

Construction across the ephemeral drainage lines within the Newnes Plateau was undertaken using the following methodology:

- temporary diversion of the creek (if flowing) around the crossing site;
- emplacement of a culvert within the existing creek channel (culvert sizing to be finalised during Project design);
- construction of the pipeline over the culvert;
- removal of temporary diversion and reinstatement of the creek in the original channel with the installed culvert.

Cox's River

The Cox's River waterway crossing was achieved through Horizontal Directional Drilling techniques (HDD) of one bore approximately 1.2 km long. The bore was drilled from east of Wolgan Road and crossed beneath Wolgan Road, the Castlereagh Highway, the Cox's River and Bray's Lane.

The HDD of a bore did not intercept a water table and as a result of this no mitigation measures were triggered to minimise the interaction with groundwater.

7.3.6 Uncontrolled Discharge

The WTS design was undertaken to include methods to eliminate leakage and provide units for rapidly detecting leakage if it would occur.

The pipeline is flexible to accommodate any minor ground movements and oversized to accommodate excess flow. In addition, air vent valves installed along the WTS to discharge air during operations, have spill prevention systems. These valves are positioned at low points in the pipeline to allow easy control and transfer of water from section to section of the WTS as required.

Any loss of pipeline pressure due to leakage will be detected by flow meters installed on the upstream and downstream ends of the pipeline.

The shutdown of the vent valve will occur in approximately 15 minutes, which will isolate the area where the leakage is detected.

Once the isolation has been confirmed, the section of the pipeline that requires maintenance can be drained by pumping the mine water upstream and/or downstream. The mine water flows will be contained within the WTS, excluding any losses.

Preventive and corrective maintenance will be conducted throughout the operation of the Facility to minimise the risk of potential pipeline rupture.

An emergency response team will be set up prior to the commencement of operation and will be available 24/7.

An integrated emergency response plan will be developed in consultation with Springvale Coal and EA to ensure all Facility personnel have the required awareness and training to adequately deal with emergencies.

7.4 Hydrostatic Testing

A hydrostatic test was completed following the WTS installation to prove the integrity of the pipeline. Hydrostatic testing of the pipeline involved water being pumped into completed sections of the pipeline to a pressure of at least 125% of the maximum allowable operating pressure.

The WTS testing was broken up into a number of stages to account for the varied sections of the WTS along the approximately 14km stretch.

A Hydrostatic Testing Methodology was developed and involved:

- the source and quantity of water to be used;
- the pressure range/s for which the hydrostatic testing will be undertaken;

- a program; and
- detailed methodology including a leak response protocol.

The hydrostatic test water was retained in the WTS (pipe) and treated at the WTF during the commissioning phase. No hydrostatic test water was discharged to the environment during hydrostatic testing.

7.6 Brine and Residual Waste

A brine and residual waste disposal plan was approved prior to commissioning of the WTF in accordance with Schedule 3, Condition 5 of the Development Consent (SSD 7592).

7.7 Chemical and Hydrocarbon Management

All chemical and hydrocarbon management will be undertaken as follows and in accordance with Australian Standard AS1940-2004 and other relevant Australian standards as applicable.

7.7.1 Chemical delivery and transfer

All tankers delivering chemicals to site will conform to the relevant standard, and follow the Australian Dangerous Goods Code requirements (where applicable).

Chemical Deliveries will be managed in accordance with a developed work instruction describing the unloading and recording of bulk chemical deliveries.

7.7.2 Chemical storage

Bulk storage areas for chemicals are contained within purpose-built impervious bunds to retain any spills and prevent contamination of stormwater run-off.

Large capacity spill kits will be provided around the chemical storage area. Any spillage will be immediately contained and/or absorbed with a suitable absorbent material as far as practicable.

Storage systems are designed to ensure that incompatible materials are kept separate. Safety in design principles have been applied during the design of the plant to ensure that systems do not allow any dangerous mixing of incompatible chemicals.

All site staff will be trained in chemical handling and spill management.

A copy of the site manifest and chemical Safety Data Sheets (SDS) will be kept in a cabinet at the entry to site. Chemical SDS will be stored and accessible at the chemical storage areas.

7.7.3 Chemical dosage

Dosage is controlled by the Supervisory Control and Data Acquisition (SCADA) system and is described in the relevant Functional Description Specification (FDS).

7.7.4 Chemical handling

Chemical Deliveries are managed in accordance with Uploading and Recording Chemical Deliveries Work Instruction [WIS-10535]. This Work Instruction outlines the equipment, procedure, safety and quality systems associated with bulk chemical delivery for the Water Treatment Facility.

7.7.5 Chemical quality management

The quality of chemicals used on site complies with specifications provided by the chemical suppliers and further Certificates of Analysis (CoA) can be required from the suppliers. Further checks and laboratory analysis can also be performed upon delivery of the chemicals to confirm their quality.

8 Site Water Balance

The site water balance is shown in Figure 6

8.1 Inputs and outputs

A summary of the predicted inputs and outputs of the system is shown in [Table 5](#) are generally in accordance with the EIS and Development Application Amendment.

Table 5 – Water Balance Summary Predicted Inputs and Outputs

Inputs	Predicted Daily Volume (ML/d)
Mine dewatering facilities	0 – 42
Thompsons Creek Reservoir	0 – 42
Direct rainfall onto storages	<0.1
Total	0 – 42.1
Outputs	Predicted Daily Volume (ML/d)
Thompsons Creek Reservoir	0 – 42
Evaporation from cooling water system	0 – 38
Residuals to REA	0 – 0.43
Brine co-disposal	~ 0.2
Total	0 – 42.63

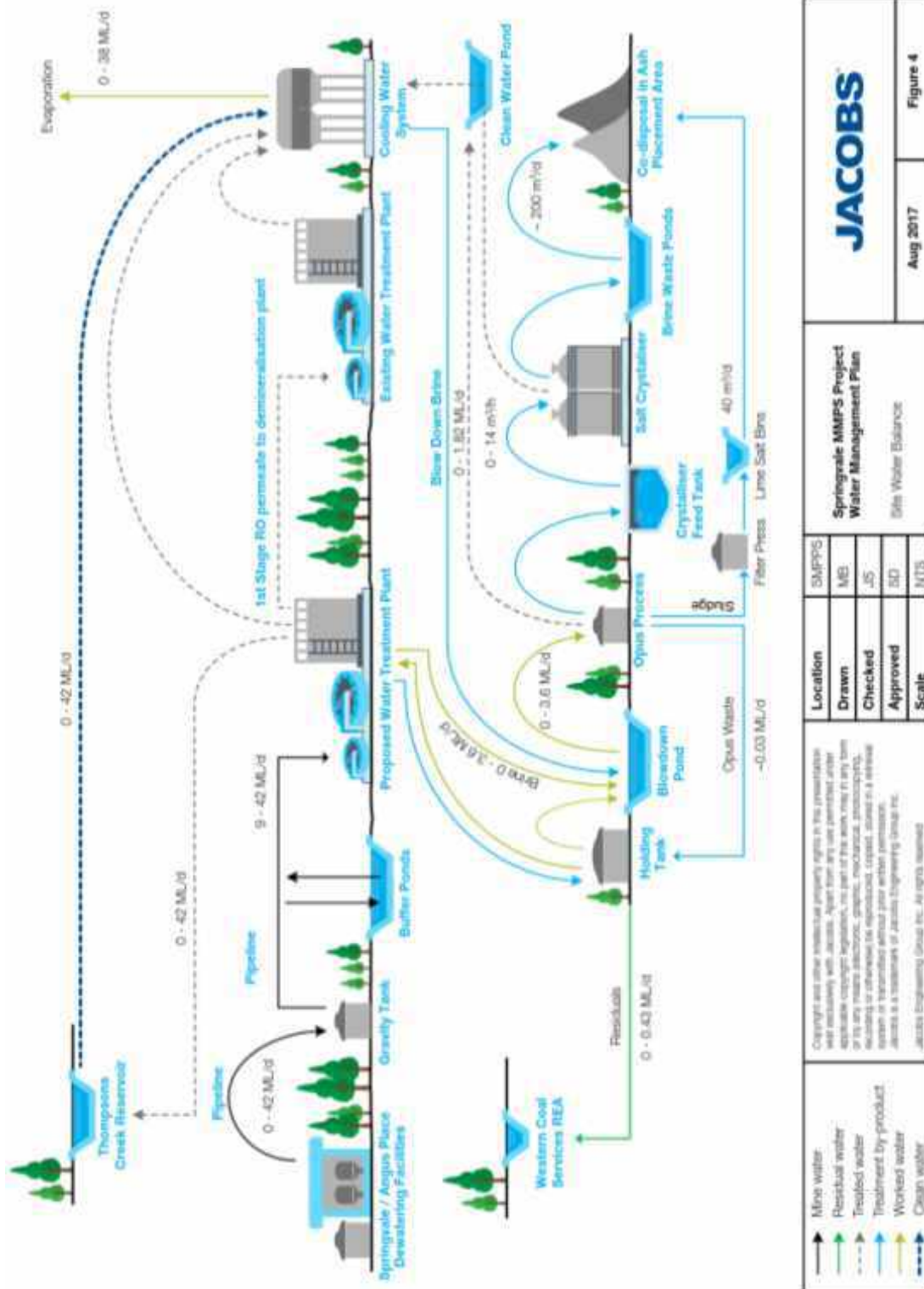


Figure 6 – Site Water Balance

9 Performance Standards

The operation of the Facility has the potential to impact the environment through the quantity and quality of treated water being discharged into TCR and the quantity and quality of residuals being transferred to the REA.

A Trigger Action Response Plan (TARP) has been developed to address these aspects. The TARP is provided in the Incident and Emergency Response Management Plan (IERMP)(MAN-3651).

9.1 Quality of water from the WTF to the TCR

The Treated Water performance standards are presented in [Table 6](#). The electrical conductivity requirement has been corrected to a reference temperature of 25°C.

Table 6 – Treated Water Performance Standards (Veolia, 2017a)

Water Product Quality Parameter	Unit	Water Product Target Standard – From Services Commencement Date		
		50 %ile	95%ile	Maximum
Salinity	µS/cm	300 ^{1,4}	500 ¹	900 ¹
Total Suspended Solids	mg/L			10
pH ²	pH Unit			Refer to note 2 below
Aluminum (total)	mg/L			0.08
Arsenic III	mg/L			0.024
Arsenic V	mg/L			0.01
Cadmium (total)	mg/L			0.0004
Copper (total)	mg/L			0.0018
Cobalt (total)	mg/L			0.0018
Nickel (total)	mg/L			0.013
Zinc (total)	mg/L			0.015
Iron (total)	mg/L			0.05
Boron (total)	mg/L			0.37
Manganese (total)	mg/L			0.5
Lead (total)	mg/L			0.001
Mercury (total)	mg/L			0.0006
Chromium (total)	mg/L			0.0005
Selenium (total)	mg/L			0.005
Langelier Saturation Index ³			> -0.5	<1.0

1. Salinity corrected to 25°C
2. pH of the Treated Water must be between 6.5 and 8.5

3. Langelier Saturation Index only applies to Stabilised Treated Water delivered to the TCR Delivery Point (TWDP2).
4. Not applicable during Springvale Mine Water Term

The WTF has been tailored to accommodate a specific mine water quality envelope. Where the quality of incoming mine water is materially out of the water quality envelope, a mechanism is in place to manage the conditions and maintain the treated water performance standards shown in [Table 6](#).

An overview of this mechanism is as follows.

- 24 hours written notice to request a reduction in flow to a specified rate;
- assessment of the requirement for additional pre-treatment of incoming water;
- assessment of the requirement for re-treatment if treated water performance standards have not been met;

Complete details are provided in the Operational Management Plan (MAN-3649) and the relevant actions and responses are shown in the Incident and Emergency Response Management Plan (IERMP)(MAN-3651).

The operation of the TCR and any associated discharges will be under the management of EA in consultation with the WTF operations.

9.2 Quantity and Quality of Residuals from the WTF to the REA

The performance standards regarding quantity and quality of discharge to the SCSS REA are shown in [Table 7](#).

Table 7 – Residuals Performance Standards (Veolia, 2017a)

Water Product Quality Parameter	Unit	Water Product Target Standard	
		Minimum	Maximum
Flow (daily) ¹	m3/d	0	430 ¹
Flow (annual average) ²	m3/d	0	350 ²
pH	-	6.5	8.5
Temperature	°C		40
Electrical Conductivity ³	µS/cm		2,500 ³

1. Maximum flow limit applies to the total flow inclusive of all wastes and flushing water on a daily basis
2. Maximum flow limit applies to the total flow inclusive of all wastes and flushing water on a 12-monthly basis
3. Electrical Conductivity corrected to 25°C

The electrical conductivity requirement has been corrected to a reference temperature of 25°C.

The transfer of residuals to the REA is predicted to lead to increased discharge from LDP006, which is managed by EPL3607 and the SCSS Water Management Plan.

9.3 Quality Parameters Compliance Monitoring

A frequency of quality monitoring and sampling collection to be undertaken is outlined in [Table 8](#).

A rationality of the treated water compliance monitoring will be assessed based on results from the treated water monitoring undertaken and if necessary, compliance monitoring parameters will be revised.

Table 8 – Quality Parameters Compliance Monitoring and Sampling (Veolia, 2017a)

Monitoring Point	Quality Parameters	Monitoring Frequency Program
Treated Water at the Thompsons Creek Reservoir Delivery Point	<ul style="list-style-type: none"> Conductivity uS/cm Turbidity pH 	Continuous online
	<ul style="list-style-type: none"> Total Suspended Solids mg/L Aluminium (total) mg/L Arsenic III mg/L Arsenic V mg/L Cadmium (total) mg/L Cobalt (total) mg/L Nickel (total) mg/L Zinc (total) mg/L Copper mg/L Iron (total) mg/L Boron (total) mg/L Manganese (total) mg/L Lead (total) mg/L Mercury (total) mg/L Chromium (total) mg/L Selenium (total) mg/L 	Weekly
Residuals at the Residuals Delivery Point	<ul style="list-style-type: none"> Conductivity uS/cm Temperature deg pH 	Continuous online

Quality of Partially Treated Water to Thompson Creek Reservoir

The approved MOD3, MOD4, MOD 5, MOD 7 and MOD 8 allows transfers of partially treated mine water to TCR until the end of October 2023 only.

MOD 11 allowed transfers of partially treated mine water to occur during the Power Station Double Outage period only.

Monitoring will be conducted in accordance with [Table 10](#).

10 Monitoring Program

10.1 Existing Monitoring Program and Baseline Data

With respect to addressing Schedule 3, Condition 4b of the Development Consent; the baseline datasets and continued monitoring considered relevant to assessing the predictions made in the Project EIS (GHD, 2016b) are shown in [Table 9](#) and [Figure 6](#).

Following consultation (Appendix A, B & C) with DPIE it was considered that the collection and reporting of data that is also undertaken as part of the commitments of EA and Springvale Coal would not be required under this WMP.

The upstream and downstream extents of the project are described in [Section 4.1](#). The monitoring sites required to assess the predictions made in the Project EIS (GHD, 2016a & 2016b) are beyond these extents. [Table 9](#) details the monitoring sites and which entity will be collecting and reporting on the relevant data.

The monitoring commitments under this WMP pertain to the quantity and quality of treated water and residuals being transferred from the WTF to TCR and the REA respectively. These commitments are detailed in [Section 10](#).

Table 9 – Baseline Data Collection Sites and Current Monitoring Programs

Watercourse	Monitoring Sites	Data Owner	Current Monitoring Program
N/A	LDP006	Western Coal Services	Volume and quality Daily, monthly and quarterly during discharge
Wangcol Creek	Wangcol Creek Gauge	Western Coal Services	Monthly water quality sampling
Wangcol Creek	Wangcol Creek Upstream (US)	Western Coal Services	Monthly water quality sampling
Wangcol Creek	Wangcol Creek Downstream (DS)	Western Coal Services	Monthly water quality sampling
Wangcol Creek	Wangcol Creek Far Downstream (DS)	Western Coal Services	Monthly water quality sampling
Coxs River	Coxs River (Delta Site) Downstream of Lake Wallace	Springvale Coal	Biannual water quality sampling 1
Thompsons Creek Reservoir	TC1	Energy Australia	Monthly / Weekly water quality sampling 2
Thompsons Creek	Confluence Thompsons Creek and Pipers Flat Creek	Energy Australia	One event prior to the Project EIS At least quarterly water quality sampling recommended
Pipers Flat Creek	PFup	Energy Australia	Monthly / Quarterly water quality sampling Biannual aquatic ecology monitoring
Coxs River	CR5	Springvale Coal	Biannual aquatic ecology monitoring

1. Minimum frequency of historical data (GHD, 2016b)
2. Frequency increased from Monthly to weekly in May 2016 (GHD, 2016b)

Monitoring locations have been shown in [Figure 7](#) below.

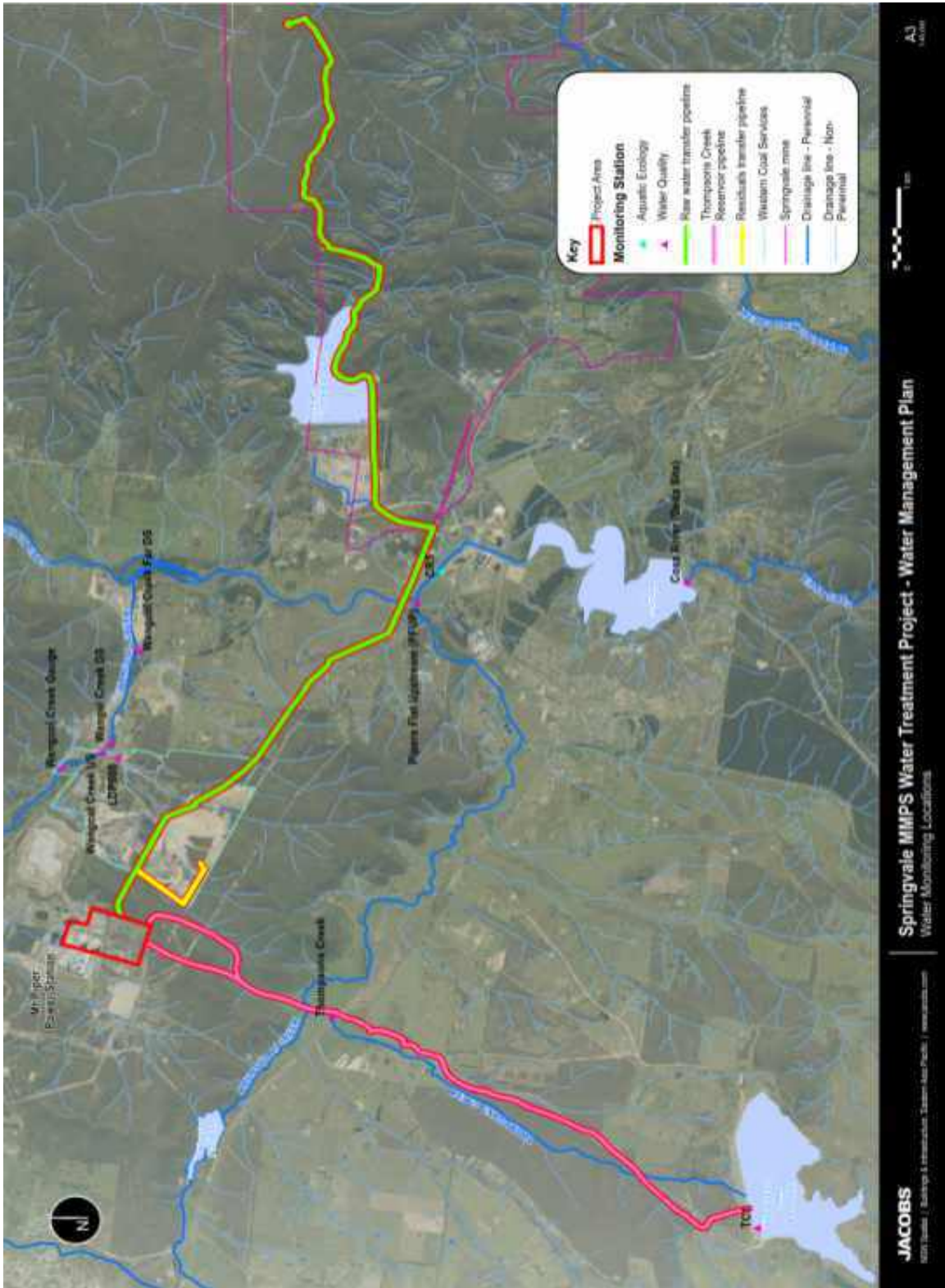


Figure 7 – Monitoring Locations

10.2 Program to Augment Baseline Data

Given the comprehensive data collection already underway in the Upper Coxs River Catchment it is considered that the current monitoring programs conducted by Springvale Coal and EA continue and that data from the sites shown in [Table 9](#) is used to augment the baseline data and allow early detection of changes to those watercourses beyond that predicted in the Project EIS (GHD, 2016a & 2016b).

Water quality monitoring will be conducted on at least a quarterly basis at the Thompsons Creek monitoring site by EA at the confluence of Thompsons Creek and Pipers Flat Creek.

The relevant data owner will provide the baseline data to Veolia on request.

10.2.1 Water and Salt Balance Update

The salt and water balances within the potentially impacted local and regional waterways are dependent upon the operation of the MPPS and the Facility within the relevant time period considered. Where MPPS is operating at a higher capacity for longer periods of time, a higher proportion of the treated water output from the Facility will be used by MPPS and a smaller proportion will be discharged into TCR.

The EIS and Development Application Amendment included predictions of salt and water balance for a variety of potential operational scenarios for the MPPS.

The predictions in the EIS and Development Application Amendment will be assessed as detailed in [Table 10](#), by the Customer.

Table 10 – Water and Salt Balance Review

Frequency	Trigger	Action
<p>Annually Using data collected on MPPS and Facility operations, as well as water quality and flow information, the salt and water balances will be compared against the EIS and Development Application Amendment predictions. These comparisons will be presented in the Annual Report (See Section 10.1)</p>	<p>If salt or water balances are negatively impacted by 25% or greater in one of more waterways, further investigations into the cause of differences will be implemented. For positive impacts (eg. lower salt loads) no further investigations will be required.</p>	<p>Based upon the investigations the following actions may be implemented:</p> <ul style="list-style-type: none"> • Changes in the operation of the mine. MPPS, Project or other infrastructure element to reduce or eliminate impacts • Recalculate salt and water balance predictions based upon new actual data.
<p>Every three years Using data collected on MPPS and Facility operations, as well as water quality and flow information, the salt and water balances will be recalculated and also compared against the EIS and Development Application Amendment predictions</p>	<p>Every three years</p>	<ul style="list-style-type: none"> • Recalculate salt and water balance predictions based upon new actual data.

11 Incidents, Emergencies and Contingency

11.1 Incident and Emergency Response

The occurrence of incidents at the Project, and the surrounding area, can potentially impact on other Project activities.

Notification, reporting, responses, corrective actions and reviews associated with Environmental Water incidents, emergencies and/or crises are conducted in accordance with the Incident and Emergency Response Management Plan (IERMP)(MAN-3651).

The IERMP outlines the management and response elements to ensure Environmental Water incidents or emergencies are appropriately and effectively responded to. A flow chart of the IERMP response has been shown in [Figure 8](#) and section reference provided below:

- Reporting of the incident - outlines the immediate onsite reporting requirements associated with incidents. It also includes all hours contact details of key site personnel who are to be contacted in the event of any incident, their roles and responsibilities.
- Classification of the incident - outlines how an incident is to be classified and provides a classification matrix (e.g. No Impact, Minor, Moderate, Major or Crisis) in order to score and then action the relevant further notification and additional response required.
- Stakeholder notification - outlines the stakeholder notification requirements and timeframes based on initial incident classification. It also includes all hours contact details of key stakeholders and entities required to be notified in the event of an Environmental Water incident.
- Responding to the incident - outlines immediate response procedures associated with Environmental Water emergencies or crises as well as response requirements associated with any original incident classification. This includes general, emergency, environmental, water, water quality and unplanned incident response procedures. Specific notification and reporting requirements are defined in emergency and crisis response procedures.
- Escalation - outlines emergencies, crises or certain incident classifications that warrant escalation within the management structure and stakeholders. This includes crisis or incident management team (IMT or CMT) assembling, working methods and quality system definition.
- Incident Investigation - outlines the level of incident investigation and record requirements based on Environmental Water incident classification. Includes references to basic, general and ICAM investigation requirements, response and management.
- Incident Management System - outlines Veolia's incident management and reporting database (Rivo) and procedures on how to use it.
- Incident or Emergency Termination - outlines the requirements, specifications and responsibilities of when an incident can be closed/terminated or emergency is over.
- Evaluation and Review - outlines the steps and response required after an incident, crisis or emergency. This includes completion of records and reviews/updates to relevant Plans, Procedures and Registers.

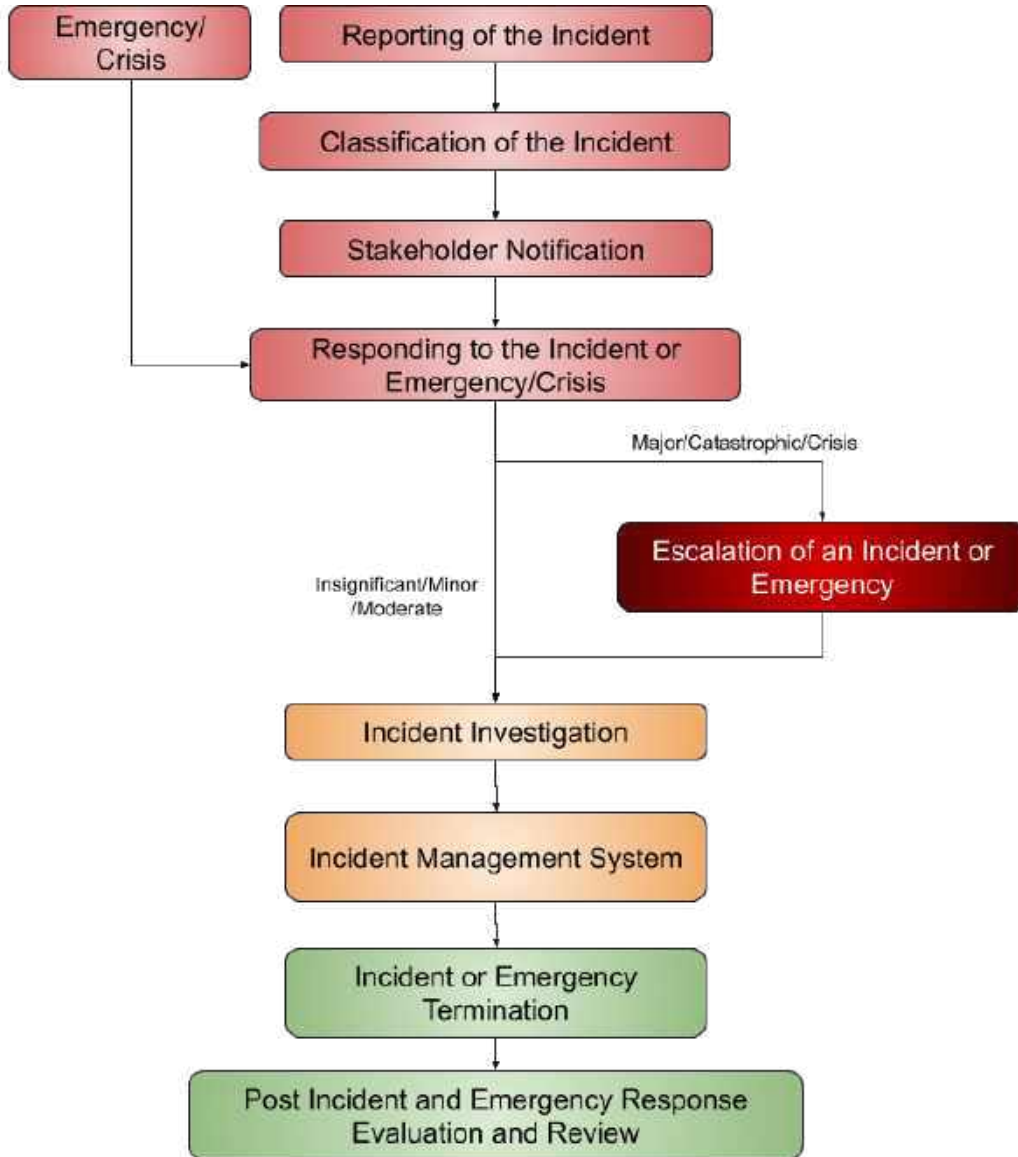


Figure 8 - Incident and Emergency Flow Chart

The IERMP also describes and outlines other relevant incident and emergency response requirements, including:

- Regulatory and contractual references;
- Governance, Roles and Responsibilities;
- Incident and Risk Management Framework;
- Incident Prevention and Preparedness;
- External Communication Protocols;
- Training;
- Audits; and
- Document Control and Records.

11.1.1 Stakeholder Incident Notification

[Figure 9](#) outlines the stakeholder incident notification process which is followed in the event of a potential Environmental Water incident, emergency or crisis. It is also captured in the Incident and Emergency Response Management Plan (IERMP)(MAN-3651).

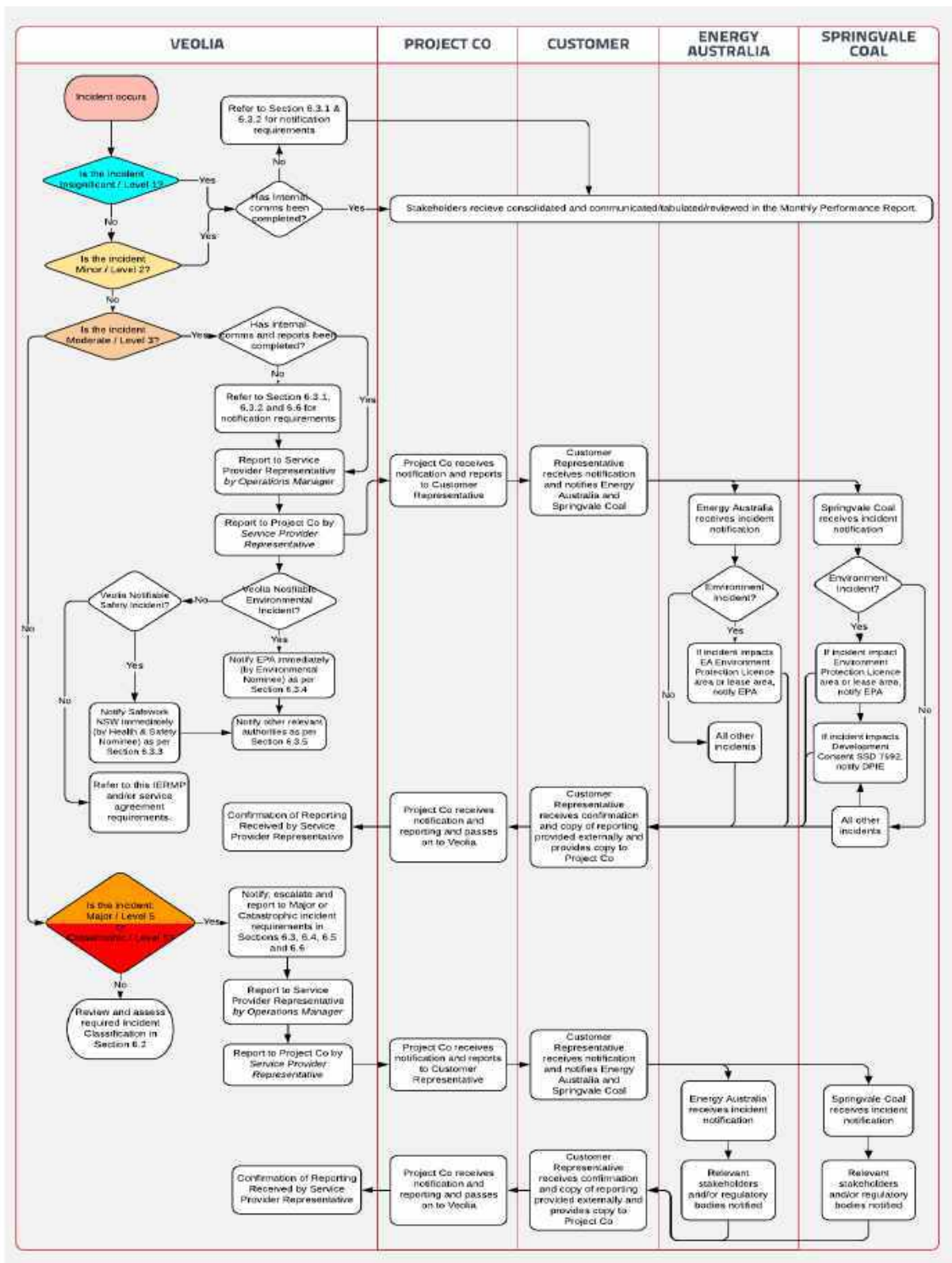


Figure 9. Stakeholder Incident Notification Flowchart

11.2 Contingency Systems

A variety of contingency measures have been considered as part of the Facility design to accommodate unforeseen circumstances relating to water management. This includes pipeline rupture and leakage that may occur as a result of general wear and tear, bush fire, falling branches etc. Such measures are included in an Operational Management Plan (MAN-3649), which is reviewed and updated routinely to support Facility operation.

The following design measures were implemented on the WTS to reduce the risk of such occurrences:

The following design measures were implemented on the facility to reduce the risk of such occurrences:

- there are no valves installed on the residuals pipeline (residuals waste) due to the water quality. An above ground hydraulic standpipe (9m high) has been installed to discharge air regularly during operation, which will prevent any spills;
- air vent valves have been installed along the mine water pipeline to discharge air regularly during operation; these air vent valves will have a spill prevention system;
- a trenched installation has been utilised where necessary to reduce the risks of vandalism, bushfire damage and mechanical damage from falling branches. The buried depth was optimised to allow access whilst providing sufficient thermal protection from bushfire;
- any loss of pressure due to leakage will be detected by flow meters installed on the upstream and downstream ends of the pipeline.
- The automatic shutdown of the vent valve will occur in approximately 15 minutes, which will isolate area where leakage is occurring; and
- the pipeline is flexible to accommodate any minor ground movement and is oversized to accommodate excess flow..

The buffer pond has a capacity of 103 ML and will provide storage to manage water during WTF plant maintenance activities. The following process will be followed:

- Incoming mine water will typically flow directly to the Actiflos as part of the water treatment process.
- A hydraulic standpipe will be configured to allow the flow to be split between the clarifiers and the buffer storage.
- Any overflows from the clarifiers, filters and filtered water tank will also be diverted directly to the buffer pond.
- Water temporarily stored in the buffer pond will be pumped back to the water treatment plant for subsequent treatment when capacity is available in the treatment system.

12 Reporting and Review

12.1 Annual Review

Schedule 4, Condition 5, of the Development Consent stipulates that by the end of March each year, the Applicant must submit a review of the environmental performance of the development for the previous calendar year to the satisfaction of the Secretary.

Results from the surface water monitoring undertaken in accordance with this WMP will be reported in the Annual Review, as discussed in Section 4.11 of the CEMP (Veolia, 2017c) and Operational Management Plan (MAN-3649).

12.2 Incident Reporting

A detailed environmental incident reporting and response procedure is provided in the Incident and Emergency Response Management Plan (IERMP)(MAN-3651).

12.3 Non-compliances

A non-compliance as defined in Development Consent SSD 7592 is *"An occurrence, set of circumstances or development that is a breach of this consent"*.

Suspected non-compliances with the Development Consent can be identified by anyone and should be reported to the Customer via Project Co and Veolia.

Non-compliance with the Development Consent will be recorded and addressed in accordance with the Operational Environmental Management Plan (OEMP) (MAN-3652) and the Incident and Emergency Response Management Plan (IERMP) (MAN-3651).

12.4 Complaints

Complaints will be managed in accordance with the Complaints Management System outlined in the Operational Management Plan [MAN-3649] and the Handling Complaints Procedure [PRO-3690].

Information about complaints will be recorded and shall include the location of any complaint, the time(s) of occurrence and the perceived source. Complaints will be responded to in a timely manner and the action taken will be recorded.

If Veolia is unable to resolve the complaint, it will be escalated in accordance with the Complaints Management Procedure [PRO-3690], which outlines the complaint handling, recording, reviewing, escalation procedures and training requirements.

12.5 Review of the WMP

This WMP and associated TARP was developed at the beginning of the Project design phase and has been updated to address operation of the Project.

Review and revision of this WMP must be done in accordance with the Schedule 4, Condition 4 of the Development Consent which states:

The Applicant must:

- *update the strategies and plans required under this consent to the satisfaction of the Secretary prior to carrying out any decommissioning activities on site; and*
- *review and, if necessary, revise the strategies and plans required under this consent to the satisfaction of the Secretary within 1 month of the:*
 - *submission of an incident report under Condition 5 below; or*
 - *any modification to the conditions of consent.*

Any formal requests to update Development Consent management plans will be conducted in accordance with Section 6.3.3 of the Incident and Emergency Response Management Plan (IERMP)[MAN-3651], which details the management plan review and approval procedure.

13 Definitions and Acronyms

Table 12 – Definitions and Acronyms

Term	Definition
ASS	Acid Sulfate Soils
BoM	Bureau of Meteorology
CoA	Certificates of Analysis
DO	Dissolved Oxygen
DPIE	Department of Planning, Industry and Environment (previously DP&E)
DP&E	Department of Planning and Environment
DPI	Department of Primary Industries
EA	Energy Australia
EC	Electrical Conductivity
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
ESCMP	Erosion and Sediment Control Management Plan
FDS	Functional Description Specification
HDD	Horizontal Directional Drilling
HNCMA	Hawkesbury-Nepean Catchment Management Authority
LDP	Licensed Discharge Point
LOS	Level of Service
MEP	Springvale Mine Extension Project
MPPS	Mount Piper Power Station
OEMP	Operational Environmental Management Plan
PEMP	Project Environmental Management Plan

POEO	Protection of the Environment Operations
REA	Reject Emplacement Area
SCSS	Springvale Coal Services Site
SCADA	Supervisory Control and Data Acquisition
SSGV	Site Specific Guideline Values
TARP	Trigger Action Response Plan
TCR	Thompsons Creek Reservoir
TSS	Total Suspended Solids
VANZ	Veolia Australia New Zealand
WAL	Water Access Licences
WRIA	Water Resources Impact Assessment
WTF	Water Treatment Facility
WTS	Water Transfer System

14 References

References

- DP&E, 2017. Development Consent. Springvale Water Treatment Project SSD 7592. Dated 19 June 2017.
- DPI Water, 2012. Aquifer Interference Policy. Published by the NSW Department of Primary Industries, a division of NSW Department of Trade and Investment, Regional Infrastructure and Services. Publication number: 11445
- DPI, 2013. Policy and Guidelines for Fish Habitat Conservation and Management. Published by the NSW Department of Primary Industries, a part of the Department of Trade and Investment, Regional Infrastructure and Services. Policy Number: TI-O-138
- GHD, 2016a. Springvale Water Treatment Project State Significant Development 7592 Environmental Impact Statement. Prepared by GHD Pty Ltd. Dated September 2016
- GHD, 2016b. Springvale Water Treatment Project Amendment to Development Application. Prepared by GHD Pty Ltd. Dated December 2016
- GHD, 2016c. Western Coal Services Project Modification 1 Water Resources Impact Assessment. Prepared by GHD Pty Ltd. Dated November 2016.
- GHD, 2017. Western Coal Services Water Management Plan. Prepared by GHD Pty Ltd. Dated September 2017
- GHD, 2019a. Springvale Water Treatment Project Modification 3. Modification Report. Prepared by GHD Pty Ltd. Dated March 2019
- GHD, 2019b. Springvale Water Treatment Project Modification 4. Modification Report. Prepared by GHD Pty Ltd. Dated September 2019;
- Landcom, 2004. Managing Urban Stormwater: Soils and Construction. 4th Edition
- NSW Fisheries, 2003. Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings
- RPS (2014) Centennial Western Coal Services Water Management Plan. Prepared RPS. Dated 04 August 2014. Document Reference S167I/011e
- Veolia, Operational Management Plan (MAN-3649). Prepared by Veolia

Appendix A - Consultation Table

Description of Consultation	How Addressed in Management Plan	Reference
Letter to EPA 18 August 2017		
Seeking the Secretaries endorsement of suitably qualified experts to prepare management plans. (letter not found, ref.P & E letter 21 August 2017)		
Letter from Planning & Environment 21 August 2017		
Advising that the Secretary had endorsed the appointment of Mr Sean Daykin of Jacobs to prepare the Water Management Plan		
Letter to EPA 28 August 2017		
Water Management Plan (WMP) is provided with letter via email		
Letter from EPA 13 September 2017 and reply Letter to EPA 17 October 2017		
<p>The EPA considers it would be beneficial to include a section in the Plan that transparently explains the roles and responsibilities of the various parties involved with the Project. For example, Energy Australia holds Environment Protection Licence 13007 (EPL) for the operation of Mt Piper. The project was originally applied for jointly by Energy Australia and Springvale Coal Pty Ltd, however, only Springvale Coal Pty Ltd is listed as holding the development consent.</p>	<p>New section 10.5 has been included to the WMP to detail the responsibilities of the three parties involved.</p>	<p>Section 10.5 of the WMP</p>
<p>Section 1.1.2 Please clarify the Licensed Discharge Point (LOP) referred to as one of the downstream extents</p>	<p>Please be noted that no evidence is found to confirm that TCR has an LDP. Section 1.1.2 has been amended to include the following: Immediately upstream of the discharge point where discharge is occurring to TCR. The LDP and TCR will continue to be managed by Energy Australia.</p>	<p>Section 1.1.2 of the WMP</p>

<p>Section 2.2.1 With reference to Thompsons Creek Reservoir (TCR) as 'a water supply storage and release point for excess treated water; the EPA understands that there is no provision to release excess water from TCR to Pipers Flat Creek beyond the current Water Access Licences (WALs) of 0.8 ML/day during September April and 0.3 ML/day during May August, or in emergency situations. Can you please confirm if the EPA's understanding is correct?</p>	<p>Please be advised that project does not consider releasing any excess water from TCR to Pipers Flat Creek beyond the current Water Access Licences (WALs), or in emergency situations.</p>	
<p>Section 2.2.2 The EPA is aware that the WTP will be constructed on a premises currently licensed by the EPA through EPL 13007. As part of the review of the Plan, the EPA has checked the premises description on EPL 13007 and determined that TCR is not listed as part of the licenced premises. As TCR is currently part of the water management operations at Mt Piper, it should be included on the premises. The EPA is aware that Appendix 1: Schedule of Land, in the consent conditions of the Springvale Water Treatment Project (SSD 7592) includes Lots and DPs over some sections of land occupying TCR. As such the EPA will contact the licensee separately to address this issue. Once TCR is part of the licenced premises, it may not need a discharge point to regulate the discharge of water within the premises. The EPA however, considers it would be prudent to require monitoring of the discharge of treated water into TCR as a Monitoring and Recording Condition on the EPL. This would allow a transparent assessment of the operational integrity of the plant and assist the EPA and water users of TCR to understand discharge volumes, quality and frequency</p>	<p>Noted. Please be advised that the EPL (13007) holder will consult with the EPA separately to discuss required amendments of the EPL (13007). The project discharge of excess treated water to TCR will be undertaken in accordance section 9.1 of the WMP.</p>	
<p>Section 3.4.2 The EPA understands that the flow in the Coxs River is 'not regulated by the TCR, only riparian releases</p>	<p>Please note that a potential error has occurred in the Environmental Impact Statement for</p>	<p>Section 3.4.2</p>

<p>are allowed from TCR</p>	<p>the Project. Section 3.4.2 of the WMP has been amended to remove the following: Flow in the Coss River is regulated by TCR and two other reservoirs, Lake Wallace and Lake Lyell. TCR and Lake Lyell reservoirs supply water for power generation activities at MPPS. Removed text is not material for the WMP.</p>	
<p>Section 4 With reference to the management of water level in TCR, Section 4 indicates that a reduction in water level by approximately 1.2 m below the current operating level would suffice. A power generation requirement of 32%(S predicted to be the lower limit for sustainable use of TCR and in the event the water level of TCR is required to be reduced the preferred option is to transfer to Lake Wallace via the Wallerawang Pipeline. The EPA is seeking clarification on the location and description of the Wallerawang Pipeline?</p>	<p>Please be advised that the Wallerawang Pipeline transfer water from Lake Wallace to TCR only. TCR water level management is discussed in the Energy Australia water management scheme</p>	
<p>Section 6 Indicates that 240m of lime salt and crystalliser waste per day is to be co-disposed with fly-ash; the EPA requests clarification that the licensee has the appropriate planning approvals and that the ash repository can receive the extra volume of material.</p>	<p>Noted. Please be advised that the EPL (13007) holder will consult with the EPA separately to discuss ash repository management.</p>	
<p>Section 9.1 With reference to Table 5 Treated Water Performance Standards', the EPA acknowledges and accepts the limits defined for water product quality parameter to be piped to TCR.</p>	<p>Noted.</p>	

Letter to WaterNSW 28 August 2017		
Water Management Plan (WMP) is provided with letter via email		
Letter from WaterNSW 21 September and Letter to WaterNSW 17 October 2017		
<p>1. The WMP has been prepared to manage the impact on the local water resources of the construction and operation of the 15 kilometre water transfer pipeline system (referred to as the Water Transfer System (WTS)) and the Water Treatment Facility (WTF) (essentially a desalination plant to treat the mine water for use in the MPPS). WaterNSW understands that the WMP has been prepared at this early detailed design stage and will be subject to amendments and updates as the project moves into construction and then operation.</p>	<p>Correct. The WMP will be reviewed and updated prior to commissioning and then prior to operation of the WTF.</p>	<p>Refer to section 10.3 of the WMP</p>
<p>2. WaterNSW supports the amended proposal that proposes the use of the treated mine water at Mount Piper Power Station (MPPS) with discharge of only excess unused treated water to Thompson Creek Reservoir (TCR), thereby eliminating the need to discharge to Wangcol Creek. There is a minor negative impact on Wangcol Creek but the implementation of the SWTP will achieve the overall improvement to the Upper Cocks River catchment by eliminating discharges both at LDP006 on Wangcol Creek and further downstream at LDP009 on the Upper Cocks River. WaterNSW has recommended that the predicted minor deterioration in water quality in the immediate vicinity of Wangcol Creek be addressed by further mitigation measures. WaterNSW notes that the WMP states that a Brine Management Plan will be developed at the WTP prior to commencement of the project. WaterNSW reiterates its earlier suggestion that either lining of the Rejects Emplacement Area (REA) at the WCS site to prevent salts in the residuals</p>	<p>Project impacts to Wangcol Creek have been assessed as part of the Project Environmental Impact Statement (EIS), which is now approved. The WMP addresses the predicted impacts of the approved project description. The brine and residual waste management plan (to be developed prior to project commissioning in accordance with condition 5 of the Development Consent) will include a detailed investigation of the potential impacts of the residual waste disposal at REA as well as additional mitigation measures to reduce the impacts of brine and residuals waste. This plan is required to be developed in consultation with WaterNSW and WaterNSW will have an opportunity to provide recommendation on the proposed</p>	<p>Brine and Residual Waste Management Plan</p>

<p>leaching to the groundwater system or dewatering of sludge prior to disposal to remove excess water from the sludge. WaterNSW recommends regular updating of the water and salt balance at LDP006 once the WTS and WTP commence and actual monitoring data becomes available, and an adaptive approach to managing salt levels and loads in Wangcol Creek.</p>	<p>management controls.</p>	
<p>3. WaterNSW notes that a clearly defined Protocol/Agreement needs to be established for operation management of the proposed water transfer and treatment system between Springvale Mine, Energy Australia and Veolia Water. It is noted that the operation of TCR and any associated discharges will be under the management of Energy Australia while the management of migration of saline water from the Rejects Emplacement Area (REA) via Cooks Dam to LDP006 on Wangcol Creek are managed by Springvale Coal as part of the WCS water management plan. The quality of water that is supplied by the WTF to TCR and the quantity and quality of residuals that are supplied to the WTF to the REA is under the management of the Springvale and Mount Piper Power Station (SMPPS). WaterNSW notes that the performance standards and TARPs for managing the quality of water from the WTF to the TCR and the quality and quantity of residuals from the WTF to the REA are discussed in Section 9 of the WMP. The Protocol/Agreement needs to clearly detail the responsibilities and management actions including contingency measures to meet the performance standards and TARPs. WaterNSW notes that a power generation requirement of 32% at MPPS was predicted to be the lower limit for the sustainable use of TCR to store excess treated water in the event of mine water exceeds power generation demands. While WaterNSW agrees that the likelihood</p>	<p>New section 10.5 has been included to the WMP to detail the responsibilities of the three parties involved. A Trigger Action Response Plan (TARP) has been developed and the TARP will be subject to review and update prior to Project commissioning.</p>	<p>Refer to section 10.5 of the WMP Refer to Appendix C of the WMP</p>

<p>of an extended downturn in power generation below 32% for a constant period greater than two years is highly unlikely, some assurance or commitment from Energy Australia regarding the proposed future life of the MPPS should be clearly stated in the Protocol.</p>		
<p>4. WaterNSW is satisfied that measures detailed in Section 5 of the WMP if implemented will comply with the water management performance measures. WaterNSW notes that the Erosion and Sediment Control Plan provided in Appendix B of the WMP with regards to construction and operation of the WTS and WTP infrastructure is generic in nature. It is assumed that more detailed site specific plans will be developed as the project progresses from the detailed design stage to construction phase particularly for the pipeline crossings across waterways. WaterNSW notes that the Coxs River waterway crossing will be achieved through horizontal directional drilling of the bore approximately 1,530m long. WaterNSW recommends that investigation regarding the water table in this location be confirmed prior to the drilling for the waterway crossing and appropriate measures be taken if necessary.</p>	<p>Noted. Progressive detailed Erosion and Sediment Control plans will be prepared prior to commencement of construction works. Amended sections of the plan relating to the waterways crossing will be provide to WaterNSW four weeks beforehand for their review and comment. If the site investigations prior to drilling determine that the bore will intercept the water table then measures must be taken to minimise the interaction with groundwater such as appropriately weighted drilling muds. It is noted that the installation of pipelines where a WAL is not required is considered a minimal impact aquifer interference activity and therefore does not require assessment in accordance with the Aquifer Interference Policy (DPI Water, 2012).</p>	<p>Refer to section 5.3.3.2 of the WMP</p>
<p>5. The monitoring program and monitoring sites detailed in Section 7 and table 3 is considered adequate to assess the impact on local water resources due to the construction and operation of the WTS and WTP elements of the project. WaterNSW notes that the proposed monitoring involves a reduction of monitoring within Wangcol Creek and increased monitoring Thompsons Creek Reservoir and downstream of Pipers Flat Creek and Lake Wallace (in</p>	<p>Section 7.2 of the WMP has been amended to include the following: Given the comprehensive data collection already underway along Wangcol Creek and Coxs River in the vicinity of the Project it is considered that the current monitoring programs conducted by Centennial Coal and Energy Australia continue and that data from the sites</p>	<p>Refer to section 7.2.1 of the WMP</p>

<p>the event that transfers from the Reservoir to Lake Wallace are required. WaterNSW seeks clarification as to whether the reduction in monitoring at Wangcol Creek is in existing monitoring or monitoring proposed for original project which involved discharge in the vicinity of LDP006.</p>	<p>shown in Table 7.1 is provided to augment the baseline data and allow early detection of any Project related impacts. New section 7.2.1 Water and Salt Balance Update has been included: It is recommended that the water and salt balance for the area encompassing the Project, including Wangcol Creek and LDP006, be periodically updated as operational data becomes available and an assessment is made of predicted versus actual impacts.</p>	
<p>6. The WMP Section 8 Contingency Plan states that contingency plans for the Project construction are documented in a Construction Environmental Management Plan. Is there also an Operational Environmental Management Plan for the operational stage of the Project? The section only discusses design measures to be implemented during operational stage in relation to water management.</p>	<p>Section 8.2 of the WMP has been amended to include the following: Such measures will be included in an Operational Environmental Management Plan (OEMP), which will be provided for review and updated prior to Project commission.</p>	<p>Refer to section 8.2 of the WMP</p>
<p>Email from WaterNSW 18 October 2017</p>		
<p>Advising they were satisfied that all of WaterNSW comments provided on 21 September have been addressed by Veolia</p>		
<p>Email from OEH 18 October 2017</p>		
<p>Advising that there was no need for further clarification.</p>		

Appendix B - Consultation DPIE



**Planning &
Environment**

**Planning Services
Resource and Energy Assessments**
Contact: Paul Freeman
Phone: 02 9274 6587
Email: paul.freeman@planning.nsw.gov.au

Mr Nick Stokes-Hughes
Project Director
Veolia Environmental Services
Level 4, 65 Pirrama Road
Pyrmont NSW 2009

Dear Mr Stokes-Hughes

**Springvale Water Treatment Project (SSD 7592)
Management Plans**

I refer to your letter dated 18 August 2017 seeking the Secretary's endorsement of suitably qualified experts to prepare management plans for the Springvale Water Treatment Project.

The Department has reviewed the information you have provided to support your request.

I advise you that the Secretary has endorsed the appointment of Mr Sean Daykin of Jacobs to prepare the Water Management Plan, and Mr Andrew Costell of Jacobs to prepare the Aboriginal Cultural Heritage Management Plan for the project.

if you wish to discuss the matter further please contact Paul Freeman on 9274 6587.

Yours sincerely

A handwritten signature in blue ink that reads "Clay Preshaw" followed by the date "21/8/17".

Clay Preshaw
Director
Resource and Energy Assessments
as nominee of the Secretary



Ref: SMPPS-O-00-M13-00-13

28 August 2017

ATT: Allan Adams
Regional Operations Unit – Central West
NSW Environment Protection Authority
PO Box 1388, Bathurst, NSW, 2795

Mr. Adams,

Re: Springvale Water Treatment Project (SSD 7592) – Consultation for Preparation of Water Management Plan

With reference to the Development Consent for the Springvale Water Treatment Project (SSD 7592) which was approved by the Planning Assessment Commission on 19 June 2017. Veolia Australia and New Zealand (Veolia) has been selected as the specialist Water Service Company to finance, design, construct, commission and operate the Springvale Water Treatment Project (Project).

As part of its responsibilities under the contract, Veolia is required to prepare, obtain approval and implement environmental management systems and plans as defined under the Conditions of the Development Consent (Consent).

In accordance with condition 4, schedule 3 of the Consent, a Water Management Plan (WMP) detailing water management measures for the Project are to be developed in consultation with the NSW Environment Protection Authority (EPA).

Veolia understands that the EPA was invited to provide comments as part of the Project assessment process, including the Environmental Impact Statement, and the Submission Report. Consequently, we would like to request feedback from the EPA for any additional considerations in preparation of the WMP.

The WMP (electronic copy) is provided with this letter via email (allan.adams@epa.nsw.gov.au).

We look forward to your consideration of this request. Please do not hesitate to contact myself or Environmental Planning Lead, Elena Ivanova (+61 (0) 415 556 620; elena.ivanova@veolia.com) should you have any questions or if any item requires discussion.

Yours sincerely,

A handwritten signature in blue ink that reads "Nick Stokes-Hughes". The signature is written in a cursive style and is positioned above a horizontal dotted line.

Nick Stokes-Hughes

Project Director - Veolia Australia and New Zealand

M: +61 (0) 428 672 115 | E: nicholas.stokeshughes@veolia.com



Your reference :
Our reference : SF16/23773; DOC17/450460-01
Contact : Mr Allan Adams; (02) 6332 7610

Nick Stokes-Hughes
Project Director
Veolia Australia and New Zealand
Cnr Unwin and Shirley Streets
Rosehill NSW 2142

Attn: Ms Elena Ivanova

13 September 2017

Dear Mr Stokes-Hughes

Re: Springvale Water Treatment Project (SSD 7592) – Water Management Plan

I refer to your letter dated 28 August 2017 requesting comments on the Springvale Water Management Plan (the Plan). As per your letter, the Environment Protection Authority (EPA) acknowledges that Veolia Australia and New Zealand (Veolia) has been selected as the company to finance, design, construct, commission and operate the Springvale Water Treatment Project (the Project). The EPA also acknowledges that Veolia has a contract with the licensee of the project, and that Conditions of the Consent – Condition 4, Schedule 3 requires a Water Management Plan to be developed in consultation with the EPA.

The EPA considers it would be beneficial to include a section in the Plan that transparently explains the roles and responsibilities of the various parties involved with the Project. For example, Energy Australia holds Environment Protection Licence 13007 (EPL) for the operation of Mt Piper. The project was originally applied for jointly by Energy Australia and Springvale Coal Pty Ltd, however, only Springvale Coal Pty Ltd is listed as holding the development consent. Veolia is responsible for the design, construction and operation of the project; however, this activity will take place on the existing licenced premises of Energy Australia. The EPA confirms that the licensee, Energy Australia will remain primarily responsible for compliance with licence conditions including project activities undertaken by Veolia on the premises which will include the construction and operation of the Water Treatment Plant (WTP).

Management tools and programs should assist the licensee in meeting their commitment to statutory compliance and wider environmental management and where appropriate should be integrated with other operational or management plans. The EPA recommends that such plans be audited to an industry standard or certified to the ISO 14001 standard (if applicable) as part of any overall environmental management systems.

The EPA encourages the development of Environmental Management Plans and Programs to ensure that licensees have determined how they will meet their statutory obligations and environmental objectives as specified by the Conditions of Consent and/or the conditions of environment protection licence 13007. However, the EPA does not review these plans/programs (unless in circumstances deemed necessary) as the role of the EPA is to establish and regulate against environment protection and management criteria. As such, the EPA does not become directly involved in the development of strategies to comply with such conditions/criteria.

The EPA has reviewed the plan and provides the following comments, and requests clarification on several matters:

- **Section 1.1.2:** Please clarify the Licensed Discharge Point (LDP) referred to as one of the downstream extents.
-
- **Section 2.2.1:** With reference to Thompsons Creek Reservoir (TCR) as "a water supply storage and release point for excess treated water"; the EPA understands that there is no provision to release excess water from TCR to Pipers Flat Creek beyond the current Water Access Licences (WALs) of 0.8 ML/day during September – April and 0.3 ML/day during May – August, or in emergency situations. Can you please confirm if the EPA's understanding is correct?
- **Section 2.2.2:** The EPA is aware that the WTP will be constructed on a premises currently licensed by the EPA through EPL 13007. As part of the review of the Plan, the EPA has checked the premises description on EPL 13007 and determined that TCR is not listed as part of the licenced premises. As TCR is currently part of the water management operations at Mt Piper, it should be included on the premises. The EPA is aware that Appendix 1: Schedule of Land, in the consent conditions of the Springvale Water Treatment Project (SSD 7592) includes Lots and DPs over some sections of land occupying TCR. As such, the EPA will contact the licensee separately to address this issue. Once TCR is part of the licenced premises, it may not need a discharge point to regulate the discharge of water within the premises. The EPA however, considers it would be prudent to require monitoring of the discharge of treated water into TCR as a Monitoring and Recording Condition on the EPL. This would allow a transparent assessment of the operational integrity of the plant and assist the EPA and water users of TCR to understand discharge volumes, quality and frequency.
- **Section 3.4.2:** The EPA understands that the flow in the Coxs River is 'not' regulated by the TCR, only riparian releases are allowed from TCR.
- **Section 4:** With reference to the management of water level in TCR, Section 4 indicates that a reduction in water level by approximately 1.2 m below the current operating level would suffice. A power generation requirement of 32% is predicted to be the lower limit for sustainable use of TCR, and in the event the water level of TCR is required to be reduced the preferred option is to transfer to Lake Wallace via the 'Wallerawang Pipeline'. The EPA is seeking clarification on the location and description of the Wallerawang Pipeline?
- **Section 6:** Indicates that 240m³ of lime salt and crystalliser waste per day is to be co-disposed with fly-ash; the EPA requests clarification that the licensee has the appropriate planning approvals and that the ash repository can receive the extra volume of material.
- **Section 9.1:** With reference to 'Table 5 – Treated Water Performance Standards', the EPA acknowledges and accepts the limits defined for "water product quality parameter" to be piped to TCR.

The EPA acknowledges that Veolia is undertaking work in a complex regulatory arrangement and would be happy to meet at the premise to discuss any concerns you or the project team have. Should you have any further enquiries in relation to this matter please contact Mr Allan Adams at the Central West (Bathurst) Office of the EPA by telephoning (02) 6332 7610.

Yours sincerely



ALLAN ADAMS

**A/Head Central West Unit
Environment Protection Authority**



17 October 2017

Ref: SMPPS-O-00-M13-00-35

Mr Allan Adams
 A/Head Central West Unit
 Environment Protection Authority
 PO Box 1388, Bathurst, NSW, 2795

Mr. Adams,

Re: Springvale Water Treatment Project (SSD 7592) – Consultation for Preparation of the Water Management Plan

Veolia Australia and New Zealand (Veolia) refers to correspondence received on 14 September 2017 via email from The EPA with queries pertaining to the draft Water Management Plan (WMP) for the Springvale Water Treatment Project.

Veolia also hereby provides a response to recommendations provided by the EPA as outlined in the table below.

EPA Comments	Clarification / Response	References
Water Management Plan		
The EPA considers it would be beneficial to include a section in the Plan that transparently explains the roles and responsibilities of the various parties involved with the Project. For example, Energy Australia holds Environment Protection Licence 13007 (EPL) for the operation of Mt Piper. The project was originally applied for jointly by Energy Australia and Springvale Coal Pty Ltd, however, only Springvale Coal Pty Ltd is listed as holding the development consent.	New section 10.5 has been included to the WMP to detail the responsibilities of the three parties involved.	Section 10.5 of the WMP
Section 1.1.2 Please clarify the Licensed Discharge Point (LOP) referred to as one of the downstream extents	Please be noted that no evidence is found to confirm that TCR has an LDP. Section 1.1.2 has been amended to include the following: Immediately upstream of the discharge point where discharge is occurring to TCR. The LDP and TCR will continue to be managed by Energy Australia.	Section 1.1.2 of the WMP
Section 2.2.1 With reference to Thompsons Creek Reservoir (TCR) as 'a water supply storage and release point for excess treated water; the EPA understands that there is no provision to release excess water from TCR to Pipers Flat Creek beyond the current Water Access Licences (WALs) of 0.8 ML/day during September April and 0.3 ML/day during May August, or in emergency situations. Can you please confirm if the EPA's understanding is correct?	Please be advised that project does not consider releasing any excess water from TCR to Pipers Flat Creek beyond the current Water Access Licences (WALs), or in emergency situations.	
Section 2.2.2 The EPA is aware that the WTP will be constructed on a premises currently licensed by the EPA through EPL 13007. As part of the review of the Plan, the EPA has checked the premises description on EPL 13007 and determined that TCR is not listed as part of the licenced premises. As TCR is currently part of the water management operations at Mt Piper, it should be included on the premises. The EPA is aware that Appendix 1: Schedule of Land, in the consent conditions of the Springvale Water Treatment Project (SSD 7592) includes Lots and DPs over some sections of land occupying TCR. As such the EPA will contact the licensee separately to address this issue. Once TCR is part of the licenced premises, it may not need a discharge point to regulate the discharge of water within the premises. The EPA however, considers it would be prudent to require monitoring of the discharge of treated water into TCR as a	Noted. Please be advised that the EPL (13007) holder will consult with the EPA separately to discuss required amendments of the EPL (13007). The project discharge of excess treated water to TCR will be undertaken in accordance section 9.1 of the WMP.	



EPA Comments	Clarification / Response	References
Monitoring and Recording Condition on the EPL. This would allow a transparent assessment of the operational integrity of the plant and assist the EPA and water users of TCR to understand discharge volumes, quality and frequency		
Section 3.4.2 The EPA understands that the flow in the Coxs River is 'not regulated by the TCR, only riparian releases are allowed from TCR	Please note that a potential error has occurred in the Environmental Impact Statement for the Project. Section 3.4.2 of the WMP has been amended to remove the following: Flow in the Coxs River is regulated by TCR and two other reservoirs, Lake Wallace and Lake Lyell. TCR and Lake Lyell reservoirs supply water for power generation activities at MPPS. Removed text is not material for the WMP.	Section 3.4.2
Section 4 With reference to the management of water level in TCR, Section 4 indicates that a reduction in water level by approximately 1.2 m below the current operating level would suffice. A power generation requirement of 32%(S predicted to be the lower limit for sustainable use of TCR and in the event the water level of TCR is required to be reduced the preferred option is to transfer to Lake Wallace via the Wallerawang Pipeline. The EPA is seeking clarification on the location and description of the Wallerawang Pipeline?	Please be advised that the Wallerawang Pipeline transfer water from Lake Wallace to TCR only. TCR water level management is discussed in the Energy Australia water management scheme.	
Section 6 Indicates that 240m of lime salt and crystalliser waste per day is to be co-disposed with fly-ash; the EPA requests clarification that the licensee has the appropriate planning approvals and that the ash repository can receive the extra volume of material.	Noted. Please be advised that the EPL (13007) holder will consult with the EPA separately to discuss ash repository management.	
Section 9.1 With reference to Table 5 Treated Water Performance Standards', the EPA acknowledges and accepts the limits defined for water product quality parameter to be piped to TCR.	Noted.	

The updated WMP (electronic copy) is provided with this letter via email (allan.adams@epa.nsw.gov.au).

Should you wish for further clarification, please do not hesitate to contact myself or Environmental Planning Lead, Elena Ivanova (+61 415 556 620; elena.ivanova@veolia.com).

Yours sincerely,

Nick Stokes-Hughes

Project Director - Veolia Australia and New Zealand

M: +61 (0) 428 672 115 | E: nicholas.stokeshughes@veolia.com



Veolia Ref: SMPPS-O-07-M13-00-14

Ivanova, Elena <elena.ivanova@veolia.com>

RE: HPE CM: Fwd: Veolia - Springvale Water Treatment Project (SSD 7592) - Consultation

1 message

Allan Adams <Allan.Adams@epa.nsw.gov.au>
To: "Ivanova, Elena" <elena.ivanova@veolia.com>
Cc: Rebecca Scrivener <Rebecca.Scrivener@epa.nsw.gov.au>

25 October 2017 at 14:35

Dear Elena

With regards to your questions below, the EPA has determined that Veolia will not require a new EPL for the construction and operation of the Springvale Water Treatment Project.

In addition, as stated in the EPA letter to Veolia on 13 September 2017, with reference to 'Table 5 – Treated Water Performance Standards' (Table 5), the EPA accepts the limits defined for "water product quality parameter" to be piped to TCR. Further, the EPA confirms no additional monitoring parameters of treated water to be released to Thompson Creek Reservoir are required beyond what is proposed in Table 5 of the Water Management Plan.

Thanks

Allan

Allan Adams**Regional Operations Officer – Central West**

South Branch, NSW Environment Protection Authority

(02) 6332 7610 - 0438 598 680

allan.adams@epa.nsw.gov.au www.epa.nsw.gov.au [@EPA_NSW](https://twitter.com/EPA_NSW)**Report pollution and environmental incidents 131 555 (NSW only) or +61 2 9995 5555**Please send official electronic correspondence to central.west@epa.nsw.gov.au

From: Ivanova, Elena [mailto:elena.ivanova@veolia.com]
Sent: Tuesday, 24 October 2017 2:58 PM
To: Allan Adams <Allan.Adams@epa.nsw.gov.au>
Subject: Fwd: HPE CM: Fwd: Veolia - Springvale Water Treatment Project (SSD 7592) - Consultation

Hi Allan,

With reference to our recent phone conversation, could you please re-confirm the following:

- a new EPL is not required for the Project construction and operation;
- no additional monitoring parameters of treated water to be released to Thompson Creek Reservoir would be required to what is proposed in section 9.1 of the Water Management Plan.

I have attached the EPA letter with comments on the Water Management Plan (WMP) for your reference.

As you know we are in the process of finalising the WMP which shall be submitted to Department of Planning and Environment on 25.10.2017 for approval. I would appreciate if you could provide a response at your earliest convenience

Thanks in advance.

Best Regards,

Elena Ivanova
Project Manager
HEAD OFFICE

cell: +61 415 556 620
Level 4, 65 Pirrama Road / Pyrmont NSW 2009 Australia
www.veolia.com/anz

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----- Forwarded message -----

From: **Allan Adams** <Allan.Adams@epa.nsw.gov.au>
Date: 13 September 2017 at 16:26
Subject: RE: HPE CM: Fwd: Veolia - Springvale Water Treatment Project (SSD 7592) - Consultation
To: "Ivanova, Elena" <elena.ivanova@veolia.com>

Dear Ms Ivanova

Attached is EPA letter commenting on Springvale MPPS Water Treatment Project

Thanks

Allan

Allan Adams

A/Head Regional Operations Unit – Central West

South Branch, NSW Environment Protection Authority

(02) 6332 7610 - 0438 598 680

allan.adams@epa.nsw.gov.au www.epa.nsw.gov.au [@EPA_NSW](https://twitter.com/EPA_NSW)

Report pollution and environmental incidents 131 555 (NSW only) or +61 2 9995 5555



Please send official electronic correspondence to central.west@epa.nsw.gov.au

From: Ivanova, Elena [mailto:elena.ivanova@veolia.com]

Sent: Tuesday, 29 August 2017 12:07 PM

To: Allan Adams <Allan.Adams@epa.nsw.gov.au>

Cc: Darryl Clift <Darryl.Clift@epa.nsw.gov.au>

Subject: HPE CM: Fwd: Veolia - Springvale Water Treatment Project (SSD 7592) - Consultation

Good morning Allan,

As you may already be aware that Veolia has been selected as specialist water services company to finance, design, construct and operate the Springvale Water Treatment Project (SSD 7592).

As part of its responsibilities under the contract , Veolia is required to prepare, obtain approval and implement management system and plans as defined under the Conditions of the Development Consent (SSD 7592).

We would like to request feedback from the EPA for any additional consideration in preparation of a Water Management Plan, a draft of the plan is attached for your reference.

Should you have any enquiries or require further information please feel free to contact me.

Best Regards,

Elena Ivanova
Project Manager
HEAD OFFICE

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PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

Appendix C - Consultation Water NSW



Ref: MPPS-O-00-M13-00-12

28 August 2017

ATT: Peter Dupen
Manger, Mining
WaterNSW
Level 4, 2-6 Station St,
Penrith, NSW, 2750

Mr. Dupen,

Re: Springvale Water Treatment Project (SSD 7592) – Consultation for Preparation of Water Management Plan

With reference to the Development Consent for the Springvale Water Treatment Project (SSD 7592) which was approved by the Planning Assessment Commission on 19 June 2017. Veolia Australia and New Zealand (Veolia) has been selected as the specialist Water Service Company to finance, design, construct, commission and operate the Springvale Water Treatment Project (Project).

As part of its responsibilities under the contract, Veolia is required to prepare, obtain approval and implement environmental management systems and plans as defined under the Conditions of the Development Consent (Consent).

In accordance with condition 4, schedule 3 of the Consent, a Water Management Plan (WMP) detailing water management measures for the Project are to be developed in consultation with WaterNSW.

Veolia understands that WaterNSW was invited to provide comments as part of the Project assessment process, including the Environmental Impact Statement, and the Submission Report. Consequently, we would like to request feedback from the WaterNSW for any additional considerations in preparation of the WMP.

The WMP (electronic copy) is provided with this letter via email (peter.dupen@waterNSW.com.au).

We look forward to your consideration of this request. Please do not hesitate to contact myself or Environmental Planning Lead, Elena Ivanova (+61 (0) 415 556 620; elena.ivanova@veolia.com) should you have any questions or if any item requires discussion.

Yours sincerely,

A handwritten signature in blue ink that reads "Nick Stokes-Hughes". The signature is written in a cursive style and is positioned above a horizontal dotted line.

Nick Stokes-Hughes

Project Director - Veolia Australia and New Zealand

M: +61 (0) 428 672 115 | E: nicholas.stokes-hughes@veolia.com



17 October 2017

Ref: SMPPS-O-00-M13-00-34

ATT: Peter Dupen
 Manger, Mining
 WaterNSW
 Level 4, 2-6 Station St,
 Penrith, NSW, 2750

Mr. Dupen,

Re: Springvale Water Treatment Project (SSD 7592) – Consultation for Preparation of the Water Management Plan

Veolia Australia and New Zealand (Veolia) refers to correspondence received on 21 September 2017 via email form WaterNSW with queries pertaining to the draft Water Management Plan (WMP) for the Springvale Water Treatment Project.

Veolia also hereby provides a response to recommendations provided by WaterNSW as outlined in the table below.

WaterNSW Comments	Veolia's Response / Clarification	Reference
draft Water Management Plan (WMP)		
1.The WMP has been prepared to manage the impact on the local water resources of the construction and operation of the 15 kilometre water transfer pipeline system (referred to as the Water Transfer System (WTS)) and the Water Treatment Facility (WTF) (essentially a desalination plant to treat the mine water for use in the MPPS). WaterNSW understands that the WMP has been prepared at this early detailed design stage and will be subject to amendments and updates as the project moves into construction and then operation.	Correct. The WMP will be reviewed and updated prior to commissioning and then prior to operation of the WTF.	Refer to section 10.3 of the WMP
2. WaterNSW supports the amended proposal that proposes the use of the treated mine water at Mount Piper Power Station (MPPS) with discharge of only excess unused treated water to Thompson Creek Reservoir (TCR), thereby eliminating the need to discharge to Wangcol Creek. There is a minor negative impact on Wangcol Creek but the implementation of the SWTP will achieve the overall improvement to the Upper Coxs River catchment by eliminating discharges both at LDP006 on Wangcol Creek and further downstream at LDP009 on the Upper Coxs River. WaterNSW has recommended that the predicted minor deterioration in water quality in the immediate vicinity of Wangcol Creek be addressed by further mitigation measures. WaterNSW notes that the WMP states that a Brine Management Plan will be developed at the WTP prior to commencement of the project. WaterNSW reiterates its earlier suggestion that either lining of the Rejects Emplacement Area (REA) at the WCS site to prevent salts in the residuals leaching to the groundwater system or dewatering of sludge prior to disposal to remove excess water from the sludge. WaterNSW recommends regular updating of the water and salt balance at LDP006 once the WTS and WTP commence and actual monitoring data becomes available, and an adaptive approach to managing salt levels and loads in Wangcol Creek.	Project impacts to Wangcol Creek have been assessed as part of the Project Environmental Impact Statement (EIS), which is now approved. The WMP addresses the predicted impacts of the approved project description. The brine and residual waste management plan (to be developed prior to project commissioning in accordance with condition 5 of the Development Consent) will include a detailed investigation of the potential impacts of the residual waste disposal at REA as well as additional mitigation measures to reduce the impacts of brine and residuals waste. This plan is required to be developed in consultation with WaterNSW and WaterNSW will have an opportunity to provide recommendation on the proposed management controls.	Brine and Residual Waste Management Plan



WaterNSW Comments	Veolia's Response / Clarification	Reference
<p>3. WaterNSW notes that a clearly defined Protocol/Agreement needs to be established for operation management of the proposed water transfer and treatment system between Springvale Mine, Energy Australia and Veolia Water. It is noted that the operation of TCR and any associated discharges will be under the management of Energy Australia while the management of migration of saline water from the Rejects Emplacement Area (REA) via Cooks Dam to LDP006 on Wangcol Creek are managed by Springvale Coal as part of the WCS water management plan. The quality of water that is supplied by the WTF to TCR and the quantity and quality of residuals that are supplied to the WTF to the REA is under the management of the Springvale and Mount Piper Power Station (SMPPS). WaterNSW notes that the performance standards and TARPs for managing the quality of water from the WTF to the TCR and the quality and quantity of residuals from the WTF to the REA are discussed in Section 9 of the WMP. The Protocol/Agreement needs to clearly detail the responsibilities and management actions including contingency measures to meet the performance standards and TARPs. WaterNSW notes that a power generation requirement of 32% at MPPS was predicted to be the lower limit for the sustainable use of TCR to store excess treated water in the event of mine water exceeds power generation demands. While WaterNSW agrees that the likelihood of an extended downturn in power generation below 32% for a constant period greater than two years is highly unlikely, some assurance or commitment from Energy Australia regarding the proposed future life of the MPPS should be clearly stated in the Protocol.</p>	<p>New section 10.5 has been included to the WMP to detail the responsibilities of the three parties involved.</p> <p>A Trigger Action Response Plan (TARP) has been developed and the TARP will be subject to review and update prior to Project commissioning.</p>	<p>Refer to section 10.5 of the WMP</p> <p>Refer to Appendix C of the WMP</p>
<p>4. WaterNSW is satisfied that measures detailed in Section 5 of the WMP if implemented will comply with the water management performance measures. WaterNSW notes that the Erosion and Sediment Control Plan provided in Appendix B of the WMP with regards to construction and operation of the WTS and WTP infrastructure is generic in nature. It is assumed that more detailed site specific plans will be developed as the project progresses from the detailed design stage to construction phase particularly for the pipeline crossings across waterways. WaterNSW notes that the Coxs River waterway crossing will be achieved through horizontal directional drilling of the bore approximately 1,530m long. WaterNSW recommends that investigation regarding the water table in this location be confirmed prior to the drilling for the waterway crossing and appropriate measures be taken if necessary.</p>	<p>Noted.</p> <p>Progressive detailed Erosion and Sediment Control plans will be prepared prior to commencement of construction works. Amended sections of the plan relating to the waterways crossing will be provide to WaterNSW four weeks beforehand for their review and comment.</p> <p>If the site investigations prior to drilling determine that the bore will intercept the water table then measures must be taken to minimise the interaction with groundwater such as appropriately weighted drilling muds. It is noted that the installation of pipelines where a WAL is not required is considered a minimal impact aquifer interference activity and therefore does not require assessment in accordance with the Aquifer Interference Policy (DPI Water, 2012).</p>	<p>Refer to section 5.3.3.2 of the WMP</p>
<p>5. The monitoring program and monitoring sites detailed in Section 7 and table 3 is considered adequate to assess the impact on local water resources due to the construction and operation of the WTS and WTP elements of the project. WaterNSW notes that the proposed monitoring involves a reduction of monitoring within Wangcol Creek and increased monitoring Thompsons Creek Reservoir and downstream of Pipers Flat Creek and Lake Wallace (in the event that transfers from the Reservoir to Lake Wallace are required). WaterNSW seeks clarification as to whether the reduction in monitoring at Wangcol Creek is in existing monitoring or monitoring proposed for original project which involved discharge in the vicinity of LDP006.</p>	<p>Section 7.2 of the WMP has been amended to include the following:</p> <p>Given the comprehensive data collection already underway along Wangcol Creek and Coxs River in the vicinity of the Project it is considered that the current monitoring programs conducted by Centennial Coal and Energy Australia continue and that data from the sites shown in Table 7.1 is provided to augment the baseline data and allow early detection of any</p>	<p>Refer to section 7.2 of the WMP</p>



WaterNSW Comments	Veolia's Response / Clarification	Reference
	Project related impacts. New section 7.2.1 Water and Salt Balance Update has been included: It is recommended that the water and salt balance for the area encompassing the Project, including Wangcol Creek and LDP006, be periodically updated as operational data becomes available and an assessment is made of predicted versus actual impacts.	Refer to section 7.2.1 of the WMP
6. The WMP Section 8 Contingency Plan states that contingency plans for the Project construction are documented in a Construction Environmental Management Plan. Is there also an Operational Environmental Management Plan for the operational stage of the Project? The section only discusses design measures to be implemented during operational stage in relation to water management.	Section 8.2 of the WMP has been amended to include the following: Such measures will be included in an Operational Environmental Management Plan (OEMP), which will be provided for review and updated prior to Project commission.	Refer to section 8.2 of the WMP

The updated WMP (electronic copy) is provided with this letter via email (peter.dupen@waterNSW.nsw.gov.au).

Should you wish for further clarification, please do not hesitate to contact myself or Environmental Planning Lead, Elena Ivanova (+61 415 556 620; elena.ivanova@veolia.com).

Yours sincerely,

Nick Stokes-Hughes

Project Director - Veolia Australia and New Zealand

M: +61 (0) 428 672 115 | E: nicholas.stokeshughes@veolia.com



RE: Veolia - Springvale Water Treatment Project (SSD 7592) - Consultation

1 message

Ravi Sundaram <ravi.sundaram@waternsw.com.au>

18 October 2017 at 17:11

To: "Ivanova, Elena" <elena.ivanova@veolia.com>

Cc: Peter Dupen <Peter.Dupen@waternsw.com.au>, Girja Sharma <Girja.Sharma@waternsw.com.au>

Hello Elena

Thank you for the detailed response to WaterNSW's comments and amended version of the WMP.

I have reviewed the response and relevant sections of the amended WMP (including 10.5, Appendix C, 7.2 and 8.2) and am satisfied that all of WaterNSW comments provided on 21 September have been addressed by Veolia.

Please feel free to call me if you wish to discuss.

Regards.

Ravi

From: Ivanova, Elena [mailto:elena.ivanova@veolia.com]**Sent:** Tuesday, 17 October 2017 12:34 PM**To:** Ravi Sundaram**Cc:** Peter Dupen; Girja Sharma**Subject:** Re: Veolia - Springvale Water Treatment Project (SSD 7592) - Consultation

Good day Ravi,

Please find the attached Veolia's letter response to WaterNSW comments dated 21.09.2017 and a revised Water Management Plan for the Project.

Should you have any enquiries or require further information please feel free to contact me.

Best Regards,**Elena Ivanova**
Project Manager
HEAD OFFICE

cell: +61 415 556 620

Level 4, 65 Pirrama Road / Pyrmont NSW 2009 Australia

www.veolia.com/anzResourcing the world On 21 September 2017 at 12:22, Ravi Sundaram <ravi.sundaram@waternsw.com.au> wrote:

Hi Elena

I have reviewed the Veolia Springvale MPPS Water Treatment Project Water Management Plan (WMP) and its recommendations with regards to the amended proposal and Response to submissions for Springvale Water Treatment Project. The following comments are provided as part of the review:

1. The WMP has been prepared to manage the impact on the local water resources of the construction and operation of the 15 kilometre water transfer pipeline system (referred to as the Water Transfer System (WTS)) and the Water Treatment Facility (WTF) (essentially a desalination plant to treat the mine water for use in the MPPS). WaterNSW understands that the WMP has been prepared at this early detailed design stage and will be subject to amendments and updates as the project moves into construction and then operation.
2. WaterNSW supports the amended proposal that proposes the use of the treated mine water at Mount Piper Power Station (MPPS) with discharge of only excess unused treated water to Thompson Creek Reservoir (TCR), thereby eliminating the need to discharge to Wangcol Creek. There is a minor negative impact on Wangcol Creek but the implementation of the SWTP will achieve the overall improvement to the Upper Coxs River catchment by eliminating discharges both at LDP006 on Wangcol Creek and further downstream at LDP009 on the Upper Coxs River. WaterNSW has recommended that the predicted minor deterioration in water quality in the immediate vicinity of Wangcol Creek be addressed by further mitigation measures. WaterNSW notes that the WMP states that a Brine Management Plan will be developed at the WTP prior to commencement of the project. WaterNSW reiterates its earlier suggestion that either lining of the Rejects Emplacement Area (REA) at the WCS site to prevent salts in the residuals leaching to the groundwater system or dewatering of sludge prior to disposal to remove excess water from the sludge. WaterNSW recommends regular updating of the water and salt balance at LDP006 once the WTS and WTP commence and actual monitoring data becomes available, and an adaptive approach to managing salt levels and loads in Wangcol Creek.
3. WaterNSW notes that a clearly defined Protocol/Agreement needs to be established for operation management of the proposed water transfer and treatment system between Springvale Mine, Energy Australia and Veolia Water. It is noted that the operation of TCR and any associated discharges will be under the management of Energy Australia while the management of migration of saline water from the Rejects Emplacement Area (REA) via Cooks Dam to LDP006 on Wangcol Creek are managed by Springvale Coal as part of the WCS water management plan. The quality of water that is supplied by the WTF to TCR and the quantity and quality of residuals that are supplied to the WTF to the REA is under the management of the Springvale and Mount Piper Power Station (SMPPS). WaterNSW notes that the performance standards and TARPs for managing the quality of water from the WTF to the TCR and the quality and quantity of residuals from the WTF to the REA are discussed in Section 9 of the WMP. The Protocol/Agreement needs to clearly detail the responsibilities and management actions including contingency measures to meet the performance standards and TARPs. WaterNSW notes that a power generation requirement of 32% at MPPS was predicted to be the lower limit for the sustainable use of TCR to store excess treated water in the event of mine water exceeds power generation demands. While WaterNSW agrees that the likelihood of an extended downturn in power generation below 32% for a constant period greater than two years is highly unlikely, some assurance or commitment from Energy Australia regarding the proposed future life of the MPPS should be clearly stated in the Protocol.
4. WaterNSW is satisfied that measures detailed in Section 5 of the WMP if implemented will comply with the water management performance measures. WaterNSW notes that the Erosion and Sediment Control Plan provided in Appendix B of the WMP with regards to construction and operation of the WTS and WTP infrastructure is generic in nature. It is assumed that more detailed site specific plans will be developed as the project progresses from the detailed design stage to construction phase particularly for the pipeline crossings across waterways. WaterNSW notes that the Coxs River waterway crossing will be achieved through horizontal directional drilling of the bore approximately 1,530m long. WaterNSW recommends that investigation regarding the water table in this location be confirmed prior to the drilling for the waterway crossing and appropriate measures be taken if necessary.
5. The monitoring program and monitoring sites detailed in Section 7 and table 3 is considered adequate to assess the impact on local water resources due to the construction and operation of the WTS and WTP elements of the project. WaterNSW notes that the proposed monitoring involves a reduction of monitoring within Wangcol Creek and increased monitoring Thompsons Creek Reservoir and downstream of Pipers Flat Creek and Lake Wallace (in the event that transfers from the Reservoir to Lake Wallace are required. WaterNSW seeks clarification as to whether the reduction in monitoring at Wangcol Creek is in existing monitoring or monitoring proposed for original project which involved discharge in the vicinity of LDP006.

6. The WMP Section 8 Contingency Plan states that contingency plans for the Project construction are documented in a Construction Environmental Management Plan. Is there also an Operational Environmental Management Plan for the operational stage of the Project? The section only discusses design measures to be implemented during operational stage in relation to water management.

Please call me if you wish to discuss any of the above matters discussed.

Regards.

Ravi

Dr Ravi Sundaram

Mining Catchment Specialist

WaterNSW

Level 14 169 Macquarie Street

PO Box 398

Parramatta, NSW 2124

www.watnsw.com.au

p.: +61 2 9865 2507

m.: +61 428 226 152

email: Ravi.Sundaram@watnsw.com.au

From: Ivanova, Elena [mailto:elena.ivanova@veolia.com]

Sent: Tuesday, 29 August 2017 12:09 PM

To: Peter Dupen

Subject: Fwd: Veolia - Springvale Water Treatment Project (SSD 7592) - Consultation

Good day Peter,

As you may already be aware that Veolia has been selected as specialist water services company to finance, design, construct and operate the Springvale Water Treatment Project (SSD 7592).

As part of its responsibilities under the contract , Veolia is required to prepare, obtain approval and implement management system and plans as defined under the Conditions of the Development Consent (SSD 7592).

We would like to request feedback from WaterNSW for any additional consideration in preparation of a Water Management Plan, a draft of the plan is attached for your reference.

Should you have any enquiries or require further information please feel free to contact me.

Best Regards,

Elena Ivanova
Project Manager
HEAD OFFICE

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Springvale Water Treatment Plant

Interim Water Management Plan

July 2025

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Document Control

REVISION DETAILS	Revision No.	Trigger	Details of change	Author
	0	SSD 7592 MOD11	New document - Interim WMP for the management of water during MPPS Outage. Prepared to meet Schedule 3 Condition 4.	Daniel Borombovits and Chris Jones (IEMA) Natalie Gardiner (Centennial)
	1			
	2			

1 INTRODUCTION

Springvale Water Treatment Plant (SWTP) is a joint venture between Springvale Coal, a subsidiary of Centennial Coal Company Limited (Centennial), and EnergyAustralia Pty Limited (EA); referred to herein as Centennial. The facility is managed under contract by Veolia Water Australia Pty Limited.

Located in the western coalfields of New South Wales (NSW) (**Plan 1**) the SWTP was developed as an industrial water reuse scheme to use mine water transferred from the nearby Angus Place Colliery and Springvale Colliery, and as cooling water at the Mount Piper Power Station (MPPS).

MPPS is a coal-fired power generation facility managed and operated by EA. MPPS operates under Development Consent DA80/10060, which was granted on 1 April 1982 under the EP&A Act.

The SWTP received approval on 19 June 2017 for the construction and operation under State Significant Development (SSD 7592) in accordance with section 89(C) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The primary activities authorised under SSD 7592 are:

- Transfer up to 42 megaliters (ML)/day of mine water from the gravity tank on the Newnes Plateau to the MPPS site;
- Incorporated filtration and desalination processes to reduce the turbidity and salinity of the mine water;
- Transfer of Treated Water from the SWTP to the MPPS cooling water system to contribute to the demand for make-up water;
- Use of the existing Coxs River Water Supply Pipeline to transfer excess Treated Water to Thompsons Creek Reservoir (TCR) for storage and reuse in the MPPS cooling water system;
- Transfer of residuals (filtered solids) from the SWTP to the Reject Emplacement Area (REA) at the neighbouring Western Coal Services Project (WCS) site;
- Disposal of residuals from the pre-treatment process to the REA at WCS;
- Implementation of an Optimised Pre-treatment and Unique Separation (OPUS) process including the additional Reverse Osmosis (RO) system and brine crystalliser to replace the use of the brine concentrators and to manage salt load from the SWTP. Disposal of brine is managed in accordance with existing approvals and practices at MPPS; and
- The receipt of Angus Place Colliery water into the MPPS Setting Pond D for treatment and reuse through the MPPS brine concentrators.

A Water Impact Assessment (WIA) was completed by Environmental Resources Management Australia Pty Ltd (ERM 2024).

The WIA assessed the following environmental parameters relating to MOD 11:

- Outline the current and recent water quality of TCR;
- Conduct an assessment of the water quality of the proposed Filtered Water Transfers and Blended Transfers;
- Undertake an assessment of the potential changes in TCR water quality related to Filtered Water Transfers and Blended Water Transfers over different forecast outage periods;
- Review potential impacts upon the local Coxs River catchment water quality from riparian releases from the TCR before, during and after the Filtered Water Transfers and Blended Water Transfers associated with potential Outage periods; and
- Identify management and mitigation measures that may be implemented in order to maintain a Neutral or Beneficial Effect on the local Coxs River catchment water quality.

The WIA concluded that MOD 11 will not present significant additional environmental impacts on water quality and salt load to the receiving waters from the riparian releases from TCR during Outage periods with the SWTP water transfers established.

Salt loading to the catchment from TCR was also modelled by ERM (2024) under various water quality baseline and riparian release scenarios. The predicted increases are considered to be low and acceptable given that under MOD 11 arrangements, the EC in the TCR will change gradually, and the associated minor increase to salt load in the local catchment will be temporary and for a short duration.

1.1 OBJECTIVES

1.1.1 Modification Objectives

Springvale Water Treatment Plant received approval for an amendment to SSD 7592 for Modification 11 (MOD 11) on 28 March 2025 which permits water transfer from the SWTP via the Coxs River Water Supply pipeline to TCR during the upcoming major planned Outage (the Outage).

The Outage is scheduled to occur in April / May of 2025. It will include both Unit 1 and Unit 2 being out of service for approximately 54 days and 22 days respectively. Both Unit 1 and Unit 2 will be out of service concurrently for a consecutive 22-day period.

The *SWTP Modification Report for Modification 11 to SSD 7592* (Centennial 2024) states that during the MPPS Outage periods, the transfer of SWTP water from the SWTP to TCR may occur as:

- SWTP filtered water to remove sediments only (Filtered Water) transfers of up to 24 ML/day (Filtered Water Transfers). Filtered Water Transfers have an indicative electrical conductivity (EC) range of up to 1,200 $\mu\text{s}/\text{cm}$; and
- Transfer of up to 42 ML/day of water consisting of a blend of treated Reverse Osmosis permeate with an EC range of 350 to 500 $\mu\text{s}/\text{cm}$ (Treated Water) and Filtered Water, at varying ratios depending on water treatment plant availability, pond levels, water balance and MPPS unit return to service. A nominal volume of 18 ML/day of Treated Water and 24 ML/day of Filtered Water, blended in the Coxs River Water Supply Pipeline (Blended Water Transfers) is assumed for water modelling and assessment purposes. Blended Water Transfers at the nominated blending ratio have an indicative EC range of 600 to 900 $\mu\text{s}/\text{cm}$.

During the MPPS Outage periods, water is proposed to be transferred to TCR provided that the water quality in TCR achieves the agreed EC thresholds and does not exceed 650 $\mu\text{s}/\text{cm}$ at any time during the MPPS Outage periods.

Water levels in the TCR did not exceed the High Operating Level (HOL) during the planned outage period.

Key plans for this management plan are shown in **Plans 1** and **2**.

1.1.2 Report Objectives

This Interim Water Management Plan (WMP) has been prepared to satisfy SSD 7592 Schedule 3 Condition 4 (as detailed in **Table 2.1**) and Schedule 4 Condition 4(b) whereby:

4. The Applicant must:

(b) review and, if necessary, revise the strategies and plans required under this consent to the satisfaction of the Secretary within 1 month of the:

- *submission of an incident report under condition 5 below; or*
- *any modification to the conditions of consent, and*

All other operational processes and controls, including the existing approval to transfer Treated Mine Water, will generally remain in accordance with the previous assessments and approvals

contained within the *Springvale MPPS Water Treatment Facility Water Management Plan* (MAN-3659-18; Veolia 2025).

1.2 CONSULTATION

Consultation for operations under MOD 11 was undertaken with the following stakeholders:

- NSW Department of Planning, Housing and Infrastructure (DPHI);
- Environment Protection Authority (EPA);
- Department of Climate Change, Energy, the Environment and Water (DCCEEW);
- WaterNSW;
- Lithgow City Council (LCC);
- Aboriginal Stakeholders;
- Springvale, Angus Place and Western Coal Services Coal Community Consultive Committee (CCC);
- MPPS CCC; and
- Centennial's Non Government Organisations (NGO) Consultation Group.

Consultation to date and the outcomes from the consultation are provided in the *Springvale Water Treatment Plant Modification Report for Modification 11 to SSD-7592 (MOD11)* (Centennial 2024).

Approval was given by the DPHI on 9 April 2025 to prepare a standalone document addressing the Water Management Plan update requirements following the approval of MOD 11. The approval letter is provided in **Appendix 1**. This Interim Water Management Plan has been prepared in consultation with EPA and Water NSW as specified in the above referenced letter.

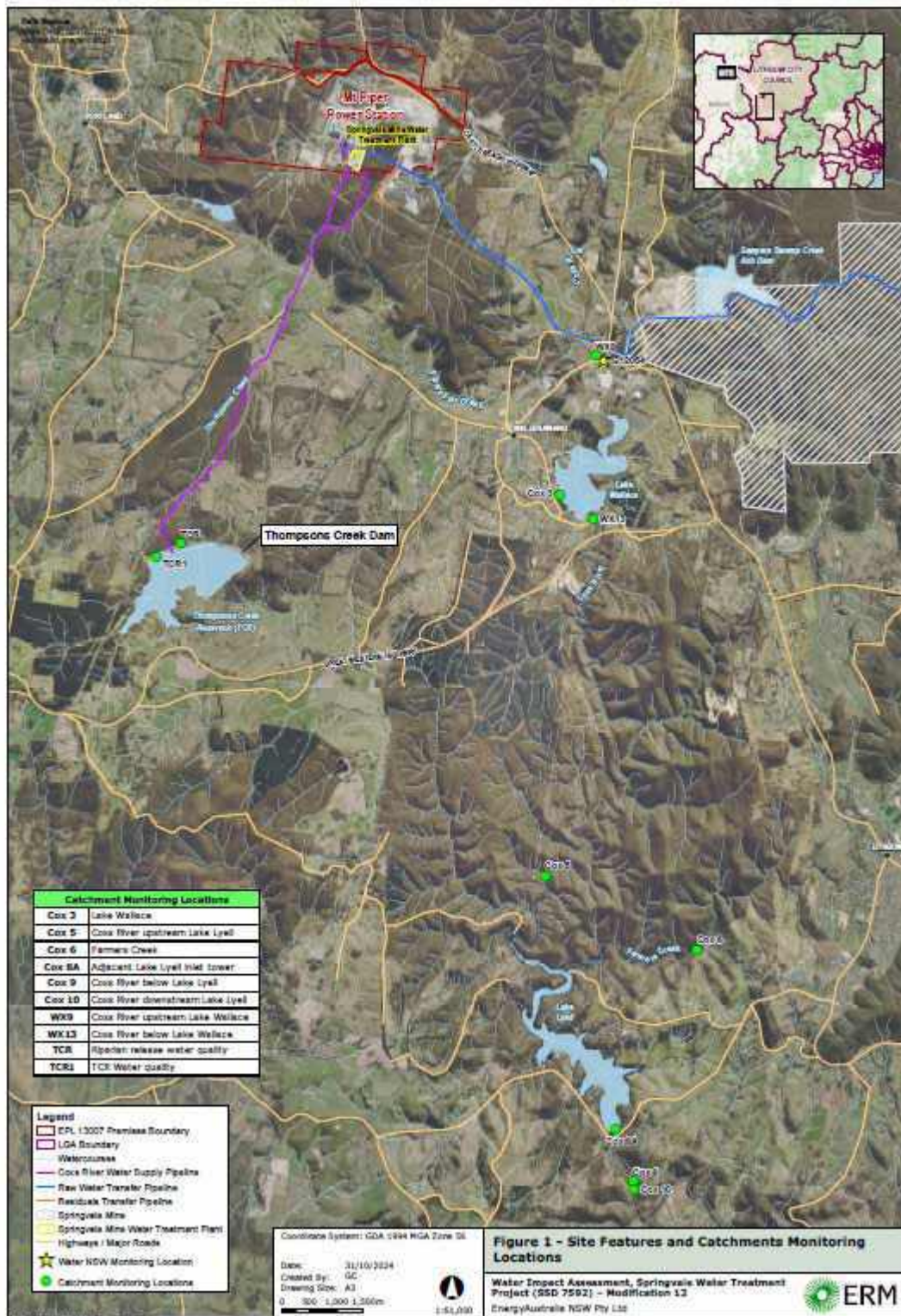
1.3 BASELINE DATA

Baseline water quality is provided in **Appendix 2** as a comparison of 95th percentile results at each location against the ANZG (2018) guidelines.

In summary:

- EC – all sites exceeded the ANZG guideline but were within acceptable criteria under MOD 11 for the previous 12 month period as per ERM (2024) (except TCR1);
- pH - all sites exceeded the ANZG guideline but were within acceptable criteria under MOD 11 for the previous 12 month period as per ERM (2024);
- Turbidity - all sites were within the ANZG guideline criteria for the previous 12 month period as per ERM (2024) (except TCR1 and WX9).

Plan 1 – SWTP Site Features and Monitoring Locations



070541_WIAMod13_0011_00.mxd

Plan 2 – Continuous Logger Location



2 APPROVALS AND LICENCE REQUIREMENTS

2.1 DEVELOPMENT CONSENT

Development consent conditions from SSD 7592 that relate specifically to the preparation of this Interim WMP have been outlined in **Table 2.1**, along with the sections of the Interim WMP where these conditions have been addressed.

Table 2.1: Relevant Development Consent Conditions

Condition Number	Development Consent Condition	Where Addressed
Development Consent		
Schedule 2, Condition 6	<p>Limits on Consent – Pipelines</p> <p>6B. During the planned outage period scheduled to occur at Mount Piper Power Station in April and May 2025, and for a period of 14 days prior and 7 days following the planned outage, the Applicant may transfer up to:</p> <ul style="list-style-type: none"> (a) 42 megalitres per day of blended water, consisting of no more than 24 megalitres of partially treated mine water; or (b) up to 24 megalitres per day of partially treated mine water; <p>via the Coxs River Water Supply Pipeline to the Thompsons Creek Reservoir.</p>	Section 3.1.1
	<p>6C. Prior to commencing transfer of blended water or partially treated mine water under condition 6B, the Applicant must install a water quality monitoring system capable of continuously and representatively recording water quality in the Thompsons Creek Reservoir. The Applicant must operate and maintain the water quality monitoring system for the duration of the development.</p>	Section 3.1.2

Condition Number	Development Consent Condition	Where Addressed
Development Consent		
	<p>6D. The Applicant must undertake the transfer of blended water or partially treated mine water under condition 6B in accordance with the following conditions:</p> <ul style="list-style-type: none"> (a) the Applicant must notify the EPA and WaterNSW prior to commencing the transfer of blended water or partially treated mine water under condition 6B; (b) the Applicant must notify the EPA and WaterNSW, as soon as practicable after the Applicant becomes aware, if water quality in Thompsons Creek Reservoir exceeds 550 $\mu\text{S/cm}$ electrical conductivity (EC); (c) the Applicant must operate the Thompson Creek Reservoir's destratification system for the term of the planned outage period; (d) the Applicant must immediately cease the transfer of blended water or partially treated mine water if: <ul style="list-style-type: none"> • monitoring indicates that there is a risk that water will exceed 600 $\mu\text{S/cm}$ electrical conductivity (EC); • or the Thompson Creek Reservoir's destratification system is not fully operational; and (e) during the period of any transfer of blended water or partially treated mine water under condition 6B, daily environmental releases from Thompsons Creek Reservoir must be limited to the minimum volume required under the water access licence of 0.8 megalitres per day between 1 September and 30 April and 0.3 megalitres per day between 1 May and 31 August. 	Section 3.1.3 to 3.1.5
	<p>6E. The Applicant must publish in a prominent place on its website weekly updates during the planned outage period and monthly updates thereafter, comprising the following information:</p> <ul style="list-style-type: none"> (a) the discharge points of any water discharges from the development; (b) the volumes of any water discharged from those points (including cumulative volumes from the commencement of this condition); (c) quality of those discharges (including maximum, median and minimum values); (d) salt loadings resulting from those discharges (including cumulative loadings from the commencement of this condition); (e) for any week in which water is discharged to the Thompsons Creek Reservoir under Schedule 2, Condition 6B: <ul style="list-style-type: none"> • water quality within the Thompsons Creek Reservoir; and • operational status of the Thompsons Creek Reservoir's destratification system. 	Section 7.5

Condition Number	Development Consent Condition	Where Addressed
Development Consent		
Schedule 3, Condition 4	<p>Prior to the commencement of construction, the Applicant must prepare a Water Management Plan for the project, in consultation with EPA and WaterNSW, and to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared by suitably qualified and experienced person/s whose appointment has been approved by the Secretary; and</p> <p>(b) include:</p>	This WMP
	<ul style="list-style-type: none"> detailed baseline data on surface water flows and quality in the watercourses that could potentially be affected by the proposal. 	Section 1.3 and Appendix 2
	<ul style="list-style-type: none"> a program to augment the baseline data over the life of the development. 	Section 5.3.2
	<ul style="list-style-type: none"> a detailed description of measures to ensure that the Applicant complies with the water management performance measures (Table 1 of SSD 7592). 	Section 4
	<ul style="list-style-type: none"> a program to monitor and report on the performance measures. 	Section 5.3
	<ul style="list-style-type: none"> reporting procedures for the results of the monitoring program. 	Section 5.3
	<ul style="list-style-type: none"> a Trigger Action Response Plan to respond to any foreseeable or actual exceedances of the water management performance measures and mitigate any adverse surface water impacts of the development. 	Section 6.1
	<ul style="list-style-type: none"> details of contingency measures to effectively manage foreseeable variations in water inflows (volume and quality) to the Water Treatment Plant, outages of the Water Treatment Plant and outages at Mount Piper Power Station. 	Section 6.2
Schedule 4, Condition 2	<p>Management Plan Requirements</p> <p>The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:</p>	This WMP
	<p>(a) detailed baseline data</p>	Section 1.3 and Appendix 2
	<p>(b) a description of:</p> <ul style="list-style-type: none"> the relevant statutory requirements (including any relevant approval, licence or lease conditions); any relevant limits or performance measures / criteria; the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures; 	Section 2.1 and 2.2
	<p>(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures / criteria;</p>	Section 3.1 and 4
	<p>(d) a program to monitor and report on the:</p> <ul style="list-style-type: none"> impacts and environmental performance of the development; effectiveness of any management measures (see condition c above); 	Section 5

Condition Number	Development Consent Condition	Where Addressed
Development Consent		
	(e) contingency plan to manage any unpredicted impacts and their consequences;	Section 6.1 and 6.2
	(f) a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 7.1
	(g) a protocol for managing and reporting any: <ul style="list-style-type: none"> • incidents; • complaints; • non-compliances with statutory requirements; and • exceedances of the criteria and / or performance criteria; and 	Section 7.2 to 7.5
	(h) a protocol for periodic review of the plan.	Section 7.1

2.2 PERMITS AND LICENSES

2.2.1 Water Access Licences

The current Water Access Licences (WAL #10AL116411 and #CA117220) are in place for the operation of the Coxs River water supply system were reviewed for the operation of the SWTP. These licence conditions define EA's water access rights and obligations and regulate the operation and management of its water management works. There are no proposed changes to the current WALs held by EA.

Monthly water quality monitoring at a range of Coxs River catchment monitoring locations (see **Section 5.2**) are proposed to continue in line with the existing monitoring required under WAL #10AL116411 conditions.

3 IMPLEMENTATION

3.1 LIMITS ON CONSENT AND SPECIAL CONDITIONS

3.1.1 Pipeline Transfers During Planned Outage

In accordance with SSD 7592 Schedule 2 Condition 6B under MOD 11, the following limits will apply for water transfers via the Coxs River Water Supply Pipeline to the TCR:

- a transfer of up to 42 megalitres per day of blended water, consisting of no more than 24 megalitres of partially treated mine water; or
- up to 24 megalitres per day of partially treated mine water.

Limits will apply for a period of 14 days prior and 7 days following the planned Outage at MPPS (during April and May 2025).

3.1.2 Monitoring Installations

In accordance with SSD 7592 Schedule 2 Condition 6C under MOD 11 EA has installed a continuous data logger capable of recording key water quality parameters (EC, pH, turbidity) in the TCR. The location of the continuous logger is in **Plan 2**. This monitoring system will operate and be maintained for the duration of the planned Outage.

3.1.3 Notifications to EPA / WaterNSW

In accordance with SSD 7592 Schedule 2 Condition 6D(a) and (b) under MOD 11, Centennial must notify the EPA and WaterNSW regarding the transfer of blended water or partially treated mine water:

- prior to commencing the transfer of blended water or partially treated mine water in accordance with SSD 7592 Schedule 2 Condition 6B; and
- as soon as practicable after Centennial becomes aware that water quality in the TCR exceeds 550 $\mu\text{S}/\text{cm EC}$.

The EPA and Water NSW were notified that transfers could commence from 2 April 2025 on 1 April 2025. Actual transfers to the TCR commenced approximately 07:00 on 4 April 2025.

3.1.4 Operation of Destratification System

In accordance with SSD 7592 Schedule 2 Condition 6D(c) and (d) under MOD 11, the TCR destratification system was operated for the term of the planned Outage period. The transfer of blended water or partially treated mine water must immediately cease if:

- monitoring indicates that there is a risk that water will exceed 600 $\mu\text{S}/\text{cm EC}$; or
- the TCR's destratification system is not fully operational.

This was not triggered during the planned outage period.

3.1.5 Environmental release limits

In accordance with SSD 7592 Schedule 2 Condition 6D under MOD 11, during the period of any transfer of blended water or partially treated mine water the daily environmental releases from TCR was limited to the minimum volume required under the water access licence of:

- 0.8 ML per day between 1 September and 30 April; and
- 0.3 ML per day between 1 May and 31 August.

3.2 WATER PERFORMANCE MEASURES

Water management performance measures are set out in *Table 1* of SSD 7592 Schedule 3 Condition 3. These are summarised below in **Table 3.1**, with the specific measures taken to comply with these conditions detailed in **Section 4**. There is no change to the water management performance measures under MOD 11.

Table 3.1: Water Management Performance Measures from the SSD

Feature	Performance Measure
General	Maintain separation between mine water and treated water management systems. Minimise the use of clean water on site. Design, install, operate and maintain water management systems in a proper and efficient manner.
Upper Coxs River catchment, including Coxs River, Wangcol Creek, Pipers Flat Creek and Thompsons Creek	Negligible environmental consequences to surface water resources beyond those predicted in the EIS, including: <ul style="list-style-type: none"> • negligible change in surface water flows beyond those predicted; • negligible change in surface water quality beyond those predicted; and • negligible impact to other surface water users beyond those predicted. Maintain or improve baseline channel stability.

Feature	Performance Measure
Construction and operation of infrastructure	<p>Design, install and maintain erosion and sediment controls generally in accordance with the series <i>Managing Urban Stormwater: Soils and Construction including Volume 1, Volume 2A – Installation of Services and Volume 2C – Unsealed Roads</i>.</p> <p>Design, install and maintain infrastructure within 40 m of watercourses generally in accordance with the <i>Guidelines for Controlled Activities on Waterfront Land</i> (DPI 2007), or its latest version.</p> <p>Design, install and maintain any creek crossings generally in accordance with the <i>Policy and Guidelines for Fish Habitat Conservation and Management</i> (DPI, 2013) and <i>Why Do Fish Need To Cross The Road? Fish Passage Requirements for Waterway Crossings</i> (NSW Fisheries 2003), or their latest versions.</p>
Brine and residual waste	<p>Minimise the production and transfer of brine and residual waste from the development.</p> <p>Ensure that any brine and residual waste that is transferred from the development complies with the relevant development consents for the Ash Placement Areas and the Western Coal Services Site.</p>
Chemical and hydrocarbon storage	Chemical and hydrocarbon products to be stored in bunded areas in accordance with the relevant Australian Standards.

3.3 PERFORMANCE CRITERIA

3.3.1 Treated Water Quality

The treated water performance criteria are presented in **Table 3.2** (GHD,2016). The electrical requirement has been corrected to a reference temperature of 25 degree Celsius (°C and aligns to water quality requirements in MOD 11.

Table 3.2: Treated Water Performance Criteria

Parameter	Units	Required Water Quality
		100 th percentile
Physicochemical Parameters		
Dissolved oxygen (DO)	mg/L	–
EC	µS/cm	500
pH	pH units	6.5–8.5
Temperature	°C	–
TDS	mg/L	–
TSS	mg/L	10
Nutrients		
Ammonia	mg/L	–
Nitrite	mg/L	–
Nitrate	mg/L	–

Parameter	Units	Required Water Quality
		100 th percentile
Total phosphorus	mg/L	–
Anions		
Alkalinity (as CaCO ₃)	mg/L	–
Chloride	mg/L	–
Sulfate	mg/L	–
Cations		
Calcium	mg/L	–
Magnesium	mg/L	–
Sodium	mg/L	–
Potassium	mg/L	–
Metals (total)		
Aluminium	mg/L	0.08
Arsenic (III)	mg/L	0.1
Arsenic (IV)	mg/L	0.01
Barium	mg/L	–
Boron	mg/L	0.15
Cadmium	mg/L	0.0004
Chromium	mg/L	0.0005
Cobalt	mg/L	0.0018
Copper	mg/L	0.0018
Iron	mg/L	0.05
Lead	mg/L	0.001
Manganese	mg/L	0.5
Mercury	mg/L	0.0006
Molybdenum	mg/L	–
Nickel	mg/L	0.013
Selenium	mg/L	0.005
Zinc	mg/L	0.015

3.3.2 Quantity and Quality of Residuals from SWTP to the REA

The site-specific performance criteria and receiver locations are detailed in **Table 3.3**. There was no change to these water management performance measures in MOD 11.

Table 3.3: Residuals Performance Standards

Water Product Quality Parameter	Unit	Water Product Target Standard	
		Minimum	Maximum
Flow (daily) ¹	m ³ /d	0	430 ¹
Flow (annual average) ²	m ³ /d	0	350 ²
pH	-	6.5	8.5
Temperature	°C	-	40
Electrical Conductivity ³	µS/cm	-	2,500 ³

1. Maximum flow limit applies to the total flow inclusive of all wastes and flushing water on a daily basis

2. Maximum flow limit applies to the total flow inclusive of all wastes and flushing water on a 12-monthly basis

3. Electrical Conductivity corrected to 25°C

4 MANAGEMENT MEASURES

Management measures taken to comply with the performance measures set out in *Table 1* of Schedule 3 Condition 3 of SSD 7592 are addressed in Section 7 of the *Springvale MPPS Water Treatment Facility Water Management Plan* (MAN-3659-18; Veolia 2025). There is no change to these water management performance measures under MOD 11.

Noting the letter provided by the DPHI on 9 April 2025 (**Appendix 1**) approving the preparation of a standalone document addressing the Water Management Plan update requirements following approval of MOD 11, these measures are not reproduced in this document.

Additional water management parameters which relate to consent conditions in MOD 11 are detailed in the following sections.

4.1 WATER MANAGEMENT PARAMETERS

4.1.1 Outage Periods and Water Transfers

Outage periods are forecast to occur over a 55-day period in April and May 2025, with the potential need for Blended Mine Water Transfers and / or Filtered Mine Water Transfers to occur during buffer periods for up to 14-days prior to- and 7-days following each Outage.

The existing Coxs River Water Supply Pipeline is approved to transfer up to 42 ML/day from Springvale Mine Water Treatment Plant to the TCR. The existing Springvale Mine Water Treatment Plant infrastructure has the capacity to by-pass the RO system with up to 24 ML/day of Filtered Mine Water. Hence, Mod 11 proposes:

- Blended Water Transfers up to 42 ML/day, including up to 18 ML/day of Treated Mine Water, and up to 24 ML/day of Filtered Mine Water, blended in the Coxs River Water Supply Pipeline (or equivalent 3:4 volume ratio); and
- Filtered Water Transfers up to 24 ML/day for short durations.

It is noted that these transfer arrangements are only proposed in relation to MPPS Outages and that routine transfers of treated mine water from the Springvale Mine Water Treatment Plant to the TCR may continue in line with existing approved practices during non-Outage periods.

4.1.2 Riparian Releases from TCR

The riparian releases occur via a pipeline that directs surface water from TCR to Thompsons Creek.

Riparian releases are restricted to their minimum requirement as prescribed under the EA WAL. The relevant approvals require outflows from the TCR at a minimum of 0.3 ML/day in winter and minimum of 0.8 ML/day in summer as riparian releases. Operation of the TCR will not impinge on dam safety. In circumstances where dam safety may be compromised (for any reason) dam safety considerations take precedence over SWTP operation.

4.1.3 Treated Water Performance

The water treatment facility has been tailored to accommodate a specific mine water quality envelope. Where the quality of incoming mine water is materially out of the water quality envelope, a mechanism is in place to manage the conditions and maintain the treated water performance standards shown in **Table 3.2**.

An overview of this mechanism is as follows.

- 24 hours written notice to request a reduction in flow to a specified rate;
- Assessment of the requirement for additional pre-treatment of incoming water; and
- Assessment of the requirement for re-treatment if treated water performance standards have not been met.

4.1.4 Water Supply to TCR from SWTP

The risk of spilling from TCR is a function of MPPS make-up water demand, mine water transfer volumes and climate. The primary factor influencing the likelihood for the reservoir to spill is MPPS make-up water demand, which is influenced by power generation capacity and the availability of a coal supply to the power station.

In accordance with SSD 7592 Schedule 2 Condition 6 all excess treated water was transferred via the Coxs River Water Supply Pipeline to the TCR except during emergency situations, subject to approval from the Secretary. It is noted in the condition that “An emergency situation may include any event where overtopping of Thompsons Creek Reservoir is likely to occur”.

The existing consent includes provisions for situations which may lead to a potential overtopping of TCR which is covered in a Trigger Action Response Plan (TARP) detailed in **Section 6**.

4.1.5 TCR Operating Protocol

TCR is a prescribed dam under the Dam Safety Act 2015 (DS Act) and is managed in accordance with the Dam Safety Regulations 2019 (DS Regulations). The DS Act and DS Regulations require an Operation and Maintenance Plan and Emergency Plans (Operating Protocols) to be developed for all prescribed dams. EA has developed and implemented the operating protocols for TCR as required under the DS Act and DS Regulations.

In the unlikely event that the operation of the SMWTP and the transfer of filtered water causes TCR to breach its operating protocols then water would stop being transferred to TCR. EA will ensure TCR is managed in accordance with its existing approved operating protocols at all times.

5 MONITORING PROGRAM

5.1 MONITORING PARAMETERS AND FREQUENCY

To establish compliance with the performance measures as outlined in **Section 3.2**, Centennial has developed a monitoring program. This monitoring program will be used to demonstrate that performance satisfies the performance indicators in **Table 5.1**.

Table 5.1: Monitoring Parameters and Frequency for Springvale WTP

Monitoring Point	Quality Parameters	Monitoring Frequency Program
TCR Riparian Discharge Point	<ul style="list-style-type: none"> Conductivity, pH, turbidity 	Weekly grab sample
TCR	<ul style="list-style-type: none"> Conductivity 	Continuous
Treated water at SWTP	<ul style="list-style-type: none"> Conductivity $\mu\text{S}/\text{cm}$ Turbidity pH 	Continuous online
	<ul style="list-style-type: none"> Total Suspended Solids mg/L Aluminium (total) mg/L Arsenic III mg/L Arsenic V mg/L Cadmium (total) mg/L Cobalt (total) mg/L Nickel (total) mg/L Zinc (total) mg/L Copper mg/L Iron (total) mg/L Boron (total) mg/L Manganese (total) mg/L Lead (total) mg/L Mercury (total) mg/L Chromium (total) mg/L Selenium (total) mg/L 	Weekly
Residuals at the Residual Delivery Point	<ul style="list-style-type: none"> Conductivity $\mu\text{S}/\text{cm}$ Temperature deg pH 	Continuous online

5.2 EXISTING MONITORING PROGRAM

The existing monitoring commitments under the *Springvale MPPS Water Treatment Facility Water Management Plan* (MAN-3659-18; Veolia 2025) are detailed in **Table 5.2**.

Table 5.2: Existing Monitoring Program – Monitoring Sites

Watercourse	Monitoring Sites	Current Monitoring Program
N/A	LDP006	Volume and quality Daily, monthly and quarterly during discharge
Wangcol Creek	Wangcol Creek Gauge	Monthly water quality sampling
Wangcol Creek	Wangcol Creek Upstream (US)	Monthly water quality sampling
Wangcol Creek	Wangcol Creek Downstream (DS)	Monthly water quality sampling
Wangcol Creek	Wangcol Creek Far Downstream (DS)	Monthly water quality sampling
Coxs River	Coxs River (Delta Site) Downstream of Lake Wallace	Biannual water quality sampling
Coxs River	CR5	Biannual aquatic ecology monitoring
Thompsons Creek Reservoir	TC1	Monthly / Weekly water quality sampling
Thompsons Creek	Confluence Thompsons Creek and Pipers Flat Creek	One event prior to the Project EIS at least quarterly water quality sampling recommended
Piper Flat Creek	PFup	Monthly / Quarterly water quality sampling Biannual aquatic ecology monitoring

Aquatic ecology monitoring in the UCRC program will continue to assess the condition of the aquatic habitat at the potentially impacted sites downstream and reported in SWTP Annual Review.

5.3 REVISED MONITORING PROGRAM

Water quality modelling undertaken by ERM (2024) predicted EC within the TCR will not exceed 600 µs/cm during the Outage period, with the EC relating to TCR riparian release water quality is unlikely to have an adverse impact upon the catchment water quality.

However, in order to monitor and assess potential changes in water quality, a revised monitoring program is required specific to the Outage periods and associated water transfers, to include a real-time water quality monitoring system capable of assessing water quality in the TCR (or the riparian release water quality) prior to, during and following the Outage periods and associated water transfers. Water monitoring locations used for water quality data for the WIA (ERM 2024) are in **Plan 2**.

5.3.1 Water Quality Management and Monitoring

To ensure that the MOD 11 water quality objectives and assessment environmental impacts are maintained the following monitoring program is proposed:

- A continuous water quality monitoring system (Electrical Conductivity), to be jointly managed by Springvale Coal and EA, capable of assessing water quality in the TCR.
- Monthly water quality monitoring at a range of Coxs River catchment monitoring locations, including TCR, WX9, Cox10 (downstream from Lake Lyell) and WX13 (Cox River downstream from Lake Wallace) proposed to continue in line with the existing monitoring required under WAL #10AL116411 conditions.

- Weekly water quality monitoring at the TCR riparian discharge point in accordance with SSD 7592 Schedule 2 Condition 6(e) detailed in **Section 7.5**. These Locations are shown in **Plan 1**.
- The continuous logger has been installed at the location shown in **Plan 2**.
- Blended water from SWTP.
- TCR Riparian release.

5.3.2 Program to Augment Baseline Data

This section has been prepared to meet SSD 7592 Schedule 3 Condition 4(b). Baseline data has been provided in **Appendix 2**.

Given the comprehensive data collection already underway in the Upper Coxs River Catchment it is considered that the current monitoring programs conducted by Springvale Coal and EA continue and that data from the monitoring sites shown in **Table 5.2** is used to augment the baseline data and allow early detection of changes to those watercourses beyond that predicted in the Project EIS (GHD 2016a & 2016b).

Water quality monitoring will be conducted on at least a quarterly basis at the Thompsons Creek monitoring site by EA at the confluence of Thompsons Creek and Pipers Flat Creek.

6 INCIDENTS, EMERGENCIES AND CONTINGENCY

6.1 TRIGGER ACTION RESPONSE PLAN

In accordance with SSD 7592 Schedule 3 Condition 4(b) a Trigger Action Response Plan (TARP) has been developed for implementation during the Outage period. The TARP is provided in **Appendix 3**.

6.2 CONTINGENCY SYSTEMS

A variety of contingency measures were considered as part of the SWTP design to accommodate unforeseen circumstances relating to water management. These are detailed in Section 11.2 of *Springvale MPPS Water Treatment Facility Water Management Plan* (MAN-3659-18; Veolia 2025) and outlined below:

- There are no valves installed on the residuals pipeline (residuals waste) due to the water quality. An above ground hydraulic standpipe (9 m high) has been installed to discharge air regularly during operation, which will prevent any spills.
- Air vent valves have been installed along the mine water pipeline to discharge air regularly during operation; these air vent valves will have a spill prevention system.
- A trenched installation has been utilised where necessary to reduce the risks of vandalism, bushfire damage and mechanical damage from falling branches. The buried depth was optimised to allow access whilst providing sufficient thermal protection from bushfire.
- Any loss of pressure due to leakage will be detected by flow meters installed on the upstream and downstream ends of the pipeline
- The automatic shutdown of the vent valve will occur in approximately 15 minutes, which will isolate area where leakage is occurring.
- The pipeline is flexible to accommodate any minor ground movement and is oversized to accommodate excess flow.

The buffer pond has a capacity of 103 ML and will provide storage to manage water during water transfer facility plant maintenance activities. The following process will be followed:

- Incoming mine water will typically flow directly to the Actiflos as part of the water treatment process.

- A hydraulic standpipe which forms part of the intake structure will be configured to allow the flow to be split between the clarifiers and the buffer storage.
- Any overflows from the clarifiers, filters and filtered water tank will also be diverted directly to the buffer pond.
- Water temporarily stored in the buffer pond will be pumped back to the water treatment plant for subsequent treatment when capacity is available in the treatment system.

As required under Schedule 3 Condition 4b Centennial has considered additional contingency measures *effectively manage foreseeable variations in water inflows (volume and quality) to the Water Treatment Plant, outages of the Water Treatment Plant and outages at Mount Piper Power*. These are outlined below:

Increase Water Volume

Groundwater inflows to Mine

- Review water treatment storage infrastructure to accommodate increased water volumes to meet long term needs
 - Review may consider alternate water management infrastructure (storage, treatment and transfers), water discharge points and other arrangements that are future fit.
- Consult with relevant stakeholders including Government, community and key interest groups
- Obtain required planning approvals and licences as necessary.
- Manage water level in TCR at or below the low operating level to provide additional storage buffer.
- Seek required licences and approvals as required for alternate water management infrastructure.

High Rainfall

- TCR water levels controlled in accordance with Managements Plans under Dam Safety Act
- Emergency release from TCR via purpose-built Pipers Flat discharge point

Variations in water quality

- Investigate cause of variation in water quality
- Identify and implement mitigation measures to effectively control and treat the variation in water quality
- Monitor and report to demonstrate effectiveness of control measures

MPPS Outages (planned and unplanned)

- Avoid total station outages where possible
- Develop water storage and treatment strategy prior to MPPS outages
- Utilise existing storage pond capacities where possible

SWTP Outages (planned and unplanned)

- Minimise duration of plant outages where possible
- Maintain access to critical spares
- Divert water to existing ponds and water storage infrastructure where possible

7 REPORTING AND REVIEW

7.1 ANNUAL REVIEW

In accordance with SSD 7952 Schedule 4 Condition 5 Centennial must submit by the end March each year a review of the environmental performance of the development for the previous calendar year to the satisfaction of the Secretary.

This review must:

- (a) describe the development (including any rehabilitation) that was carried out in the past year, and the development that is proposed to be carried out over the next year;
- (b) include a comprehensive review of the monitoring results and complaints records of the development over the past year, which includes a comparison of these results against the:
 - relevant statutory requirements, limits or performance measures / criteria;
 - monitoring results of previous years; and
 - relevant predictions in the EIS;
- (c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;
- (d) identify any trends in the monitoring data over the life of the development;
- (e) identify any discrepancies between the predicted and actual impacts of the development, and
- (f) analyse the potential cause of any significant discrepancies; and
- (g) describe what measures will be implemented over the next year to improve the environmental performance of the development.

7.2 INCIDENT REPORTING

An incident is defined in SSD 7592 as:

“an occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance”.

Material harm is defined in SSD 7592 as harm that:

- *“involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial, or*
- *results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment) This definition excludes “harm” that is authorised under either this consent or any other statutory approval”.*

In accordance with SSD 7592 Schedule 4 Condition 6, Centennial will:

- (a) notify the Secretary and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment;
- (b) notify the Secretary and any other relevant agencies as soon as practicable after the Applicant becomes aware of the incident for any other incident associated with the development; and
- (c) within 7 days of the date of the incident, provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

This is further detailed in the Springvale MPPS Water Treatment Facility Operational Environmental Management Plan.

7.3 NON-COMPLIANCES

A non-compliance is defined in SSD 7592 as:

“An occurrence, set of circumstances or development that is a breach of this consent”.

Any non-compliances with the Development Consents, the EPL or this Interim WMP will be reported to the DPHI and the EPA via the Annual Review and the Annual Return when applicable.

Non-compliances, that are not classed as incidents may include the following:

1. Non-compliance with any other conditions of the Development Consents or EPL;
2. Failure to monitor at the frequency or locations specified in this Management Plan or the EPL.

The following will be classed as non-compliances with the monitoring frequency:

1. Failure to monitor frequency;
2. Failure to monitor at any location; or
3. Failure of the continuous monitoring for more than 95% of the planned Outage period.

7.4 COMPLAINTS

Centennial shall manage complaints in accordance with the Springvale MPPS Water Treatment Facility Operational Environmental Management Plan.

Information about complaints will be recorded and shall include the location of any complaint, the time(s) of occurrence and the perceived source. Complaints will be responded to in a timely manner and the action taken will be recorded.

The record must include details of the following:

1. the date and time of the complaint;
2. the method by which the complaint was made;
3. any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
4. the nature of the complaint;
5. the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
6. if no action was taken by the licensee, the reasons why no action was taken.

7.5 WEBSITE WEEKLY UPDATES

In accordance with SSD 7592 Schedule 2 Condition 6E, Centennial will publish in a prominent place on its website weekly updates during the planned outage period and monthly updates thereafter, comprising the following information:

- (a) the discharge points of any water discharges from the development;
- (b) the volumes of any water discharged from those points (including cumulative volumes from the commencement of this condition);
- (c) quality of those discharges (including maximum, median and minimum values);
- (d) salt loadings resulting from those discharges (including cumulative loadings from the commencement of this condition);
- (e) for any week in which water is discharged to the Thompsons Creek Reservoir under SSD 7592 Schedule 2 Condition 6B:
 - a. water quality within the Thompsons Creek Reservoir; and
 - b. operational status of the Thompsons Creek Reservoir's destratification system.

The website link is <https://www.centennialcoal.com.au/operations/springvale-water-treatment-facility/> and the documents are stored under the “Environmental Monitoring Reports” section of the page.

8 REFERENCES

ANZECC (2018) Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Australia and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand.

Centennial, 2024. Springvale Water treatment Plant Modification Report for Modification 11 to SSD-7592. Dated December 2024.

DP&E, 2017. Development Consent. Springvale Water Treatment Project SSD 7592. Dated June 2017.

ERM, 2024. Springvale Water Treatment Plant (Modification 11) Water Impact Assessment. Dated December 2024.

GHD, 2016a. Springvale Water Treatment Project State Significant Development 7592 Environmental Impact Statement. Prepared by GHD Pty Ltd. Dated September 2016.

GHD, 2016b. Springvale Water Treatment Project Water Resources Impact Assessment.

GHD, 2016. Springvale Coal/EnergyAustralia Amended Springvale Water Treatment Project Water Resources Impact Assessment

Veolia, 2025. Springvale MPPS Water Treatment Facility Water Management Plan (MAN-3659-18)

Abbreviations

C	Celcius
CCC	Community Consultive Committee
cm	Centimetre
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DPHI	Department of Planning, Housing and Infrastructure
EA	Energy Australia
EC	Electrical Conductivity
EIS	Environmental Impact Assessment
EPA	Environment Protection Authority
EPL	Environment Protection Licence
EMS	Environmental Management Strategy
FSL	Full Supply Level
HOL	High Operating Level
km	Kilometre
LCC	Lithgow City Council
LOL	Low Operating Level
m	Metre
mg	Milligram
ML	Megaliters
MEP	Mine Extension Project
MOD	Modification
MPPS	Mount Piper Power Station
NSW	New South Wales
OEMP	Operational Environmental Management Plan
OPUS	Optimised Pre-treatment and Unique Separation
POEO	Protection of the Environment Operations
REA	Reject Emplacement Area
RO	Reverse Osmosis
SEPP	State Environmental Planning Policy
SSD	State Significant Development

SSGV	Site Specific Guideline Values
SWTP	Springvale Water Treatment Plant
TARP	Trigger Action Response Plan
TCR	Thompsons Creek Reservoir
WCS	Western Coal Services
WIA	Water Impact Assessment
WM	Water Management
WMP	Water Management Plan

Appendix 1. Consultation

Agency Consultation was undertaken via the Major Project Portal under SSD-7592-PA-56 with the Environmental Protection Authority and Water NSW.

Feedback was required to be provided by 11 July 2025. The Following Table Summarizes outcomes of consultation.

Appendix 1 Table 1: Consultation Summary

Agency	Public Authority Response	Centennial Response
EPA PAE-86051473	No Response received	No further action required.
WaterNSW PAE-86051476	Response date 10 July 2025: Clarification on units for Nitrogen and Ammonia (NH ₄)	<p>Centennial have reviewed Appendix 2 –Water Quality Monitoring Data and acknowledge that there is an error in the units reported for Ammonia (NH₄) concentrations in Table 1. The values for NH₄ are currently listed in milligrams per litre (mg/L), however they should have been reported in micrograms per litre (µg/L).</p> <p>This discrepancy in units has led to an apparent inconsistency where ammonia concentrations appear higher than total nitrogen values. We confirm this is a reporting error.</p> <p>Centennial has corrected the units to µg/L in the appendix to ensure consistency and accuracy</p>

Rizwana Rumman

From: Juri Jung
Sent: Thursday, 10 July 2025 12:25 PM
To: Natalie Gardiner
Cc: Rizwana Rumman
Subject: WaterNSW's response - Updated Water Management Plan for SWTP Mod 11 (SSD-7592-Mod 11)

Dear Natalie,

Thanks for providing the opportunity to review the updated water management plan for SWTP Modification 11 (SSD-7592-Mod 11).

WaterNSW has reviewed and requests clarification in regards to the values for Nitrogen and Ammonia (NH₄) concentration in Appendix 2 (Table 4-2);

- How can concentration of ammonia be higher than total nitrogen, unless Nitrogen is not total nitrogen?
- If so, there may be an error in listing values for Nitrogen and NH₄.
- Clarification and correction is required in this regard.

Please note: Total nitrogen and ammoniacal nitrogen measured since 2014 at WaterNSW's monitoring site E0321 (Coxs River at Lithgow), which is similar location as WX9 monitoring point in Appendix 2, are:

- 7.25 and 0.615 mg/L (max and mean) for TN, and
- 0.443 and 0.043 mg/L (max and mean) for ammoniacal nitrogen.

This email will be uploaded to the Major Project Portal as well. If you have any questions, please feel free to reach out to me or Rizwana Rumman via environmental.assessments@waternsw.com.au.

Thanks.

Kind regards,

Juri Jung (she/her)

Catchment Protection Manager



Level 14, 169 Macquarie Street

PO Box 398

Parramatta NSW 2124

juri.jung@waternsw.com.au

Appendix 2. Baseline Data

Appendix 2 Table 1: Water Quality Monitoring Data

Parameter	EC (µS/cm)	pH (Field)	Turbidity (NTU)	Nitrogen (mg/L)	NH4 (µg/L)	Total P (mg/L)	Al (mg/L)	As (mg/L)	Cr (mg/L)	Cu (mg/L)	Se (mg/L)	Zn (mg/L)
MWQ – 95th %ile past 12 months	1230	7.8	535.5	-	-	-	0.016	0.029	<0.001	0.004	0.0003	0.042
MWQ – 95th %ile available date range	1267	7.8	513.1	-	-	-	0.153	0.030	<0.001	0.005	0.0008	0.059
STW – 95th %ile past 12 months	464	7.9	4.6	-	-	-	0.041	0.006	<0.001	0.002	0.0003	0.009
STW – 95th %ile available date range	660	8.6	24.3	-	-	-	0.065	0.006	<0.001	0.002	0.0003	0.010
TCR1 – 95th %ile past 12 months	525	8.6	12.6	0.7	20	0.07	0.020	0.001	<0.001	0.005	0.005	0.005
TCR1 – 95th %ile available date range	686	8.8	76.8	0.5	50	0.08	0.028	0.002	0.01	0.002	0.0005	0.009
TCR – 95th %ile past 12 months	543	7.6	1.01	0.6	75	0.05	0.020	0.001	0.001	0.004	0.12	0.012
TCR – 95th %ile available date range	566	7.8	1.9	0.6	57.5	0.05	0.098	0.002	0.01	0.004	0.12	0.011
WX9 – 95th %ile past 12 months	879	8.1	27.4	0.9	66	0.065	0.362	-	-	-	-	-

Parameter	EC ($\mu\text{S/cm}$)	pH	Turbidity (NTU)	Nitrogen (mg/L)	NH ₄ (mg/L)	Total P (mg/L)	Al (mg/L)	As (mg/L)	Cr (mg/L)	Cu (mg/L)	Se (mg/L)	Zn (mg/L)
WX9 – 95th %ile available date range	1748	8.7	19.5	0.8	140	0.058	0.488	-	-	-	-	-
Cox 8A – 95th %ile past 12 months	354	8.5	2.2	0.5	30	0.03	0.076	-	-	-	-	-
Cox 8A – 95th %ile available date range	352	8.5	11.6	0.9	40	0.05	0.440	-	-	-	-	-

Table Notes:

%ile: percentile

'-' indicates no available data, EC= electrical conductivity, NH₄ = ammonia, total P = total phosphorus, Al = aluminum, As = arsenic (dissolved), Cr = chromium (total), Cu = copper (dissolved), Se = selenium (total), Zn = zinc (dissolved).

Appendix 3. Trigger Action Response Plan

Appendix 3 – Trigger Action Response Plan for SWTP

Impacts	Condition Green	Condition Orange	Condition Red
Water Quality	<p>Water quality in the Thompson Creek Reservoir (TCR) does not exceed 550 $\mu\text{S}/\text{cm}$ electrical conductivity (EC).</p>	<p>Trigger: Water quality in the TCR has exceeded 550 $\mu\text{S}/\text{cm}$ EC but has not exceeded 600 $\mu\text{S}/\text{cm}$ EC.</p>	<p>Trigger: Monitoring indicates that there is a risk that water quality in the TCR will exceed 600 $\mu\text{S}/\text{cm}$ EC.</p> <p>The TCR destratification system is not fully operational.</p> <p>Investigation into Condition Orange trigger identifies that trigger exceedance is due to a water management or mining-related activity.</p> <p>Community complaint to Centennial regarding surface water quality.</p>
		<p>Action: Centennial must notify the EPA and WaterNSW as soon as practical after becoming aware of exceedance.</p> <p>The operation of a real-time water quality monitoring system to assess existing or emerging water quality conditions in the TCR prior to, during and after Outage periods.</p> <p>The ability to periodically transfer water from Lake Lyell prior to, during and after Outage periods, to reduce EC in response to existing or emerging potential water quality conditions.</p>	<p>Action: Immediately cease the transfer of blended water or partially treated mine water to the TCR.</p> <p>Determine if an incident has potentially occurred and investigate the source of the exceedance.</p> <p>Increase monitoring frequency and undertake additional monitoring (e.g. water quality, aquatic ecology) where relevant.</p>

Impacts	Condition Green	Condition Orange	Condition Red
			Investigate the reason(s) for the TCR desalination system not being fully operational.
		Response: Investigate the source of the exceedance and develop corrective / preventative actions based on outcomes.	Response: Implement corrective / preventative actions, in consultation with relevant agencies, based on the outcomes of the investigation and / or additional monitoring. Prioritise actions based on the risk to the environment and likelihood of further impact. Review the WMP and related procedures to prevent reoccurrence.
Volume Exceedance	Operating level within the specified range for normal operation (operating between High Operating Level (HOL) and Low operating Level (LOL)) providing volume to Full Supply Level (FSL).	Trigger: There is a risk that operating volumes will be outside normal operation levels.	Trigger: Operating volumes are outside normal operation levels.
		Action: The ability to periodically transfer and store water within existing approved lined storages at the MPPS prior to, during and after Outage periods in response to existing or emerging water storage requirements.	Action: Immediately cease the transfer of blended water or partially treated mine water to the TCR.

Impacts	Condition Green	Condition Orange	Condition Red
		<p>Operating between HOL and low operating level (LOL) providing volume to full supply level (FSL) and erosion protection operating level as contingency for climatic or operating conditions.</p>	
		<p>Response: Investigate the source of the exceedance and develop corrective / preventative actions based on outcomes.</p>	<p>Response: Implement corrective / preventative actions, in consultation with relevant agencies, based on the outcomes of the investigation and / or additional monitoring. Prioritise actions based on the risk to the environment and likelihood of further impact.</p> <p>Review the WMP and related procedures to prevent reoccurrence.</p>

Impacts	Condition Green	Condition Orange	Condition Red
Operating Level	Operating level within the specified range for normal operation (operating between High Operating Level (HOL) and Low operating Level (LOL)) and do not require discharge.	Trigger: There is a risk that operating volumes will be outside normal operation levels.	Trigger: Operating volumes are outside normal operation levels.
		Action: Reduction of TCR operating level pre-emptively in preparation for planned Outage periods to allow the SWIP to keep treating water.	Action: Immediately cease the transfer of blended water or partially treated mine water to the TCR.
		Response: Investigate the source of the exceedance and develop corrective / preventative actions based on outcomes.	Response: Implement corrective / preventative actions, in consultation with relevant agencies, based on the outcomes of the investigation and / or additional monitoring. Prioritise actions based on the risk to the environment and likelihood of further impact. Review the WMP and related procedures to prevent reoccurrence.
	Water level maintained below 1032.61 m AHD in preparation for water transfers from WTF.	Trigger: Water level at > High Operating Level but <FSL (i.e. Emergent state water Storage Level range 1032.61m to 1033m (FSL)/ 650ML.	Trigger: Water level at or above FSL(1033m AHD).
		Action: Review operational options to preferentially draw water from TCR for cooling demand.	Action: Isolate TCR from MPPS and Rydal Surge Tank.

Impacts	Condition Green	Condition Orange	Condition Red
		<p>Response: Confirm production condition, if normal production is <14 days draw from TCR first.</p> <p>Investigate the source of the exceedance and develop corrective / preventative actions based on outcomes.</p>	<p>Response: Open 100mm TCR riparian release valve and where possible scour valves between TCR and MPPS.</p>
		<p>Trigger: TCR Water Level < 1031.6m AHD</p>	<p>Trigger: Water level at or above FSL(1033m AHD).</p>
		<p>Action: Transfer water from Lake Lyell.</p>	<p>Action: Isolate TCR from MPPS and Rydal Surge Tank.</p>
		<p>Response: Consider transfers from Lake Lyell prior to transfer of excess water from the WIF (allow for dilution effects).</p>	<p>Response: Open 100mm TCR riparian release valve and where possible scour valves between TCR and MPPS.</p>
Inflow Volumes		<p>Trigger: MPPS power generation / water demand below WIF transfer volume.</p> <p>WIF requires an outage of at least 5 days.</p>	<p>N/A</p>
		<p>Action: Drawdown storage to necessary operating level.</p>	<p>N/A</p>

Impacts	Condition Green	Condition Orange	Condition Red
	<p>No rainfall predicted.</p> <p>No requirement to transfer water from WIF to TCR.</p> <p>Transfers of excess treated water from WIF to TCR occur. Transfer occurs where appropriate volume is available within TCR WIF.</p> <p>Operating Limits to receive necessary transferred volume.</p>	<p>Response: Review operational options to preferentially draw water from TCR for cooling demand back to normal operating level.</p>	<p>N/A</p>
Emergency Spillway	<p>Water level FSL > 50 mm below FSL 1033m AHD (84ML)</p>	<p>Trigger: TCR ≤ 50mm below FSL TCR & Rydal Surge Tank isolated from WIF water flow.</p>	<p>N/A</p>
		<p>Action: If transfers are required from WIF the regulator must be contacted to seek permission to discharge elsewhere (Pipers Flat may be an option with their consent).</p>	<p>N/A</p>
		<p>Response: Review operational options and develop corrective / preventative actions based on outcomes.</p>	<p>N/A</p>



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TABLE 4-2 WATER QUALITY MONITORING DATA VS ANZG (2018) GUIDELINES

Parameter	EC (µS/cm)	pH	Turbidity (NTU)	Nitrogen (mg/L)	NH ₄ (mg/L)	Total P (mg/L)	Al (mg/L)	As (mg/L)	Cr (mg/L)	Cu (mg/L)	Se (mg/L)	Zn (mg/L)
ANZG (2018)	30-350	6.5-7.5	25	0.25	0.9	0.02	0.055	0.013	0.0002	0.0014	0.0052	0.008
MWQ - 95 th %ile past 12 months	1230	7.8	535.5	-	-	-	0.016	0.029	<0.001	0.004	0.0003	0.042
MWQ - 95 th %ile available date range	1267	7.8	513.1	-	-	-	0.153	0.030	<0.001	0.005	0.0008	0.059
STW - 95 th %ile past 12 months	464	7.9	4.6	-	-	-	0.041	0.006	<0.001	0.002	0.0003	0.009
STW - 95 th %ile available date range	660	8.6	24.3	-	-	-	0.065	0.006	<0.001	0.002	0.0003	0.010
TCR1 - 95 th %ile past 12 months	525	8.6	12.6	0.7	20	0.07	0.020	0.001	<0.001	0.005	0.005	0.005
TCR1 - 95 th %ile available date range	686	8.8	76.8	0.5	50	0.08	0.028	0.002	0.01	0.002	0.0005	0.009
TCR - 95 th %ile past 12 months	543	7.6	1.01	0.6	75	0.05	0.020	0.001	0.001	0.004	0.12	0.012
TCR - 95 th %ile available date range	566	7.8	1.9	0.6	57.5	0.05	0.098	0.002	0.01	0.004	0.12	0.011
WX9 - 95 th %ile past 12 months	879	8.1	27.4	0.9	66	0.065	0.362	-	-	-	-	-
WX9 - 95 th %ile available date range	1748	8.7	19.5	0.8	140	0.058	0.488	-	-	-	-	-
Cox 8A - 95 th %ile past 12 months	354	8.5	2.2	0.5	30	0.03	0.076	-	-	-	-	-
Cox 8A - 95 th %ile available date range	352	8.5	11.6	0.9	40	0.05	0.440	-	-	-	-	-

%ile: percentile

Bold text indicates a value that exceeds the ANZG (2018) Guidelines

'-' indicates no available data, EC= electrical conductivity, NH₄ = ammonia, total P = total phosphorus, Al = aluminium, As = arsenic (dissolved), Cr = chromium (total), Cu = copper (dissolved), Se = selenium (total), Zn = zinc (dissolved).

Appendix B2 – Biodiversity Management Plan

- Biodiversity Management Plan (BMP) [MAN-3654];

Springvale MPWS Water Treatment Facility Biodiversity Management Plan



DOCUMENT CONTROL

Rev	Date	Revision Comments	Prepared by	Reviewed by	Approved by
0	02/08/2017	Draft for internal review	Elena Ivanova Veolia	Jonas Ball Linchpin Environment	
1	22/08/2017	Final Draft	Elena Ivanova Veolia	Jonas Ball Linchpin Environment	Huw Thomas Veolia
2	16/10/2017	Updated following OEH review	Elena Ivanova Veolia	Jonas Ball Linchpin Environment	Huw Thomas Veolia
3	24/10/2017	Updated following the Department of Planning and Environment review	Elena Ivanova Veolia	Jonas Ball Linchpin Environment	Huw Thomas Veolia
4	27/10/2017	Final	Elena Ivanova Veolia	Jonas Ball Linchpin Environment	Huw Thomas Veolia
5	28/03/2018	Updated following annual project management review	Elena Ivanova Veolia	Tom Roche Veolia	Tom Roche Veolia
6	16/07/2018	Updated following the Department of Planning and Environment review	Elena Ivanova Veolia	Aaron Smith Veolia	Simon Campbell Veolia
7	19/12/2019	Updated following internal review: 1. Commissioning methodology of the WTF 2. SSD7592 MOD2 3. SSD7592 MOD3 4. SSD7592 MOD4	Elena Ivanova Arcadis	Heather Tilley Arcadis	Michael Nicholson Veolia
8	23/11/2020	Updated following internal annual review to transition to operational requirements and incorporate SSDSSD7592 MOD5	Aaron Schultz Technical Manager Veolia	Ramona Bachu Environmental Compliance Manager Veolia	Michael Nicholson Operations Manager Veolia
9	19/03/2021	Annual Operations Update	Daniel Sanchez Castellanos Snr Process Engineer Veolia	Ramona Bachu Environmental Compliance Manager Veolia	Michael Nicholson Operations Manager Veolia
10	23/03/2021	Section 8.4 of the BMP has been updated to include reference to Section 6.6.3 IERMP protocol	Aaron Schultz Technical Manager Veolia	Ramona Bachu Environmental Compliance Manager Veolia	Michael Nicholson Operations Manager Veolia

NSW/SV Biodiversity Management Plan

Issue Date 09/03/2026

11	03/05/2021	Review Following Environmental Incident (Rivo ID: 14639548)	Jarrod Hodge Operations Supervisor, Veolia	Ramona Bachu Environmental Compliance Manager Veolia	Michael Nicholson Operations Manager Veolia
12	11/03/2022	Update prior to Facility Operations Manual Submission. Updated new Modification to SSD 7592 (MOD 6 & 7)	Daniel Sanchez Castellanos Snr Process Engineer Veolia	Nicole Boukarim Environmental Compliance Manager Veolia	Michael Nicholson Operations Manager Veolia
13	16/11/2022	Review Following Environmental Incident (Rivo ID: 14639548) Review following update of new modification to SSD 7592 (MOD 8)	Daniel Sanchez Castellanos Snr Process Engineer Veolia	Nicole Boukarim Environmental Compliance Manager Veolia	Michael Nicholson Operations Manager Veolia
14	7/12/2023	Add consultation table as Appendix C and consultation documents to Appendix D as per DPIE feedback Removed references to Construction period and inclusion of TARP in Table 7	Priyanka Chelimela Environmental Officer	Graham Brown Compliance Supervisor Veolia	Caitlin Cooper Snr Process Engineer Veolia
15	27/2/2025	Scheduled Review and review following Environmental Incident (Rivo ID: 23455557) Remove reference to superseded document	Chantelle Handley Compliance Supervisor	Alessandro Ando Process Engineer	Caitlin Cooper Snr Process Engineer Veolia
16	10/04/2025	Review following Environmental Incident (Rivo ID: 23753095) and MOD 11 approval No changes made	Chantelle Handley Compliance Supervisor	Alessandro Ando Process Engineer	Caitlin Cooper Snr Process Engineer Veolia
17	21/10/2025	Review following Environmental Incidents (Rivo ID: 25314778 and Rivo ID: 25453504) - No changes made	Chantelle Handley Compliance Supervisor	Alessandro Ando Process Engineer	Caitlin Cooper Snr Process Engineer Veolia
18	09/03/2026	Annual Operations Update Review following Environmental Incident (Rivo ID: 26685080) No changes made	Chantelle Handley Compliance Supervisor	Alessandro Ando Process Engineer	Caitlin Cooper Snr Process Engineer Veolia

DEFINITIONS AND ACRONYMS

Term	Definition
BMA	Biodiversity Management Area
BMP	Biodiversity Management Plan
CoDC	Conditions of the Development Consent (SSD 7592)
Customer	<ul style="list-style-type: none"> • Boulder Mining Pty Limited (ABN 85 112 796 308) (Boulder Mining); • Centennial Springvale Pty Limited (ABN 64 052 096 812); and • EnergyAustralia NSW Pty Limited (ABN 75 163 935 635).
D&C Contract	Water Treatment Facility Design and Construct Contract
DPE	NSW Department of Planning, Industries and Environment (previously known as DPIE)
EA	Energy Australia NSW
EECs	Endangered Ecological Communities as defined under the <i>NSW Threatened Species Conservation Act 1995</i>
EESG	Environmental Energy and Science Group (formerly OEH)
EIS, 2016	Environmental Impact Statement, prepared by GHD
EMS	Environmental Management System
EN	Environmental Nominee
ESCMPs	Erosion and Sediment Control Management Plans
Facility	Water Transfer System (WTS) and the Water Treatment Facility (WTF)
HBTs	Hollow-bearing trees
HDPE	High density polyethylene
MPPS	Mount Piper Power Station
NSW	New South Wales
OEH	Environment and Heritage Group of the Department of Planning and Environment.
OEMP	Operational Environmental Management Plan
PMP	Project Management Plan

SEE	Statement of Environmental Effects
SCSO	Springvale Coal Services Operations (formerly known as Western Coal Services)
SMPPS WTP or Project	Springvale MPPS Water Treatment Project or Springvale Water Treatment Project
SPA	Service Provider Agreement
WTF	Water Treatment Facility
WTSC	Water Treatment Services Contract
WTS	Water Transfer System
VANZ or Veolia	Veolia Australia and New Zealand

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1. Introduction

1.1. Background

The Springvale and Angus Place Mines are located in the western coalfields of New South Wales near Lithgow. The Springvale Mine is the primary source of coal for Mount Piper Power Station (MPPS), which is the newest and most efficient coal-fired power station in New South Wales.

The Springvale Coal Mine is owned by Springvale Coal Pty Limited (Springvale Coal), a joint venture comprising Boulder Mining Pty Limited and Centennial Springvale Pty Limited.

MPPS is owned and operated by Energy Australia NSW Pty Limited (EA), and is a key part of the New South Wales' electricity system, supplying approximately 15% of the State's energy requirements.

In addition to coal, MPPS requires water of low salinity for its cooling water system. This need is currently supplied from a number of alternate water sources including storage dams owned and operated by EA, which are fed by a combination of local rainfall and discharge water from the Springvale and Angus Place Mines. Freshwater is also sourced from the Fish River scheme and the Thompsons Creek Reservoir (TCR). The Springvale Water Treatment Project was initiated to improve the environmental outcomes and water quality in the Upper Cocks River catchment and to achieve compliance with the water management performance measures required under the Springvale Mine Extension Project (MEP) development consent.

The project received approval on 19 June 2017 for the construction and operation under State Significant Development (SSD 7592) in accordance with section 89(C) of the Environmental Planning and Assessment Act 1979 (EP&A Act).

Implementation of the Springvale Water Treatment Facility (WTF) will eliminate direct mine water discharges from the Springvale Delta Water Transfer Scheme (WTS) into the Cocks River catchment. The WTF involves the transfer of water from existing dewatering facilities on the Newnes Plateau to a new water treatment plant located at the MPPS.

Treated water will be used as a priority within the MPPS cooling water system and excess treated water transferred to TCR for storage and subsequent reuse in the power station operations.

1.2. Relationship to other management plans

A Facility Operational Management Plan (MAN-3649) outlines the management approach to be used by Veolia in its capacity as Operation Contractor to deliver the scope of works as described under the WTSC.

This Biodiversity Management Plan (BMP) is part of the environmental management framework for the Facility, as described in the Operational Environmental Management Plan (OEMP)(MAN-3652). The OEMP is a sub-plan within the overall OMP framework.

1.3. Scope of the BMP

The BMP has been prepared in order to fulfil the regulatory requirements for the Facility and to provide Veolia employees and contractors with a clear understanding of the requirements of this plan.

The purpose of the BMP is to contribute to the maintenance and protection of existing biodiversity values and minimise the potential long-term effects of clearing required for construction works on the surrounding vegetation communities and habitats.

The modified Development Consent (See [Section 3.2](#)) includes several changes, predominantly related to a revised WTS pipeline alignment and revised WTF design and management strategy for commissioning. Modification 2 (SSD 7592 MOD2) returned the pipeline alignment near Skelly Road approved under Modification 1 (SSD 7592 MOD1) to the original design outlined in the EIS (GHD, 2016a) and eliminated additional impact related to the biodiversity value.

This BMP has been revised to address the modified Development Consent and to outline the biodiversity requirements and management measures for the operation stage of the Facility.

NOTE: All document [hyperlinks](#) included in this Plan related to Veolia ANZ's Business Management System (BMS), can only be opened on Veolia's network and can't be accessed by external users. Document codes have been included as a reference where an external user can request from Veolia to provide.

1.4. Aim and objectives of the BMP

The primary aim of the BMP is to demonstrate how the Facility will maintain or enhance benchmark biodiversity values throughout the landscape following construction. This BMP addresses the management of all flora and fauna, including aquatic and riparian habitats, undertaken during construction of the project, and which will continue through the operation of the Facility.

Key biodiversity management objectives for the Facility are:

- to manage weeds in the Facility footprint;
- to encourage the recovery and reuse of existing natural resources (e.g. cleared vegetation, bush rock, topsoil, leaf litter) and to reduce material disposal offsite;
- avoid impacts on threatened species, populations and ecological communities;
- to describe monitoring and reporting strategies to monitor impacts on flora and fauna and assess the effectiveness of any mitigation measures during operation;
- protect native vegetation and key fauna habitat outside of the approved disturbance area.

1.5. Consultation

Consultation (Appendix C & D) was undertaken with Office Environment and Heritage¹ (OEH) in the preparation of this plan and their feedback has been included.

¹ Now Environmental Energy and Science Group (EESG), within the DPIE.

2. Facility Description

2.1. Facility overview

The Facility aims to improve water quality in the upper Cox's River catchment through the transfer of water from existing underground mine dewatering facilities for reuse at the MPPS cooling towers as a first priority, rather than discharge into the upper catchment of the Cox's River.

The Facility comprises the following elements:

1. Water transfer system (WTS)

The WTS is a 15 km pipeline, which transfers up to 42 ML/day (megalitres a day) of mine water from existing underground mine dewatering facilities (operated by Springvale Coal Pty Ltd) to MPPS (operated by EnergyAustralia NSW Pty Ltd).

It also includes a 5 km residuals pipeline from the WTF site to the Springvale Coal Services Area.

2. Water treatment facility (WTF)

The WTF is a desalination plant which treats the mine water for use in the cooling towers. Excess treated water is discharge to Thompson's Creek Reservoir (TCR) if required; discharge of treated water will only occur when MPPS is not operating at full capacity

2.2. Facility area

The Facility area comprises a number of infrastructure elements primarily including a 10 m wide linear pipeline corridor extending from the existing Gravity Tank on Newnes Plateau to the WTF located within the MPPS site.

The WTS corridor is partially situated within the Newnes State Forest, extending from the east on Newnes Plateau to west into lower lying vegetated and disturbed lands. In these portions of the WTS corridor, connected vegetation occurs for a distance of greater than two kilometres to the north, east and south-east. Being a State Forest in these portions of land, the native vegetation is periodically selectively logged but there are no areas of clear felling of native vegetation.

The Newnes State Forest is connected to the Gardens of Stone National Park and Wollemi National Park to the north, Blue Mountains National Park to the east and Ben Bullen State Forest to the north-west. As a result of the almost complete vegetative cover within and external to the WTS corridor, the habitat linkages both throughout and surrounding are sufficient for fauna movement and are of high quality.

The western half of the WTS corridor is situated on largely disturbed lands due to existing farming lands, roads, easements and mining lands. Remnant vegetation exists to the south of the pipeline, which tentatively connects to the northern side. Castlereagh Highway creates a wide disconnection between vegetation tracts further north, and that situated to the north of the western portion of the Pipeline area.

The WTF site at MPPS was extensively cleared and modified for construction of the power station and associated infrastructure, and offers minimal biodiversity value.

The Facility footprint was initially divided into five Biodiversity Management Areas (BMAs) and were identified for the project based upon vegetation types and cover, land use, land management and construction activities. Since construction, the access to the BMAs have changed and this only some as accessible to the facility. Each of these BMA's is described in more detail in [Section 6](#).

3. Statutory Requirements

3.1. Relevant Legislation and Guidelines

Details about the legislation, planning instruments and guidelines considered during development of this plan are listed below, with specific details provided in the Legislation Register within Appendix A1 of the Springvale MPPS Water Treatment Operational Environmental Management Plan [MAN-3652] (OEMP).

- *Environmental Planning and Assessment Act 1979 (EP&A Act);*
- *National Parks and Wildlife Act 1974 (NPW Act);*
- *Biodiversity Conservation Act 2016 (BC Act);*
- *Fisheries Management Act 1994 (FM Act);*
- *Biosecurity Act 2015; and*
- *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).*

3.1.1. Guidelines and standards

Additional guidelines and standards have also been referenced during the development of this document and procedures in this plan:

- *Noxious and Environmental Weed Control Handbook 5th Edition, NSW Department of Primary Industries;*
- *Standards Australia, AS 4970 Protection of trees on development sites.*

3.2. Development Consent

The NSW Department of Planning and Environment (DP&E) (now the Department of Planning, Environment and Industry – DPIE) assessed the State Significant Development (SSD 7592) in accordance with section 89(C) of the Environmental Planning and Assessment Act 1979 (EP&A Act).

The then DP&E delegated SSD 7592 to the Planning Assessment Commission (PAC) for determination under the Minister's delegation of 14 September 2011. The project was determined by PAC on 19 June 2017.

Following approval, a number of Modification Applications were submitted and approved. These are modifications can be found on the DPE website -

<https://www.planningportal.nsw.gov.au/major-projects/projects/springvale-water-treatment-facility>

3.3. Roles and responsibilities

Roles and responsibilities of key personnel for operation under this BMP are outlined in **Table 1**.

Table 1 – Roles and Responsibilities

Action	Responsibility
Overall implementation of the BMP	Operation Manager
Coordinate monitoring and compile reports	Operation Manager and Environmental Nominee
Maintain internal records of monitoring/checks	Environmental Nominee
Collate and maintain records of complaints, respond to complainant	Environmental Nominee
Authorise and confirm the implementation of mitigation measures	Operation Manager
Informing the supervisor of any flora and fauna issues as they rise	Facility Personnel
Ensure that appropriate flora and fauna management measures are implemented and maintained on site. In the event of identified potential or actual breaches, implement appropriate corrective or preventative actions to fulfil the requirements of this Plan	Operation Manager
Ensure that post-construction weed management are implemented	Environmental Nominee

3.4. Training

All personnel, including employees, contractors and subcontractors, are required to complete an induction containing relevant environmental information before they are authorised to work on any parts of the Facility.

Flora and fauna specific information is covered in the Facility induction and includes:

- Relevant operational procedures
- Weed management procedure;
- Response procedures in the event of an unexpected threatened species find;
- Pest reporting procedure; and
- Incident response procedures.

Records of all training activities, including inductions, will be maintained. Records will include the name and role of the attendee, the name of the course and, where applicable, reference to the document-controlled version of the material presented, and a copy of the assessment completed.

For specialised tasks, appropriately qualified and experienced personnel will be engaged. For example this will include ecologists for biodiversity advice and monitoring and landscape professionals for revegetation and weed control activities.

4. Implementation

4.1. Existing Environment

4.1.1. Assessment overview

A comprehensive biodiversity assessment was undertaken to identify the potential impacts on biodiversity as part of the Environmental Impact Statement (EIS, 2016), prepared by GHD Pty.

The following sections summarise the findings of the Biodiversity Assessment Report (RPS, 2016).

4.1.2. Vegetation

Fifteen vegetation types within the Facility footprint. These are shown in **Table 2**.

Table 2 – Vegetation around the Facility

Vegetation Map Unit Number (MU) and description Landscape	Area around the pipeline Area (ha)
Newnes Plateau Narrow-leaved Peppermint Mountain Gum Brown Stringybark Layered Forest	2.25
Newnes Sheltered Peppermint - Brown Barrel Shrubby Forest	1.45
Tableland Gully Snow Gum - Ribbon Gum Montane Grassy Forest	1.27
Newnes Plateau Narrow-leaved Peppermint- Silver-top Ash Layered Open Forest	3.55
Sandstone Plateau and Ridge Scribbly Gum- Silvertop Ash Shrubby Woodland	0.00
Sandstone Slopes Sydney Peppermint Shrubby Forest	0.22
Tableland Broad-leaved Peppermint Brittle Gum- Red Stringybark Grassy Open Forest	0.85
Tableland Gully Mountain Gum - Broad-leaved Peppermint Grassy Forest	0.00
Cox's Permian Red Stringybark- Brittle Gum Woodland	6.71
Pagoda Rock Sparse Shrubland	0.00
Sandstone Plateaux Tea Tree- Dwarf Sheoak-Banksia Rocky Heath	0.00
Mountain Hollow Grassy Fen	0.02
Acacia Thickets	21.92
Non-native Vegetation - Pine Plantation /Woodlot / Shelter	0.01
Unclassified	0.13
Cleared/disturbed lands	41.73
Total	80.11

4.1.3. Flora species

A total of 157 flora species were identified around the pipeline. This included 129 native species, 28 exotic species and 3 threatened flora species (RPS, 2016).

In addition, a further two threatened flora species were detected immediately adjacent to the facility, with potential juvenile species also occurring around the pipeline.

Threatened flora species identified within or immediately around the pipeline are provided in **Table 3**.

Table 3 – Threatened flora species (RPS, 2016)

Scientific name	Common name status	NSW Status	Commonwealth Status
<i>Caesia parviflora</i> var. <i>minor</i>	Small Pale Grass Lily	Endangered	
<i>Persoonia hindii</i>		Endangered	
<i>Veronica blakelyi</i>		Vulnerable	
<i>Eucalyptus aggregate</i>	Black Gum	Vulnerable	Vulnerable
<i>Eucalyptus cannonii</i>	Capertee Stringybark	Vulnerable	

Groundwater dependent ecosystems

The biodiversity assessment also identified 0.02 ha of a groundwater dependent ecosystem – *MU53 Mountain Hollow Grassy Fen* around the Pipeline.

4.1.4. Fauna species

A total of 89 fauna species including 64 bird species, 22 mammal species, one reptile species and two amphibian species were identified around the pipeline area. Of these, eight species are listed as Vulnerable under the *Threatened Species Conservation (TSC) Act 1995* (noting that this Act has now been repealed by the *Biodiversity Conservation Act 2016* as of 25 August 2017), including:

- Scarlet Robin (*Petroica boodang*);
- Little Eagle (*Hieraetus morphnoides*);
- Gang-gang Cockatoo (*Callocephalon fimbriatum*);
- Glossy Black-Cockatoo (*Calyptorhynchus lathamni*);
- Powerful Owl (*Ninox strenua*);
- Brown Treecreeper (eastern subsp.) (*Climacteris picumnus victoriae*);
- Large-eared Pied Bat (*Chalinolobus dwyren*) and
- Yellow-bellied Sheath-tail Bat (*Saccolaimus flaviventris*).

Additionally, two species are listed as Vulnerable under the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*:

- Greater Glider (*Petauroides volans*);
- Large-eared Pied Bat (*Chalinolobus dwyer*).

Based on the surveys and the habitats present, the following NSW and Commonwealth listed threatened fauna species occur or have been assessed as having potential to occur in the pipeline area (See **Table 4**).

Table 4 – Threatened fauna species to occur

Scientific name	Common name (* - species detected during survey)	NSW Status	Commonwealth Status
Invertebrates			
<i>Paralucia spinifera</i>	Bathurst Copperwing Butterfly	Endangered	
Amphibians			
<i>Heleioporus australiacus</i>	Giant Burrowing Frog	Vulnerable	Vulnerable
<i>Litoria littlejohni</i>	Littlejohn's Tree Frog	Vulnerable	Vulnerable
<i>Pseudophryne australis</i>	Red-crowned Toadlet	Vulnerable	
Reptiles			
<i>Hoplocephalus bungaroides</i>	Broad-headed Snake	Endangered	Vulnerable
<i>Varanus rosenbergi</i>	Rosenberg's Goanna	Vulnerable	
Birds			
<i>Hieraaetus morphnoides</i>	Little Eagle*	Vulnerable	
<i>Lophoictinia isura</i>	Square-tailed Kite	Vulnerable	
<i>Callocephalon fimbriatum</i>	Gang-Gang Cockatoo*	Vulnerable	
<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo*	Vulnerable	
<i>Glossopsitta pusilla</i>	Little Lorikeet	Vulnerable	
<i>Ninox connivens</i>	Barking Owl	Vulnerable	
<i>Ninox strenua</i>	Powerful Owl*	Vulnerable	
<i>Tyto novaehollandiae</i>	Masked Owl	Vulnerable	
<i>Tyto tenebricosa</i>	Sooty owl	Vulnerable	
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subsp.)*	Vulnerable	
<i>Chthonicola sagittate</i>	Speckled Warbler	Vulnerable	
<i>Anthochaera Phrygia</i>	Regent Honeyeater	Critically Endangered	Critically Endangered
<i>Grantiella picta</i>	Painted Honeyeater	Vulnerable	
<i>Melithreptus gularis gularis</i>	Black-chinned Honeyeater	Vulnerable	
<i>Pomatostomus temporalis</i>	Grey-crowned Babbler	Vulnerable	
<i>Daphoenositta chrysoptera</i>	Varied Sittella	Vulnerable	
<i>Melanodryas cucullate</i>	Hooded Robin	Vulnerable	
<i>Petroica boodang</i>	Scarlet Robin*	Vulnerable	
<i>Petroica phoenicea</i>	Flame Robin	Vulnerable	
<i>Stagonopleura guttata</i>	Diamond Firetail	Vulnerable	

Mammals			
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	Vulnerable	Endangered
<i>Isodon obesulus</i>	Southern Brown Bandicoot	Endangered	Endangered
<i>Phascolarctos cinereus</i>	Koala	Vulnerable	Vulnerable
<i>Cercartetus nanus</i>	Eastern Pygmy Possum	Vulnerable	
<i>Petaurus australis</i>	Yellow-bellied Glider	Vulnerable	
<i>Petaurus norfolcensis</i>	Squirrel Glider	Vulnerable	
<i>Petauroides Volans</i>	Greater Glider*		Vulnerable
<i>Petrogale penicilata</i>	Brush-tailed Rock- wallaby	Endangered	Vulnerable
<i>Pseudomys novaehollandiae</i>	New Holland Mouse		Vulnerable
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheathtail Bat*	Vulnerable	
<i>Mormopterus norfolkensis</i>	Eastern Freetail-bat	Vulnerable	
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat*	Vulnerable	Vulnerable
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	Vulnerable	
<i>Miniopterus schreibersi subsp oceanensis</i>	Eastern Bentwing Bat	Vulnerable	
<i>Scoteanax rueppelli</i>	Greater Broad-nosed	Vulnerable	
<i>Vespadelus trougton</i>	Eastern Cave Bat	Vulnerable	

4.1.5. Fauna habitat

Broad habitat types detected around the pipeline area are included:

- Open forest/woodland areas;
- Wet sclerophyll areas;
- Cleared/disturbed areas.

Forest habitats cover around 50% of area around the pipeline area, predominantly associated with the Newnes Plateau. A varied understory layer of native shrubs provides ground cover for small mammals and reptiles as well as foraging opportunities for woodland birds. Ground cover is further enhanced by woody debris and leaf litter, which is most abundant in gullies, low depressions, and recently logged areas. Small mammals utilise hollows and fissures in fallen logs, while reptiles shelter underneath logs and dense leaf litter.

Grasses comprise a significant portion of the ground vegetation in many areas and support grazing macropods and wombats. Open woodlands with sparse understoreys, particularly in close proximity to tracks and disturbed areas are suitable habitats for the threatened plant *P.hindii* and *C.parviflora* var. *minor*, which has been detected across the pipeline area.

Ridgetops often feature rock piles and exposed sandstone where terrestrial fauna can shelter in cracks and under loose slabs. Sandstone outcrops provide ideal conditions for many reptiles which shelter

under slabs and bask on exposed rock. The dense heath covering the skeletal soils that surround exposed rocky areas provides additional cover and foraging opportunities for reptiles, birds and small mammals. Macropods often shelter beneath overhangs amongst larger rock formations.

The cleared/disturbed areas occurring around the pipeline area are of low value in terms of providing habitat for native fauna species aside from providing foraging habitat along the ecotone between cleared and forested areas (such as foraging by microchiropteran bat species and owls).

4.2. Environmental Impacts and Risks

4.2.1. Key threatening processes

Activities that had the potential to impact on flora and fauna were identified in the EIS (GHD 2016). The major risks (Key Threatening Processes) to biodiversity were identified in the Biodiversity Assessment Report (RPS, 2016) and included:

- Aggressive exclusion of birds from woodland and forest habitat by abundant Noisy Miners
- Loss of hollow-bearing trees
- Removal of dead wood and dead trees
- Clearing of native vegetation
- Anthropogenic climate change
- Degradation of native riparian vegetation along watercourses
- Invasion of native plant communities by exotic perennial grasses (Weeds).

The following sections outline these risks in more detail.

4.2.2. Aggressive exclusion of birds from woodland and forest habitat

Noisy Miners are aggressive towards other birds and often form coterries to attack and drive away other native bird species. An increase in a noisy miner population in an area has been correlated with the reduction of avian diversity in human-affected landscapes. They prefer disturbed open woodland, particularly the edges of vegetation patches. Noisy Miners often colonise new areas along the edges of vegetated areas.

The *Western Operations Regional Biodiversity Management Plan (Centennial Coal, 2017)* does not identify Noisy Miners dispersal as a significant issue in their areas of management. About 50% of the raw water pipeline and the entire residual pipeline are located within the Western Operations area.

BMA1 already contains Noisy Miners as it is adjacent to the MPPS and Noisy Miners are known to colonise and forage in industrial environments.

The pipeline corridor in BMA5 on the Newnes Plateau has the greatest risk for further dispersal of Noisy Miners. However as noted in the Biodiversity Assessment Report (RPS, 2016) the dense bushland beyond the pipeline corridor will limit its dispersal deeper into the surrounding areas.

4.2.3. Impacts on fauna habitat – HBTs/ Dead wood and trees

The location of the Facility does not include expansive areas of particularly rocky habitats such as large rock platforms or cliffs, however it passes through some areas considered suitable for the

Broad-headed Snake. Caves or similar structures that may be used by cave dwelling microbats were recorded in close proximity to the Facility footprint. Based on the biodiversity assessment provided in the EIS, no loss of caves or similar structures was expected as a result of construction.

The eastern portion of the Facility on the Newnes Plateau is surrounded by large areas containing contiguous forest, woodland, heath, swamp and rocky habitats. These habitats continue throughout the Newnes State Forest and into the Gardens of Stone National Park, Blue Mountains National Park and Wollemi National Park. The local populations of species with high mobility, such as threatened birds, bats, arboreal mammals and terrestrial mammals would continue into these surrounding areas.

The clearance of a 10 m wide corridor was not expected to have significant impacts on the habitat values and connectivity. Also, the majority of the pipeline is located along the edge of existing cleared areas or within cleared areas.

As well as vegetation clearing, other risks to the habitat of threatened and non-threatened fauna identified in the Biodiversity Assessment Report (RPS, 2016) included the removal of HBTs, dead trees and wood. Hollows are used by a wide range of fauna for roosting, nesting or protection. Dead trees and wood also may provide hollows and protection for a variety of fauna and may also provide foraging habitat particularly for birds. HBTs were identified with the pipeline corridor and some were cleared for construction. Generally dead wood and trees were cleared from the pipeline route.

4.2.4. Loss of riparian vegetation

While this was identified as a key risk in the Biodiversity Assessment Report (RPS, 2016), the actual risk was substantially lower than that predicted in EIS. The Cox River and an adjacent tributary was underbored using directional drilling avoiding impacts on riparian vegetation.

Only two small ephemeral waterways on the Newnes Plateau were crossed using an excavation method. The disturbance of riparian vegetation was minimised by reducing the construction footprint (ie the width of the WTS construction corridor was reduced from 10 m to 8 m).

4.2.5. Invasion of native plant communities (Weeds)

Weed infestation varies between BMAs – with the degree of infestation linked to land disturbance. The Biodiversity Assessment Report (RPS, 2016) did not contain detailed information on weeds including location and type.

Data on weed infestation was collected during the baseline ecological survey and a weed management program will be prepared by a suitable qualified person.

Within the SCSP sites weeds primarily occur within areas of recent disturbance or historical agricultural areas. Typical noxious weeds identified throughout the Western Operation sites include, but are not limited to:

- Blackberry (*Rubus fruticosus*);
- Patterson's Curse (*Echium plantagineum*);
- St John's Wort (*Hypericum perforatum*);
- African Olive (*Olea europaea L. subsp. cuspidate*);
- Scotch Broom (*Cytisus scoparius*);
- Serrated Tussock (*Nassella trichotoma*).

5. Key Risks and Biodiversity Management

5.1. Key risks, management measures and performance objectives

The Biodiversity Assessment Report (RPS, 2016) identified a number of key risks to biodiversity from the Facility. There are also a number of other risks which although are not significant, require management measures to be developed and implemented. All identified risks, their ranking, management measures, performance objectives and monitoring are presented in **Table 5**.

The risks and management measures detailed in the table are to be used as the basis of managing biodiversity in each of the BMAs. For some BMA's a risk may have a lower ranking generally due to land clearing and existing infrastructure and a lesser level of management may be appropriate in these BMAs for specific risks.

For all BMAs there are a series of standard biodiversity protection measures that will be implemented (See [Section 6](#)) and these will address many of the low ranked risks that are not explicitly assessed in the **Table 5**.

Table 5 – Key risks and management measures

Risk	Aspects	Impact	Ranking without controls	Controls	Ranking with controls	Performance Objectives	Monitoring
Invasion of native plant communities by exotic perennial grasses (Weeds).	<ul style="list-style-type: none"> WTS and WTF Maintenance Vehicle/plant movements Use of equipment during maintenance 	<ul style="list-style-type: none"> Unauthorised vehicle and plant movements in adjoining vegetation outside the approved access area Facilitation of spread of pathogens and weeds 	High – section of the pipeline traverses native vegetation with minimal weed infestation. Other sections traverse areas with already high weed infestations	Weed mapping (Section 7.2) Weed management (Section 7.2) Integration with existing weed management programs (Section 7.1)	Moderate	No substantial weed issue 50% reduction in weed cover every year	During pipeline maintenance inspections
Impacts on native fauna and flora from feral animals and pests	WTS and WTF		Moderate – there is no evidence of significant feral animal problems	Monitoring of pests (Section 7.3) Integration with existing pest management programs (Section 7.1)	Low	No substantial feral animal issue Successful integration with existing programs	During pipeline maintenance inspections

6. Biodiversity Management Areas

Five Biodiversity Management Areas (BMAs) were identified for the initial project based upon vegetation types and cover, land use, land management and construction activities (refer to **Table 6**). However due to access restrictions, the facility is only able to monitor BMA1, BMA4 and BMA5. Thus this plan will only cover the aforementioned BMAs in detail. BMA1 is the WTP site whereas the other BMA's are along the raw water and residuals pipeline routes.

Table 6 – Biodiversity management areas

BMA	Name	General Characteristic
1	WTP site	Rehabilitated coal mining site dominated by pioneer Acacia regrowth
2	Raw water pipeline from WTP to Agricultural land and Residuals pipeline	Conveyer corridor through cleared and woodland areas
3	Raw water pipeline through agricultural land	Cleared agricultural land with isolated trees
4	Raw water pipeline through Emplacement area	Heavily disturbed emplacement area surrounded by woodland vegetation
5	Raw water pipeline through Newnes Plateau	State Forest with high biodiversity values

BMA5 on the Newnes Plateau has the highest biodiversity values and potential impacts. BMA1 and BMA3 have the lowest biodiversity values due to previous clearing and land disturbance.

The pipeline running through BMA 2 - 5 is a fully buried pipeline traversing lands not under the control of Veolia. Veolia maintains an access corridor through BMA 4 and BMA 5.

Further information is provided for each BMA in the following sections, Each section addresses:

- Environmental features
- WTS and WTP Maintenance
- Vehicle/plant movements
- Use of equipment during maintenance
- Weeds and pests

[Appendix A](#) contains detailed mapping which shows vegetation, threatened species, weeds and other environmental and construction features.

To further address environmental and biodiversity risks and management, a Trigger Action Response Plan (TARP) (**Table 7**) shows aspects taken into account for areas around the pipelines and BMAs. Due to the nature of the landscape and activities it is possible for the triggers described to be spread throughout, thus making each trigger, action and response applicable to any monitored BMA.

Table 7 – Trigger Action Response Plan (TARP)

Target	Trigger	Action	Response
Weed Cover - 50% reduction in weed cover every year	≥ 10 Individual or isolated weeds observed in BMA 1, 4 and 5	Individual or isolated weeds observed during monthly inspection	Weeds will be manually removed and disposed of and logged on the inspection sheet.
	Site wide weed growth observed in BMA 1. Covering increased by more than 20% from the previous year.	Weed growth observed during monthly inspections	Clearing of weeds as per the BMP External contractors can be engaged for Weed control/removal over large areas Physical and Chemical clearing of weeds
	Weed growth observed along pipeline areas (BMA4 and 5). Covering increased by more than 20% of road area from previous year	Weed growth observed during monthly pipeline inspections	Once identified, relevant parties to be notified to conduct clearing. Monitoring to be continued to track progress and recurrence. See Section 7.2. Weed Management
Pest sightings - > 12 pest sightings per year within the BMA's	≤ 1 sighting of pest species observed in BMA 1, 4 and 5.	Pest or pest activity spotted during monthly pipeline inspection.	Once identified, monitoring should be continued to track progress and recurrence. Notify relevant parties. See Section 7.3 Pests Management
Seeded vegetation areas must achieve 60% soil surface coverage before soil and erosion controls can be removed	Any soil erosion < 0.5 M ³ observed in BMA1, 4 and 5.	Soil erosion observed during monthly pipeline inspections.	Soil and erosion controls to be installed or replaced to minimise damage. Access is limited to authorised personnel.
Zero pollution or litter in waterways	≤ 1 M ³ of visible pollution close to or in nearby waterways	Immediate clean up of the area and notification to the NSW Environment team in the event of a spill and the OEMP and Incident and Emergency Response Management Plan engaged.	An investigation is advised to determine the source and scope of the pollution. Outcomes that aren't already in the BMP should be included. See Section 7.8. Contingency Plan

6.1. BMA 1 – WTF site

6.1.1. Location

BMA1 consists of the WTF site adjacent to the MPPS. The WTF was constructed on a rehabilitated ex-coal mining site.

6.1.2. WTF and pipeline route

The WTF consists of various treatment units, ponds and other auxiliary infrastructure connected with pipes and cabling. The area around and between the treatment process units was cleared and a 10 m bushfire asset protection zone was established.

A 100 m section of the raw water pipeline and residuals pipeline was under bored to pass underneath the hill from the WTF to the boundary of the site and BMA. The WTF site was a rehabilitated coal mining area and vegetation consists of the regrowth of pioneer Acacias species (mostly wattle trees).

6.1.3. Description of operation works

Maintenance works of the WTS corridor will be undertaken to maintain the track access for regular inspections of the pipeline. No works are expected to be undertaken outside of the corridor.

6.1.4. Vegetation communities in the BMA 1

Table 8 – Vegetation communities – BMA 1

Vegetation Community	Description and Occurrence	Key risks and impacts (Including clearing estimates for BMA)	Management Measures
HN570 Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion - Poor condition	The regrowth of vegetation on this highly disturbed site has been classified in this area. The condition of vegetation is poor because it is primarily pioneer species such as wattle and other Acacias.	<ul style="list-style-type: none"> Clearing of native vegetation over approved limits Invasion of native plant communities by exotic perennial grasses (weeds). Erosion of cleared areas 	See Table 5 for general management measures and monitoring schedule Other management measures include: <ul style="list-style-type: none"> None

6.1.5. Threatened fauna and flora in the BMA

No threatened flora and fauna have been recorded in BMA1.

6.1.6. Weeds and Pests

Table 9 – Weeds and pests – BMA 1

Weeds and Pests	Description and Occurrence	Management Measures	Monitoring
Blackberry (<i>Rubus fruticosus</i>)	Low density infestations along the western portion of the route with spot locations of significant infestations	See Table 5 for specific management	See Table 5 for details on relevant monitoring programs

		measures for key risks Other management measures include: None	Other monitoring measures include: None
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6.2. BMA 4 – Emplacement area

6.2.1. Location

The BMA 4 is cleared and severely disturbed land and located between agricultural land and Newnes Plateau. Approximately 2 km of the WTS was constructed within this BMA, along Centennial Coal emplacement area.

6.2.2. Pipeline route

The WTS route in this BMA is located within an existing, disturbed pipeline corridor which services the emplacement area and along an access track to the eastern extent of the emplacement area. The pipeline corridor continues along the edge of the Centennial Coal emplacement area and follows an emplacement access track to the eastern extent of the emplacement area. The TWS was buried in the BMA.

6.2.3. Vegetation in the BMA4

The vegetation communities in BMA4 are described in **Table 10**.

Table 10 – Vegetation types – BMA 4

Vegetation Community	Description and Occurrence	Key risks and impacts (Including clearing estimates for BMA)	Management Measures
<p>HN570 Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highland</p>	<ul style="list-style-type: none"> • Description: This vegetation community occurs on low slopes above finer-grained Permian age sediments, ranging in altitude from 840 to 1,020 metres above sea level. Open understorey and little groundcover beneath a woodland to open forest canopy of brittle gum. • Canopy Layer: 7 to 15 m – 20-40 PFC. Dominant species include; <i>Eucalyptus radiata</i> (Sydney peppermint), with lesser occurrences of <i>E. mannifera</i> (Brittle Gum) <i>E. dives</i> (Broadleaved Peppermint) and <i>E. rossii</i> (Inland Scribbly Gum). • Shrub Layer: 0.6 to 2 m – 5 to 10 PFC. Dominant shrub species included <i>Monotoca scoparia</i>, <i>Acacia buxifolia</i> (Box-leaf Wattle), <i>Exocarpos cupressiformis</i>(Native Cherry), <i>Podolobium ilicifolium</i> (Prickly Shaggy Pea), <i>Leucopogon lanceolata</i>, <i>Lissanthe strigosa</i>, and <i>Acacia obtusifolia</i> (Blunt-leaf Wattle). Ground Layer: 0 to 0.8 m – 5 to 70 PFC. Dominant species included; <i>Poa sieberiana</i>, <i>Dianella revoluta</i> (Blue Flax Lily), <i>Joycea pallida</i> (Wallaby Grass), <i>Gonocarpus tetragynus</i>, <i>Lomandra longifolia</i> (Mat Rush), <i>Billardiera scandens</i> (Apple berry), <i>Lomandra filiformis</i> (Wattle Mat-rush). • Classification: Not commensurate with any TSC Act or EPBC Act listed EEC. 	<ul style="list-style-type: none"> • Clearing of native vegetation over approved limits • Invasion of native plant communities by exotic perennial grasses (weeds). • Erosion of cleared areas 	<p>See Table 5 for specific management measures for key risks</p> <p>Other management measures include:</p> <ul style="list-style-type: none"> • 1 HBT predicted to be removed will avoided if possible by micrositing
<p>HN572 Ribbon Gum-Snow Gum grassy forest on damp flats, eastern South Eastern Highlands</p>	<ul style="list-style-type: none"> • Description: This vegetation community occurs as a tall forest with a dense grassy groundcover. Occupies lower slopes, gullies and flats on a range of geological substrates. • Canopy layer: 20 to 40 m – 20-50 PFC. Dominant species include: <i>Eucalyptus rubida</i> subsp. <i>Rubida</i> (Candlebark) and <i>E. viminalis</i> (Ribbon Gum). • Shrub Layer: 1 to 2 m – 10-40 PFC. Dominant shrub species included: <i>Acacia implexa</i> (Hickory Wattle), <i>Leptospermum obovatum</i>, <i>Leptospermum polygalifolium</i> (Tantoon), 	<ul style="list-style-type: none"> • Clearing of native vegetation over approved limits • Invasion of native plant communities by exotic perennial grasses (weeds). 	<p>See Table 5 for specific management measures for key risks</p> <p>Other management measures include:</p> <ul style="list-style-type: none"> • None

	<p><i>Acacia dealbata</i> (Silver Wattle) and <i>Cassinia aculeata</i> (Dolly Bush).</p> <ul style="list-style-type: none"> • Ground layer: 0 to 0.5 m – 5-20 PFC. Dominant species included: <i>Cynodon dactylon</i> (Common Couch), <i>Microlaena stipoides</i> (Weeping Grass), <i>Echinopogon ovatus</i> (Forest Hedgehog Grass), <i>Centella asiatica</i> (Indian Pennywort) and <i>Blechnum cartilagineum</i> (Gristle Fern). • Classification: This community corresponds to the TSC Act listed EEC <i>Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes Bioregions.</i> 	<ul style="list-style-type: none"> • Erosion of cleared areas 	
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6.4.4. Threatened flora and fauna

No threatened flora and fauna were recorded in this BMA.

6.4.5. Weeds and Pests

Table 11 – Weeds and Pests – BMA 4

Weeds and Pests	Description and Occurrence	Management Measures	Monitoring
<p>Blackberry (<i>Rubus fruticosus</i>).</p>	<p>Found in low density in the western area of the BMA along the existing overland pipeline corridor</p>	<p>See Table 5 for specific management measures for key risks</p> <p>Other management measures include:</p> <ul style="list-style-type: none"> • None 	<p>See Table 5 for details on relevant monitoring programs</p> <p>Other monitoring measures include:</p> <ul style="list-style-type: none"> • None
<p>Sweet briar (<i>Rosa rubiginosa</i>)</p>	<p>Found in low density in the western area of the BMA along the existing overland pipeline corridor</p>	<p>See Table 5 for specific management measures for key risks</p> <p>Other management measures include:</p> <ul style="list-style-type: none"> • None 	<p>See Table 5 for details on relevant monitoring programs</p> <p>Other monitoring measures include:</p> <ul style="list-style-type: none"> • None
<p>African Olive (<i>Olea europaea L. subsp. cuspidate</i>).</p>	<p>Found in low density in the western area of the BMA along the existing overland pipeline corridor</p>	<p>See Table 5 for specific management measures for key risks</p> <p>Other management measures include:</p> <ul style="list-style-type: none"> • None 	<p>See Table 5 for details on relevant monitoring programs</p> <p>Other monitoring measures include:</p> <ul style="list-style-type: none"> • None

6.3. BMA 5 – Newnes Plateau

6.3.1. Location

BMA5 is between the Centennial Coal emplacement area to an existing above ground storage tank on the Newnes Plateau.

Approximately a 5 km section of the raw water pipeline was constructed in this BMA through the Newnes State Forest.

6.3.2. Pipeline route

The pipeline route in this BMA was located along an existing logging track – which had been cleared but was partially overgrown. Dense vegetated areas exist on either side of the track. The pipeline would also cross two small ephemeral creeks.

6.3.3. Vegetation communities in the BMA

The vegetation communities in BMA5 are described in **Table 12**.

Table 12 – Vegetation types – BMA 5

Vegetation Community	Description and Occurrence	Key risks and impacts (Including clearing estimates for BMA)	Management Measures
<p>HN558 Narrow-leaved Peppermint Mountain Gum- Brown Barrel moist open forest on high altitude ranges, northern South Eastern Highlands</p>	<ul style="list-style-type: none"> • Description: A tall to very tall forest with a relatively open understorey. • Canopy Layer: 22 to 38 m – 44% Percentage Foliage Cover (PFC). Dominant species include: <i>Eucalyptus radiata</i> (Narrow-leaved Peppermint), <i>Eucalyptus oreades</i> (Blue Mountains Ash) and <i>Eucalyptus dalrympleana</i> (Mountain Gum). Other non-dominant species include: <i>Eucalyptus sieberi</i> (Silvertop Ash). • Shrub Layer: 1 to 2 m – 60 PFC. Dominant shrub species included: <i>Daviesia latifolia</i> (Hop Bitter-pea) and <i>Leucopogon lanceolatus</i> (Lance-leaf Beard-heath). Other non-dominant species include <i>Hakea dactyloides</i> (Broad-leaved Hakea) and <i>Acacia dorothea</i> (Dorothy's Wattle). • Ground Layer: 0 to 0.5 m – 33 PFC. Dominant species included: <i>Poa sieberiana</i> var. <i>cyanophylla</i>, <i>Monotoca scoparia</i> (Crinkle Bush), <i>Joycea pallida</i> (Silvertop Wallaby Grass), <i>Patersonia sericea</i> (Silky Purple Flag), <i>Lomandra longifolia</i> (Spiny-headed Mat-rush) and <i>Pteridium esculentum</i> (Bracken). • Classification: Not commensurate with any TSC Act or EPBC Act listed EEC. 	<ul style="list-style-type: none"> • Clearing of native vegetation over approved limits • Invasion of native plant communities by exotic perennial grasses (weeds). • Erosion of cleared areas 	<p>See Table 5 for specific management measures for key risks</p> <p>Other management measures include:</p> <ul style="list-style-type: none"> • None
<p>HN600 Sydney Peppermint Silvertop Ash heathy open forest on sandstone ridges of the upper Blue Mountains, Sydney Basin</p>	<ul style="list-style-type: none"> • Description: This vegetation community forms tall woodlands on the ridgetops and central plateaux. This vegetation community was generally open in structure with a sparse shrub layer. • Canopy Layer: 12 to 30 m – 30 PFC. Dominant species included: <i>Eucalyptus sieberi</i> (Silvertop Ash), <i>Eucalyptus radiata</i> (Narrow-leaved Peppermint) and <i>Eucalyptus blaxlandii</i> (Red Stringybark). Non dominant species included <i>E. dalrympleana</i> (Mountain Gum) and <i>E.oreades</i>. • Shrub Layer: 1 to 4 m – 2 to 25 PFC. Dominant shrub species included: <i>Daviesia latifolia</i> (Hop Bitterpea), <i>Acacia dorothea</i> (Dorothy's Wattle), <i>Persoonia levis</i> (Broad-leaved Geebung), and <i>Pteridium esculentum</i> (Bracken). • Ground Layer: 0 to 1 m – 30 PFC. Dominant species included: <i>Lomatia silaifolia</i> (Crinklebush), <i>Poasieberiana</i> var. <i>cyanophylla</i>, <i>Rytidosperma pallida</i> 	<ul style="list-style-type: none"> • Clearing of native vegetation over approved limits • Invasion of native plant communities by exotic perennial grasses (weeds). • Erosion of cleared areas 	<p>See Table 5 for specific management measures for key risks</p> <p>Other management measures include:</p> <ul style="list-style-type: none"> • None

	<p>(Silvertop Wallaby Grass), <i>Microlaena stipoides</i> (Weeping Grass), <i>Lomandra glauca</i> (Pale Mat-rush), <i>Lomandra multiflora</i> (Many-flowered Mat-rush) and <i>Entolasia stricta</i> (Wiry Panic).</p> <ul style="list-style-type: none"> • Classification: Not commensurate with any TSC Act or EPBC Act listed EEC. 		
<p>HN599 Sydney Peppermint - Narrow-leaved Peppermint shrubby open forest on sheltered slopes of the Newnes Plateau, Sydney Basin</p>	<ul style="list-style-type: none"> • Description: This vegetation forms open woodlands with moderately dense understorey vegetation on the more sheltered lower slopes of hills, typically in association with gullies and the slopes above drainage lines. • Canopy Layer: 22 to 40 m – 31 PFC. The overall dominant species was <i>Eucalyptus fastigata</i> (Brown Barrel). • Shrub Layer: 1 to 2 m – 75 PFC. Dominant shrub species included: <i>Maytenus silvestris</i> (Orange Bush), <i>Leptospermum polygalifolium</i> subsp. <i>polygalifolium</i> (Tantoon), <i>Cassinia aculeate</i> (Dolly Bush), <i>Acacia obtusifolia</i> (Blunt-leaf Wattle) and <i>Acacia falciformis</i> (Broad-leaved Hickory). • Ground Layer: 0 to 1 m – 60 PFC. Dominant species included: <i>Lomandra longifolia</i> (Mat Rush), <i>Pteridium esculentum</i> (Bracken), <i>Coronidium scorpioides</i> (Button Everlasting), <i>Blechnum cartilagineum</i> (Gristle Fern), <i>Oxalis perrenans</i>, <i>Centella asiatica</i> (Indian Pennywort) and <i>Gonocarpus teuroides</i> (Raspwort). • Classification: Not commensurate with any TSC Act or EPBC Act listed EEC. 	<ul style="list-style-type: none"> • Clearing of native vegetation over approved limits • Invasion of native plant communities by exotic perennial grasses (weeds). • Erosion of cleared areas 	<p>See Table 5 for specific management measures for key risks</p> <p>Other management measures include:</p> <ul style="list-style-type: none"> • None

6.5.4. Threatened flora and fauna management

Table 13 – Threatened flora species – BMA5

Threatened Species	Description and Occurrence	Key risks and impacts
<i>Caesia parviflora</i> var. <i>minor</i> (Small Pale Grass Lily)	6 individuals in or adjacent to pipeline corridor	Clearing of threatened species over approved limits
<i>Persoonia hindii</i>	10+ individuals in or adjacent to pipeline corridor	Clearing of threatened species over approved limits
<i>Veronica blakelyi</i>	Incorrectly identified in the EIS biodiversity surveys	N/A

Table 14 – Threatened flora – BMA 5

Threatened fauna	Description and Occurrence	Key risks and impacts
Gang Gang Cockatoo	Was observed several times in or in close proximity to WTS corridor within BMA 5 during assessment period	Loss of habitat; Mortality of fauna
Brown Tree creeper	Was observed once in WTS corridor within BMA 5 during assessment period	
Large-eared Pied Bat	Was not observed in BMA 5 during assessment period	
Yellow-bellied Sheathtail Bat	Was not observed in BMA 5 during assessment period	
Varied Sittella	Was observed several times in BMA 5 during assessment period	
Glossy Black-Cockatoo	Was observed once in BMA 5 during assessment period	
Greater Glider	Was observed several in or in close proximity to WTS corridor within BMA 5 during assessment period	
Powerful Owl	Was observed once in a close proximity to WTS corridor within BMA 5 during assessment period	

6.5.5. Weeds and Pests

Typical noxious weeds identified throughout the Western Operation sites are identified in [Section 7.2](#).

No weeds and pests were detected during the biodiversity survey undertaken in BMA 5.

If any weeds are detected within the cleared area of the WTS, the type and location of weeds will be collected and recorded.

7. Vegetation, Fauna and Habitat Management

7.1. Integration with existing biodiversity management plans

The Facility is located on land which is owned and managed by various organisations. Biodiversity on these lands is managed through existing Biodiversity Management Plans prepared by each organisation. This includes:

- Mount Piper Power Station;
- Springvale Coal Services Operations (formerly known as Western Coal Services) Area including conveyors;
- EnergyAustralia emplacement area;
- Newnes State Forest - Ecologically Sustainable Forest Management Plan.

A coordinated and integrated approach to biodiversity management between the Facility and existing landowners will produce better biodiversity outcomes.

Operational impacts and scale of the buried pipelines are relatively minor in comparison to the existing infrastructure and activities undertaken within the Facility footprint, and as such, the biodiversity management measures for the Facility are not as significant as those for the existing land uses (eg. Coal services area).

Typical biodiversity management measures where an integrated approach will produce better biodiversity outcomes include:

- Weed management;
- Pest management;
- Ecological monitoring;
- Rehabilitation and stabilisation activities.

7.2. Weed management

Typical noxious weeds identified throughout the Western Operation sites include, but are not limited to:

- Blackberry (*Rubus fruticosus*).
- Patterson's Curse (*Echium plantagineum*).
- St John's Wort (*Hypericum perforatum*).
- African Olive (*Olea europaea L. subsp. cuspidate*).
- Scotch Broom (*Cytisus scoparius*).
- Serrated Tussock (*Nassella trichotoma*).

Information on the type and location of weeds within each BMA is detailed in Section 6.

Following identification of any weed species, Veolia's Environmental Nominee will propose a weed removal/spraying program, including nomination of the methods / chemicals to be used.

Weed removal/spraying is conducted as required following approval by Veolia. Ongoing weed monitoring will be implemented, and potential weed infestations will be appropriately managed to ensure surrounding communities are protected from invasive species.

Transport of weed materials and seeds will be minimised by cleaning vehicles and equipment and removing weed material following activities in weed infested areas.

If required, the spread of pathogens in vulnerable areas will be minimised by cleaning and disinfecting boots, personal items and all components of vehicles and equipment of soil and vegetation.

Further detailed procedures for the management of specific weeds will be developed after the baseline mapping of weed infestations is completed.

7.2.1. Identifying weeds

Weeds of national significance (WONS) are those weeds prioritised by the state and territory governments based on their invasiveness, potential for spread and environmental, social and economic impacts.

There are currently 32 listed WONS. Each WONS has a strategic plan that outlines strategies and actions required to control the weed and identify responsibilities for each action.

A list of WONS is available at:

<http://www.environment.gov.au/biodiversity/invasive/weeds/weeds/lists/wons.html>

In addition, the WONS website provides a simple weed identification page for identification of WONS and other common noxious weeds:

<http://www.environment.gov.au/cgi-bin/biodiversity/invasive/weeds/weedidtool.pl>

and at

<http://www.environment.gov.au/cgi-bin/biodiversity/invasive/weeds/weedspeciesindex.pl?id=701>

There is also a booklet provided by the local council of Lithgow with further information about weeds. The booklet provides a guide to identify and control local noxious and environmental weeds.

The booklet can be found at:

<https://council.lithgow.com/environment/weeds-management/>

7.3. Pest management

7.3.1. Pest species in the region

Introduced species pose direct and indirect threats to native fauna either through predation or competition. Pests such as the feral European rabbit (*Oryctolagus cuniculus*) and feral goat (*Capra hircus*) pose intense ecological threats on native flora through grazing. Their management is important for the protection of native flora, particularly post-rehabilitation works.

Pest species such as the European fox (*Vulpes vulpes*), feral dogs (*Canis lupus familiaris*) and feral cats (*Felis catus*) pose a threat to native fauna species, particularly small mammals and reptiles. Their management is important for maintaining current fauna populations and encouraging recolonization into rehabilitated areas.

Predation by the European fox and feral cat is listed as *key threatening processes* under Schedule 4 of the NSW *Biodiversity Conservation Act 2016*, along with competition and grazing by the European rabbit and feral goat.

7.3.2. Treatment and timing

To control feral species, several management techniques must be employed over an extended period of time. Typical management actions for pest species include, but are not limited to:

- Regular inspections by the Facility personnel or a qualified ecologist to detect pest species diversity and abundance on site;
- Sightings of pest species to be notified to the site's Environmental Nominee;
- 1080 baiting for rabbits, cats and foxes;
- Destruction of rabbit warrens;
- Trapping and removal program for feral cats;
- Maintaining a clean, rubbish free environment as to not attract feral species scavenging;
- Restriction of domestic species on work sites.

7.3.3. Inspections and reporting

Ongoing monitoring for the Facility will include recording the extent and location of pest species occurrence, the type of species found and their approximate density.

This information will inform the particular actions required to manage pests and protect threatened flora and ecological communities.

7.4. Rehabilitation activities

The extent of rehabilitation is relatively minor as the area disturbed for construction is small, and in some areas rehabilitation was not required (e.g. pipeline on the surface, directional drilled sections, pipeline in road reserve).

The immediate intent of rehabilitation actions throughout construction was to re-establish site surfaces as soon as possible after disturbance to assist with erosion mitigation and prevent the establishment of weed species. Successful rehabilitation performance criteria was set up for post-construction rehabilitation. This includes:

- self-sustaining vegetative cover;
- no signs of subsidence or erosion;
- representative of species richness and diversity of pre-disturbed condition;
- plants showing healthy growth and signs of recruitment;
- free of noxious weeds.

Dead trees and other suitable mature native trees cleared were placed at the edges of cleared areas along the WTS corridor in BMA 1, BMA 2 and BMA 5. Placement of cleared vegetation immediately adjacent to the conveyor was not possible due to the bushfire asset protection zones around the conveyor route.

The *RMS Biodiversity Guidelines Guide 5: Re-use of woody debris and bushrock* was used to guide placement activities and is presented in [Appendix B](#).

Construction of the WTS sections was completed March 2019. The progressive rehabilitation works of the WTS corridor zones have commenced and will continue through the commissioning stage.

Table 15 provides site rehabilitation and maintenance management measures which will be progressively implemented throughout post-construction and during operation stages.

Ongoing monitoring and maintenance will be conducted within the rehabilitated areas, at quarterly intervals for the first 12 months, and then twice yearly until all seeded vegetation has achieved 85% soil surface coverage.

All seeded vegetation areas must achieve 60% soil surface coverage before soil and erosion controls can be removed.

Table 15 – Rehabilitation management measures during and post-construction

Activity	Management Practices	Responsibility
Rehabilitation Monitoring	Monitoring of rehabilitation against rehabilitation success criteria (all seeded vegetation must achieve 60% soil surface coverage before soil and erosion controls can be removed). Ongoing treatment of weed infestations is required for post-construction rehabilitation and throughout operation phases. Identification of required maintenance actions.	Environmental Nominee
Rehabilitation Maintenance	Weed control measures such as spraying, physical removal, or planting native species to suppress weed growth.	Environmental Nominee

7.5. Bushfire management

Bushfire management of the Facility boundary is undertaken in accordance with the *Incident and Emergency Response Management Plan [IERMP][MAN-3651]* and includes provisions for the following:

- Perimeter asset protection zones;
- Fuel load reduction where necessary; and
- Works in hotter months of the year;
- Work restrictions during the threat period.

7.6. General fauna and flora management measures

7.6.1. Maintenance Access

Maintenance works will be undertaken within a 10 m wide corridor and no works are expected to be undertaken outside of the corridor.

7.6.2. Vehicles travelling on the existing formed tracks

Vehicles accessing the pipeline for construction, maintenance and inspection will use the existing tracks to minimise disturbance of the vegetation.

Vehicles using the existing tracks do not have to be washed down or inspected before going to another property. For the purposes of construction and maintenance, work tracks should be treated as a 'clean' work area.

7.6.3. Vehicles working off tracks

If vehicles are required to travel off track, the following mitigation measures will be implemented:

- Vehicles will be fitted with a mesh cover (typically shed cloth) over the radiator to minimise weed seed spread. This mesh is required to be removed and cleaned periodically while on a property and before leaving a property (be aware that the mesh may hinder effective operation of the vehicle cooling system, therefore check gauges frequently while the mesh is in place);
- Any mud accumulated in the wheel wells, running boards or on the vehicles underside must be physically removed from the vehicle;
- All cleaning shall be conducted away from any watercourses or wet areas.

7.6.4. Walking

If walking off track (e.g. through vegetation) the following protection measures shall be in place:

- Wear long pants;
- On completion of work at each site (property), check socks, boots and bottom of the pants,) for the presence of seeds prior to entering the vehicle and moving from site.

7.7. Phytophthora and Chytrid fungi

If machinery is transported from an area of confirmed infection of Phytophthora or Chytrid fungus, stringent wash down will be completed before leaving the area to remove all soil and vegetative material from cabins, trays, and under carriages.

7.8. Contingency plan

An emergency incident plan has been developed to respond to uncontrolled discharges of fuels, oils and chemicals/unforeseen events and has been included in the OEMP [MAN-3652]. A response procedure for protection of the water environment aims to:

- Contain and control emergency incidents;
- Protect drainage paths and waterways;
- Minimise damage to the environment and property;
- Identify appropriate disposal techniques for contaminated soils and water.

Suitable containment and clean up materials are maintained within easy and quick access.

All reporting will be in accordance with Veolia's incident reporting management system. Similarly, complaints will be addressed through the site complaints register.

Compliance with statutory requirements will be assessed through implementation of Veolia's site audit program.

These activities will be used to ensure appropriate corrective actions are in place and to verify appropriate close out actions, follow up and reporting has occurred. More details of auditing and incident reporting is provided in the OEMP [MAN-3652].

7.9. Biodiversity offsets

Springvale Coal is working towards the development of a Biodiversity Offset Package for the cleared areas.

Veolia conducted vegetation clearing during construction in accordance with the Vegetation Clearing procedure and completed the surveys to record the location and size of areas cleared. All collected information was provided to Springvale Coal for the Biodiversity Offset requirements.

8. Review and Improvement

8.1. Monitoring and reporting

Inspections, observations, monitoring and reporting requirements relevant to the management of flora and fauna are identified in **Table 16**.

Table 16 – Monitoring requirements relevant to the management of flora and fauna

Facility Activity	Frequency	Standards	Reporting	Responsibility
Monitoring				
Rehabilitation monitoring	Quarterly for the first 12 months	Until rehabilitation performance criteria are achieved (see Section 7.4) Weed and hygiene controls in place No new weed incursion / establishment	Environmental Inspection Checklist	Environmental Nominee
	Bi-annually	Until all seeded area have achieved 85% soil surface coverage (see Section 7.4)	Environmental Inspection Checklist	Environmental Nominee
Weed Monitoring	During pipeline maintenance inspections	No new weed incursion / establishment	Removal/Spraying program	Environmental Nominee
Reporting				
Annual report	Annually	As per Consent Condition Schedule 4 Condition 5	Annual report	Environmental Nominee
Incident	As required	As per incident response reporting	Incident Report	Environmental Nominee

8.2. Non-conformance and corrective action

Environmental inspection, observation and monitoring results are interpreted to identify actual and potential non-compliances conformances and events that may result in nuisance, environmental harm and unacceptable loss of amenity or community complaints.

The Facility and/or Customer, and/or a public authority may also raise a non-conformance or improvement notice. Where non-conformances are identified during regular inspections, corrective actions are raised, tracked and closed out through the inspection records if the actions can be closed out within 72 hours.

All other non-conformances shall be recorded and reported as Environmental incidents in Veolia’s incident reporting management system and managed in accordance with the Incident and Emergency Response Management Plan (IERMP)(MAN-3651)

8.3. Complaints

Complaints will be managed in accordance with the Complaints Management System outlined in the *Operational Management Plan [MAN-3649]* and also summarised in the *OEMP [MAN-3652]*.

Information about complaints will be recorded and include location of complaint, time(s) of occurrence and perceived source. Complaints will be responded in a timely manner and action taken will be recorded.

8.4. Review and improvement

Continual improvement is achieved through constant measurement and evaluation, audit and review of the effectiveness of the plan, and adjustment and improvement of the Veolia's Environmental Management System, project environmental outcomes.

Annual reviews will be undertaken by the Veolia's Environmental Nominee to identify improvements in the environmental management system and/or this BMP.

This plan will be updated as required:

- To take into account changes to the environment or generally accepted environmental management practices, new risks to the environment or changes in law;
- Where requested or required by the NSW Department of Planning, Industry and Environment (DPIE) or any other Authority; and
- In response to internal/ external audits and annual reviews.

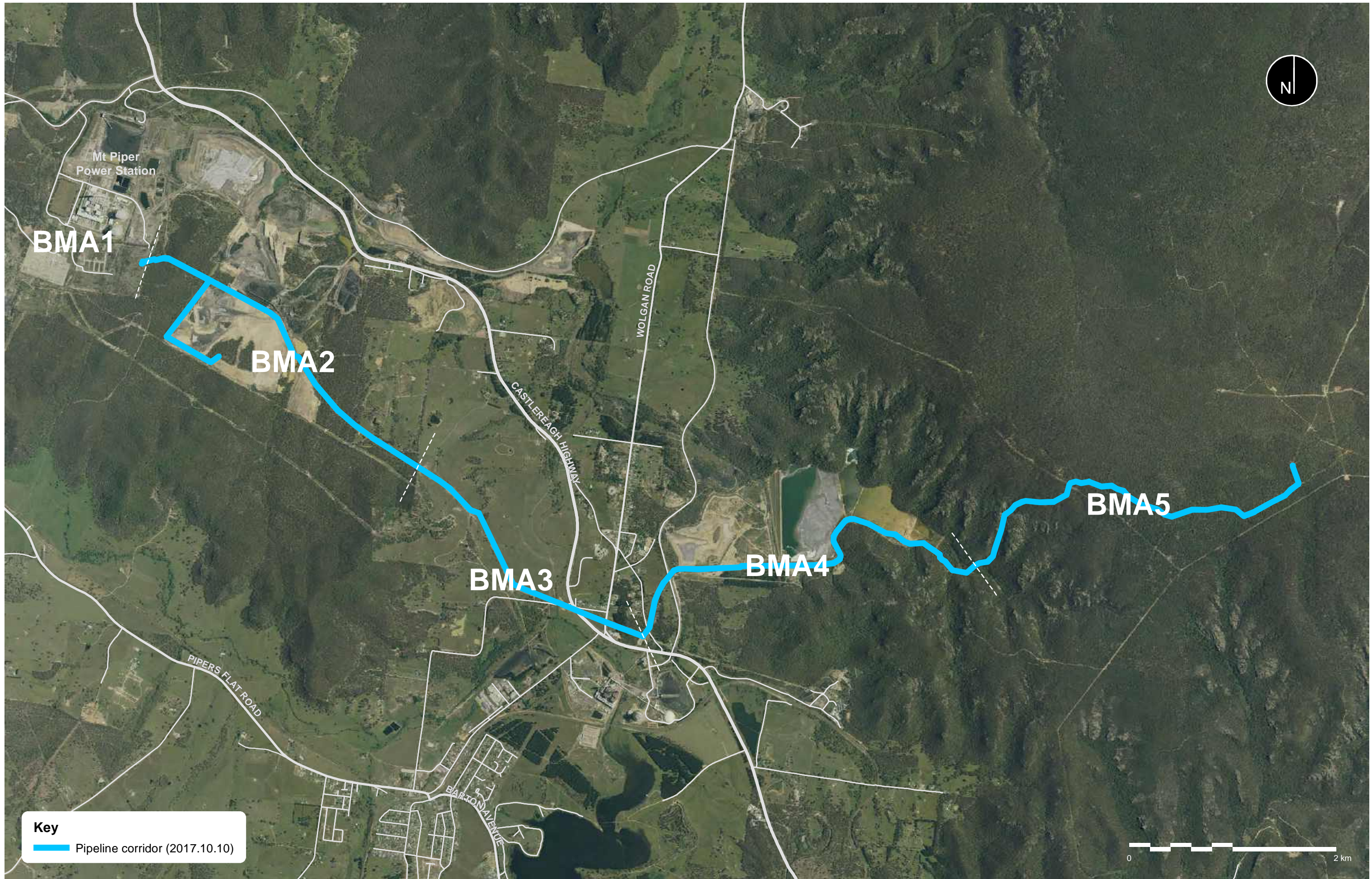
Any updates to the plan will be approved internally by Veolia management and provided to the Facility and Customer for review and comment and, if required, forwarded to the EES Group of DPE for consultation.

The updated BMP will be submitted to the Secretary of DPE for approval.

9. References

- DP&E, 2017. Development Consent. Springvale Water Treatment Project SSD 7592. Dated 19 June 2017.
- DPIE, 2019. Consolidated Consent for Modifications 1-4. Dated 5 November 2019.
- GHD, 2016a. Springvale Water Treatment Project State Significant Development 7592 Environmental Impact Statement. Prepared by GHD Pty Ltd. Dated September 2016
- GHD, 2016b. Springvale Water Treatment Project Amendment to Development Application. Prepared by GHD Pty Ltd. Dated December 2016
- GHD, 2019a. Springvale Water Treatment Project Modification 3. Modification Report. Prepared by GHD Pty Ltd. Dated March 2019
- GHD, 2019b. Springvale Water Treatment Project Modification 4. Modification Report. Prepared by GHD Pty Ltd. Dated September 2019;
- Jacobs, 2017. Springvale Water Treatment Project - Overview of the Biodiversity Management Areas. Dated October 2017.
- RPS, 2016. Springvale Water Treatment Project – Biodiversity Assessment Report, Dated 28 July 2016.

Appendix A - Biodiversity Maps



Key
 Pipeline corridor (2017.10.10)

0 2 km

Figure 1 : Overview of the Biodiversity Management Areas
 Springvale MPPS Water Treatment Project - Biodiversity Management Plan

Key

- Raw water pipeline route boundary (2017.10.10)
- Residuals water pipeline route boundary (2017.10.10)
- Project Application Area - Water Treatment Plant
- Water Treatment Plant

Threatened fauna sightings

- Scarlet Robin

Threatened flora sightings

- Eucalyptus cannonii
- Eucalyptus cannonii x macrorhyncha hybrid (likely)

Threatened fauna sightings (EIS, RPS 2016)

- Brown Treecreeper
- Scarlet Robin

Threatened flora sightings (EIS, RPS 2016)

- Eucalyptus cannonii

Other fauna habitat features

- Wombat Burrow

High threat weeds

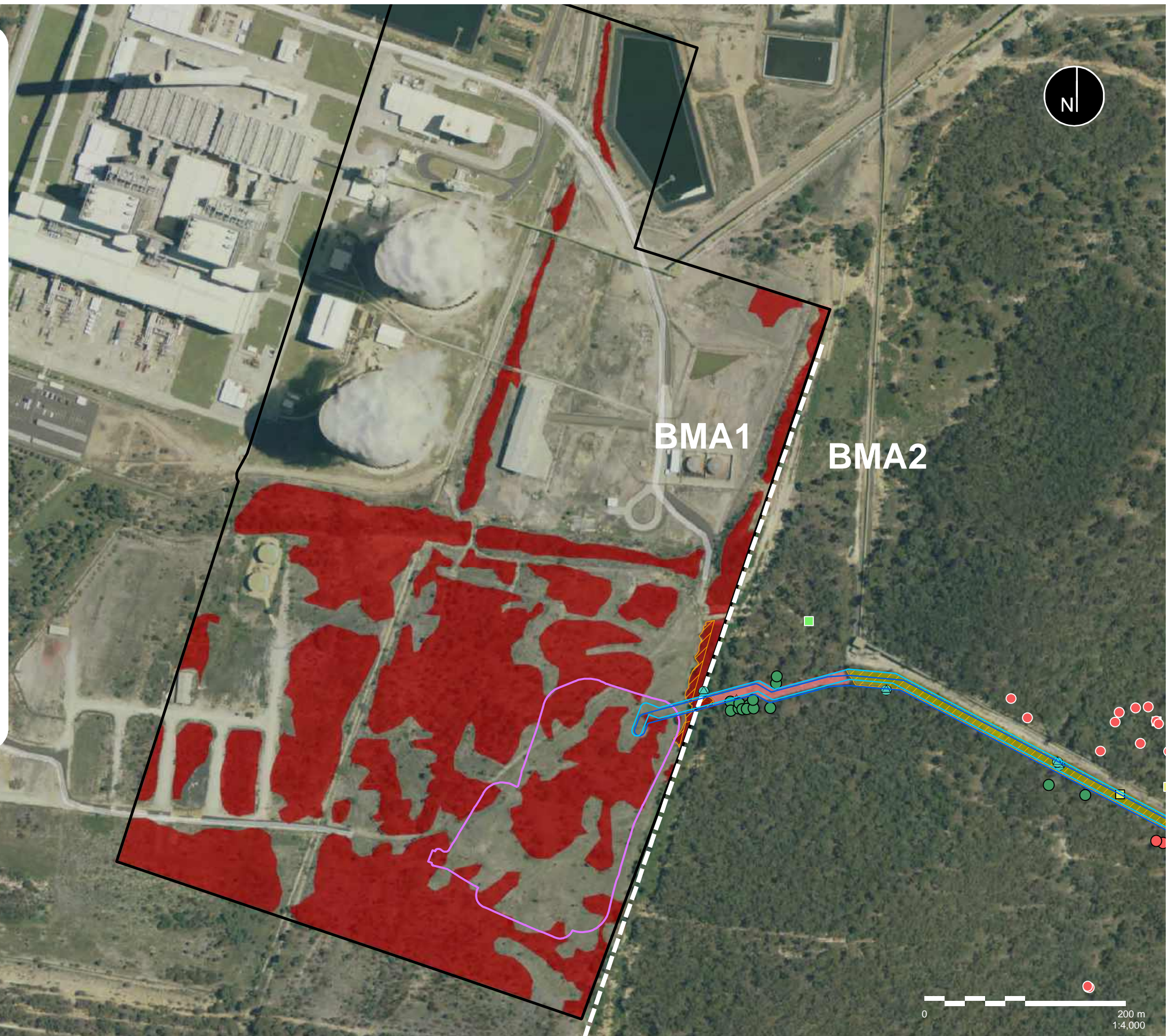
- Blackberry

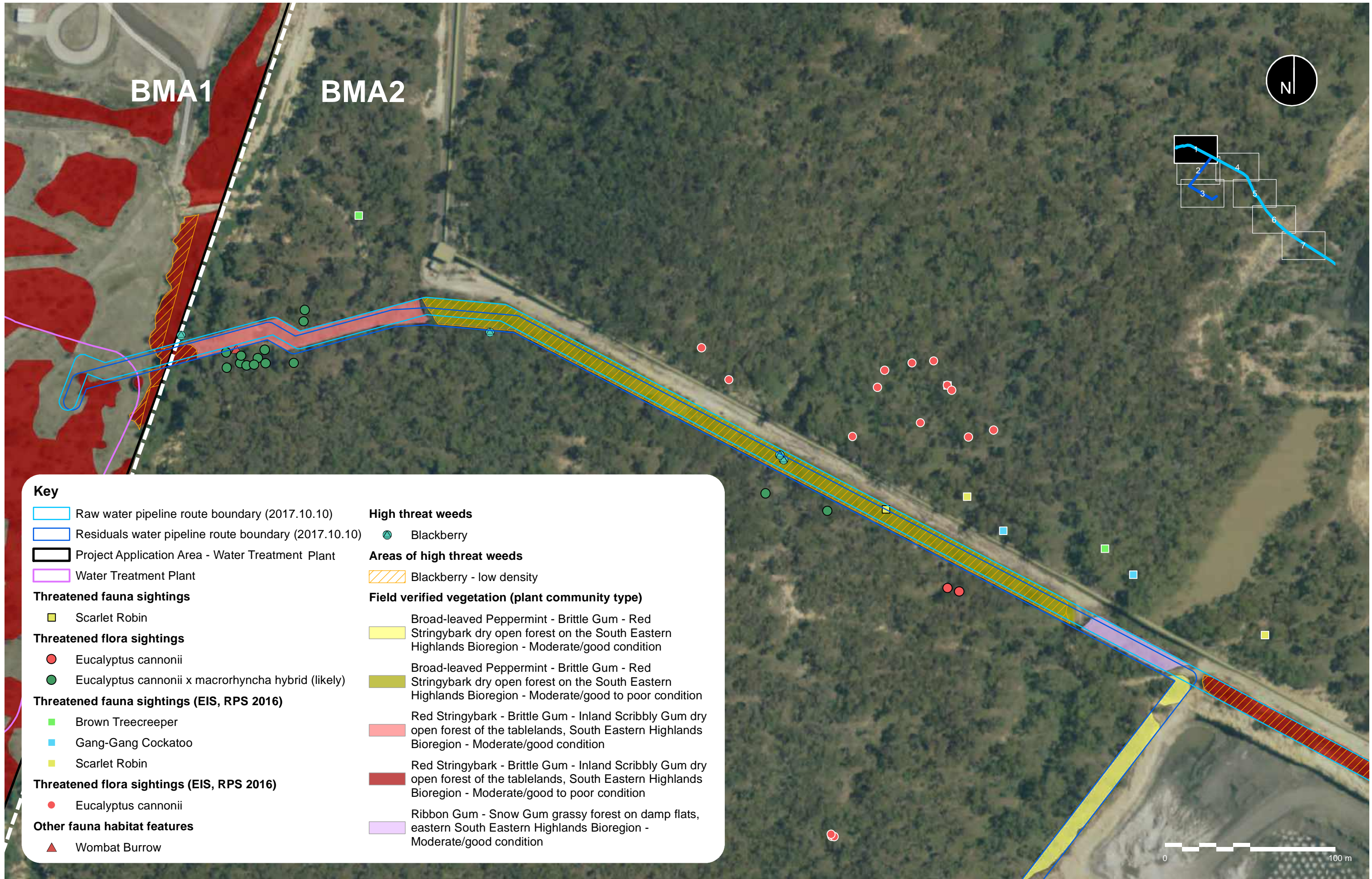
Areas of high threat weeds

- Blackberry - low density

Field verified vegetation (plant community type)

- Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion - Moderate/good to poor condition
- Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion - Moderate/good condition
- Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion - Moderate/good to poor condition





Key

- Raw water pipeline route boundary (2017.10.10)
- Residuals water pipeline route boundary (2017.10.10)
- Project Application Area - Water Treatment Plant
- Water Treatment Plant

Threatened fauna sightings

- Scarlet Robin

Threatened flora sightings

- Eucalyptus cannonii
- Eucalyptus cannonii x macrorhyncha hybrid (likely)

Threatened fauna sightings (EIS, RPS 2016)

- Brown Treecreeper
- Gang-Gang Cockatoo
- Scarlet Robin

Threatened flora sightings (EIS, RPS 2016)

- Eucalyptus cannonii

Other fauna habitat features

- Wombat Burrow

High threat weeds

- Blackberry

Areas of high threat weeds

- Blackberry - low density


Field verified vegetation (plant community type)

- Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion - Moderate/good condition
- Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion - Moderate/good to poor condition
- Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion - Moderate/good condition
- Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion - Moderate/good to poor condition
- Ribbon Gum - Snow Gum grassy forest on damp flats, eastern South Eastern Highlands Bioregion - Moderate/good condition







Key

 Residuals water pipeline route boundary (2017.10.10)

Field verified vegetation (plant community type)

 Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion - Moderate/good condition

 Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion - Moderate/good to poor condition

0 100 m



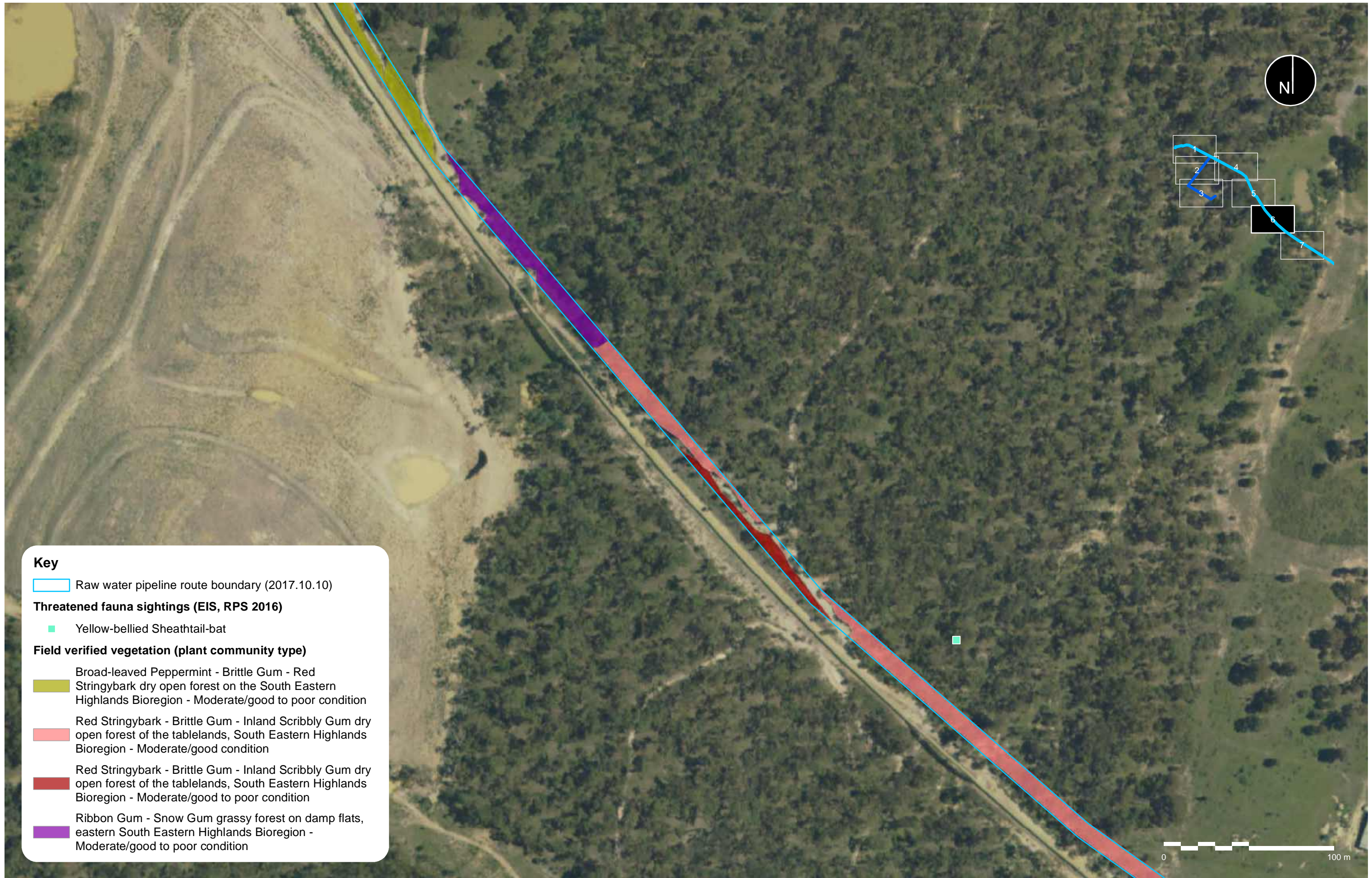


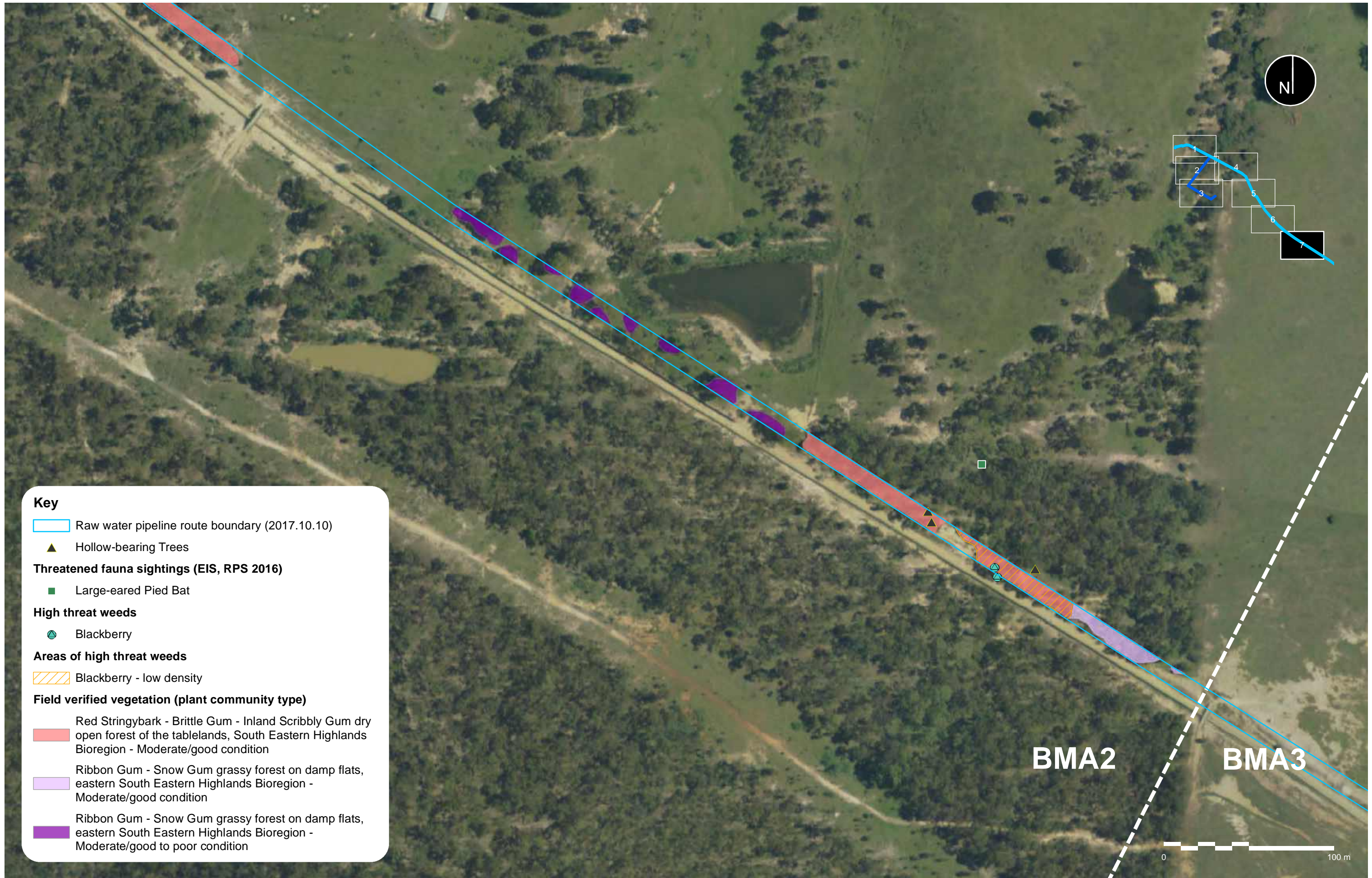
Key

- Raw water pipeline route boundary (2017.10.10)

Field verified vegetation (plant community type)

- Broad-leaved Peppermint - Brittle Gum - Red Stringybark dry open forest on the South Eastern Highlands Bioregion - Moderate/good to poor condition





Key

Raw water pipeline route boundary (2017.10.10)

Hollow-bearing Trees

Threatened fauna sightings (EIS, RPS 2016)

Large-eared Pied Bat

High threat weeds

Blackberry

Areas of high threat weeds

Blackberry - low density

Field verified vegetation (plant community type)

Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion - Moderate/good condition

Ribbon Gum - Snow Gum grassy forest on damp flats, eastern South Eastern Highlands Bioregion - Moderate/good condition

Ribbon Gum - Snow Gum grassy forest on damp flats, eastern South Eastern Highlands Bioregion - Moderate/good to poor condition

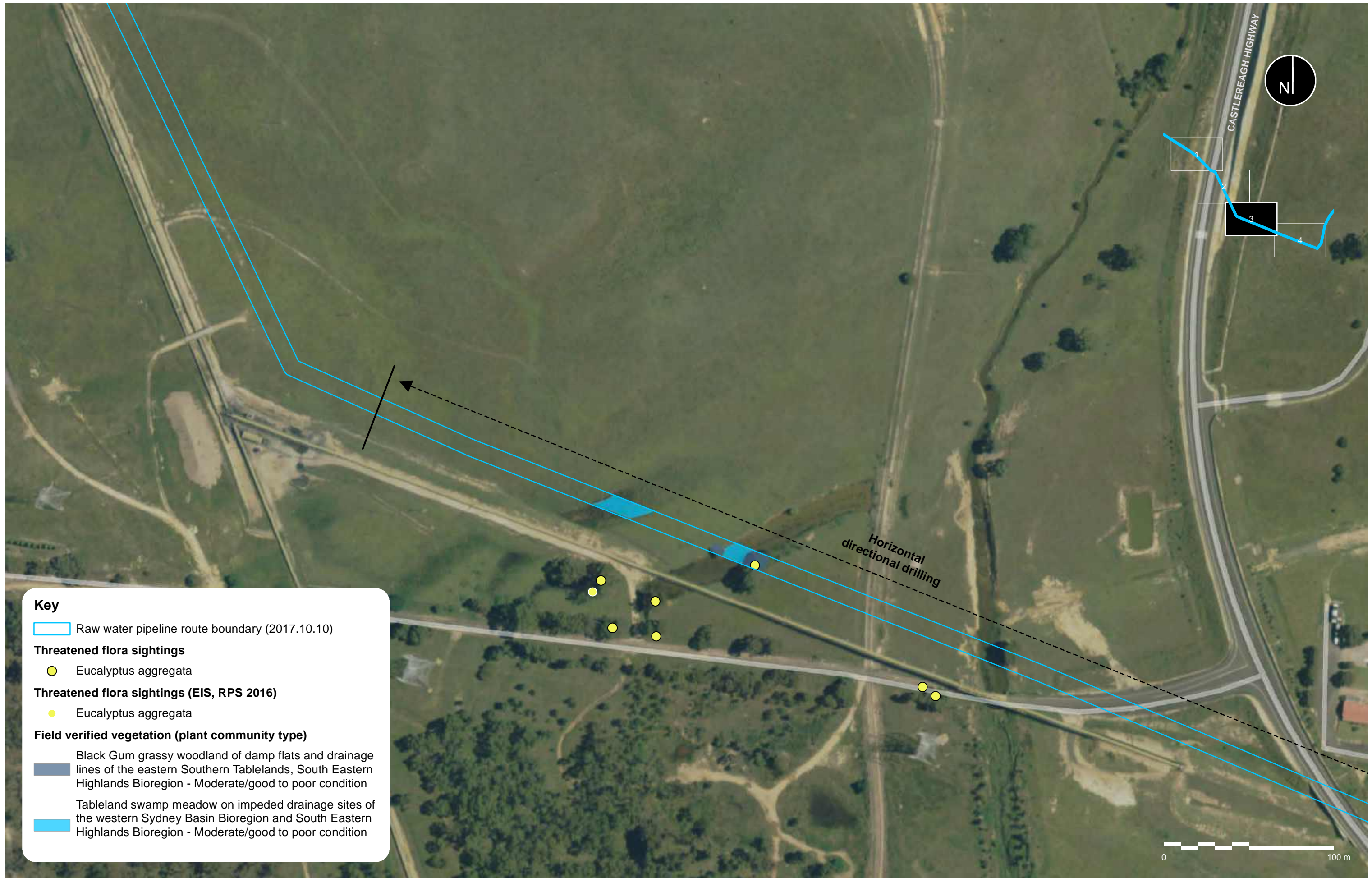
BMA2

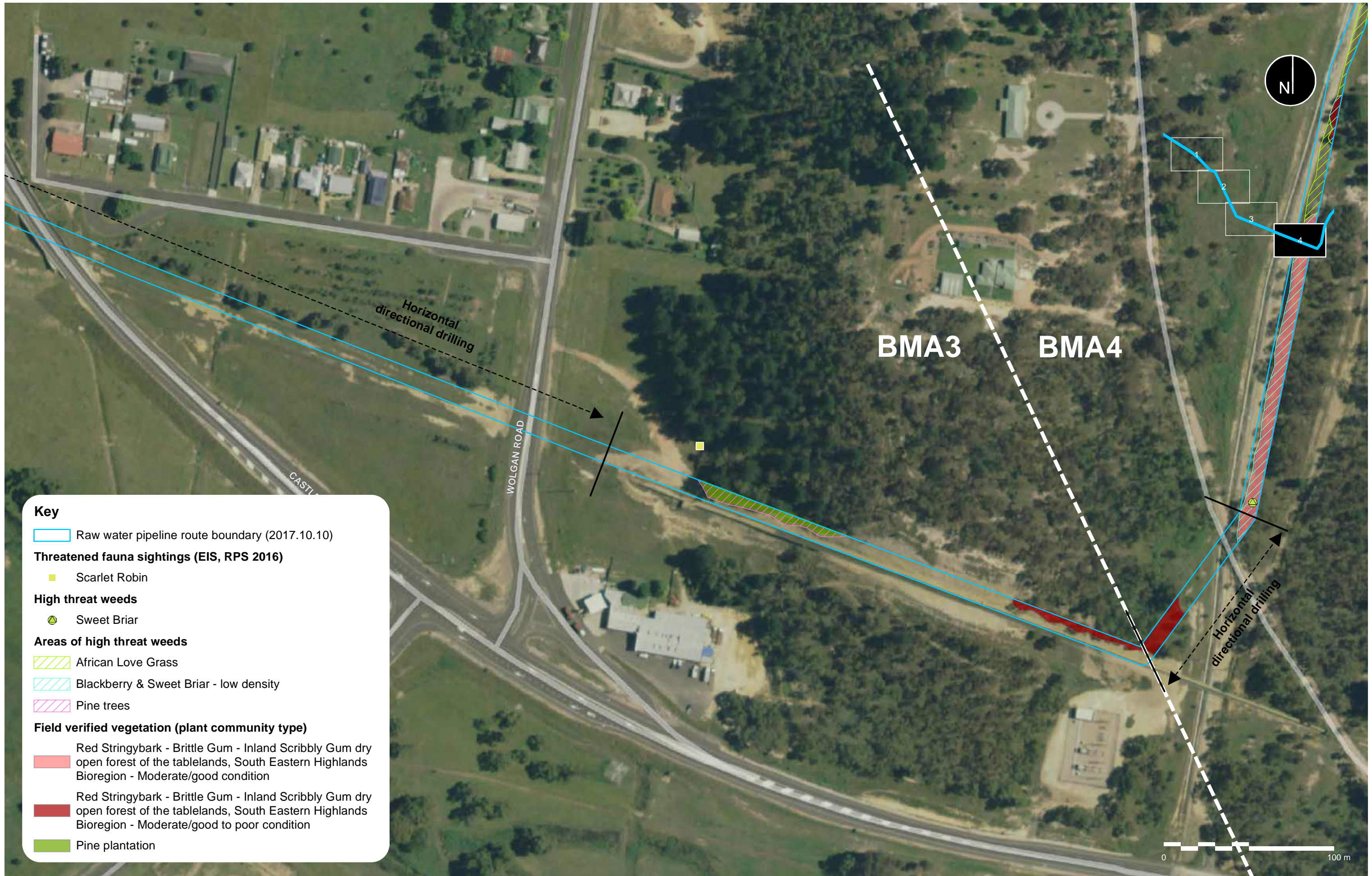
BMA3

0 100 m





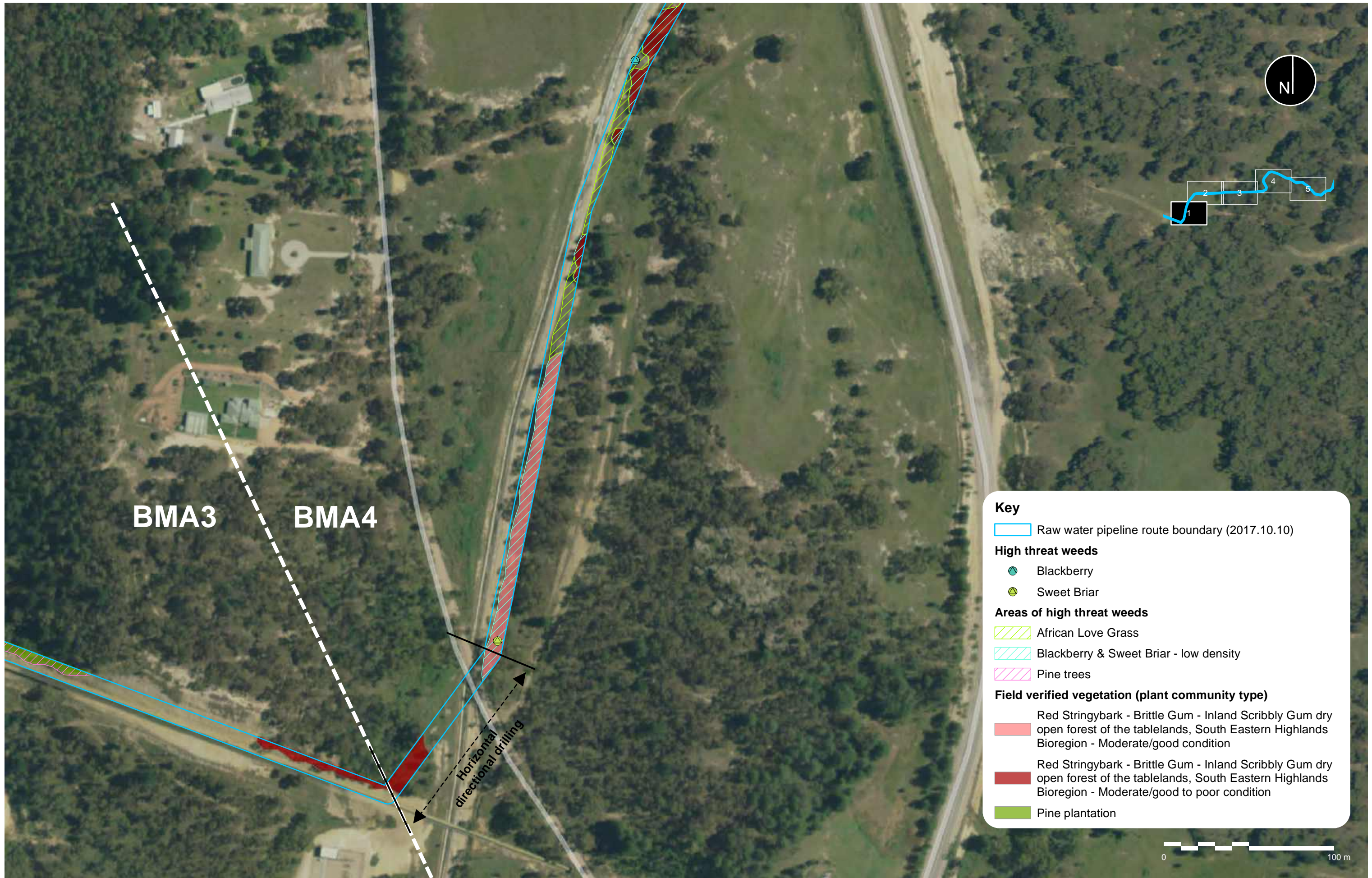




Key

- Raw water pipeline route boundary (2017.10.10)
- Threatened fauna sightings (EIS, RPS 2016)**
- Scarlet Robin
- High threat weeds**
- Sweet Briar
- Areas of high threat weeds**
- African Love Grass
- Blackberry & Sweet Briar - low density
- Pine trees
- Field verified vegetation (plant community type)**
- Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion - Moderate/good condition
- Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion - Moderate/good to poor condition
- Pine plantation

Biodiversity Management Area 3: Figure 4
 Springvale MPPS Water Treatment Project - Biodiversity Management Plan



BMA3

BMA4

Horizontal
directional drilling

Key

- Raw water pipeline route boundary (2017.10.10)

High threat weeds

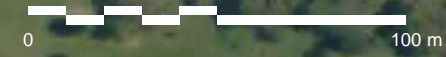
- ⊗ Blackberry
- ⊗ Sweet Briar

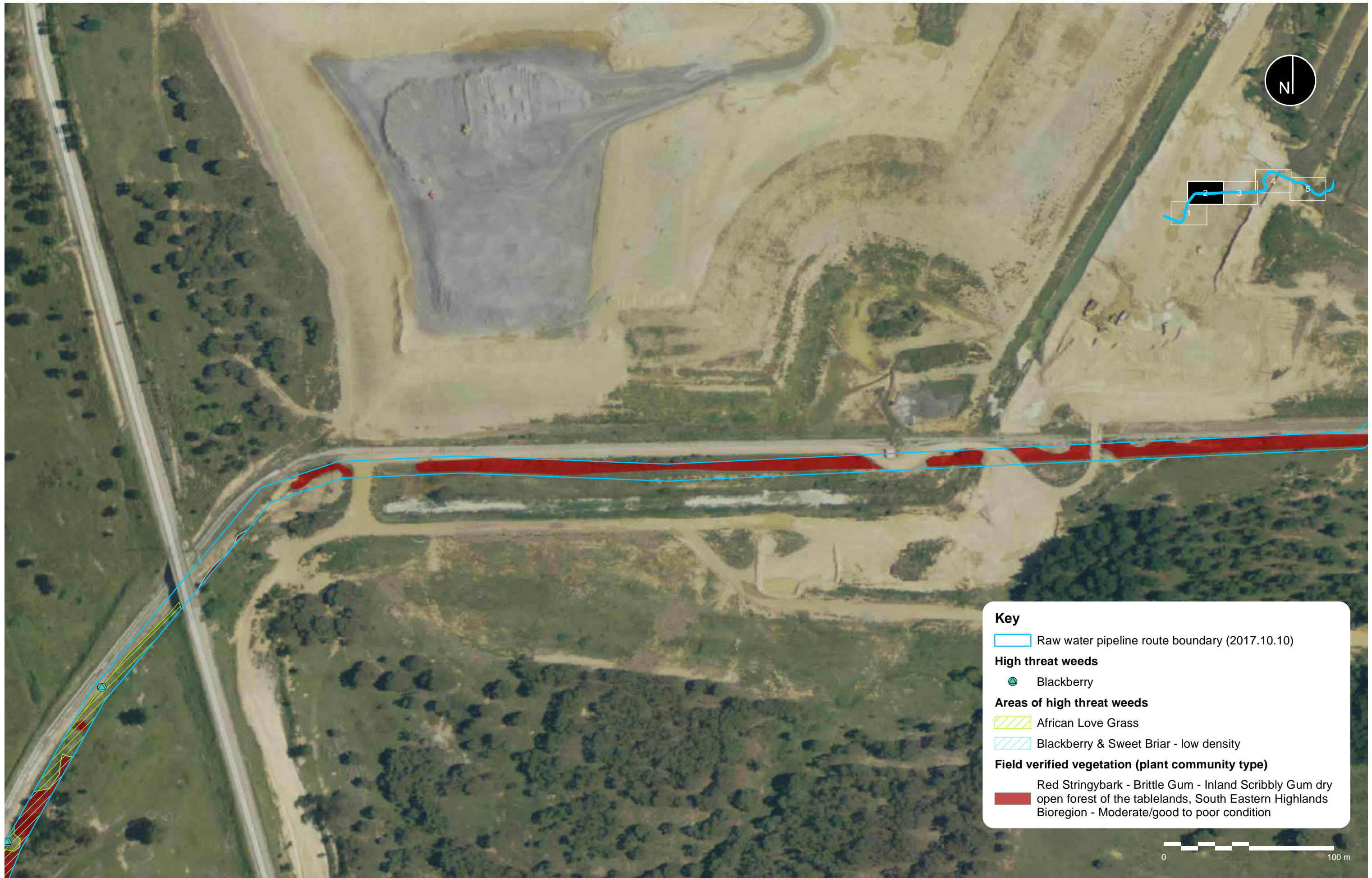
Areas of high threat weeds

- African Love Grass
- Blackberry & Sweet Briar - low density
- Pine trees

Field verified vegetation (plant community type)

- Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion - Moderate/good condition
- Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion - Moderate/good to poor condition
- Pine plantation





Key

- Raw water pipeline route boundary (2017.10.10)

High threat weeds

- Blackberry

Areas of high threat weeds

- African Love Grass
- Blackberry & Sweet Briar - low density

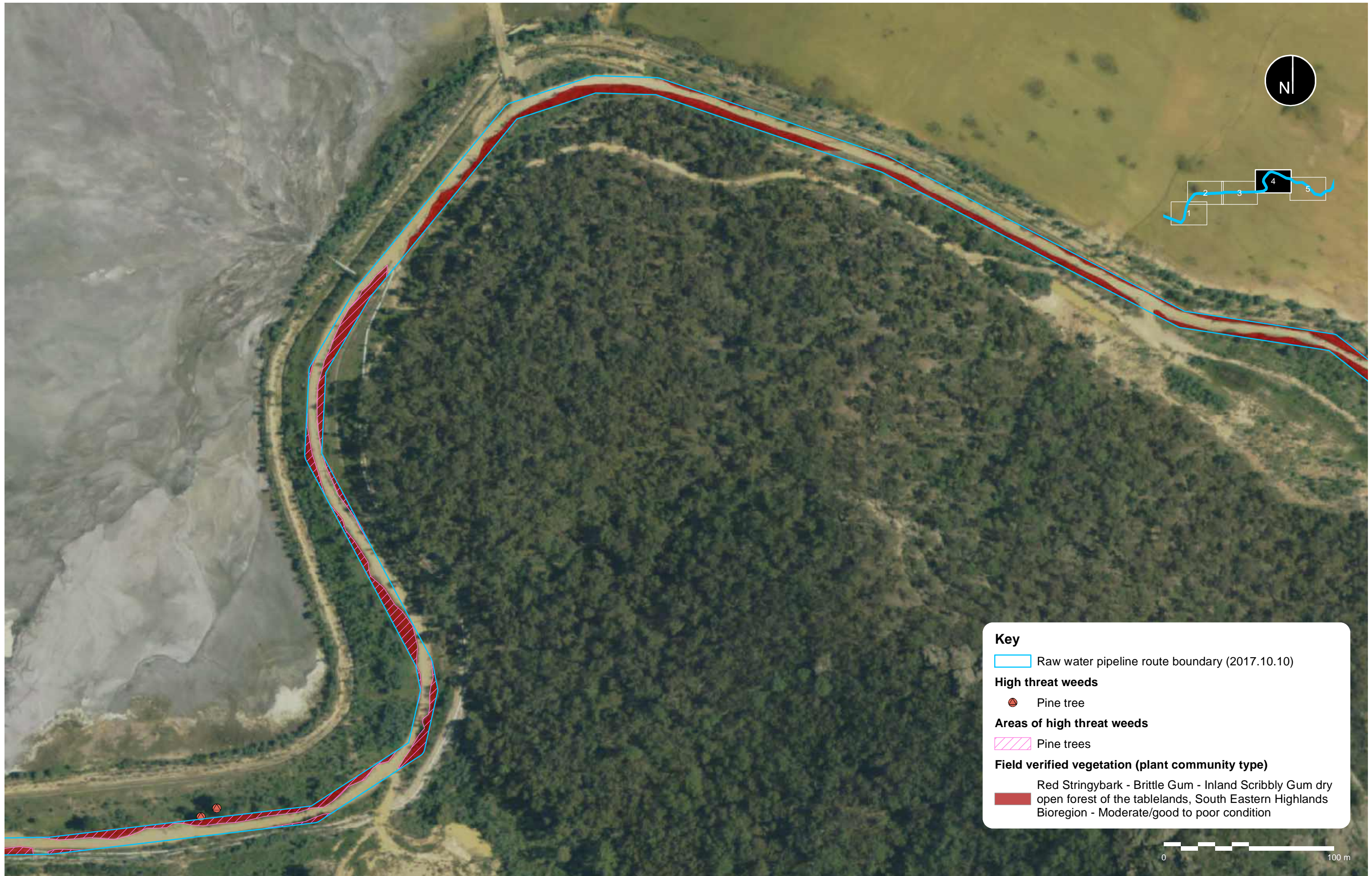
Field verified vegetation (plant community type)

- Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion - Moderate/good to poor condition



Key

- Raw water pipeline route boundary (2017.10.10)
- Areas of high threat weeds**
- Pine trees
- Field verified vegetation (plant community type)**
- Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion - Moderate/good to poor condition



Key

- Raw water pipeline route boundary (2017.10.10)

High threat weeds

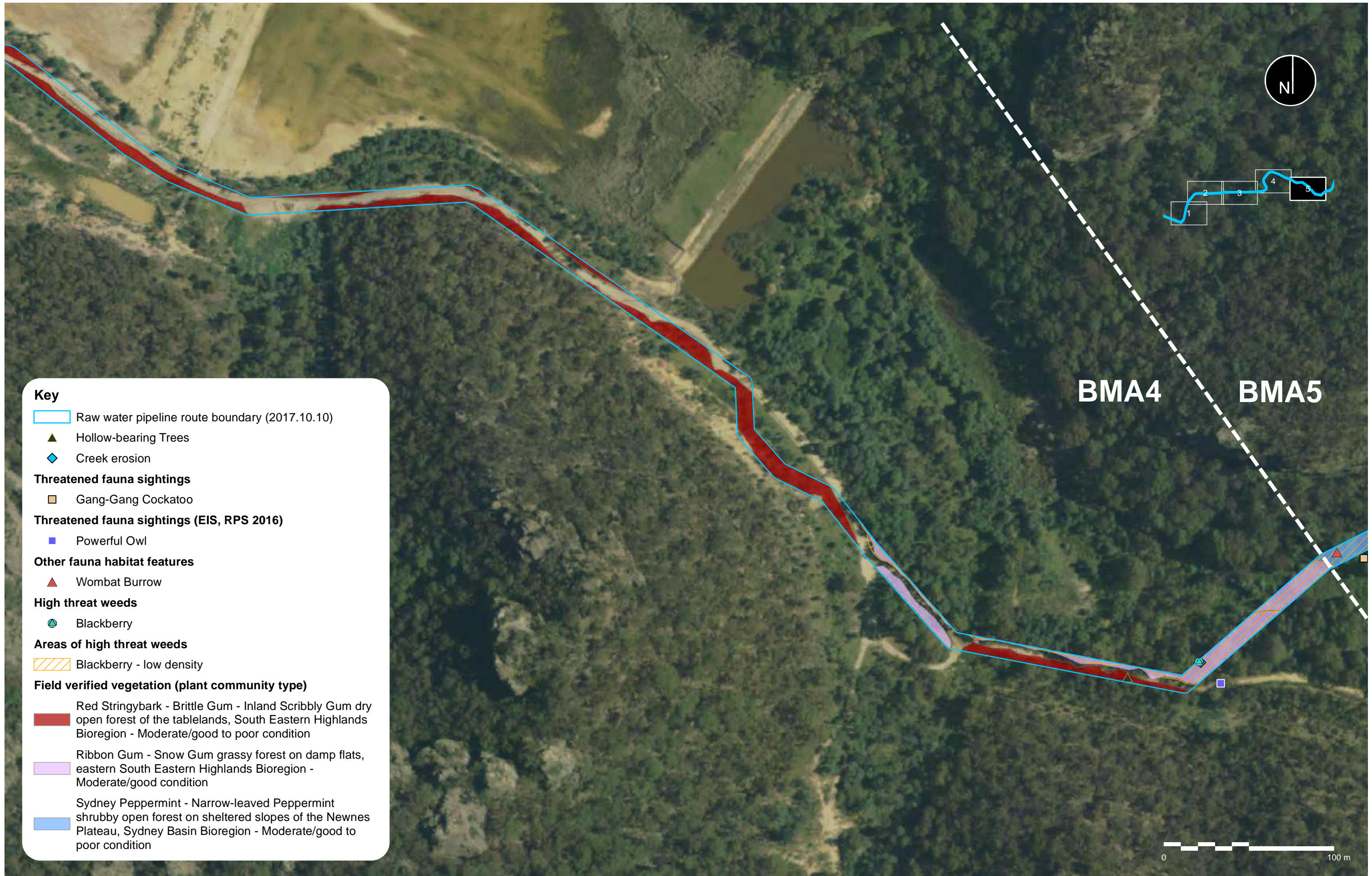
- Pine tree

Areas of high threat weeds

- Pine trees

Field verified vegetation (plant community type)

- Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion - Moderate/good to poor condition



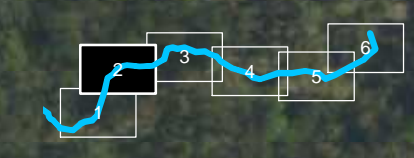


BMA4 BMA5

Key

- Raw water pipeline route boundary (2017.10.10)
- ▲ Hollow-bearing Trees
- ◆ Creek erosion
- Threatened fauna sightings**
- Gang-Gang Cockatoo
- Threatened fauna sightings (EIS, RPS 2016)**
- Blown Treecreeper
- Gang-Gang Cockatoo
- Glossy Black-Cockatoo
- Powerful Owl
- Varied Sittella
- Other fauna habitat features**
- ▲ Glossy Black-Cockatoo Feed Tree
- ▲ Wombat Burrow
- High threat weeds**
- Blackberry
- Areas of high threat weeds**
- Blackberry - low density
- Field verified vegetation (plant community type)**
- Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion - Moderate/good to poor condition
- Ribbon Gum - Snow Gum grassy forest on damp flats, eastern South Eastern Highlands Bioregion - Moderate/good condition
- Sydney Peppermint - Narrow-leaved Peppermint shrubby open forest on sheltered slopes of the Newnes Plateau, Sydney Basin Bioregion - Moderate/good to poor condition

0 100 m



Key

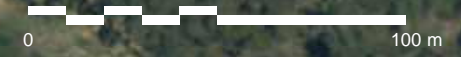
- Raw water pipeline route boundary (2017.10.10)
- ▲ Hollow-bearing Trees
- Other fauna habitat features**
- ▲ Termite Mound
- Areas of high threat weeds**
- Blackberry - low density
- Field verified vegetation (plant community type)**
- Sydney Peppermint - Narrow-leaved Peppermint shrubby open forest on sheltered slopes of the Newnes Plateau, Sydney Basin Bioregion - Moderate/good to poor condition
- Sydney Peppermint - Silvertop Ash heathy open forest on sandstone ridges of the upper Blue Mountains, Sydney Basin Bioregion - Moderate/good condition

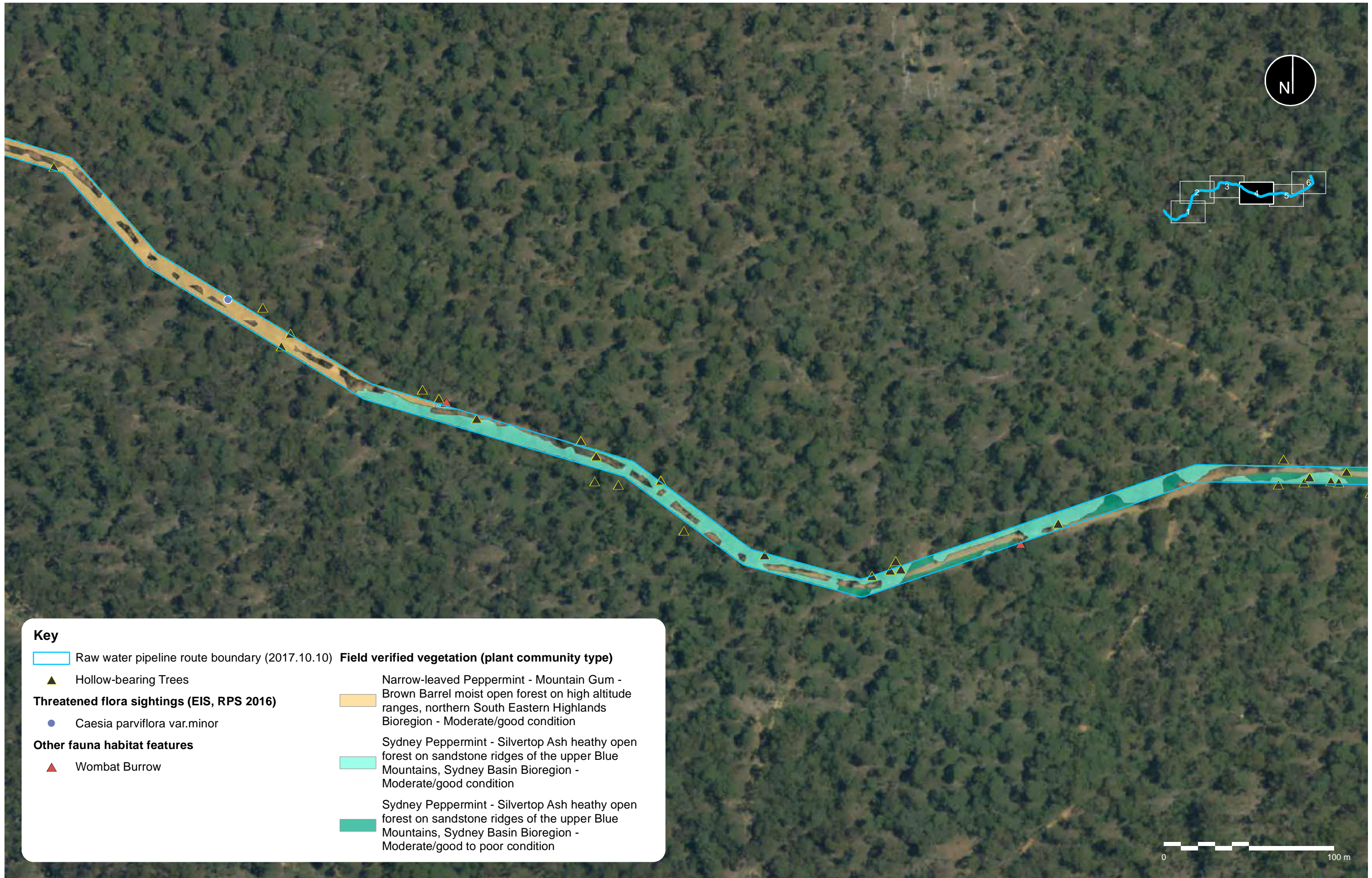


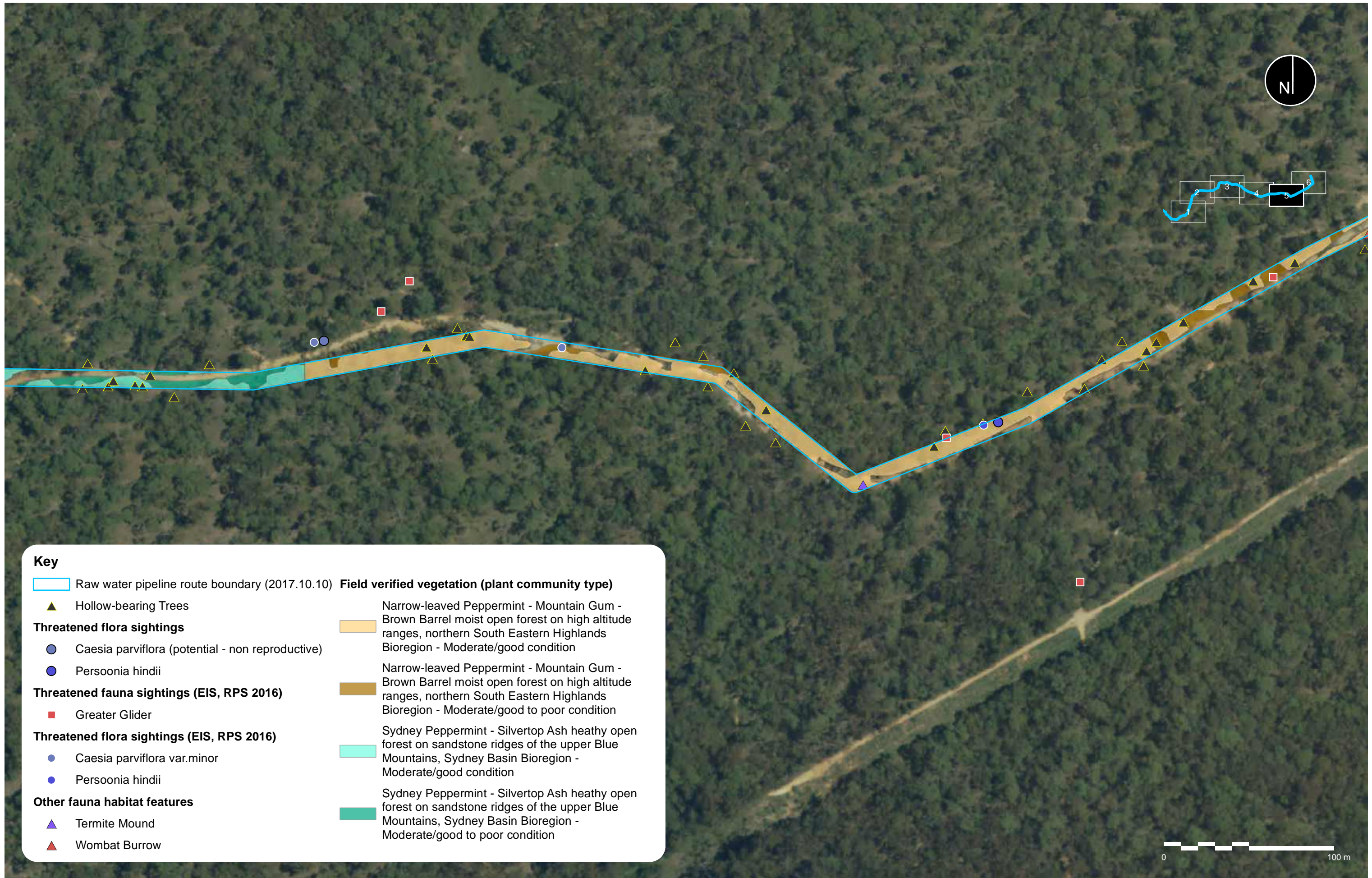


Key

Raw water pipeline route boundary (2017.10.10)	Field verified vegetation (plant community type)
Hollow-bearing Trees	Narrow-leaved Peppermint - Mountain Gum - Brown Barrel moist open forest on high altitude ranges, northern South Eastern Highlands Bioregion - Moderate/good condition
Threatened fauna sightings (EIS, RPS 2016)	Sydney Peppermint - Silvertop Ash heathy open forest on sandstone ridges of the upper Blue Mountains, Sydney Basin Bioregion - Moderate/good condition
Gang-Gang Cockatoo	Sydney Peppermint - Silvertop Ash heathy open forest on sandstone ridges of the upper Blue Mountains, Sydney Basin Bioregion - Moderate/good to poor condition
Other fauna habitat features	
Termite Mound	
Wombat Burrow	







Key

Raw water pipeline route boundary (2017.10.10)

Hollow-bearing Trees

Threatened fauna sightings

Scarlet Robin

Threatened flora sightings

Persoonia hindii

Threatened fauna sightings (EIS, RPS 2016)

Greater Glider

Threatened flora sightings (EIS, RPS 2016)

Caesia parviflora var. minor

Persoonia hindii

Other fauna habitat features

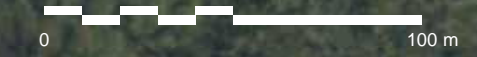
Termite Mound

Wombat Burrow

Field verified vegetation (plant community type)

Narrow-leaved Peppermint - Mountain Gum - Brown Barrel moist open forest on high altitude ranges, northern South Eastern Highlands Bioregion - Moderate/good condition

Narrow-leaved Peppermint - Mountain Gum - Brown Barrel moist open forest on high altitude ranges, northern South Eastern Highlands Bioregion - Moderate/good to poor condition



Appendix B - Re-use of Woody Debris and Bushrock

Guide 5 of Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects Revision 0/September 2011

<https://www.dccew.gov.au/sites/default/files/env/consultations/86a0e23b-c4b0-466c-8b61-4403ea27436c/files/e2021-0190-biodiversity-guidelines-rta.pdf>

Appendix C - Consultation Table

Description of Consultation	How Addressed in Management Plan	Reference
Letter to OEH 22 August 2017		
Biodiversity Management Plan (BMP) is provided with letter via email (Liz.Mazzer@environment.nsw.gov.au)		
Letter from OEH 14 September 2017 and reply Letter to OEH 16 October 2017		
1. Include measurable performance indicators, targets, trigger points and corrective actions in the BMP.	Measurable performance indicators, targets, trigger points and corrective actions have been specified in the BMP.	Section 4 of the BMP
2. Detailed biodiversity benchmark data is to be included in the BMP, covering the main project area and any ancillary infrastructure.	Detailed biodiversity benchmark data has been provided based upon the biodiversity data in the EIS and the preconstruction condition assessment surveys.	Section 2 of the BMP
3. The project area is to be divided into clearly identified zones for biodiversity management, with management objectives stated for each zone.	The Project has been divided in 5 separate Biodiversity Management Areas (BMAs) based upon vegetation types Sections 5 of the BMP	Sections 5 of the BMP
4. Locations of bushfire management activities are to be mapped, and descriptions of each activity included in the BMP.	A bushfire management plan has been prepared and has been included in the BMP. The bush fire management plan contains actions that will be implemented to minimise bushfire risks during construction and maintenance activities. The only two project elements that will require Asset Protection Zones (APZ) are the water treatment facility. A 10m APZ has been adopted for both elements. The pipeline and the break tank on the pipeline route would not require any APZ as it is buried. Other bushfire management activities for operations would be developed in consultation with respective land owners and would be	Section 6.11 and Appendix D of the BMP

Description of Consultation	How Addressed in Management Plan	Reference
	detailed in the operational environmental management plan.	
5. Clear maps showing locations of threatened species records and extent of endangered ecological communities at an appropriate scale are to be included in the BMP.	Maps showing threatened species locations and records at an appropriate scale have been provided.	Appendix A of the BMP
6. The ability to microsite infrastructure to avoid threatened species should be discussed.	The process of micro-siting infrastructure has been described in the BMP. The first stage of this has already been implemented and significant areas of clearing and impacts to threatened species has already been avoided	Section 6.2 of the BMP
7. The requirement of each threatened species to be impacted is to be discussed, along with how the requirements will be met.	7. The requirement of each threatened species to be impacted is to be discussed, along with how the requirements will be met. The requirements for threatened species protection and how they will be met have been provided in the BMP.	Section 5 of the BMP
8. The BMP is to identify threats to biodiversity and include any relevant baseline information.	Threats to biodiversity and baseline data have been identified based upon the biodiversity assessment (EIS, 2016) and preconstruction condition assessment surveys.	Section 3 of the BMP
9. A risk assessment (including threats, performance criteria, mitigation measures and risk level) be prepared following the example provided in table 1.	Key risks were identified in the biodiversity assessment (EIS, 2016) – and these have been expanded and supplemented with additional risks and mitigation measures.	Section 4 of the BMP
10. Strategies to manage threats to biodiversity, and the timeframe for each strategy, are to be included in the BMP.	Strategies and timeframes for the management of threats to biodiversity have been identified and included in the BMP.	Section 4 of the BMP
11. A detailed monitoring	Monitoring programs have been proposed and the first	Section 5 of

Description of Consultation	How Addressed in Management Plan	Reference
<p>program is to be implemented that will assess the effectiveness of the management and mitigation strategies against the management objectives and performance indicators and targets.</p>	<p>stage of monitoring has already been undertaken. The monitoring programs would be used to assess the effectiveness of mitigation strategies and used to assess performance against the indicators and targets.</p>	<p>the BMP</p>
<p>12. Upper limits of impacts on native vegetation and threatened species are clearly stated in the BMP, and a commitment made to ensuring these limits are not exceeded.</p>	<p>The upper limits of native vegetation and threatened species to be cleared have been specified in the EIS and project approval. The project is committed to not exceeding these clearing limits and aims to clear significantly less vegetation. Based on data collected during the preconstruction surveys, the area of native vegetation cleared will be about a third of that predicted in the EIS and many of the threatened species that were predicted to be impacted either don't exist</p>	<p>Section 3.4 of the BMP</p>
<p>13. Include a discussion of the relationship between this BMP and Centennial's Biodiversity Offset Package and Regional Biodiversity Management Plan for the Western Operations Region.</p>	<p>The relationship between the BMP and Centennial's Biodiversity Offset Package and Regional Biodiversity Management Plan for the Western Operations Region have been described.</p>	<p>Section 6.1 and Section 6.15 of the BMP</p>
<p>Email from OEH 18 October 2017</p>		
<p>Advising that there was no need for further clarification.</p>		
<p>Email from DPE 23 August 2023</p>		
<p>1. Appendix A is missing. Please attach Appendix A.</p>	<p>Please note this is an error on Centennial's behalf, no action required from Veolia Team- will be rectified upon receipt of response.</p>	<p>Appendix A</p>
<p>2. Revision 14 Appendix C consultation identifies Section 4 as addressing OEH' comment, to "Include</p>	<p>These were scattered throughout the BMP but have been condensed into the TARP table in section 5</p>	<p>Section 5 and Section 6</p>

Description of Consultation	How Addressed in Management Plan	Reference
measurable performance indicators, targets, trigger points and corrective actions in the BMP', however Section 4 presents a summary of RPS' 2016 Biodiversity Assessment Report on the then Existing Environment and Environmental Impacts and Risks, but no performance indicators, targets, tigers points or corrective actions (management measures)		
3. No Trigger Actions Response Plan is provided in the BMP. Please clearly identify measurable performance indicators, targets, triggers points and corrective actions per OEH' comments. Additional information on how to address OEH' comments is contained in Attachment B of OEH' letter dated 14 September 2017.	These were scattered throughout the BMP but have been condensed into the TARP table in section 5	Section 5 and Section 6
4. Note, OEH is now known as the Environment and Heritage Group of the Department of Planning and Environment.	Noted	
5. Consultation attached to the Plan is now almost 5 years old. Please include any further engagement or consultation comments from the Environment and Heritage Group and ensure that triggers, action and adaptive managements are consistent with conditions of consent.	The latest correspondence has been added to Appendix C	Appendix C

Description of Consultation	How Addressed in Management Plan	Reference
Letter from DPE 15 November 2023		
Please provide clear triggers and actions consistent with OEH advice, in a Trigger Action Response Plan (TARP) as part of BMP	Included a TARP table in BMP section 6. Biodiversity Management Areas, Table 7	Section 6, Table 7
Letter from DPE 5 December 2023		
Please provide clear triggers and actions consistent with OEH advice, in a Trigger Action Response Plan (TARP) as part of BMP	Revised the TARP to include targets and triggers that are measurable and achievable.	Section 6, Table 7

Appendix D - Consultation Documents



SMMPS-O-00-M13-00-09

22 August 2017

ATT: Liz Mazzer
Conversation Planning Officer
Regional Operation, North West
Office of Environment and Heritage
PO Box 2111, Dubbo, NSW, 2830

Dear Ms Mazzer,

Re: Springvale Water Treatment Project (SSD 7592) – Consultation for Preparation of Biodiversity Management Plan

With reference to Development Consent for the Springvale Water Treatment Project (SSD 7592) which was approved by the Planning Assessment Commission on 19 June 2017. Veolia Australia and New Zealand (Veolia) has been selected as specialist water Service Company to finance, design, construct, commission and operate the Springvale Water Treatment Project (Project).

As part of its responsibilities under the contract, Veolia is required to prepare, obtain approval and implement environmental management systems and plans as defined under the Conditions of the Development Consent (Consent).

In accordance with condition 8, schedule 3 of the Consent, a Biodiversity Management Plan (BMP) detailing flora and fauna management measures for the Project are to be developed in consultation with the Office of Environment and Heritage (OEH).

Veolia understands that OEH was invited to provide comments as part of the Project assessment process, including the Environmental Impact Statement, and the Submission Report. Consequently, we would like request feedback from OEH for any additional considerations in preparation of the BMP

The BMP (electronic copy) is provided with this letter via email (Liz.Mazzer@environment.nsw.gov.au).

We look forward to your consideration of this request. Please do not hesitate to contact myself or Environmental Planning Lead, Elena Ivanova (+61 (0) 415 556 620; elena.ivanova@veolia.com) should you have any questions or if any item requires discussion.

Yours sincerely,

A handwritten signature in blue ink that reads "Nick Stokes-Hughes".

Nick Stokes-Hughes

Project Director - Veolia Australia and New Zealand

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DOC17/436024
SSD 7592

Mr Nick Stokes - Hughes
Project Director
Veolia Environmental Services
nicholas.stokeshughes@veolia.com

Dear Mr Stokes - Hughes

Springvale water treatment project (SSD 7592) draft biodiversity management plan

I refer to your email dated 22 August 2017 requesting advice from the Office of Environment and Heritage (OEH) regarding the draft biodiversity management plan for the Springvale water treatment project.

A Biodiversity Management Plan (BMP) sets out a commitment and a methodology to manage, enhance and protect biodiversity values. The purpose of a BMP is to:

- document the biodiversity values of a site
- outline strategies to prevent, minimise, mitigate and/or offset impacts and threatening processes on biodiversity from a project's activities
- outline performance criteria to judge the success of the implementation of the plan including monitoring and reporting of management actions and outcomes
- set out how adaptive management will be achieved through evaluation of performance.

Commitments contained within a BMP should be clear and auditable. The BMP should cover impacts that may arise from activities conducted throughout the life of the project. It should cover any biodiversity conditions related to the development's impacts as well as the management of any biodiversity offset areas. These can potentially be in a single or multiple documents.

All monitoring objectives and targets should adhere to the SMART principles, that is, be specific, measurable, achievable, realistic and timely.

A summary of our recommendations is provided in Attachment A, and detailed comments are in Attachment B.

If you have any queries, please contact Liz Mazzer, Conservation Planning Officer on 6883 5325 or email liz.mazzer@environment.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to read "Peter Christie". The signature is fluid and cursive, with the first name "Peter" and last name "Christie" clearly distinguishable.

PETER CHRISTIE
Director, North West
Regional Operations Division

Contact officer: LIZ MAZZER
6883 5325

14 September 2017

cc: Paul Freeman - Department of Planning and Environment

Summary of OEH recommendations

- 1 Include measurable performance indicators, targets, trigger points and corrective actions in the BMP.
- 2 Detailed biodiversity benchmark data is to be included in the BMP, covering the main project area and any ancillary infrastructure.
- 3 The project area is to be divided into clearly identified zones for biodiversity management, with management objectives stated for each zone.
- 4 Locations of bushfire management activities are to be mapped, and descriptions of each activity included in the BMP.
- 5 Clear maps showing locations of threatened species records and extent of endangered ecological communities at an appropriate scale are to be included in the BMP.
- 6 The ability to microsite infrastructure to avoid threatened species should be discussed.
- 7 The requirement of each threatened species to be impacted is to be discussed, along with how the requirements will be met.
- 8 The BMP is to identify threats to biodiversity and include any relevant baseline information.
- 9 A risk assessment (including threats, performance criteria, mitigation measures and risk level) be prepared following the example provided in table 1.
- 10 Strategies to manage threats to biodiversity, and the timeframe for each strategy, are to be included in the BMP.
- 11 A detailed monitoring program is to be implemented that will assess the effectiveness of the management and mitigation strategies against the management objectives and performance indicators and targets.
- 12 Upper limits of impacts on native vegetation and threatened species are clearly stated in the BMP, and a commitment made to ensuring these limits are not exceeded.
- 13 Include a discussion of the relationship between this BMP and Centennial's Biodiversity Offset Package and Regional Biodiversity Management Plan for the Western Operations Region.

OEH detailed comments on the draft Springvale water treatment project biodiversity management plan

Performance indicators and targets need to be measurable

The BMP needs to include measurable performance indicators and targets that will be used to demonstrate the extent to which the biodiversity management objectives have been achieved. The performance indicators and targets will relate directly to the key biodiversity management objectives and the requirements of the consent conditions for the project.

The performance targets should reflect the difference stages of succession of biodiversity management (and vegetation succession) throughout the life of the project.

Targets should relate to actual biodiversity outcomes, including species requirements (see Appendix A [2]), at different times rather than simply inputs and outputs (see Appendix A [7]).

State the trigger points and subsequent corrective actions to be implemented if the monitoring program identifies that the performance targets and therefore biodiversity management objectives are not being met.

For example, the trigger point for applying a corrective action to a weed infestation may be when the weed species increases in area by 5 ha. The corrective action (implementing weed management activities) should then be detailed.

Monitoring and reporting will then relate directly to the performance indicators and targets.

Recommendation

- 1 Include measurable performance indicators, targets, trigger points and corrective actions in the BMP.

Benchmark data is needed

To meet the primary aim of the BMP, and to fulfil the development consent conditions for the project, biodiversity benchmark data is needed. This should be incorporated in the BMP.

The primary aim of the BMP is to demonstrate how the project will maintain or enhance benchmark biodiversity values throughout the landscape during and post construction. The development consent conditions for the project require that the BMP includes updated baseline mapping of the vegetation communities and key fauna habitat on site.

More detailed information about the current biodiversity values is required. The values should include detailed descriptions of:

- vegetation communities in each biodiversity management area, including:
 - a map and photographs depicting these vegetation communities
 - the area and the condition state of each vegetation community, described as per the BioBanking Assessment Methodology (see Appendix A [1]) or an equivalent or better method
 - a description of rare or significant flora (e.g.. species at the edge of their range, taxonomically unusual, etc).

It is recommended that vegetation should be described as per the NSW Vegetation Information System and the Native Vegetation Interim Type Standard [see Appendix B]. Permanent vegetation plots should be established.

- fauna assemblages in the project area and their habitat, including maps of known records and identified areas of significant habitat for particular threatened or declining species
- riparian areas including a map identifying their location in the project area, and photographs
- groundwater dependent ecosystems that are present

- any other important habitat values that are present (e.g. caves, cliff lines, raptor nests, hollow-bearing trees, etc)

The descriptions should include the presence of important structural, floristic and habitat elements. Include additional mapping, and/or imagery, and photographs that illustrate:

- the footprint of the project site compared to the surrounding biodiversity values;
- areas of high conservation significance; and

Note that classification of vegetation communities should use plant community types (PCT) as presented in figure 2 and table 7 of the BMP rather than the map unit numbers in table 4.

It is important that benchmark data is also collected for ancillary infrastructure such as new access tracks and laydown areas.

Recommendation

- 2 Detailed biodiversity benchmark data is to be included in the BMP, covering the main project area and any ancillary infrastructure.

Biodiversity management areas should be identified

The project area should be divided into discrete zones for biodiversity management. These may be divided by vegetation type, condition classes, or any other practical delineation. The BMP should clearly identify the locations and boundaries of these zones, including appropriate mapping.

A description for each management zone should be provided which includes details of the biodiversity values. The description should outline the level of intervention activities proposed in each management zone. Areas where salvage of biodiversity resources will occur within impacted areas (e.g. collection of tree stems or hollows, plants or animals for translocation) should be indicated.

Objectives for managing biodiversity values should be stated for each management zone.

Recommendation

- 3 The project area is to be divided into clearly identified zones for biodiversity management, with management objectives stated for each zone.

More information is needed about bushfire management

The BMP outlines bushfire management activities, such as asset protection zones, fuel load reduction and maintenance of tracks.

Locations of bushfire management activities should be mapped. Descriptions of each activity, and how these will be implemented in each biodiversity management zone, should be included in the BMP.

Recommendation

- 4 Locations of bushfire management activities are to be mapped, and descriptions of each activity included in the BMP.

More detailed information is needed for threatened species

Detailed information about the locations and planned management of threatened species is needed.

The BMP provides some information about threatened flora and fauna species. OEH notes that two flora species were detected immediately adjacent to the project area and there is potential for seedlings of these plants to occur in the areas to be cleared. While a list of threatened flora species within the project area is provided, the two located adjacent to the areas to be cleared are not identified.

The BMP needs to provide details of the known and predicted occurrence of threatened species, populations and ecological communities listed under the *Environment Protection and Biodiversity Conservation Act 1999*, *Threatened Species Conservation Act 1995*, and the *Fisheries Management Act 1994*.

Figure 2 of the BMP provides some of this information, but due to the resolution of the map, and scale used, this is unclear.

Clear maps showing locations of threatened species records and extent of endangered ecological communities at an appropriate scale are needed. This is particularly important to show individuals and populations of threatened flora species near areas to be cleared. Rather than grouping records into 'threatened fauna' and 'threatened flora' (as is the case in figure 2 of the BMP), the maps should show locations of the individual species and indicate whether these will be impacted.

The ability to microsite infrastructure to avoid threatened species should be discussed.

The BMP should outline the species requirements for each threatened species that will be impacted by the development, and how these requirements will be provided for, particularly in any areas to be re-vegetated (see Appendix A [2]).

Recommendations

- 5 Clear maps showing locations of threatened species records and extent of endangered ecological communities at an appropriate scale are to be included in the BMP.
- 6 The ability to microsite infrastructure to avoid threatened species should be discussed.
- 7 The requirement of each threatened species to be impacted is to be discussed, along with how the requirements will be met.

Threats to biodiversity need to be identified

The BMP needs to provide details of the threats to biodiversity that currently exist on site and those that may occur in the future. These may include:

- Pest animals, including native pest animals (see Appendix A [3])
- Noxious and environmental weeds
- Erosion
- Current land use practices
- Altered hydrological processes
- Fire regimes
- Existing infrastructure

Include additional mapping, and/or imagery, and photographs that illustrate threats that can be mapped, such as weeds and erosion.

Baseline data that describes the current extent of each threat described in the BMP is also required.

For example, for weeds this may include details on the area or number of plants that currently exist. If weed infestations occur at multiple locations the extent at each location should be detailed.

Baseline information is required to assess the change in the level of the threat and to monitor success over time against relevant performance criteria.

Some threats may become more apparent or relevant as regeneration and rehabilitation activities progress. These threats should also be discussed.

For example, agricultural land that has previously been fertilised may present difficulties in increasing the native species ground cover diversity (see Appendix A [4]).

Section 4.7 of the BMP should also include a discussion of the potential threats to biodiversity from predators such as foxes, wild dogs and cats that may use the pipeline route and new access tracks. The presence of these and other vertebrate pests needs to be included in the BMP, and any intended monitoring and control activities detailed.

Recommendation

- 8 The BMP is to identify threats to biodiversity and include any relevant baseline information.

Prepare a risk assessment

A risk assessment that details how each threat may impact on the success of achieving each relevant performance target must be undertaken.

For example (table 1):

Threat	Relevant performance criteria	Mitigation measures	Risk level
Grazing from domestic stock	Increase groundcover species diversity by 10% by 2020 in Management Area A	Management Area A to be fenced and domestic stock to be removed.	Low

The risk assessment should be used as a tool to determine the level of management that each threat requires.

For example, 10 weed species may be present but only one is considered to be a high risk to maintaining ground cover diversity. The management action (including effort and period of implementation) would then be determined by the level of reduction required for that weed species to decrease to an acceptable level. The trigger levels for corrective actions describe the point at which current management actions need to be reviewed and potentially amended to ensure the performance indicators and targets are being met.

The mitigation measures summarised in this risk assessment should be explained in detail.

Recommendation

- A risk assessment (including threats, performance criteria, mitigation measures and risk level) be prepared following the example provided in table 1.

Include biodiversity management and mitigation strategies

The BMP should detail the strategies to be implemented to manage biodiversity threats and to ensure that impacts on biodiversity values are minimised. While some of these are outlined in the draft BMP, more detail is required.

The timing of each strategy should also be outlined (whether they will be implemented over the short, medium or long term).

Mitigation measures and clearing protocols should include the recommendations in section 4.3 of the biodiversity assessment report for the Springvale water treatment project (RPS 2016¹).

Pre-development phase

Strategies to be undertaken in the pre-development phase may include, but not be limited to:

- pre-clearance surveys (see discussion in Appendix A [5])
- salvage of resources from the development area (including rocks, logs, hollows and soil resources) for habitat enhancement during the operational and rehabilitation phases
- transplanting and/or propagating threatened flora and native grassland and any other significant species
- managing soil disturbance, including conserving and reusing topsoil and subsoils to meet rehabilitation objectives

¹ RPS (2016) *Biodiversity Assessment Report Springvale Water Treatment Project*. Prepared for Springvale Coal Pty Ltd.

Operational and post-development phase

Strategies to be implemented during the operational phase and as part of the post-development activities may include, but not be limited to:

- use of resources for habitat enhancement that were salvaged in the pre-development phase
- management of remnant vegetation and habitat
- revegetation and regeneration including the establishment (where relevant) of canopy, sub-canopy, understorey and ground strata
- rehabilitation of riparian areas and aquatic habitat
- catering for threatened species requirements where the rehabilitation or revegetation of areas of potential habitat will occur
- managing impacts on fauna, including catering for fauna that are to be relocated from the impacted areas on the project site
- controlling weeds and pest animals, including native pest animals
- managing soil disturbance
- controlling access
- integrating management with adjoining landholders
- wildfire and ecological fire management (see Appendix A [6])

Rehabilitation

Whilst detailed rehabilitation objectives and procedures for areas to be impacted by the development may be contained in a separate document to the BMP, an outline of any rehabilitation activities to be undertaken should be provided. This should include:

- objectives of any rehabilitation activities, particularly any that relate to biodiversity
- a summary of proposed rehabilitation activities, including timeframes for the implementation of these activities (short, medium or long term)
- measures of how the success of rehabilitation will be measured, for example comparisons to vegetation benchmarks and condition prior to the project implementation or comparisons to established control sites
- management options if rehabilitation is not achieving the measures described above
- an explanation as to how rehabilitation activities will relate to the biodiversity management actions outlined in this plan
- description of intended final land use
- a map outlining where rehabilitation will occur

Recommendation

- 10 Strategies to manage threats to biodiversity, and the timeframe for each strategy, are to be included in the BMP.

Monitoring and reporting

The BMP needs to detail the monitoring program to be implemented that will assess the effectiveness of the management and mitigation strategies against the management objectives and performance indicators and targets. The need for, and difference between input, output and outcome criteria is discussed in Appendix A [7].

The monitoring program should:

- contain clear objectives and targets that relate to the biodiversity management objectives. All monitoring objectives and targets should adhere to the SMART principles (specific, measurable, achievable, realistic, timely)
- describe the intended monitoring methods and proposed analysis to be used
- measure any differences between predicted and actual impacts and outcomes
- identify any unpredicted impacts requiring remedial measures

- consider seasonal variability of certain biodiversity components when determining the timing of the monitoring
- monitor species recovery throughout the life of the project (and beyond) including establishing a succession pathway for key species and monitoring progress along this pathway at regular intervals
- be implemented throughout the construction, operation and (where appropriate) decommissioning of the project
- articulate how the results of the monitoring program will have an adaptive management feedback to the biodiversity management strategies that are being implemented

Depending on the actions required, the levels of monitoring may vary over the length of the project. For example, intense weed management initially may require frequent (annually or less) monitoring but in the long-term the rates may decrease as the weed infestation is controlled or removed. Alternatively, other monitoring rates may increase as cleared land or poor condition vegetation communities are regenerated or rehabilitated.

The nature and frequency of the reporting that will be undertaken should be described, including outlining who will be the recipients of the reports.

Recommendation

- 11 A detailed monitoring program is to be implemented that will assess the effectiveness of the management and mitigation strategies against the management objectives and performance indicators and targets.

Impacts must be within the limits specified in the development consent for the project

Schedule 2, conditions 6 and 7 of the development consent for the Springvale water treatment project specify upper limits for clearing of native vegetation (totalling 27.84 hectares) and for impacts on threatened species.

Table 2 of the development consent conditions specifies the maximum area of each vegetation type that can be cleared. Table 3 presents species credit requirements for three species, which can be expressed as the maximum number of individuals, or area of habitat, that can be impacted:

Species	Species credits required	Maximum number of individuals or area of habitat that can be impacted
<i>Eucalyptus cannonii</i> (Capertee stringybark)	39	3 individuals
<i>Caesia parviflora</i> var. <i>minor</i> (pale grass-lily)	42	3 individuals
<i>Chalinolobus dwyeri</i> (large-eared pied bat)	9	0.73 ha

Any impacts exceeding these limits would constitute a breach of the conditions of development consent.

The BMP must ensure that impacts on native vegetation and threatened species listed in tables 2 and 3 of the development consent conditions do not exceed the limits identified in these two tables.

Recommendation

- 12 Upper limits of impacts on native vegetation and threatened species are clearly stated in the BMP, and a commitment made to ensuring these limits are not exceeded.

The relationship between this BMP and other management plans should be described

Centennial Coal has developed several management plans for their western operations region. These include:

- *Biodiversity Offset Package: Western Region*
- *Western Operations Regional Biodiversity Management Plan*

The relationship between these two plans and the BMP should be discussed.

Recommendation

- 13 Include a discussion of the relationship between this BMP and Centennial's Biodiversity Offset Package and Regional Biodiversity Management Plan for the Western Operations Region.

APPENDIX A: EXPLANATORY NOTES

1. Condition assessment

The vegetation communities present in each biodiversity management area should be identified within the BMP. The condition state(s) of each vegetation type should also be identified as per the BioBanking Assessment Methodology (see Appendix B).

These condition states include:

Low condition vegetation:

Woody native vegetation with native over-storey percent foliage cover less than 25% of the lower value of the over-storey percent foliage cover benchmark for that vegetation type, and

- less than 50% of ground cover vegetation is indigenous species, or
- greater than 90% of ground cover vegetation is cleared.

Native grassland, wetland or herbfield where:

- less than 50% of ground cover vegetation is indigenous species, or
- more than 90% of groundcover vegetation is cleared.

If native vegetation is not in low condition, it is in moderate to good condition.

Moderate to good condition vegetation:

Native vegetation that is not in low condition, as defined above.

2. Species requirements

For each threatened species that will be impacted by the development, the requirements for that species and how they will be catered for across the non-impacted and/or offset areas should be detailed. Elements to be discussed should include preferred vegetation structure, floristic composition, food resources, minimum patch size, landscape connectivity, and breeding, nesting and roosting requirements. Knowledge of threats to the species and how these will be managed should be outlined.

An example of these species requirements for the Brown Treecreeper (*Climacteris picumnus victoriae*) is provided below. A BMP should provide this information and outline how each element will be provided for at the project site.

Vegetation type and structure: Eucalypt woodland, generally those lacking a dense understorey.

Landscape position: Low to moderate relief, particularly fertile patches.

Diet: Ants, beetles and larvae taken from ground, fallen logs and tree trunks.

Competition: Noisy Miners dominate fragmented woodlands and will exclude smaller species from territories. Starlings compete for nesting hollows.

Breeding locations: Nests in tree hollows 5-15 cm in size. Utilises a wide variety of tree species – not selective.

Connectivity: Will use paddock trees for dispersal across open country. These trees should preferably be less than 100m apart with 230m being the greatest recorded distance moved between paddock trees. Suitable habitat patches need to be no more than two kilometres apart and preferably one kilometre apart. Dispersal of females critical to maintain viable populations.

Patch Size: Unable to maintain viable populations in remnants less than 200 ha.

3. Native pest species

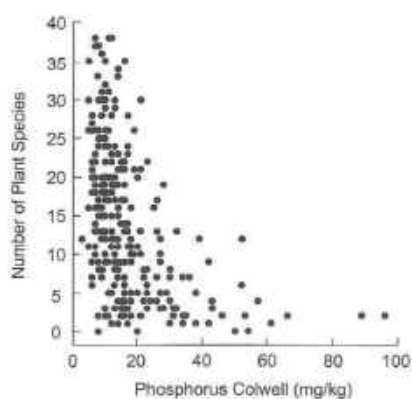
Some opportunistic native species compete with, and have a detrimental impact on other native species. An example is the Noisy Miner (*Manorina melanocephala*). This bird's aggressive behaviour can exclude many other birds from the patches they inhabit. Where Noisy Miners are present a BMP

should outline the management actions that will be implemented to reduce their impact on other species. This may include:

- implementing a control program;
- ensuring habitat patches are large enough to prevent the penetration of the species into habitat interiors; and/or
- ensuring grassland areas are densely vegetated as Noisy Miners prefer short heavily grazed pasture; and
- ensuring that rehabilitation and revegetation programs establish habitat with structural complexity.

4. Past land use and rehabilitation/revegetation success

Whilst tree planting in degraded landscapes and rehabilitation areas is generally successful, the restoration of understorey species can be a difficult task. Pastures with a history of fertiliser application tend to be dominated by perennial grasses and weeds which can hamper the regeneration and establishment of native species. As soil phosphorus increases the ability of native vegetation to cope with the enhanced fertility decreases, impacting on native plant diversity and ground cover.



This graph shows how diversity of native plants (as measured by number of species) declines as available soil phosphorus increases.

*From Dorrrough, Stol & McIntyre (2008)

This issue should be considered when rehabilitation and regeneration activities are being planned. Focusing regeneration activities on land that has been fertilised is likely to reduce the success of re-establishing a fully functioning vegetation community, and the time frame for establishment may be greatly extended.

5. Pre-clearing surveys

Detailed information on the fauna to be impacted by the development should have been provided in the original environmental assessment. It is acknowledged that the development will result in the loss of habitat. However, research also indicates that most individuals in cleared areas will die in situ or in adjoining areas (Cogger *et al* 2003; Tyndale-Biscoe and Smith 1969; Woinarski *et al* 2006). The success rate of displaced individuals being able to establish in surrounding habitat (if present) is very low. In order to minimise direct deaths from clearing activities it is recommended that established pre-clearing guidelines like those developed by the Roads and Traffic Authority are utilised and the details are incorporated into the BMP.

Where a particular species of interest occurs, or further information is required on the density of a particular species, additional effort on pre-clearing surveys may be needed. This additional effort should be described in the BMP.

6. Wildfire and ecological fire management

A fire management regime should be described that outlines the intensity, frequency and seasons that will form the basis of a wildfire and ecological fire program. The ecological requirements and

sensitivities of the vegetation communities that are present should be considered and the program developed accordingly. The regime should form a long-term strategy rather than be an activity that is developed on a short-term basis (three years or less).

7. Performance indicators and targets

Establishing appropriate criteria that will be monitored regularly to determine whether management objectives have been met is essential. The assessment criteria may take three forms:

1. Input – what action will be undertaken (e.g. 10 trees will be planted).
2. Output – what result is expected to be achieved by a particular action (eg. The trees will reach a height of 5 metres in 5 years; the trees will have medium-sized hollows by 100 years).
3. Outcome – the consequence of the output (eg. regeneration activities will establish habitat for the Brown Treecreeper within 80 years).

The proposed outcomes may need to be assessed at specific intervals in relation to expected succession timeframes. For example, the revegetation of an area to support the Brown Treecreeper may be a management objective. The establishment of a fully functioning habitat patch may not occur for 80 years or longer. Performance indicators should be established at regular intervals (for example 5 years) to determine:

- (1) if the expected successional trajectory is occurring; and
- (2) if not, appropriate adaptive management measures that can be applied to the site to ensure a successful outcome.

For example, if 1000 native trees were planted at the commencement of a revegetation program, and after 10 years only 200 trees remained and the groundcover was predominantly exotic species, then additional tree planting and/or weed management would need to be implemented. Monitoring undertaken in the vegetation community should also assess whether species that are expected to re-colonise the vegetation are in fact returning. For example, it may be expected that a range of small woodland-dependant birds should be recorded by year 5 and by year 20 there should be at least 15 different understorey plants present. Thus, the progress criteria might state:

- A range of small woodland dependent birds present at year 5 (examples could include thornbills, superb fairy-wren, robins and honeyeaters)
- at least 25 different understorey plant species present at year 20.

8. References

- Cogger, H., Ford, H., Johnson, C., Holman, J. and Butler, D. (2003) *Impacts of land clearing on Australian wildlife in Queensland*, WWF Australia; Sydney.
- Dorrough, J., Stol, J. and McIntosh, S. (2008) *Biodiversity in the paddock – a land managers guide*, Future Farm Industries CRC, Canberra.
- Tyndale-Biscoe, C.H. and Smith, R.F.C. (1969) Studies on the marsupial glider *Schoinobates volans* (Kerr) III Response to habitat destruction. *Journal of Animal Ecology* **38**: 651-659.
- Wilkins, S., Keith, D.A. and Adams, P. (2003) Measuring success: Evaluating the restoration of a grassy eucalypt woodland on the Cumberland plain, Sydney, Australia. *Restoration Ecology* **11**:489-503.
- Woinarski, J.C.Z., McCosker, J.C., Gordon, G., Lawrie, B., James, C., Augusteyn, J., Slater, L. and Danvers, T. (2006) Monitoring change in the vertebrate fauna of central Queensland, Australia, over a period of broadscale vegetation clearance, 1973-2002. *Wildlife Research* **33**: 263-274.

APPENDIX B: GUIDELINES

Additional guidelines and information sources that may assist with the development of a BMP include:

BioBanking Assessment Methodology:

<http://www.environment.nsw.gov.au/biobanking/assessmethodology.htm>

Pre-clearing surveys

Biodiversity guidelines – protecting and managing biodiversity on RTA projects (Roads and Traffic Authority of NSW, September 2011)

http://www.rta.nsw.gov.au/environment/downloads/biodiversity_guidelines.pdf

Threatened species:

OEH threatened species website

<http://www.environment.nsw.gov.au/threatenedspecies/>

Translocation of threatened fauna:

Policy for the translocation of threatened fauna in NSW (NSW National Parks and Wildlife Service, October 2001)

<http://www.environment.nsw.gov.au/resources/nature/policyFaunaTranslocation.pdf>

Vegetation mapping:

- NSW Vegetation Information System
<http://www.environment.nsw.gov.au/research/VegetationInformationSystem.htm>
- *Native Vegetation Interim Type Standard* (Department of Environment, Climate Change and Water, January 2010)
<http://www.environment.nsw.gov.au/resources/nativeveg/10060nvinttypestand.pdf>

Vegetation management:

- A Guide to Managing Box Gum Woodlands
<http://www.nrm.gov.au/resources/publications/stewardship/pubs/bggw-handbook.pdf>
- *Managing and Conserving Grassy Woodlands* (S. McIntyre, J McIvor and K Heard, 2002, CSIRO Publishing)
- *Managing Native Grassland: a Guide to Management for Conservation, Production and Landscape Protection*
http://awsassets.wwf.org.au/downloads/fl005_managing_native_grassland_1jul02.pdf
- *Biodiversity in the Paddock: a Land Managers Guide*
<http://www.futurefarmonline.com.au/publications/other-publications.htm>

Revegetation

Planting for Wildlife: A Practical Guide to Restoring Native Woodlands. (N. Munro and D. Lindenmayer 2011. CS



16 October 2017

Ref: SMPPS-O-00-M13-00-33

ATT: Liz Mazzer
Conversation Planning Officer
Regional Operation, North West
Office of Environment and Heritage
PO Box 2111, Dubbo, NSW, 2830

Dear Ms Mazzer,

Re: Springvale Water Treatment Project (SSD 7592) – Consultation for Preparation of Biodiversity Management Plan

Veolia Australia and New Zealand (Veolia) refers to correspondence received on 15 September 2017 (ref: DOC17/466024) from Office of Environment and Heritage (OEH) with queries pertaining to the draft Biodiversity Management Plan (BMP) for Springvale Water Treatment Project.

Veolia also hereby provides a response to recommendations provided by OEH as outlined in the table below.

The revised BMP and associated mitigation and management measures have been prepared in the context of:

- Apart from the Newnes Plateau, the buried pipelines will be located in cleared disturbed land where possible or along the edges of existing cleared corridors;
- In the Newnes Plateau the pipeline will follow an old logging track which is partially cleared but overgrown;
- Directional drilling will be used in at least one location and possibly others to avoid biodiversity and other impacts. The major crossing of the Cox River and one of its tributaries will be underbored, avoiding significant impacts on riparian corridors and other vegetation;
- Precondition biodiversity surveys have been completed and clearing estimates recalculated. A significantly smaller area of native vegetation will be cleared than predicted in the EIS as well as some of the threatened flora species have been re-identified and found not to be a threatened species – and the number of individual threatened flora plants potentially impacted have been reduced;
- Once construction is completed, the main biodiversity management measures will be maintaining a stable, weed-free and pest-free pipeline corridor and water treatment facility site. There are no other operational impacts.
- The pipelines pass through land owned and managed by different organisations and with existing Biodiversity Management Plans. Veolia will not own the project land or any surrounding land and therefore some biodiversity management measures the most effective solution is to integrate with existing land owners BMPs – especially for issues such as weed management.

OEH Recommendations	Veolia's Response	Reference
1. Include measurable performance indicators, targets, trigger points and corrective actions in the BMP.	Measurable performance indicators, targets, trigger points and corrective actions have been specified in the BMP.	Section 4 of the BMP
2. Detailed biodiversity benchmark data is to be included in the BMP, covering the main project area and any ancillary infrastructure.	Detailed biodiversity benchmark data has been provided based upon the biodiversity data in the EIS and the preconstruction condition assessment surveys.	Section 2 of the BMP

Veolia Environmental Services Australia

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3. The project area is to be divided into clearly identified zones for biodiversity management, with management objectives stated for each zone.	The Project has been divided in 5 separate Biodiversity Management Areas (BMAs) based upon vegetation types	Sections 5 of the BMP
4. Locations of bushfire management activities are to be mapped, and descriptions of each activity included in the BMP.	A bushfire management plan has been prepared and has been included in the BMP. The bush fire management plan contains actions that will be implemented to minimise bushfire risks during construction and maintenance activities. The only two project elements that will require Asset Protection Zones (APZ) are the water treatment facility. A 10m APZ has been adopted for both elements. The pipeline and the break tank on the pipeline route would not require any APZ as it is buried. Other bushfire management activities for operations would be developed in consultation with respective land owners and would be detailed in the operational environmental management plan.	Section 6.11 and Appendix D of the BMP
5. Clear maps showing locations of threatened species records and extent of endangered ecological communities at an appropriate scale are to be included in the BMP.	Maps showing threatened species locations and records at an appropriate scale have been provided.	Appendix A of the BMP
6. The ability to microsite infrastructure to avoid threatened species should be discussed.	The process of micro-siting infrastructure has been described in the BMP. The first stage of this has already been implemented and significant areas of clearing and impacts to threatened species has already been avoided	Section 6.2 of the BMP
7. The requirement of each threatened species to be impacted is to be discussed, along with how the requirements will be met.	The requirements for threatened species protection and how they will be met have been provided in the BMP.	Section 5 of the BMP
8. The BMP is to identify threats to biodiversity and include any relevant baseline information.	Threats to biodiversity and baseline data have been identified based upon the biodiversity assessment (EIS, 2016) and preconstruction condition assessment surveys.	Section 3 of the BMP
9. A risk assessment (including threats, performance criteria, mitigation measures and risk level) be prepared following the example provided in table 1.	Key risks were identified in the biodiversity assessment (EIS, 2016) – and these have been expanded and supplemented with additional risks and mitigation measures.	Section 4 of the BMP
10. Strategies to manage threats to biodiversity, and the timeframe for each strategy, are to be included in the BMP.	Strategies and timeframes for the management of threats to biodiversity have been identified and included in the BMP.	Section 4 of the BMP
11. A detailed monitoring program is to be implemented that will assess the effectiveness of the management and mitigation strategies against the management objectives and performance indicators and targets.	Monitoring programs have been proposed and the first stage of monitoring has already been undertaken. The monitoring programs would be used to assess the effectiveness of mitigation strategies and used to assess performance against the indicators and targets.	Section 5 of the BMP
12. Upper limits of impacts on native vegetation and threatened species are clearly stated in the BMP, and a commitment made to ensuring these limits are not exceeded.	The upper limits of native vegetation and threatened species to be cleared have been specified in the EIS and project approval. The project is committed to not exceeding these clearing limits and aims to clear significantly less vegetation. Based on data collected during the preconstruction surveys, the area of native vegetation cleared will be about a third of that predicted in the EIS and many of the threatened species that were predicted to be impacted either don't exist	Section 3.4 of the BMP
13. Include a discussion of the relationship between this BMP and Centennial's Biodiversity Offset Package and Regional Biodiversity Management Plan for the Western Operations Region.	The relationship between the BMP and Centennial's Biodiversity Offset Package and Regional Biodiversity Management Plan for the Western Operations Region have been described.	Section 6.1 and Section 6.15 of the BMP



A revised BMP is provided with this letter via email (Liz.Mazzer@environment.nsw.gov.au).

Should you wish for further clarification, please do not hesitate to contact myself or Environmental Planning Lead, Elena Ivanova (+61 (0) 415 556 620; elena.ivanova@veolia.com).

Yours sincerely,

A handwritten signature in blue ink that reads "Nick Stokes-Hughes". The signature is written over a horizontal dotted line.

Nick Stokes-Hughes

Project Director - Veolia Australia and New Zealand

M: +61 (0) 428 672 115 | E: nicholas.stokeshughes@veolia.com



Ivanova, Elena <elena.ivanova@veolia.com>

RE: Springvale Water Treatment Project (7592) - Biodiversity Management Plan

1 message

Liz Mazzer <Liz.Mazzer@environment.nsw.gov.au>
To: "Ivanova, Elena" <elena.ivanova@veolia.com>

18 October 2017 at 11:24

Hi Elena

Thank-you for sending the additional information and revised plan.

There is no need for further clarification.

Regards

Liz

From: Ivanova, Elena [mailto:elena.ivanova@veolia.com]
Sent: Monday, 16 October 2017 4:58 PM
To: Liz Mazzer <Liz.Mazzer@environment.nsw.gov.au>
Subject: Springvale Water Treatment Project (7592) - Biodiversity Management Plan

Hi Liz,

Please find the attached Veolia's letter response to OEH comments dated 14.09.2017 and a revised Biodiversity Management Plan for the Project.

Thanks.

Best Regards,

Elena Ivanova
Project Manager
HEAD OFFICE

cell: +61 415 556 620

Level 4, 65 Pirrama Road / Pyrmont NSW 2009 Australia

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Additional information requested by Planner

Requested Information

Appendix A is missing. Please attach Appendix A.

Revision 14 Appendix C consultation identifies Section 4 as 'addressing OEH' comment, to 'Include measurable performance indicators, targets, trigger points and corrective actions in the BMP', however Section 4 presents a summary of RPS' 2016 Biodiversity Assessment Report on the then Existing Environment and Environmental Impacts and Risks, but no performance indicators, targets, trigger points or corrective actions (management measures).

No Trigger Action Response Plan is provided in the BMP. Please clearly identify measurable performance indicators, targets, trigger points and corrective actions per OEH' comments. Additional information on how to address OEH' comments is contained in Attachment B of OEH' letter dated 14 September 2017.

Note, OEH is now known as the Environment and Heritage Group of the Department of Planning and Environment.

Consultation attached to the Plan is now almost 5 years old. Please include any further engagement or consultation comments from the Environment and Heritage Group and ensure that triggers, actions and adaptive management are consistent with contemporary conditions of consent.

Details of Request

Attachments



RFI Request for Post Approval_25112022_0...
RFI 51305465 | RFI On Post Approval | Jessie Evans

Upload Response

Regards

Norman Green

Manager Water Engineering



p: +61 (0) 2 4935 8902 | m: +61 (0) 4 7736 7047

Centennial | Fassifern

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Springvale Water - Biodiversity Management Plan

More Information Required

Post Approval (SSD-7592-PA-30) > Request for Information (RFI-51305465)

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Additional information requested by Planner

Requested Information

A Biodiversity Management Plan (BMP) sets out a commitment and a methodology to manage, enhance and protect biodiversity values (OEH, September 2017).

The Department notes that Condition B, Schedule 3 of Development Consent SSD 7592 requires for the Biodiversity Management Plan to be prepared in consultation with the Biodiversity and Conservation Division (BCD).

Section 1.3 of the Biodiversity Management Plan states the following: *Consultation was undertaken with Office Environment and Heritage (OEH) in the preparation of this plan and their feedback has been included.*

You are requested to provide evidence of consultation undertaken with the BCD and demonstrate how the BCD's feedback has been incorporated into the Biodiversity Management Plans.

OEH (now BCD's) 2017 feedback requested *'measurable performance indicators, targets, trigger points and corrective actions in the BMP.'*

The TARP in new Table 7 does not include *measurable* performance indicators targets or trigger points. It includes non-quantifiable performance triggers and actions, for example 'Aspect: Native Wildlife. Trigger: Increase in wildlife through visual inspection'.

Please clearly identify *measurable* indicators, targets, trigger points and corrective actions per OEH' comments. Additional information on how to address OEH' comments is contained in Attachment 8 of OEH' letter dated 14 September 2017.

DEH (2017) commented *'commitments contained within a BMP should be clear and auditable. The BMP should cover impacts that may arise from activities conducted throughout the life of the project. It should cover any biodiversity conditions related to the development's impacts as well as the management of any biodiversity offset areas. These can potentially be in a single or multiple documents. All monitoring objectives and targets should adhere to the SMART principles, that is, be specific, measurable, achievable, realistic and timely.'*

Details of Request

Attachments



RFI Request for Post Approval_25112022_0...
RFI-51305465 | RFI On Post Approval | Jessie Evans

Summary



15-Dec-2023

Stage
Deadline Date



11

Days
Remaining



10

Urgency

Details

Resources

Current Stage

Initiate RFI

Response to RFI

Review Response

Close

Related Projects

Upload RFI Response

Actions ✕

Warning! The Department has requested you amend your response to this request. Please amend your response to address the matters below and re-upload it in its entirety.

Additional information requested by Planner

Requested information

Please provide clear triggers and actions consistent with OEH' advice, in a Trigger Action Response Plan (TARP) as part of the BMP.

OEH' (now BCD's) 2017 feedback requested "measurable performance indicators, targets, trigger points and corrective actions in the BMP".

The TARP referenced as contained in Section 5 does not include measurable performance indicators targets or trigger points. Table 5 in section 5 includes non-quantifiable performance objectives, for example "no substantial weed issue". Please clearly identify measurable performance indicators, targets, trigger points and corrective actions per OEH' comments. Additional information on how to address OEH' comments is contained in Attachment B of OEH' letter dated 14 September 2017.

Details of Request

Attachments

 RFI Request for Post Approval_25112022_0...
RFI-51305465 | RFI On Post Approval | Jessie Evans

Upload Response

 Attach Documents

Upload your response to the request. If you are submitting a revised document then you are required to upload a tracked changes version in addition to an unmarked version.

Attachments

[Add attachment](#) +

Summary

 29-Nov-2023 Stage Deadline Date	 15 Days Remaining	 10 Urgency
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Details Resources

Current Stage

- Initiate RFI
- Response to RFI
- Review Response
- Close

Related Projects

Appendix B3 – Aboriginal Cultural Heritage Management Plan

- Aboriginal Cultural Heritage Management Plan (ACHMP) [MAN-3655]

Springvale MPPS Water Treatment Plant Aboriginal Cultural Heritage Management Plan



REVISION SUMMARY

Rev	Date	Revision Comments	Prepared by	Reviewed by	Approved by
0	25/08/2017	Draft for internal review	M Wisely Jacobs	J Hill Jacobs	
1	29/09/2017	Final Draft	M Wisely Jacobs	J Hill Jacobs	H Thomas Veolia
2	03/10/2017	Update following OEH review	M Wisely Jacobs	A Costello Jacobs	H Thomas Veolia
3	12/10/2017	Update following Aboriginal Stakeholders review	M Wisely Jacobs	A Costello Jacobs	H Thomas Veolia
4	23/10/2017	Updated following the Department of Planning and Environment review	M Wisely Jacobs	A Costello Jacobs	H Thomas Veolia
5	27/10/2017	Final	M Wisely Jacobs	A Costello Jacobs	H Thomas Veolia
6	26/03/2018	Updated following annual management review	Elena Ivanova Veolia	Tom Roche Veolia	Tom Roche Veolia
7	16/07/2018	Updated following the Department of Planning and Environment review	Elena Ivanova Veolia	Aaron Smith Veolia	Simon Campbell Veolia
8	06/01/2020	Updated for operational phase including following internal review: 1. Commissioning methodology of the WTF 2. SDD7592 MOD2 3. SSD7592 MOD3 4. SSD7592 MOD4	Heather Tilley Arcadis	Elena Ivanova Arcadis	Michael Nicholson Veolia
9	23/03/2021	Update prior to Facility Operations Manual Submission Updated new Modification to SSD 7592 (MOD 5 and MOD 6)	Jarrold Hodge Veolia	Michael Nicholson Veolia	Michael Nicholson Veolia
10	03/05/2021	Review Following Environmental Incident (Rivo ID: 14639548)	Jarrold Hodge Veolia	Michael Nicholson Veolia	Michael Nicholson Veolia
11	11/03/2022	Update prior to Facility Operations Manual Submission Updated new Modification to SSD 7592 (MOD 7)	Daniel Castellanos Veolia	Jarrold Hodge Veolia	Michael Nicholson Veolia
12	16/11/2022	Updated new Modification to SSD 7592 (MOD 8)	Caitlin Cooper Veolia	Michael Nicholson Veolia	Michael Nicholson Veolia
13	15/03/2023	Updated following annual management review Section 7.6 added	Graham Brown Veolia	Caitlin Cooper Veolia	Michael Nicholson Veolia
14	02/11/2023	Update following DPE letter. Section 5.1 and 6.3 updated. Definitions and contract details updated	Graham Brown Veolia	Caitlin Cooper Veolia	Caitlin Cooper Veolia

NSW/SV Aboriginal Cultural Heritage Management Plan

Issue Date 09/03/2026

15	27/02/2025	Scheduled Review and review following Environmental Incident (Rivo ID: 23455557) No changes made	Alessandro Ando Veolia	Caitlin Cooper Veolia	Caitlin Cooper Veolia
16	10/04/2025	Review following Environmental Incident (Rivo ID: 23753095) and MOD 11 approval No changes made	Alessandro Ando Veolia	Caitlin Cooper Veolia	Caitlin Cooper Veolia
17	21/10/2025	Review following Environmental Incidents (Rivo ID: 25314778 and Rivo ID: 25453504) - No changes made	Chantelle Handley Veolia	Alessandro Ando Veolia	Caitlin Cooper Veolia
18	09/03/2026	Annual Operations Update Review following Environmental Incident (Rivo ID: 26685080) No changes made	Chantelle Handley Veolia	Alessandro Ando Veolia	Caitlin Cooper Veolia

DEFINITIONS AND ACRONYMS

Term	Definition
ACHAR	Aboriginal Cultural Heritage Assessment Report
ACHCR	Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010
CCACHMP	Centennial Coal Aboriginal Cultural Heritage Management Plan
CHMP	Aboriginal Cultural Heritage Management Plan
CHIA	Cultural Heritage Impact Assessment
Customer	Springvale SK Kores Pty Limited (ABN 71 051 015 402); Centennial Springvale Pty Limited (ABN 64 052 096 812); and EnergyAustralia NSW Pty Limited (ABN 75 163 935 635).
D&C Contract	Water Treatment Facility Design and Construct Contract
DCoC	Development Conditions of Consent
DPE	Department of Planning and Environment
DPIE	Department of Planning, Industry and Environment (now DPE)
EA	Energy Australia NSW
EESG	Environment, Energy and Science Group (was OEH)
EIS	Environmental Impact Statement
JSEA	Job Safety & Environment Analysis
LDP	Licensed discharge point
MPPS	Mount Piper Power Station
NSW	New South Wales
NPW Act	National Parks and Wildlife Act 1974
OEH	Office of Environment and Heritage (now Environment, Energy and Science Group)
OEMP	Operations Environmental Management Plan
OMP	Operational Management Plan
PAA	Project Application Area
PAD	Potential Archaeological Deposits
SMPPS WTP	Springvale Water Treatment Project
SEAR	Secretary Environmental Assessment Requirements
SCSS	Springvale Coal Services Site
SSDA	State Significant Development Assessment
SEE	Statement of Environmental Effects
Veolia	Veolia Australia and New Zealand
WTF	Water Treatment Facility

WTS	Water Treatment System
-----	------------------------

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1. INTRODUCTION

1.1. Background

The Springvale and Angus Place Mines are located in the western coalfields of New South Wales near Lithgow. The Springvale Mine is the primary source of coal for Mount Piper Power Station (MPPS), which is the newest and most efficient coal-fired power station in New South Wales.

The Springvale Coal Mine is owned by Springvale Coal Pty Limited (Springvale Coal), a joint venture comprising Springvale SK Kores Pty Limited and Centennial Springvale Pty Limited.

MPPS is owned and operated by Energy Australia NSW Pty Limited (EA), and is a key part of the New South Wales' electricity system, supplying approximately 15% of the State's energy requirements.

In addition to coal, MPPS requires water of low salinity for its cooling water system. This need is currently supplied from a number of alternate water sources including storage dams owned and operated by EA, which are fed by a combination of local rainfall and discharge water from the Springvale and Angus Place Mines. Freshwater is also sourced from the Fish River scheme and the Thompsons Creek Reservoir (TCR). The Springvale Water Treatment Project was initiated to improve the environmental outcomes and water quality in the Upper Cocks River catchment and to achieve compliance with the water management performance measures required under the Springvale Mine Extension Project (MEP) development consent.

The project received approval on 19 June 2017 for the construction and operation under State Significant Development (SSD 7592) in accordance with section 89(C) of the Environmental Planning and Assessment Act 1979 (EP&A Act).

Implementation of the Springvale Water Treatment Facility (WTF) will eliminate direct mine water discharges from the Springvale Delta Water Transfer Scheme (WTS) into the Cocks River catchment. The WTF involves the transfer of water from existing dewatering facilities on the Newnes Plateau to a new water treatment plant located at the MPPS.

Treated water will be used as a priority within the MPPS cooling water system and excess treated water transferred to TCR for storage and subsequent reuse in the power station operations.

1.2. Project Overview

The Project has been delivered using Build Own Operate Transfer delivery method and involves the:

- financing, design, construction, testing and commissioning of a water transfer system to transfer Mine Water from the Springvale and Angus Place Mines to MPPS (Water Transfer System);
- financing, design, construction, testing and commissioning of a water treatment facility including brine treatment systems adjacent to MPPS to enable the beneficial reuse of Treated Water by MPPS for cooling purposes, and release of surplus Treated Water to the Thompsons Creek Reservoir and transfer of residuals to the residuals emplacement area and mixed salt and lime salt to the ash emplacement area; and

- operation and maintenance of the Water Transfer System (WTS) and the Water Treatment Facility (WTF) (together the Facility) for a Term of 15 years.

The high-level commercial structure of the project is outlined below.

1.3. Customer and Project Co

A project specific company was established to finance, design, construct, and commission and operate the project. MP Water Pty Limited, which in its capacity as trustee for the MP Water Trust (Project Co) has entered into the Water Treatment Services Contract (WTSC) with

- Springvale SK Kores Pty Limited (ABN 71 051 015 402) (SK Kores);
- Centennial Springvale Pty Limited (ABN 64 052 096 812) (Centennial Springvale); and
- EnergyAustralia NSW Pty Limited (ABN 75 163 935 35) (EA). together the Customer.

The obligations and liabilities of each of the Springvale Joint Venture Participants (SK Kores and Centennial Springvale) and EA will be several in accordance with the participating interests set out in the Water Treatment Services Contract (WTSC).

The overall Project consortium structure is provided in Figure 1.

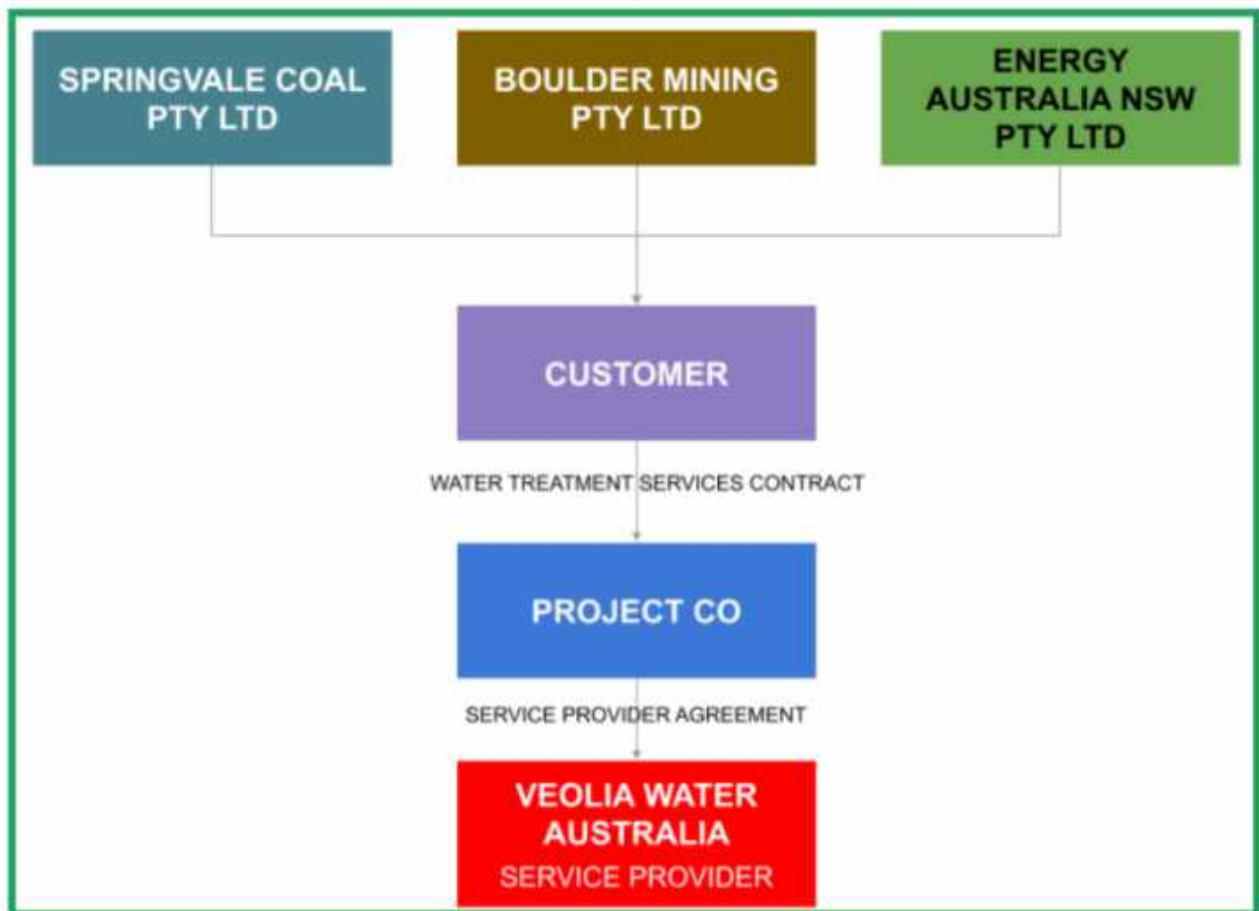


Figure 1 – Consortium structure

1.4. Design and Construct Contract

Veolia Water Australia Pty Ltd (Veolia) was engaged by Project Co to design, construct and commission the Facility under the terms of the Water Treatment Facility Design and Construct Contract (D&C Contract) dated 13 November 2017.

Veolia in its capacity as Construction Contractor had responsibility for delivery of the Works as defined under the D&C Contract. Veolia engaged key partners to deliver the Project including:

- Veolia Water Solutions & Technologies who will provide engineering design and core process equipment including evaporation and crystallisation technology;
- Abergeldie Complex Infrastructure will undertake all construction related activities;
- Jacobs will undertake all balance of plant engineering design.

1.5. Services Provider Agreement

Veolia will operate and maintain the Facility for a 15-year Term, under the terms of the WTSC.

The overall Project consortium structure of the Facility commissioning and operational interactions is summarised in Figure 2.

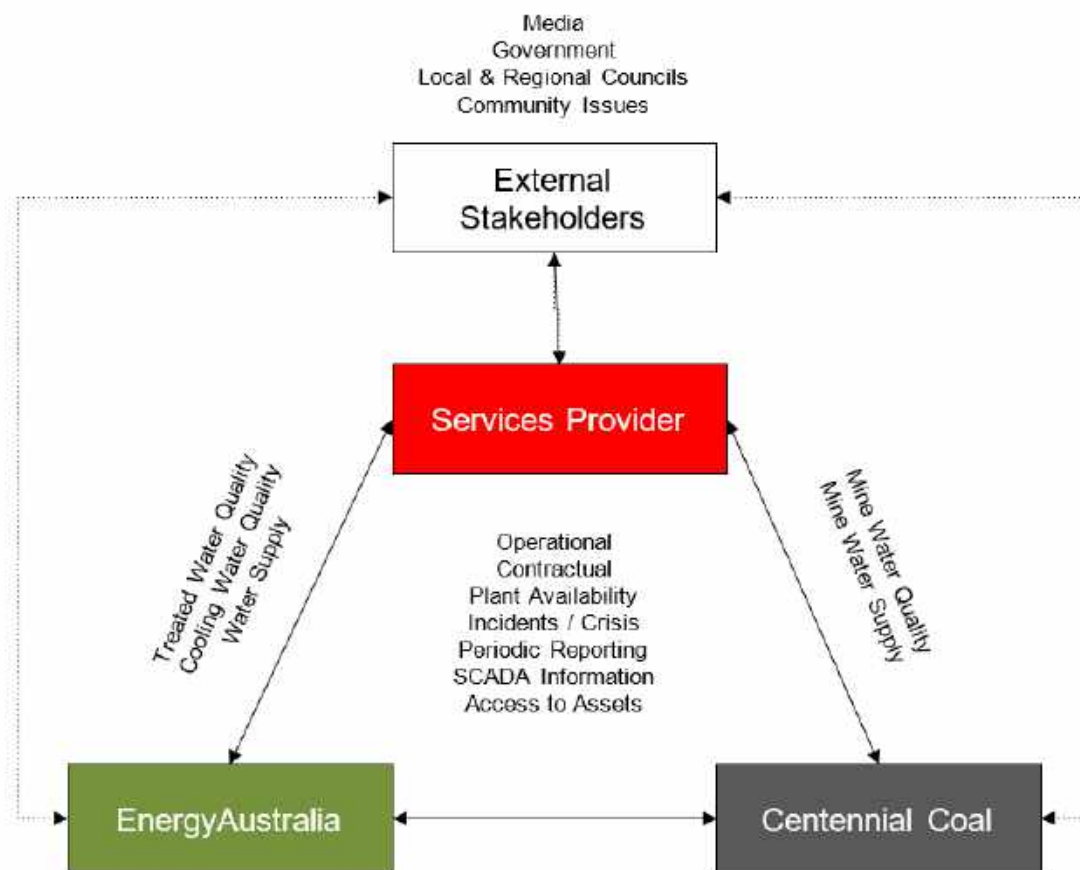


Figure 2 – Commissioning Interactions Structure

1.6. Relationship to other Management Plans

The Operational Management Plan (OMP) [MAN-3649] outlines the management approach to be used by Veolia in its capacity as Operation Contractor to deliver the scope of works as described under the WTSC.

The Aboriginal Cultural Heritage Management Plan (ACHMP) is part of the environmental management framework for the Facility, as described in the Operation Environmental Management Plan (OEMP) [MAN-3652]. The OEMP is a sub-plan within the overall OMP framework.

1.7. Scope of the ACHMP

The purpose of the ACHMP is to describe how heritage areas are protected and managed during construction and operation of the Facility. The ACHMP outlines the requirements for the avoidance, management and mitigation of impacts to Aboriginal cultural heritage and includes management recommendations for any Aboriginal heritage that may be potentially impacted by the Facility.

The details of the management recommendations are taken from the Cultural Heritage Impact Assessment (CHIA) (RPS, 2016) that investigated the potential impacts to Aboriginal and historical heritage items resulting from the Project. The CHIA proposed the implementation of mitigation and heritage management measures including the implementation of 'no-go zones' around seven archaeological items located outside of the Project area. The CHIA was included as part of the Springvale Water Treatment Project Environmental Impact Statement (EIS) completed in 2016 and was developed in consultation with registered Aboriginal stakeholders for the Project.

The CHMP has been prepared to address the requirements of the Secretary's Environmental Assessment Requirements (SEARs) issued by the Department of Planning, Industry and Environment (DPE) on 06 May 2016. It also addresses the mitigation and management measures listed in the State Significant Development Assessment (SSD 7592) Springvale Water Treatment Project EIS and the Development Conditions of Consent (DCoC) issued by DPE on 19 June 2017.

The CHMP sits alongside Centennial's Western Holdings: Aboriginal Cultural Heritage Management Plan (2014) (CCACHMP) in providing a framework for protecting Aboriginal heritage sites on land operated by Centennial Coal. While the CCACHMP provides management measures and guidelines for the full range of heritage sites managed by Centennial Coal, this CHMP is focused on the seven extant Aboriginal sites located within 30 metres of the Project area and details how they are to be protected and managed during construction and operation of the Project.

1.8. Targets of the CHMP

The following targets have been established for the management of Aboriginal cultural heritage impacts during the Project:

- Ensure full compliance with the relevant legislative requirements, SEAR's and DCoC.
- Avoid impacts on known Aboriginal heritage sites.

- Follow correct procedure and ensure notification of any Aboriginal heritage objects/places uncovered during construction and operation.
- Ensure Aboriginal Cultural Heritage Awareness Training is provided to all personnel in the form of inductions before they begin work on-site.

1.9. Consultation for the CHMP

As required by Consent Condition 10, Aboriginal stakeholders were consulted during the preparation of this plan. Details of consultation activities are detailed in Section 4.

2. FACILITY DESCRIPTION

2.1. Facility Overview

The Project aims to improve water quality in the upper Cox's River catchment through the transfer of water from existing underground mine dewatering facilities for reuse at the Mount Piper Power Station (SMPPS) cooling towers as a first priority, rather than discharge into the upper catchment of the Cox's River.

This is achieved by constructing and operating a pipeline and ancillary facilities to transfer water from the existing dewatering facilities on the Newnes Plateau for treatment and reuse at MPPS.

In detail, the Project involves construction and operation of the following elements:

Water Transfer System (WTS) – WTS is a 18 kilometre water transfer pipeline, to transfer up to 42 megalitres a day of mine water from existing underground mine dewatering facilities (operated by Springvale Coal Pty Ltd) to MPPS (operated by EnergyAustralia Pty Ltd) and a 5km residuals pipeline from the WTF site to the Springvale Coal Services Area.

Water Treatment Facility (WTF) – WTF is a desalination plant designed to treat the mine water for use in the MPPS cooling towers and to discharge excess treated water to Thompson's Creek Reservoir if required; discharge of treated water will only occur when MPPS is not operating at full capacity.

2.2. Facility Area

The Facility operational area comprises a number of infrastructure elements primarily including a 10 m wide linear pipeline corridor extending between the existing mine water pump station (WBS002) on the Newnes Plateau and the WTF location within the MPPS site.

The Facility operational area is partially situated within the Newnes State Forest, extending from the east on Newnes Plateau to west into lower lying vegetated and disturbed lands.

The western half of the Facility operational area is situated on largely disturbed lands due to existing farming lands, roads, easements and mining lands. Castlereagh Highway is situated to the north of the western portion of the Project application area.

The WTF site located at MPPS has been extensively cleared and modified for construction of the power station and associated infrastructure.

3. STATUTORY REQUIREMENTS

This chapter describes the legislative, regulatory and guidance framework that applies to Aboriginal heritage for the Project.

3.1. Relevant Legislation and Guidelines

Aboriginal heritage protection is governed and provisioned by associated legislation, regulation and guidelines as well as the committed mitigation measures and relevant conditions of approval.

Details about the legislation, planning instruments and guidelines considered during development of this plan are listed below, with specific details provided in the Legislation Register within Appendix A1 of the OEMP [MAN-3652].

- Environmental Planning and Assessment Act 1979 (EP&A Act);
- National Parks and Wildlife Act 1974 (NPW Act);
- National Parks and Wildlife Regulation 2019 (Commenced 1 September 2019);
- National Parks and Wildlife Amendment Regulation 2010;
- National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010;
- Heritage Act 1977
- Heritage Regulation 2012.

National Parks and Wildlife Act 1974 (NPW Act);

The NPW Act provides for the protection of Aboriginal objects and Aboriginal places. Under the Act (Section (s) 5), an Aboriginal object is defined as:

'any deposit, object or material evidence (not being a handicraft for sale) relating to indigenous and non-European habitation of the area that comprises New South Wales, being habitation both prior to and concurrent with the occupation of that area by persons of European extraction, and includes Aboriginal remains'.

An Aboriginal place is defined under this Act as an area that has been declared by the Minister administering the NPW Act as a place of special significance for Aboriginal culture. It may or may not contain physical Aboriginal objects.

Under Section 90 of the NPW Act, it is an offence to knowingly destroy, deface, damage or desecrate, or cause or permit the destruction, defacement, damage or desecration of an Aboriginal object or Aboriginal place, without the prior written consent from the Director-General of the NSW Office of Environment and Heritage (OEH¹). Penalties apply to the offence of knowingly impacting on an Aboriginal object or Aboriginal place. The largest penalties apply when a person harms an object that they know to be an Aboriginal object (called a 'knowing offence'). However, a 'strict liability' offence still applies whether or not a person knows it is an Aboriginal object or place.

¹ Office of Environment and Heritage, now Environmental Energy and Science Group within the DPIE

In order to obtain written consent, known as an Aboriginal Heritage Impact Permit (AHIP), an AHIP application must be submitted and approved by the Chief Executive of the Department. In considering whether to issue a Section 90 AHIP, OEH will take into account:

- The significance of the Aboriginal object(s) or place(s) subject to the proposed impacts.
- The effect of the proposed impacts and the mitigation measures proposed.
- The alternatives to the proposed impacts.
- The conservation outcomes that will be achieved if impact is permitted.
- The outcomes of the Aboriginal community consultation regarding the proposed impact and conservation outcomes.

Under Section 89A of the NPW Act, it is a requirement to notify the Chief Executive of the location of an Aboriginal object. Identified Aboriginal items and sites are registered with NSW on the Aboriginal Heritage Information Management System (AHIMS).

Procedures that accompany the National Parks and Wildlife Amendment Act 2010 include:

- Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales 2010 (Department of Environment, Climate Change and Water (DECCW 2010d),
- Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (ACHCRP) (DECCW 2010b), and
- Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW 2010 (DECCW 2010c).

The Facility does not directly or indirectly impact upon heritage sites so an AHIP or any other approvals are not required.

3.1.1. Guidelines

Guidelines and standards relevant to Aboriginal heritage and this management plan include the following publications:

- Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW 2010) (for reference only);
- NSW Government's Aboriginal Participation in Construction Guidelines (2007);
- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011);
- Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW, 2010 (OEH, 2010);
- Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW, 2010);
- The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance (ICOMOS, 1999).

3.1.2. Secretary's Environmental Assessment Requirements (SEAR)

The relevant SEAR's for the Project are listed in **Table 1**.

Table 1 – Relevant SEARs

Stage	Condition Requirement
SEAR # 5	Heritage – including an assessment of the likely Aboriginal and heritage (cultural and archaeological) impacts of the development, having regard to requirements from the OEH;
OEH Requirements	<p>Aboriginal Cultural Heritage</p> <p>2. The EIS must identify and describe the tangible and intangible Aboriginal cultural heritage values that exist across the whole area that will be affected by the Springvale Water Treatment Pipeline and document these in the EIS. This may include the need for surface survey and test excavation. The identification of cultural heritage values should be guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011) and consultation with OEH regional officers.</p>
OEH Requirements	<p>3. Where Aboriginal cultural heritage values are identified, consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the EIS.</p> <p>4. Impacts on Aboriginal cultural heritage values are to be assessed and documented in the EIS. The EIS must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the EIS must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment will be documented and notified to OEH.</p>

3.2. Development Consent

The Department of Planning, Environment and Industry – DPE assessed the State Significant Development (SSD 7592) in accordance with section 89(C) of the Environmental Planning and Assessment Act 1979 (EP&A Act).

The DPE delegated SSD 7592 to the Planning Assessment Commission (PAC) for determination under the Minister’s delegation of 14 September 2011. The project was determined by PAC on 19 June 2017.

Following approval, various Modification Applications were submitted and approved. These modifications can be found on the DPE website -

<https://www.planningportal.nsw.gov.au/major-projects/projects/springvale-water-treatment-facility>

Conditions 9 and 10 of Schedule 3: Environmental Conditions of the Development Consent (CoDC) (SSD 7592) relate to Aboriginal heritage, and in particular, Condition 10 requires the preparation and implementation of an Aboriginal Cultural Heritage Management Plan (ACHMP) to the satisfaction of the Secretary.

This ACHMP specifically addresses the requirements of the Development Consent as detailed in **Table 2**.

Table 2 – Development Consent Requirements

Relevant Conditions	Definition	ACHMP Document Reference
Protection of Aboriginal Heritage Sites		
9	The Applicant must ensure that the development does not cause any direct or indirect impacts on any Aboriginal heritage items in Appendix 4.	Section 6
Aboriginal Cultural Heritage Management		
10	Prior to carrying out any development under this consent, the Applicant must prepare an Aboriginal Cultural Heritage Management Plan for the development to the satisfaction of the Secretary. This plan must:	This Plan
10 (a)	be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;	The then DP&E endorsed A Costello (Jacobs) on 21/08/2017
10 (b)	be prepared in consultation with OEH and the Aboriginal stakeholders;	Section 4
10 (c)	include the following for the management of Aboriginal heritage: <ul style="list-style-type: none"> ensure any workers on site receive suitable heritage inductions prior to carrying out any project on site, and that suitable records are kept of these inductions; 	Section 6.1.1
	<ul style="list-style-type: none"> a program and description of the measures/ procedures that would be implemented for managing the discovery of any new Aboriginal objects or skeletal remains during the development; and 	Section 6.3 Appendix A
	<ul style="list-style-type: none"> a strategy for the storage of heritage items salvaged on site, both during the development and in the long term. 	Section 6.4
10	The Applicant must implement the approved Aboriginal Cultural Heritage Management Plan for the development.	Section 6
Management Plan Requirements		
2	The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:	
2 (a)	detailed baseline data	Section 5
2 (b)	a description of: <ul style="list-style-type: none"> the relevant statutory requirements (including any relevant approval, licence or lease conditions); 	Section 3
	<ul style="list-style-type: none"> any relevant limits or performance measures/criteria; 	Section 1.6 Section 7.1

	the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures.	Section 1.6 Section 7.1
2 (c)	a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria	Section 6 Table 4
2 (d)	a program to monitor and report on the: <ul style="list-style-type: none"> impacts and environmental performance of the development; 	Section 5.1 Section 7.1
	<ul style="list-style-type: none"> effectiveness of any management measures (see c above). 	Section 7.1
2 (e)	a contingency plan to manage any unpredicted impacts and their consequences.	Section 6.3 Section 6.4
2 (f)	a program to investigate and implement ways to improve the environmental performance of the development over time.	Section 7
2 (g)	a protocol for managing and reporting any: <ul style="list-style-type: none"> incidents; 	Section 6.3
	<ul style="list-style-type: none"> complaints; 	Section 7.4
	<ul style="list-style-type: none"> non-compliances with statutory requirements; and 	Section 7.3
	<ul style="list-style-type: none"> exceedances of the criteria and/or performance criteria; and 	Section 7.3
2 (h)	<ul style="list-style-type: none"> a protocol of the periodic review. 	Section 7.5

3.3. Mitigation Measures in the EIS

Mitigation measures proposed in the EIS are presented in **Table 3**.

Table 3 – Mitigation Measures Proposed in the EIS

Measure	ACHMP Document Reference
If suspected Aboriginal or skeletal material is identified during works, then the procedures outlined in Centennial Coal's Western Holdings Aboriginal Cultural Heritage Management Plan 2014 would be followed.	Appendix A
Protective flagging tape would be placed around all Aboriginal sites identified within 30 metres of the project application area prior to works and marked as a "NO-GO ZONE" to prevent access during construction.	Section 6.1.2

4. CONSULTATION

4.1. Consultation Undertaken for the EIS

All consultation for the Project was undertaken in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (ACHCRP) (DECCW 2010a), and Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011).

Table 4 summarises the main stages of consultation

Table 4 – Summary of Main Stages of ACHAR for the Project

Stage	Component	Date
1	Newspaper Job Advert	06/10/2011
	Expression of Interest Letters	20/10/2011
2 & 3	Response to Survey Methodology	13/01/2016
	Invite to Site/Survey	28-29/01/2016

4.2. Registered Aboriginal Parties (RAPs)

Consultation and collaboration with Registered Aboriginal Parties (RAPs) was integral to the assessment and management of Aboriginal cultural heritage for the Project. The followings RAPs were identified.

- Warrabinga Native Title Claimants Aboriginal Corporation
- North-East Wiradjuri
- Bathurst Local Aboriginal Land Council
- Mingaan Aboriginal Corporation
- Mooka Traditional Owners
- Wiray-dyuraa Ngumnbaay-dyil
- Wiray-dyuraa Maying-gu
- Wiradjuri Council of Elders
- Gundungurra Tribal Council Aboriginal Corporation Native Title Claimants
- Warrabinga/Wiradjuri People Native Title Claimants

4.2.1. Survey methodology

The Survey Methodology and Information Gathering Letter Reports were provided to each of the RAPs that had registered an interest at Stage 1 of the OEH ACHCR process for the Project. Both hardcopy and electronic copies were provided to each of the Aboriginal stakeholder groups to obtain feedback.

The following groups responded to the request feedback to the survey methodology contained within the report.

- Mingaan Aboriginal Corporation
- Warrabinga Native Title Claimants Aboriginal Corporation
- Wiray-dyuraa Ngambaay-dyil
- Wiray-dyuraa Maying-gu
- Gundungurra Tribal Council Aboriginal Corporation
- North East Wiradjuri Aboriginal Corporation
- Wiray-dyuraa Maying-gu
- Bathurst Local Aboriginal Land Council

4.2.2. Field Survey Participants

Representatives from the following RAP Groups participated in the visual inspection of the Study Area.

- North East Wiradjuri Aboriginal Corporation
- Gundungurra Tribal Council Aboriginal Corporation Native Title Claimants
- Mingaan Aboriginal Corporation
- Warrabinga/Wiradjuri People Native Title Claimants

Copies of the reports were provided to each of the RAPs that had registered an interest at Stage 1 of the OEH ACHCR process for each section of the Project. Both hardcopy and electronic copies were provided to each of the Aboriginal stakeholder groups that responded to the survey methodology to obtain feedback on the report.

A total of 28 days was provided to the representatives for responses and comments to each of the reports. Reminders were issued to the Aboriginal Stakeholder groups one day prior to the closing date for receiving comments and feedback.

5. ABORIGINAL CULTURAL HERITAGE

The following sections summarise what is known about Aboriginal heritage within and adjacent to the Project impact area, which is the area directly impacted by construction and operational works.

5.1. Risks to Heritage Sites

The design and construction of the Facility was developed to avoid any direct impacts or disturbance of Aboriginal heritage sites. However, there were other potential risks to Aboriginal heritage including:

- Inadvertent direct impacts from construction and operational activities:

To avoid inadvertent direct impacts on Aboriginal heritage sites, the most effective and common measures is to clearly identify the extent of the sites and provide a visual or physical barrier and signage identifying them as off limits or NO-GO ZONES. This is also a mitigation measure from the EIS.

Section 6.1 details the activities which were undertaken to protect the existing known Aboriginal heritage sites.

- Indirect construction and operational impacts:

This includes erosion and weeds from the Facility site affecting an adjacent Aboriginal heritage site.

As outlined in **Table 5** in **Section 5.2**, there are 6 sites that could be impacted indirectly by operational and maintenance activities. Table 6 outlines the mitigation measures in place. Further mitigation measures with regards to erosion and weeds are outlined in the Biodiversity Management Plan MAN 3654.

- Unexpected finds – See Section 6.3 and Appendix A.

No direct impacts or disturbances of Aboriginal heritage sites is expected during the WTS operational phase. Disturbance of the ground will occur if a WTS burst is detected following replacement of the WTS section.

5.2. Archaeological Sites

The Cultural Heritage Impact assessment (CHIA) (RPS, 2016) found no archaeological sites within the Facility impact area, however there were seven Aboriginal sites located within 30 m of the Facility impact area.

These sites included:

- Three artefact scatters: AHIMS #45-1-0210, AHIMS #45-1-0218, AHIMS #45-1-0237.
- Three isolated finds: AHIMS #45-1-2721, AHIMS #45-1-2723, AHIMS #45-1-2724.
- One scarred tree: AHIMS #45-1-2758.

Following an additional AHIMS search on 15 August 2017, two additional archaeological sites were found to be located within 30 m of the Facility impact area. These were:

- Open Camp Site: AHIMS #45-1-0209

- AHIMS #45-1-2795

Also, since the original assessment was completed the Facility design has been modified including:

- Removal of the treated water pipeline to Wangol Creek.
- Alternate brine management process to replace the use of the existing brine concentrators at MPPS.
- Revised pond strategy involving the repurposing of the existing MPPS clean water pond and blowdown ponds.
- Incorporation of a hydraulic break tank on the transfer pipeline to assist with the gravity transfer of water to the new water treatment plant.
- Minor re-alignment of the pipeline near Lidsdale in the vicinity of Skelly Road, the Castlereagh Highway and Coxs River to accommodate the use of directional drilling.
- Inclusion of hydraulic standpipe on the residuals transfer pipeline to aid in the hydraulic control of the system.
- An increase in the anticipated construction and operational workforce in comparison to that predicted in the EIS.

Overall there are six Aboriginal heritage sites adjacent to the Facility which could be potentially impacted by maintenance activities. All sites are listed in **Table 5** and mapped in figures in **Appendix B**.

Table 5 – AHIMS Sites within 30 m of the Facility

AHIMS Site Number	Name	Type	Potential Impact and Mitigation
45-1-0210	S3; Wallerawang	Artefact Scatter	No impact - The WTS site is located on the opposite side of the conveyor to the pipeline corridor and the conveyor provides significant protection. In addition, A 4 m maintenance track established in the WTS will minimise any direct impacts to heritage site and will also provide a larger buffer distance.
45-1-0218	57 Blackmans Flat	Artefact Scatter	No impact is expected. The WTS site is already fenced by Springvale Coal for heritage protection. Pipeline route has been modified within the approved corridor to avoid direct impacts to heritage site and provide an additional buffer distance.
45-1-0237	Springvale Colliery	Artefact Scatter – Partially Salvaged	No impact – Directional drilling of the pipeline which passes 8 m below the heritage site was implemented during construction of the Facility. This Artefact Scatter location will be included in the induction to ensure that Facility personnel avoid any potential damage to the site and also avoid any direct impacts or disturbance from surface activities during any emergency maintenance of the WTS.
45-1-2721	CS SU4 – A4	Isolated Find	No impact – The heritage site is located on a proposed treated water pipeline to Wangol Creek which is no longer part of the

			project.
45-1-2723	CS SU4 – A2	Isolated Find	No impact – The heritage site is located on proposed treated water pipeline to Wangol Creek which is no longer part of project
45-1-2724	CS SU4 – A1	Isolated Find	No impact – The heritage site is located on proposed treated water pipeline to Wangol Creek which is no longer part of project
45-1-2758	RPS SV ST1	Scar Tree	No impact – This site is located outside of the pipeline corridor in a heavily vegetated area. This Scar Tree location will be included in the induction to ensure that Facility personnel avoid any potential damage to the tree, and also avoid any direct impacts or disturbance from surface activities during any emergency maintenance of the WTS.
45-1-2795	BF JN 1 IF - Blackmans Flat IF	Isolated Find	No impact – the heritage site is already fenced by Centennial Coal for heritage protection. Also, the site is located on the opposite side of the conveyor to the pipeline corridor and the conveyor provides a significant barrier for further protection of the site.
45-1-0209	S4;Wallerawang	Artefact Scatter	No impact is expected. The site is located outside the WTS footprint and there are no proposed works in this area. The site is located on the opposite side of the conveyor to the pipeline corridor and the conveyor provides a significant barrier for further protection of the site. The site was originally recorded as comprising two small quartz artefacts located immediately adjacent to the existing conveyor, which were not located during the survey undertaken in May 2017.

6. HERITAGE MANAGEMENT

6.1. Protection of identified Archaeological sites

An assessment was undertaken to ensure that no heritage sensitive items were within the WTF.

For the WTS, which does contain such items, the following activities were undertaken to protect existing known Aboriginal heritage sites located in close vicinity of the WTS site.

6.1.1. Site Induction

All employees, contractors and sub-contractors working on site will undergo WTS site induction training before they are authorised to work on the Facility. The WTS induction pack includes the following:

- Location of identified heritage sites.
- Identification of heritage sites locations.
- Typical Aboriginal heritage items which could be encountered when disturbance of the ground is required.
- Reporting and protection of objects of potential heritage significance found during maintenance works.
- Procedure to follow in the event of an unexpected heritage find during maintenance works.
- Procedure to follow in the event of discovery of human remains during maintenance works.

6.1.2. Demarcation and Protection of Heritage Sites

The Aboriginal heritage sites adjacent to the Facility have been located and surveyed. One site could not be located and appears to have been destroyed or its coordinates in AIMHS are incorrect.

The CHIA (RPS, 2016) that accompanied the EIS (GHD, 2016) proposed the implementation of NO-GO ZONES around heritage sites within 30 m of the Facility impact area. These NO-GO ZONES are mapped in **Appendix B** and include the full extent of the Aboriginal heritage site. The EIS did not specify any buffer distances around the heritage sites for the demarcation of the NO-GO ZONES.

During construction, the heritage sites were monitored to ensure that the NO-GO ZONE marking was still in place and there were no impacts to heritage sites reported during construction. Following construction, a final inspection was undertaken by Veolia to confirm that there was no damage to the sites and the NO-GO ZONE marking was removed where required.

The location of archaeological sites and the Facility site mitigation measures are included in site induction training.

Three of the six Aboriginal heritage sites are located on the opposite side of a major overland coal conveyor which provides a significant physical barrier between the Facility area and the heritage site. As the sites are outside the pipeline corridor and the maintenance activities will be low in scale and risk, no long-term fencing (NO-GO ZONE) is warranted. The sites that have been fenced by Springvale Coal will be retained.

6.2. Consideration of the CCACHMP

The Centennial Coal Aboriginal Cultural Heritage Management Plan (CCACHMP) provides a base framework to manage Aboriginal heritage in a consistent manner across all Centennial Coal operations within Centennial's western operations. Key elements to the CCACHMP include setting minimum requirements for Aboriginal consultation and minimum standards for Aboriginal heritage identification, assessment, monitoring and management. The CCACHMP provides guidance for 157 registered Aboriginal cultural heritage sites within the boundary of Centennial's western operations. Approximately half of the sites are surface artefacts (isolated finds, artefact scatters, open campsites) and/or Potential Archaeological Deposits (PADs). Other sites include rock shelters, grinding grooves and scarred trees.

The CCACHMP is used in instances where a site is not managed or covered by an existing management plan. This CHMP presided over the CCACHMP during construction and was the guiding document in the management of Aboriginal sites located within 30 m of the Project impact area.

The EIS recommended that Centennial Coal's procedure for the discovery of Aboriginal or skeletal material to be adopted. All the requirements of Centennial Coal's procedure have been included in a revised procedure for both skeletal remains and other unexpected finds, which is further discussed in the following section. However, it also should be noted that the Facility is also located on land owned by others so any procedure must also consider other landowners.

6.3. Unexpected Discovery of Archaeological Finds

There is a low likelihood that unrecorded Aboriginal sites exist within the Facility operational area as it is highly disturbed. However, the potential for previously unrecorded Aboriginal sites to be directly and/or indirectly impacted by the Facility was considered during the construction phase.

Contingency measures included procedures for managing the discovery of Aboriginal objects and human remains (refer to Appendix A) and the provision of heritage induction training or cultural heritage awareness training for staff and contractors working will also be implemented during operation.

All Aboriginal sites and relics in NSW are protected by provisions of the NPW Act. Should any Aboriginal sites or relics be disturbed during operation and maintenance of the Facility, work must cease immediately and the following notified:

North West, Biodiversity and Conservation Division - Planning Team:

Phone: 02 6883 5330

Email: rog.north@environment.nsw.gov.au

Postal address: PO Box 2111, Dubbo NSW 2830

6.3.1. Unexpected Discovery of Human Remains

Should human remains be uncovered during works the following procedures must be followed:

- (a) Immediately after remains are exposed, all work is to halt at that location immediately and the Veolia Environmental Nominee on site is to be immediately notified to allow assessment and management.

- (b) Veolia will notify Customer and Project Co about exposed remains.
- (c) Veolia will contact the local NSW Police.
- (d) Customer will contact DPE Environment line on 131 555 and the Heritage Branch (NSW Environment, Energy and Science Group (EESG), DPE) on (02) 9873 8500.
- (e) A physical or forensic anthropologist should inspect the remains in situ (organised by the police, unless otherwise directed by the police), and make a determination of ancestry (Aboriginal or non-Aboriginal) and antiquity (pre-contact, historic or forensic).
- (f) If the remains are identified as forensic, the area is deemed as a crime scene.
- (g) If the remains are identified as Aboriginal, the site is to be secured and NSW EESG and all Aboriginal stakeholders are to be notified in writing.
- (h) If the remains are identified as non-Aboriginal (historical) remains, the site is to be secured and the Heritage Branch (EESG, DPE) is to be contacted.

The above process functions only to appropriately identify the remains and secure the site. From this time, the management of the area and remains is to be determined through one of the following means:

- (a) If the remains are identified as a forensic matter, liaise with the police.
- (b) If the remains are identified as Aboriginal, liaise with Veolia, and Veolia will liaise with Project Co/Customer and EESG and registered Aboriginal stakeholders.
- (c) If the remains are identified as non-Aboriginal (historical) liaise with Veolia, and Veolia will liaise with Project Co/Customer and the Heritage Branch (EESG, DPE).
- (d) If the remains are identified as not being human, then work can recommence once the appropriate clearances have been given by Veolia.

All employees and/or contractors will undertake a cultural heritage induction program which forms part of the Facility induction package. This induction explains the Aboriginal and archaeological sensitivity of the study area landscape and provides a brief description of likely site types within or adjacent to the study area as well as highlighting the importance of restricting all activities associated with the Facility.

6.4. Protection of Salvaged Heritage Items

The protection of heritage items salvaged during the operation of the Facility is guided by Section 85A(1) (c) of the National Parks and Wildlife Act 1974 (NPW Act). This allows for the transfer of Aboriginal objects salvaged on site to an Aboriginal person or Aboriginal organisation for safekeeping. The person or organisation must enter into a care agreement with NSW EESG that sets out the obligations of NSW EESG and the Aboriginal person/ organisation for the long-term safekeeping of the transferred Aboriginal object(s). The Aboriginal person or organisation does not become the owner of the Aboriginal objects.

The care agreement will be developed in consultation with the project RAP's to determine an acceptable strategy and location for salvaged items.

7. REVIEW AND IMPROVEMENT

7.1. Monitoring

Veolia’s monitoring program comprises regular maintenance inspections of the WTS that forms part of the Facility operation. Veolia Environmental Nominee will perform inspections of the heritage sites when disturbance of the ground is required for maintenance works of the WTS.

Monitoring results and any corrective actions identified will be recorded in Veolia’s system. Unresolved issues from previous inspections will be distributed via - and remain in the current site inspection checklist until addressed.

7.2. Reporting

During operation of the Facility, the Veolia Environment Nominee will collect and record all environmental performance data for Veolia’s reporting obligations.

Veolia will provide a report to the Customer relating to compliance with contractual and Customer requirements under the contract obligations. Further details of the performance reporting are discussed in the OEMP [MAN-3652].

Table 6 – Reporting requirements relevant to the ACHMP

Reporting	Frequency	Standards	Responsibility
Annual report	Annually	As per Consent Condition Schedule 4 Condition 5	Environmental Nominee
Incident	As required	As per incident response reporting	Environmental Nominee

7.3. Non-conformance and corrective action

Environmental inspection, observation and monitoring results are interpreted to identify actual and potential non-compliances conformances and events that may result in nuisance, environmental harm and unacceptable loss of amenity or community complaints.

The Project Co and/or Customer, and/or a public authority may also raise a non-conformance or improvement notice. Where non-conformances are identified during regular inspections, corrective actions are raised, tracked and closed out through the inspection records if the actions can be closed out within 72 hours.

All other non-conformances shall be recorded and reported as Environmental incidents in Veolia’s incident reporting management system

7.4. Complaints Handling

Complaints will be managed in accordance with the Stakeholder Management described in the OMP [MAN-3649] and also summarised in the OEMP [MAN-3652] appended to OEMP (refer to Appendix B6 of the OEMP).

Information about complaints will be recorded and include location of complaint, time(s) of occurrence and perceived source. Complaints will be responded in a timely manner and action taken will be recorded.

7.5. Review of the ACHMP

Annual management reviews of the ACHMP and the environmental performance of the Facility will assess the continuing suitability, compliance with legislative requirements, adequacy and effectiveness of the on-site heritage management measures implemented.

The inputs to the management review process include (but not be limited to):

- Internal and external audits findings;
- Incidents management and investigation of non-conformance events, incidents, near misses and management of all complaints received;
- Implementation of all compliance and legislative changes as identified at a corporate level; and
- Training and awareness;
- Monitoring results of the previous year; and
- Analysis of potential cause of any significant discrepancies between the predicted and actual impacts of the Project construction phase.

The output of management review will include any decisions and actions related to:

- Possible changes to the management plans, procedures, practices, objectives and targets associated with the environmental management of the Project construction;
- Improvement of the effectiveness of the EMS and its processes; and
- Resource needs.

System reviews are carried out at least annually by Veolia's suitable qualified person, which will include a desktop review of the Facility and the ACHMP and supporting plans, with the same agenda as the Management Review and presented to Veolia project management review.

Any updates to the plan will be approved internally by Veolia project management and provided to Project Co and Customer for review and comment and, if required, forwarded to the NSW EESG for consultation. The updated ACHMP will be submitted to the Secretary of DPE for approval.

The ACHMP may be reviewed more regularly due to a change in operation activities, or where objectives are not achieved.

7.6. External Stakeholder (Management Plan Updates) Notification Procedure

Please refer to section 6.3.3. of Incident and Emergency Response Management Plan [\[MAN-36511\]](#) for the notification procedure.

8. REFERENCES

Australia ICOMOS (2000) *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance 1999*. Burwood, Victoria: Australia ICOMOS Incorporated.

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OEH (2012c) *Native Title (NSW) Act 1994*. <https://www.legislation.nsw.gov.au/#/view/act/1994/45>

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NSW Heritage Office (1996). *NSW Heritage Manual*: NSW Heritage Office. Sydney.

RPS (2016a). *Cultural Heritage Impact Assessment for the Springvale Water Treatment Project EIS*, Report Prepared for Springvale Coal Pty Limited.

RPS (2016b) *Aboriginal Cultural Heritage Management Plan – Western Region*. Report Prepared for Centennial Coal.

APPENDIX A – UNEXPECTED HERITAGE FINDS PROCEDURE [PRO-10284]

APPENDIX B – ABORIGINAL HERITAGE SITES ADJACENT TO PROJECT AREA

Maps can be found in PRO-10284: Unexpected Heritage Find Procedure.

APPENDIX C – CONSULTATION TABLE

Description of Consultation	How Addressed in Management Plan	Reference
Letter to Planning & Environment (Date unknown) Ref:SMPPS-O-00-M13-0006		
Seeking the Secretaries endorsement of suitably qualified experts to prepare management plans. (letter not dated, ref.P & E letter 21 August 2017)		
Letter from Planning & Environment 21 August 2017		
Advising that the Secretary had endorsed the appointment of Mr Andrew Costell of Jacobs to prepare the Aboriginal Cultural Heritage Management Plan		
Letter to OEH 30 August 2017		
Consultation for the preparation of the Aboriginal Cultural Heritage Management Plan		
Letter to Centennial Coal Company Limited 5 September 2017		
Notifying of consultation with Aboriginal Stakeholders		
Letter to Gundungurra Tribal Council Aboriginal Corporation 7 September 2017		
Consultation for the preparation of the Aboriginal Cultural Heritage Management Plan (feedback invite)		
Letter to Bathurst Local Aboriginal Land Council 7 September 2017		
Consultation for the preparation of the Aboriginal Cultural Heritage Management Plan (feedback invite)		
Letter to Mingaan Aboriginal Corporation 7 September 2017		
Consultation for the preparation of the Aboriginal Cultural Heritage Management Plan (feedback invite)		
Letter to North-East Wiradjuri Corporation 7 September 2017		
Consultation for the preparation of the Aboriginal Cultural Heritage Management Plan (feedback invite)		
Letter to Warrabinga Native Title Claimants Aboriginal Corporation 7 September 2017		
Consultation for the preparation of the Aboriginal Cultural Heritage Management Plan (feedback invite)		
Letter to Wiray-dyuraa Ngambaay-dyil and Wiray-dyuraa Maying-gu 7 September 2017		
Consultation for the preparation of the Aboriginal Cultural Heritage Management Plan (feedback invite)		
Letter to Wiradyuri Council of Elders 7 September 2017		
Consultation for the preparation of the Aboriginal Cultural Heritage Management Plan (feedback invite)		
Letter to Warrabinga/Wiradjuri people Native Title Claimants 7 September 2017		

Description of Consultation	How Addressed in Management Plan	Reference
Consultation for the preparation of the Aboriginal Cultural Heritage Management Plan (feedback invite)		
Letter to Mooka Traditional Owners 7 September 2017		
Consultation for the preparation of the Aboriginal Cultural Heritage Management Plan (feedback invite)		
Letter from OEH 14 September 2017 and reply Letter to OEH 3 October 2017		
<p>1. Include a discussion of the relationship between this ACHMP and Centennial's Western Holdings: Aboriginal Cultural Heritage Management Plan (2014).</p>	<p>New Section 6.1.2 Consideration of Centennial Coal Aboriginal Cultural Heritage Management Plan has been included to the ACHMP. The Centennial Coal Aboriginal Cultural Heritage Management Plan (CCACHMP) provides a base framework to manage Aboriginal heritage in a consistent manner across all Centennial Coal operations within Centennial's western operations. Key elements to the CCACHMP include setting minimum requirements for Aboriginal consultation and minimum standards for Aboriginal heritage identification, assessment, monitoring and management. The CCACHMP provides guidance for 157 registered Aboriginal cultural heritage sites within the boundary of Centennial's western operations. Approximately half of the sites are surface artefacts (isolated finds, artefact scatters, open campsites) and/or Potential Archaeological Deposits (PADs). Other sites include rockshelters, grinding grooves and scarred trees. The CCACHMP is used in instances where a site is not managed or covered by an existing management plan. In the case of the Project, this CHMP would preside over the CCACHMP as the guiding document in the management of the seven extant Aboriginal sites located within 30 metres of the Project area.</p>	<p>Section 6.1.2 of the ACHMP</p>
<p>2. Compare the ACHMP with the Western Holdings Aboriginal Cultural Heritage Management Plan to ensure consistency between the two plans.</p>	<p>Noted. A consistency assessment has been undertaken. The ACHMP sits alongside Centennial's Western Holdings: Aboriginal Cultural Heritage Management Plan (2014) (CCACHMP) in providing a framework for protecting Aboriginal heritage sites on land operated by Centennial Coal. While the CCACHMP provides management measures and</p>	<p>N/A</p>

Description of Consultation	How Addressed in Management Plan	Reference
	<p>guidelines for the full range of heritage sites managed by Centennial Coal, the ACHMP is focused on the seven extant Aboriginal sites located within 30 metres of the Project area and details how they will be protected and managed during construction and operation of the Project.</p>	
<p>3. Section 6.1.1 of the ACHMP be modified to remove reference to the Aboriginal Heritage Act 1972, instead discussing the sections of the National Parks and Wildlife Act 1974 that apply to protection of Aboriginal cultural heritage.</p>	<p>Reference to the Aboriginal Heritage Act 1972 has been removed from the ACHMP. Section 6.1.1 of the ACHMP has been amended to include relevant sections of the National Parks and Wildlife Act 1974.</p>	<p>Section 6.1.1 of the ACHMP</p>
<p>4. The contact details for OEH be changed to: Office of Environment and Heritage PO Box 2111 Dubbo NSW 2830 Phone: 6883 5330 Email: rog.nw@environment.nsw.gov.au</p>	<p>The ACHMP has amended to include updated OEH contact details.</p>	<p>Section 6.2 of the ACHMP</p>
	<p>Please be advised that section 6.1.1 of the ACHMP has been amended to include the following information: In some locations a 20 metre buffer may not be able to be provided due to the existing approved pipeline corridor. In these locations an appropriate 'no go zone' and exclusion measures will be developed in consultation with the heritage adviser. The location of archaeological sites and project site mitigation measures, including 'no go zones', are to be included in site induction training. Based on the mapping sites 45-1-0209, 45-1-0210 and 45-1-0218 may require an adjustment of 'no go zones' distance to allow pipeline construction.</p>	<p>Section 6.1.1 of the ACHMP</p>

Description of Consultation	How Addressed in Management Plan	Reference
	The discharge pipeline to Wangol Creek is no longer part of the project so sites 45-1-2721, 45-1-2723 and 45-1-2724 would not be affected by construction.	
Email from OEH 11 October 2017		
Stating that there is no need for further clarification		
Letter to Wellington Valley Wiradjuri Aboriginal Corporation 12 October 2017		
Addressing their concern for the lack of detail in the unexpected finds section of the AHCMP		
Letter from DPIE 03 March 2020		
Approval of ACHMP revision 8 dated 16 December 2019		
Email from DPE 19 September 2023 and Response 17 October 2023		
1.Please provide additional consultation evidence and how they are addressed in the Plan (section 4)	Reference has been made in Section 4 to the consultation list. The Consultation list has been added as Appendix C - Consultation.	Appendix C
2.Has any additional consultation with DPE' Environment and Heritage Group or Aboriginal Stakeholders since the project was determined (i.e for Mod 2 pipeline alignment). Can this be incorporated into the plan.	None that we are aware of	N/A
3.Please indicate how indirect construction or operation impacts are managed through the plan	Indirect construction and operational impacts: This includes erosion and weeds from the Facility site affecting an adjacent Aboriginal heritage site. As outlined in Table 6 in Section 5.2 , there are 6 sites that could be impacted indirectly by operational and maintenance activities. Table 6 outlines the mitigation measures in place. Further mitigation measures with regards to erosion and weeds are outlined in the Biodiveristy Management Plan MAN 3654.	Section 5.1
4.Please update Definitions and Acronyms Table(noting DPE reference)	Definitions and Acronyms Table has been updated.	Definitions and Acronyms

Description of Consultation	How Addressed in Management Plan	Reference
5.Update contact details for unexpected discovery of human remains.	Contact details have been updated	Section 6.3

APPENDIX D – CONSULTATION DOCUMENTS



Ref:SMPPS-O-00-M13-00-06

Paul Freeman
Team Leader – Resource Assessments
Department of Planning and Environment
320 Pitt Street
Sydney NSW 2000

Dear Mr Freeman,

RE: Springvale Water Treatment Project - Management Plans Preparation

I refer to the Development Consent for the Springvale Water Treatment Project, which was granted on 19 June 2017 (SSD 7592) (Consent) to Springvale Coal Pty Ltd for the construction and operation of a water transfer system (WTS) and water treatment facility (WTF), approximately 15 kilometers west of Lithgow.

Veolia Australia and New Zealand (Veolia) has been selected by Springvale Coal and EnergyAustralia Pty Ltd as specialist water services company to finance, design, construct, test and commission, operate and maintain the WTS and WTF. This arrangement is documented under a Water Treatment Services Contract and under this Contract conditions Veolia will develop and seek approvals for management plans in accordance with the Consent.

Condition 4 (a) (Water Management Plan) and condition 10 (a) (Aboriginal Heritage Management Plan) of Schedule 3 of the Consent requires approval from Secretary for the appointment of suitability qualified persons to prepare the management plans. Veolia has identified suitably qualified and experienced people to prepare these management plans and is seeking formal approval from the Secretary for their appointment.

Aboriginal Heritage Management Plan will be prepared by Andrew Costello. Andrew is a First Class Honours graduate (Double Major Archaeology and Anthropology) from Melbourne University with over 13 years' experience in archaeological survey, excavation and cultural heritage management. Andrew specialises in the identification of Aboriginal archaeological sites, archaeological mapping, research design and sampling strategies and has specialist experience in remote area and coastal archaeology. Andrew's full CV is attached to this letter.

Water Management Plan will be prepared by Sean Daykin. Sean is an Associate Hydrogeologist, with 13 years of consulting experience, specialising in designing and managing hydrogeological investigations for mining, construction, water supply, and government clients throughout Australia, the UK, Asia and Africa. Sean is experienced in

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Veolia Energy Australia

ABN: 46 064 584 587

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hydrogeological conceptualisation, impact assessment, dewatering, water supply, and surface/groundwater management plans and has experience in presenting investigation findings to public, regulatory and corporate audiences. He is also a very experienced Field Hydrogeologist having designed and implemented large scale field programs for groundwater and surface water monitoring network installation and data collection. Sean's full CV is attached to this letter.

We look forward to your consideration of this request. Please feel free to contact Elena Ivanova on 0415556620 or elena.ivanova@veolia.com should you have any questions.

Yours sincerely,

On Behalf of Veolia Water Australia Pty Ltd

A handwritten signature in blue ink that reads "Nick Stokes-Hughes". The signature is written in a cursive style and is positioned above a horizontal line.

Nick Stokes-Hughes

Project Director | Veolia Australia and New Zealand

M: +61 (0)428 672 115 | E: nicholas.stokeshughes@veolia.com

Attachments:

- CV- Andrew Costello
- CV - Sean Daykin



**Planning &
Environment**

**Planning Services
Resource and Energy Assessments**
Contact: Paul Freeman
Phone: 02 9274 6587
Email: paul.freeman@planning.nsw.gov.au

Mr Nick Stokes-Hughes
Project Director
Veolia Environmental Services
Level 4, 65 Pirrama Road
Pyrmont NSW 2009

Dear Mr Stokes-Hughes

**Springvale Water Treatment Project (SSD 7592)
Management Plans**

I refer to your letter dated 18 August 2017 seeking the Secretary's endorsement of suitably qualified experts to prepare management plans for the Springvale Water Treatment Project.

The Department has reviewed the information you have provided to support your request.

I advise you that the Secretary has endorsed the appointment of Mr Sean Daykin of Jacobs to prepare the Water Management Plan, and Mr Andrew Costell of Jacobs to prepare the Aboriginal Cultural Heritage Management Plan for the project.

if you wish to discuss the matter further please contact Paul Freeman on 9274 6587.

Yours sincerely

 21/8/17

Clay Preshaw
Director
Resource and Energy Assessments
as nominee of the Secretary

30 August 2017

ATT: Liz Mazzer
Conversation Planning Officer
Regional Operation, North West
Office of Environment and Heritage
PO Box 2111, Dubbo, NSW, 2830

Dear Ms Mazzer,

Re: Springvale Water Treatment Project (SSD 7592) – Consultation for Preparation of Aboriginal Cultural Heritage Management Plan

With reference to Development Consent for the Springvale Water Treatment Project (SSD 7592) which was approved by the Planning Assessment Commission on 19 June 2017. Veolia Australia and New Zealand (Veolia) has been selected as the specialist water Service Company to finance, design, construct, commission and operate the Springvale Water Treatment Project (Project).

As part of its responsibilities under the contract, Veolia is required to prepare, obtain approval and implement environmental management systems and plans as defined under the Conditions of the Development Consent (Consent).

In accordance with condition 10, schedule 3 of the Consent, an Aboriginal Cultural Heritage Management Plan (CHMP) detailing the management of aboriginal heritage for the Project is to be developed in consultation with the Office of Environment and Heritage (OEH).

Veolia understands that OEH was invited to provide comments as part of the Project assessment process, including the Environmental Impact Statement, and the Submission Report. Consequently, we would like to request feedback from OEH for any additional considerations in preparation of the CHMP.

The CHMP (electronic copy) is provided with this letter via email (Liz.Mazzer@environment.nsw.gov.au).

We look forward to your consideration of this request. Please do not hesitate to contact myself or Environmental Planning Lead, Elena Ivanova (+61 (0) 415 556 620; elena.ivanova@veolia.com) should you have any questions or if any item requires discussion.

Yours sincerely,



Nick Stokes-Hughes

Project Director - Veolia Australia and New Zealand

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Ref: SMPPS-O-00-M13-00-18

Mr. David Randall
Projects Manager
Centennial Coal Company Limited
email: david.randall@centennialcoal.com.au

5th September 2017

Dear Mr Randall,

RE: SMMPS Water Treatment Project – Consultation with Aboriginal Stakeholders

Veolia has drafted an Aboriginal Cultural Heritage Management Plan (CHMP) in accordance with condition 10, schedule 3 of the Development Consent and provided to you on 31 August 2017.

In accordance with condition 10, schedule 3 of the Development Consent, the CHMP is to be developed in consultation with the Aboriginal stakeholders.

Veolia understands that Centennial Coal would conduct consultation with the interested Aboriginal groups as agreed on the meeting held on 3 August 2017. Consequently, we would like to request feedback from you in relation to consultation process and progress.

Please do not hesitate to contact myself should you have any questions or if any item requires discussion on this matter.

Yours sincerely,

On Behalf of Veolia Water Australia Pty Ltd

Nick Stokes-Hughes

Project Director | Veolia Australia and New Zealand

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Ref: SMPPS-O-00-M13-00-14

7 September 2017

Ms Sharon Brown
Gundungurra Tribal Council Aboriginal Corporation
14 Oak Street
Katoomba, NSW, 2780

Dear Ms Brown,

Re: Springvale Water Treatment Project (SSD 7592) – Consultation for Preparation of Aboriginal Heritage Management Plan

Veolia Australia and New Zealand (Veolia) has been selected to construct commission and operate the Springvale Water Treatment Project (Project). As part of its responsibilities under the contract, Veolia is required to prepare, obtain approval and implement management plans as defined under the Conditions of the Development Consent (Consent).

Condition 10, schedule 3 of the Consent requires an Aboriginal Cultural Heritage Management Plan (ACHMP) to be developed in consultation with the Aboriginal stakeholders. The ACHMP must address the following issues:

- Ensure any workers on site receive suitable heritage inductions prior to carrying out any project on site, and that suitable records are kept of these inductions;
- A program and description of the measures/ procedures that would be implemented for managing the discovery of any new Aboriginal objects or skeletal remains during the development; and
- A strategy for the storage of heritage items salvaged on site, both during the development and in the long term.

Veolia understands that Gundungurra Tribal Council Aboriginal Corporation was invited to provide comments as part of the Project environmental assessment process. Consequently, we would like your feedback on the draft ACHMP.

The Project needs to be delivered to a tight deadline and we would greatly appreciate if you could review the draft ACHMP and provide feedback before Monday 2 of October 2017.

The ACHMP (electronic copy) is provided with this letter via email (gundungurra_tribal_counsel@hotmail.com).

We look forward to your consideration of this request. Please do not hesitate to contact myself or Environmental Planning Lead, Elena Ivanova (+61 (0) 415 556 620; elena.ivanova@veolia.com) should you have any questions or if any item requires discussion.

Yours sincerely,

A handwritten signature in blue ink that reads "Nick Stokes-Hughes".

Nick Stokes-Hughes

Project Director - Veolia Australia and New Zealand

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Ref: SMPPS-O-00-M13-00-15

7 September 2017

Ms Toni-Lee Scott
CEO of the Bathurst LALC
Bathurst Local Aboriginal Land Council
PO Box 1500
BATHURST NSW 2795

Ms Toni-Lee Scott,

Re: Springvale Water Treatment Project (SSD 7592) – Consultation for Preparation of Aboriginal Heritage Management Plan

Veolia Australia and New Zealand (Veolia) has been selected to construct commission and operate the Springvale Water Treatment Project (Project). As part of its responsibilities under the contract, Veolia is required to prepare, obtain approval and implement management plans as defined under the Conditions of the Development Consent (Consent).

Condition 10, schedule 3 of the Consent requires an Aboriginal Cultural Heritage Management Plan (ACHMP) to be developed in consultation with the Aboriginal stakeholders. The ACHMP must address the following issues:

- Ensure any workers on site receive suitable heritage inductions prior to carrying out any project on site, and that suitable records are kept of these inductions;
- A program and description of the measures/ procedures that would be implemented for managing the discovery of any new Aboriginal objects or skeletal remains during the development; and
- A strategy for the storage of heritage items salvaged on site, both during the development and in the long term.

Veolia understands that Bathurst Local Aboriginal Land Council was invited to provide comments as part of the Project environmental assessment process. Consequently, we would like your feedback on the draft ACHMP.

The Project needs to be delivered to a tight deadline and we would greatly appreciate if you could review the draft ACHMP and provide feedback before Monday 2 of October 2017.

The ACHMP (electronic copy) is provided with this letter via email (bathlalc2@bigpond.com).

We look forward to your consideration of this request. Please do not hesitate to contact myself or Environmental Planning Lead, Elena Ivanova (+61 (0) 415 556 620; elena.ivanova@veolia.com) should you have any questions or if any item requires discussion.

Yours sincerely,

A handwritten signature in blue ink that reads "Nick Stokes-Hughes".

Nick Stokes-Hughes

Project Director - Veolia Australia and New Zealand

M: +61 (0) 428 672 115 | E: nicholas.stokeshughes@veolia.com

7 September 2017

Ms Helen Riley
Mingaan Aboriginal Corporation
PO Box 3123
Lithgow, NSW, 2790

Dear Ms Riley,

Re: Springvale Water Treatment Project (SSD 7592) – Consultation for Preparation of Aboriginal Heritage Management Plan

Veolia Australia and New Zealand (Veolia) has been selected to construct commission and operate the Springvale Water Treatment Project (Project). As part of its responsibilities under the contract, Veolia is required to prepare, obtain approval and implement management plans as defined under the Conditions of the Development Consent (Consent).

Condition 10, schedule 3 of the Consent requires an Aboriginal Cultural Heritage Management Plan (ACHMP) to be developed in consultation with the Aboriginal stakeholders. The ACHMP must address the following issues:

- Ensure any workers on site receive suitable heritage inductions prior to carrying out any project on site, and that suitable records are kept of these inductions;
- A program and description of the measures/ procedures that would be implemented for managing the discovery of any new Aboriginal objects or skeletal remains during the development; and
- A strategy for the storage of heritage items salvaged on site, both during the development and in the long term.

Veolia understands that Mingaan Aboriginal Corporation was invited to provide comments as part of the Project environmental assessment process. Consequently, we would like your feedback on the draft ACHMP.

The Project needs to be delivered to a tight deadline and we would greatly appreciate if you could review the draft ACHMP and provide feedback before Monday 2 of October 2017.

The ACHMP (electronic copy) is provided with this letter via email (mingaan.lithgow@gmail.com).

We look forward to your consideration of this request. Please do not hesitate to contact myself or Environmental Planning Lead, Elena Ivanova (+61 (0) 415 556 620; elena.ivanova@veolia.com) should you have any questions or if any item requires discussion.

Yours sincerely,



Nick Stokes-Hughes

Project Director - Veolia Australia and New Zealand

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Ref: SMPPS-O-00-M13-00-21

7 September 2017

Lyn Syme
North-East Wiradjuri Corporation
PO Box 29
Kandos NSW 2848

Dear Lyn,

Re: Springvale Water Treatment Project (SSD 7592) – Consultation for Preparation of Aboriginal Heritage Management Plan

Veolia Australia and New Zealand (Veolia) has been selected to construct commission and operate the Springvale Water Treatment Project (Project). As part of its responsibilities under the contract, Veolia is required to prepare, obtain approval and implement management plans as defined under the Conditions of the Development Consent (Consent).

Condition 10, schedule 3 of the Consent requires an Aboriginal Cultural Heritage Management Plan (ACHMP) to be developed in consultation with the Aboriginal stakeholders. The ACHMP must address the following issues:

- Ensure any workers on site receive suitable heritage inductions prior to carrying out any project on site, and that suitable records are kept of these inductions;
- A program and description of the measures/ procedures that would be implemented for managing the discovery of any new Aboriginal objects or skeletal remains during the development; and
- A strategy for the storage of heritage items salvaged on site, both during the development and in the long term.

Veolia understands that North-East Wiradjuri Corporation was invited to provide comments as part of the Project environmental assessment process. Consequently, we would like your feedback on the draft ACHMP.

The Project needs to be delivered to a tight deadline and we would greatly appreciate if you could review the draft ACHMP and provide feedback before Monday 2 of October 2017.

The ACHMP (electronic copy) is provided with this letter via email (lynsyme@bigpond.com).

We look forward to your consideration of this request. Please do not hesitate to contact myself or Environmental Planning Lead, Elena Ivanova (+61 (0) 415 556 620; elena.ivanova@veolia.com) should you have any questions or if any item requires discussion.

Yours sincerely,

A handwritten signature in blue ink that reads "Nick Stokes-Hughes".

Nick Stokes-Hughes

Project Director - Veolia Australia and New Zealand

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Ref: SMPPS-O-00-M13-00-22

7 September 2017

Board of Directors
Warrabinga Native Title Claimants Aboriginal Corporation
PO Box 282
Mudgee, NSW, 2850

Dear Sir/Madam,

Re: Springvale Water Treatment Project (SSD 7592) – Consultation for Preparation of Aboriginal Heritage Management Plan

Veolia Australia and New Zealand (Veolia) has been selected to construct commission and operate the Springvale Water Treatment Project (Project). As part of its responsibilities under the contract, Veolia is required to prepare, obtain approval and implement management plans as defined under the Conditions of the Development Consent (Consent).

Condition 10, schedule 3 of the Consent requires an Aboriginal Cultural Heritage Management Plan (ACHMP) to be developed in consultation with the Aboriginal stakeholders. The ACHMP must address the following issues:

- Ensure any workers on site receive suitable heritage inductions prior to carrying out any project on site, and that suitable records are kept of these inductions;
- A program and description of the measures/ procedures that would be implemented for managing the discovery of any new Aboriginal objects or skeletal remains during the development; and
- A strategy for the storage of heritage items salvaged on site, both during the development and in the long term.

Veolia understands that Warrabinga Native Title Claimants Aboriginal Corporation was invited to provide comments as part of the Project environmental assessment process. Consequently, we would like your feedback on the draft ACHMP.

The Project needs to be delivered to a tight deadline and we would greatly appreciate if you could review the draft ACHMP and provide feedback before Monday 2 of October 2017.

The ACHMP (electronic copy) is provided with this letter via email (info@warrabinga.com.au).

We look forward to your consideration of this request. Please do not hesitate to contact myself or Environmental Planning Lead, Elena Ivanova (+61 (0) 415 556 620; elena.ivanova@veolia.com) should you have any questions or if any item requires discussion.

Yours sincerely,

A handwritten signature in blue ink that reads "Nick Stokes-Hughes".

Nick Stokes-Hughes

Project Director - Veolia Australia and New Zealand

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Ref: SMPPS-O-00-M13-00-23

7 September 2017

Ms Helen Riley
Wiray-dyuraa Ngambaay-dyil
Wiray-dyuraa Maying-gu
PO Box 3123
Lithgow, NSW, 2790

Dear Ms Riley,

Re: Springvale Water Treatment Project (SSD 7592) – Consultation for Preparation of Aboriginal Heritage Management Plan

Veolia Australia and New Zealand (Veolia) has been selected to construct commission and operate the Springvale Water Treatment Project (Project). As part of its responsibilities under the contract, Veolia is required to prepare, obtain approval and implement management plans as defined under the Conditions of the Development Consent (Consent).

Condition 10, schedule 3 of the Consent requires an Aboriginal Cultural Heritage Management Plan (ACHMP) to be developed in consultation with the Aboriginal stakeholders. The ACHMP must address the following issues:

- Ensure any workers on site receive suitable heritage inductions prior to carrying out any project on site, and that suitable records are kept of these inductions;
- A program and description of the measures/ procedures that would be implemented for managing the discovery of any new Aboriginal objects or skeletal remains during the development; and
- A strategy for the storage of heritage items salvaged on site, both during the development and in the long term.

Veolia understands that Wiray-dyuraa Ngambaay-dyil and Wiray-dyuraa Maying-gu were invited to provide comments as part of the Project environmental assessment process. Consequently, we would like your feedback on the draft ACHMP.

The Project needs to be delivered to a tight deadline and we would greatly appreciate if you could review the draft ACHMP and provide feedback before Monday 2 of October 2017.

The ACHMP (electronic copy) is provided with this letter via email (mingaan.lithgow@ymail.com).

We look forward to your consideration of this request. Please do not hesitate to contact myself or Environmental Planning Lead, Elena Ivanova (+61 (0) 415 556 620; elena.ivanova@veolia.com) should you have any questions or if any item requires discussion.

Yours sincerely,

A handwritten signature in blue ink that reads 'Nick Stokes-Hughes'.

Nick Stokes-Hughes

Project Director - Veolia Australia and New Zealand

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Ref: SMPPS-O-00-M13-00-24

7 September 2017

Mr. Bill Allen
Wiradyuri Council of Elders
PO Box 8565
Kooringal, NSW, 2650

Dear Mr. Allen,

Re: Springvale Water Treatment Project (SSD 7592) – Consultation for Preparation of Aboriginal Heritage Management Plan

Veolia Australia and New Zealand (Veolia) has been selected to construct commission and operate the Springvale Water Treatment Project (Project). As part of its responsibilities under the contract, Veolia is required to prepare, obtain approval and implement management plans as defined under the Conditions of the Development Consent (Consent).

Condition 10, schedule 3 of the Consent requires an Aboriginal Cultural Heritage Management Plan (ACHMP) to be developed in consultation with the Aboriginal stakeholders. The ACHMP must address the following issues:

- Ensure any workers on site receive suitable heritage inductions prior to carrying out any project on site, and that suitable records are kept of these inductions;
- A program and description of the measures/ procedures that would be implemented for managing the discovery of any new Aboriginal objects or skeletal remains during the development; and
- A strategy for the storage of heritage items salvaged on site, both during the development and in the long term.

Veolia understands that Wiradyuri Council of Elders was invited to provide comments as part of the Project environmental assessment process. Consequently, we would like your feedback on the draft ACHMP.

The Project needs to be delivered to a tight deadline and we would greatly appreciate if you could review the draft ACHMP and provide feedback before Monday 2 of October 2017.

The ACHMP (electronic copy) is provided with this letter via email (bill.allen47@yahoo.com.au).

We look forward to your consideration of this request. Please do not hesitate to contact myself or Environmental Planning Lead, Elena Ivanova (+61 (0) 415 556 620; elena.ivanova@veolia.com) should you have any questions or if any item requires discussion.

Yours sincerely,

A handwritten signature in blue ink that reads "Nick Stokes-Hughes".

Nick Stokes-Hughes

Project Director - Veolia Australia and New Zealand

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Ref: SMPPS-O-00-M13-00-25

7 September 2017

Warrabinga/Wiradjuri people Native Title Claimants
Board of Directors
PO Box 282
Mudgee, NSW, 2850

Dear Sir/Madam,

Re: Springvale Water Treatment Project (SSD 7592) – Consultation for Preparation of Aboriginal Heritage Management Plan

Veolia Australia and New Zealand (Veolia) has been selected to construct commission and operate the Springvale Water Treatment Project (Project). As part of its responsibilities under the contract, Veolia is required to prepare, obtain approval and implement management plans as defined under the Conditions of the Development Consent (Consent).

Condition 10, schedule 3 of the Consent requires an Aboriginal Cultural Heritage Management Plan (ACHMP) to be developed in consultation with the Aboriginal stakeholders. The ACHMP must address the following issues:

- Ensure any workers on site receive suitable heritage inductions prior to carrying out any project on site, and that suitable records are kept of these inductions;
- A program and description of the measures/ procedures that would be implemented for managing the discovery of any new Aboriginal objects or skeletal remains during the development; and
- A strategy for the storage of heritage items salvaged on site, both during the development and in the long term.

Veolia understands that Warrabinga/Wiradjuri people Native Title Claimants was invited to provide comments as part of the Project environmental assessment process. Consequently, we would like your feedback on the draft ACHMP.

The Project needs to be delivered to a tight deadline and we would greatly appreciate if you could review the draft ACHMP and provide feedback before Monday 2 of October 2017.

The ACHMP (electronic copy) is provided with this letter via email (info@warrabinga.com.au).

We look forward to your consideration of this request. Please do not hesitate to contact myself or Environmental Planning Lead, Elena Ivanova (+61 (0) 415 556 620; elena.ivanova@veolia.com) should you have any questions or if any item requires discussion.

Yours sincerely,

A handwritten signature in blue ink that reads "Nick Stokes-Hughes".

Nick Stokes-Hughes

Project Director - Veolia Australia and New Zealand

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Veolia Environmental Services (Australia) Pty Ltd A&N: 20 051 316 584

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Ref: SMPPS-O-00-M13-00-26

7 September 2017

Mr Neville Williams
Mooka Traditional Owners
PO Box 70
Cowra, NSW, 2794

Dear Mr Williams,

Re: Springvale Water Treatment Project (SSD 7592) – Consultation for Preparation of Aboriginal Heritage Management Plan

Veolia Australia and New Zealand (Veolia) has been selected to construct commission and operate the Springvale Water Treatment Project (Project). As part of its responsibilities under the contract, Veolia is required to prepare, obtain approval and implement management plans as defined under the Conditions of the Development Consent (Consent).

Condition 10, schedule 3 of the Consent requires an Aboriginal Cultural Heritage Management Plan (ACHMP) to be developed in consultation with the Aboriginal stakeholders. The ACHMP must address the following issues:

- Ensure any workers on site receive suitable heritage inductions prior to carrying out any project on site, and that suitable records are kept of these inductions;
- A program and description of the measures/ procedures that would be implemented for managing the discovery of any new Aboriginal objects or skeletal remains during the development; and
- A strategy for the storage of heritage items salvaged on site, both during the development and in the long term.

Veolia understands that Mooka Traditional Owners was invited to provide comments as part of the Project environmental assessment process. Consequently, we would like your feedback on the draft ACHMP.

The Project needs to be delivered to a tight deadline and we would greatly appreciate if you could review the draft ACHMP and provide feedback before Monday 2 of October 2017. The ACHMP is attached this letter.

We look forward to your consideration of this request. Please do not hesitate to contact myself or Environmental Planning Lead, Elena Ivanova (+61 (0) 415 556 620; elena.ivanova@veolia.com) should you have any questions or if any item requires discussion.

Yours sincerely,

A handwritten signature in blue ink that reads "Nick Stokes-Hughes".

Nick Stokes-Hughes

Project Director - Veolia Australia and New Zealand

M: +61 (0) 428 672 115 | E: nicholas.stokeshughes@veolia.com



DOC17/465923
SSD 7592

Mr Nick Stokes - Hughes
Project Director
Veolia Environmental Services
nicholas.stokeshughes@veolia.com

Dear Mr Stokes - Hughes

Springvale water treatment project (SSD 7592) draft Aboriginal cultural heritage management plan

I refer to your email dated 31 August 2017 requesting advice from the Office of Environment and Heritage (OEH) regarding the draft Aboriginal cultural heritage management plan (ACHMP) for the Springvale water treatment project.

OEH notes that a total of ten Aboriginal cultural heritage sites have been recorded near the project. None of these are to be impacted by the project.

A summary of our recommendations is provided in Attachment A, and detailed comments are in Attachment B.

If you have any queries, please contact Liz Mazzer, Conservation Planning Officer on 6883 5325 or email liz.mazzer@environment.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to read 'P. Christie'.

PETER CHRISTIE
Director, North West
Regional Operations Division

14 September 2017

Contact officer: LIZ MAZZER
6883 5325

cc: Paul Freeman - Department of Planning and Environment

Summary of OEH recommendations

- 1 Include a discussion of the relationship between this ACHMP and *Centennial's Western Holdings: Aboriginal Cultural Heritage Management Plan (2014)*.
- 2 Compare the ACHMP with the Western Holdings Aboriginal Cultural Heritage Management Plan to ensure consistency between the two plans.
- 3 Section 6.1.1 of the ACHMP be modified to remove reference to the *Aboriginal Heritage Act 1972*, instead discussing the sections of the *National Parks and Wildlife Act 1974* that apply to protection of Aboriginal cultural heritage
- 4 The contact details for OEH be changed to:
Office of Environment and Heritage
PO Box 2111
Dubbo NSW 2830
Phone: 6883 5330
Email: rog.nw@environment.nsw.gov.au

OEH detailed comments on the draft Springvale water treatment project Aboriginal cultural heritage management plan

The relationship between this ACHMP and other relevant plans should be discussed

Centennial Coal have developed an Aboriginal cultural heritage management plan that covers their western holdings:

Centennial's Western Holdings: Aboriginal Cultural Heritage Management Plan (2014).

A discussion of the relationship between this ACHMP and the wider western holdings plan needs to be included. In addition, the ACHMP should be checked to ensure that it is fully consistent with the Western Holdings Aboriginal Cultural Heritage Management Plan.

Recommendations

- 1 Include a discussion of the relationship between this ACHMP and *Centennial's Western Holdings: Aboriginal Cultural Heritage Management Plan (2014)*.
- 2 Compare the ACHMP with the Western Holdings Aboriginal Cultural Heritage Management Plan to ensure consistency between the two plans.

Incorrect legislation is discussed in section 6.1.1

Section 6.1.1 of the ACHMP discusses protection of identified archaeological sites under the *Aboriginal Heritage Act 1972*. This legislation applies only to the state of Western Australia. This section of the ACHMP needs to be changed to a discussion of the sections of the *National Parks and Wildlife Act 1974* that apply to protection of Aboriginal cultural heritage.

Recommendation

- 3 Section 6.1.1 of the ACHMP be modified to remove reference to the *Aboriginal Heritage Act 1972*, instead discussing the sections of the *National Parks and Wildlife Act 1974* that apply to protection of Aboriginal cultural heritage

Contact details for the Office of Environment and Heritage

We advise that the most appropriate OEH contact to be included in section 6.2 of the ACHMP is:

Office of Environment and Heritage

PO Box 2111

Dubbo NSW 2830

Phone: 6883 5330

Email: rog.nw@environment.nsw.gov.au

Recommendation

- 4 The contact details for OEH be changed as shown above.



3 October 2017

ATT: Liz Mazzer
 Conversation Planning Officer
 Regional Operation, North West
 Office of Environment and Heritage
 PO Box 2111, Dubbo, NSW, 2830

Dear Ms Mazzer,

Re: Springvale Water Treatment Project (SSD 7592) – Consultation for Preparation of Aboriginal Cultural Heritage Management Plan

Veolia Australia and New Zealand (Veolia) refers to correspondence received on 15 September 2017 (ref:DOC17/465923) from Office of Environment and Heritage (OEH) with queries pertaining to the draft Aboriginal Cultural Heritage Management Plan (ACHMP) for Springvale Water Treatment Project.

Veolia also hereby provides a response to recommendations provided by OEH as outlined in the table below.

OEH Recommendations	Veolia's Response	Reference
draft Aboriginal Cultural Heritage Management Plan (ACHMP)		
1. Include a discussion of the relationship between this ACHMP and Centennial's Western Holdings: Aboriginal Cultural Heritage Management Plan (2014).	<p>New Section 6.1.2 Consideration of Centennial Coal Aboriginal Cultural Heritage Management Plan has been included to the ACHMP.</p> <p>The Centennial Coal Aboriginal Cultural Heritage Management Plan (CCACHMP) provides a base framework to manage Aboriginal heritage in a consistent manner across all Centennial Coal operations within Centennial's western operations. Key elements to the CCACHMP include setting minimum requirements for Aboriginal consultation and minimum standards for Aboriginal heritage identification, assessment, monitoring and management. The CCACHMP provides guidance for 157 registered Aboriginal cultural heritage sites within the boundary of Centennial's western operations. Approximately half of the sites are surface artefacts (isolated finds, artefact scatters, open campsites) and/or Potential Archaeological Deposits (PADs). Other sites include rockshelters, grinding grooves and scarred trees.</p> <p>The CCACHMP is used in instances where a site is not managed or covered by an existing management plan. In the case of the Project, this CHMP would preside over the CCACHMP as the guiding document in the management of the seven extant Aboriginal sites located within 30 metres of the Project area.</p>	Section 6.1.2 of the ACHMP
2. Compare the ACHMP with the Western Holdings Aboriginal Cultural Heritage Management Plan to ensure consistency between the two plans.	<p>Noted. A consistency assessment has been undertaken. The ACHMP sits alongside Centennial's Western Holdings: Aboriginal Cultural Heritage Management Plan (2014) (CCACHMP) in providing a framework for protecting Aboriginal heritage sites on land operated by Centennial Coal. While the CCACHMP provides management measures and guidelines for the full range of heritage sites managed by Centennial Coal, the ACHMP is focused on the seven extant Aboriginal sites located within 30 metres of the Project area and details</p>	N/A



OEH Recommendations	Veolia's Response	Reference
	how they will be protected and managed during construction and operation of the Project.	
3. Section 6.1.1 of the ACHMP be modified to remove reference to the Aboriginal Heritage Act 1972, instead discussing the sections of the National Parks and Wildlife Act 1974 that apply to protection of Aboriginal cultural heritage.	Reference to the Aboriginal Heritage Act 1972 has been removed from the ACHMP. Section 6.1.1 of the ACHMP has been amended to include relevant sections of the National Parks and Wildlife Act 1974.	Section 6.1.1 of the ACHMP
4. The contact details for OEH be changed to: Office of Environment and Heritage PO Box 2111 Dubbo NSW 2830 Phone: 6883 5330 Email: rog.nw@environment.nsw.gov.au	The ACHMP has amended to include updated OEH contact details.	Section 6.2 of the ACHMP
	Please be advised that section 6.1.1 of the ACHMP has been amended to include the following information: In some locations a 20 metre buffer may not be able to be provided due to the existing approved pipeline corridor. In these locations an appropriate 'no go zone' and exclusion measures will be developed in consultation with the heritage adviser. The location of archaeological sites and project site mitigation measures, including 'no go zones', are to be included in site induction training. Based on the mapping sites 45-1-0209, 45-1-0210 and 45-1-0218 may require an adjustment of 'no go zones' distance to allow pipeline construction. The discharge pipeline to Wangol Creek is no longer part of the project so sites 45-1-2721, 45-1-2723 and 45-1-2724 would not be affected by construction.	Section 6.1.1 of the ACHMP

The amended ACHMP (electronic copy) is provided with this letter via email (Liz.Mazzer@environment.nsw.gov.au).

Should you wish for further clarification, please do not hesitate to contact myself or Environmental Planning Lead, Elena Ivanova (+61 (0) 415 556 620; elena.ivanova@veolia.com).

Yours sincerely,

Nick Stokes-Hughes

Project Director - Veolia Australia and New Zealand

M: +61 (0) 428 672 115 | E: nicholas.stokeshughes@veolia.com



Ivanova, Elena <elena.ivanova@veolia.com>

RE: Veolia - Springvale Water Treatment Project (SSD 7592) - Consultation

1 message

Liz Mazzer <Liz.Mazzer@environment.nsw.gov.au>

To: "Ivanova, Elena" <elena.ivanova@veolia.com>

11 October 2017 at 14:48

Hi Elena

Thank-you for sending the additional information and revised plan.

There is no need for further clarification.

Regards

Liz

From: Ivanova, Elena [mailto:elena.ivanova@veolia.com]

Sent: Tuesday, 3 October 2017 4:42 PM

To: Liz Mazzer <Liz.Mazzer@environment.nsw.gov.au>

Cc: nicholas.stokeshughes@veolia.com; Paul Freeman <Paul.Freeman@planning.nsw.gov.au>; OEH ROD North West Mailbox <rog.north@environment.nsw.gov.au>

Subject: Re: Veolia - Springvale Water Treatment Project (SSD 7592) - Consultation

Hi Liz,

Thanks for recommendations provided to the draft Aboriginal Cultural Heritage Management Plan (ACHMP). OEH recommendations have been incorporated in the ACHMP, please find the attached Veolia's letter and amended ACHMP for your reference.

Should you wish for further clarification, please do not hesitate to contact me.

10/18/2017

Corporate Mail - RE: Veolia - Springvale Water Treatment Project (SSD 7592) - Consultation

Best Regards,

Elena Ivanova
Project Manager
HEAD OFFICE

cell: +61 415 556 620

Level 4, 65 Pirrama Road / Pyrmont NSW 2009 Australia

www.veolia.com/anz

Resourcing the world



On 15 September 2017 at 09:29, Liz Mazzer <Liz.Mazzer@environment.nsw.gov.au> wrote:

Hi Elena

Attached are the Office of Environment and Heritage's comments on the Springvale water treatment project biodiversity and Aboriginal cultural heritage management plans.

If you have any queries, please contact me.

Regards

Liz

Liz Mazzer

Conservation Planning Officer

North West Region

Regional Operations Group

Office of Environment and Heritage

48-52 Wingewarra St (PO Box 2111) Dubbo NSW 2830

T: 6883 5325, fx 6884 8675

W: www.environment.nsw.gov.au

I work part-time: Tuesday, Wednesday, Thursday and Friday

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12 October 2017

Ref: SMPPS-O-00-M13-00-32

Mr Bradley R. Bliss
WWWAC CEO & Contact Officer,
Wellington Valley Wiradjuri Aboriginal Corporation
Unit 15/194 Byng Street, Orange, NSW 2800

Mr Bradley R. Bliss,

Re: Springvale Water Treatment Project (SSD 7592) – Consultation for Preparation of Aboriginal Heritage Management Plan

Thank you for your prompt response to Veolia's request to review and provide comments on the Aboriginal Cultural Heritage Management Plan (AHCMP) for the Springvale Water Treatment Project.

As you are already aware, Veolia Australia has been actively working alongside Aboriginal and Torres Strait Islander people for a number of years, providing support to Aboriginal and Torres Strait communities and working collectively with Aboriginal and Torres Strait Islander organisations.

As part of our Reconciliation Action Plan commitments, we have partnered with Corporate Culcha, a local Aboriginal business specialising in e-learning and Indigenous cultural awareness trainings. Through this partnership, a tailored online program was developed to suit the needs of our business. This online program is now mandatory for all Veolia employees and is a standard part of our induction process. We also implement face-to-face cultural awareness training as we continue to work with a number of Aboriginal and Torres Strait Islander providers at a local level. The extraction from this e-learning and Indigenous cultural awareness training is attached to this letter. The induction package for the Project is currently being developed and when available, relevant sections can be provided to you for your review. We will be in contact when the package is available.

We note your offer of assistance to supply Registered Aboriginal Parties (RAPs) to undertake archaeological investigations and monitor excavation works. However, based upon the current design and route of the pipelines, no direct disturbance to any Aboriginal heritage sites is predicted. The treated water pipeline to Wangol Creek is no longer part of the project and therefore any direct impact on these sites would no longer occur. While a number of sites would be within 30 metres of the pipeline route along the conveyer corridor, these sites are located on the opposite side of the conveyer to the pipeline in a largely disturbed area and consequently the risk of encountering any Aboriginal heritage items is low. However, if the need for RAPs is identified in the future we will endeavour to contact you.

We note your concerns regarding the level of detail in the unexpected finds section of the AHCMP. As discussed in the relevant section in the AHCMP more detailed procedures would be prepared and implemented. A copy of the more detailed procedure is attached with this letter and we believe that this would satisfy your requirements. The AHCMP would be updated to include the procedure as an appendix.

Please do not hesitate to contact myself or Environmental Planning Lead, Elena Ivanova (+61 415 556 620; elena.ivanova@veolia.com) should you have any questions or if any item requires discussion.

Yours sincerely,

Nick Stokes-Hughes

Project Director - Veolia Australia and New Zealand

M: +61 (0) 428 672 115 | E: nicholas.stokes-hughes@veolia.com

Veolia Environmental Services Australia

ABN: 20 051 316 584

Dnyx Group NZ

NZBN: 94 290 383 38623

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ABN: 46 064 584 587

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W: www.veolia.com/anz



Planning,
Industry &
Environment

Mr James Wearne
Group Approvals Manager
Springvale Coal Pty Limited
PO Box 1000
FASSIFERN NSW 2324

03/03/2020

Dear Mr Wearne

Springvale Water Treatment Project – Aboriginal Cultural Heritage Management Plan

I refer to the revised Aboriginal Cultural Heritage Management Plan, which was submitted in accordance with Condition 4 of Schedule 4 of the consent for the Springvale Water Treatment Project (SSD 7592).

The Department has carefully reviewed the version of this document (dated 16 December 2019), and is satisfied that it addresses the applicable requirements of SSD 7592.

Accordingly, the Secretary has approved the Aboriginal Cultural Heritage Management Plan (Revision 8, dated 16 December 2019). Please ensure that the approved plan is placed on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact Philip Nevill on (02) 8275 1036.

Yours sincerely

A handwritten signature in black ink, appearing to be 'S O'Donoghue'.

Stephen O'Donoghue
Director
Resource Assessments

As nominee of the Planning Secretary



Brown, Graham <graham.brown@veolia.com>

Aboriginal Cultural Heritage Management Plan- Additional information required

1 message

Norman Green <Norman.Green@centennialcoal.com.au>

20 September 2023 at 10:02

To: "Cooper, Caitlin" <caitlin.cooper@veolia.com>, Graham Brown <graham.brown@veolia.com>, Scott Agnew <scott.agnew@veolia.com>

Cc: Veronica Howat <veronica.howat@centennialcoal.com.au>, Mick Nadalin <Mick.Nadalin@centennialcoal.com.au>, Yvette Waterfall <yvette.waterfall@veolia.com>, Ben Bowen <ben.bowen@mpwater.com.au>, "Frewin, Mark" <Mark.Frewin@energyaustralia.com.au>

Good morning All,

Please see the below email from DPE requesting additional information in the Aboriginal Cultural Heritage Management Plan.

1. Please provide additional consultation evidence and how they are addressed in the Plan (section 4)
2. Has any additional consultation with DPE Environment and Heritage Group or Aboriginal Stakeholders since the project was determined (i.e for Mod 2 pipeline alignment). Can this be incorporated into the plan.
3. Please indicate how indirect construction or operation impacts are managed through the plan
4. Please update Definitions and Acronyms Table(noting DPE reference)
5. Update contact details for unexpected discovery of human remains.

Can this update be furnished for supply on the 20th October (to coincide with update meeting already planned on the Biodiversity Management Plan meeting)?

From: no-reply@majorprojects.planning.nsw.gov.au <no-reply@majorprojects.planning.nsw.gov.au>

Sent: Tuesday, 19 September 2023 2:15 PM

To: DP/EP/PostApproval <dpepostapproval@centennialcoal.com.au>

Cc: dpepostapprovals@centennialcoal.com.au; emily.pemberton@dpe.nsw.gov.au

Subject: Springvale Water Treatment Facility - Aboriginal Cultural Heritage Management Plan - More Information Required

Dear Veronica,

I refer to the Aboriginal Cultural Heritage Management Plan you have submitted for the Springvale Water Treatment Facility.

The Department is requesting you provide additional information before accepting the document.

Planner's Comments for additional information request: Dear Veronica, Section 4 of the ACHMP references Consultation undertaken as part of the EIS. However, consultation outcomes are not detailed in the ACHMP. Please provide consultation evidence (e.g. the newspaper advertisements, expression of interest letters or survey responses) to the Plan and document how issues raised during consultation are addressed in the Plan.

Has further consultation with DPE, Environment and Heritage Group or Aboriginal stakeholders since the project was determined, for example as part of Mod 2' changes to pipeline alignments? If so, please incorporate any further evidence of consultation, including how issues raised are addressed in the Plan.

Please include how indirect construction or operation impacts are managed through the plan (there is no reference section provided in section 5.1 text)

Minor update required in the Definition and Acronyms Table (we are currently DPE).

Contact details within section 6.3 require updating in the Unexpected Discovery of Human Remains text, and also the referenced DPE Dubbo Regional Office is now the North West, Biodiversity and Conservation Division - Planning Team PO Box 2111, Dubbo 2830.

Tel: 02 6883 5330 rog.north@environment.nsw.gov.au

Kind regards.

Please access your profile for more details of this request and to resubmit your document.

If you have any enquiries, please contact Emily Pemberton on 8275 1783 /at emily.pemberton@dpe.nsw.gov.au.

To sign in to your account click [here](#) or visit the [Major Projects Website](#).

Please do not reply to this email.

Kind regards

The Department of Planning and Environment



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Regards

Norman Green

Manager Water Engineering



p: +61 (0) 2 4935 8902 | m: +61 (0) 4 7736 7047

Centennial | Fassfern

100 Miller Road | Fassfern | NSW | 2283 | Australia

centennialcoal.com.au

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Our ref: SSD-7592-PA-29

Ms Veronica Howat
Environment Community Coordinator
Centennial Coal

BY: NSW Major Projects Portal

10/01/2024

Dear Ms Howat,

I refer to the Aboriginal Cultural Heritage Management Plan (rev 14, November 2023) submitted in accordance with Condition 10 of Schedule 3 of the consent for the Springvale Water Treatment Project (SSD-7592).

The Department has carefully reviewed the document and is satisfied that it meets the requirements of the relevant conditions of consent (SSD-7592).

Accordingly, as nominee of the Planning Secretary, I approve the Springvale Water Treatment Project Aboriginal Cultural Heritage Management Plan (rev 14, November 2023).

You are reminded that if there are any inconsistencies between the Plan and the conditions of approval, the conditions prevail. Please ensure you make the document publicly available on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact Emily Pemberton on 02 8275 1783 or emily.pemberton@dpie.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to be "G. Allan".

Gabrielle Allan
Team Leader
Resource Assessments

As nominee of the Planning Secretary

Appendix C – The WTF Site Layout

