Upper South Creek

Advanced Water Recycling Centre and Pipelines

Construction Environmental Management Plan

Document Number: USCP-JHG-MPL-ENV-0008
Revision: B

Recommend Documents to be Read in Conjunction

This management plan is to be read in conjunction with the Upper South Creek:

- Surface Water & Groundwater CEMP Sub-plan (USCP-JHG-MPL-ENV-0001)
- Flood Emergency Response CEMP Sub-plan (USCP-JHG-MPL-ENV-0002)
- Soils & Contamination CEMP Sub-plan (USCP-JHG-MPL-ENV-0003)
- Biodiversity CEMP Sub-plan (USCP-JHG-MPL-ENV-0004)
- Traffic & Transport CEMP Sub-plan (USCP-JHG-MPL-ENV-0005).
- Aboriginal, non-Aboriginal, World and National Heritage CEMP Sub-plan (USCP-JHG-MPL-ENV-0006)
- Noise & Vibration CEMP Sub-plan (USCP-JHG-MPL-ENV-0007)
- Air Quality CEMP Sub-plan (USCP-JHG-MPL-ENV-0009)
- Waste & Resource Use CEMP Sub-plan (USCP-JHG-MPL-ENV-0010)

Revisions and Distribution

Distribution

There are no restrictions on the distribution or circulation of this Construction Environmental Plan within John Holland.

	Uncontrolled Copy
Authorised By: Date:	Richard Ioffrida (Project Director)

Revisions

Draft issues of this document shall be identified as Revision 01, 02, 03 etc. Upon initial issue (generally Contract Award) this shall be changed to a sequential number commencing at Revision A. Revision numbers shall commence at Rev. A, B etc.

Date	Rev	Remarks	Section	Prepared By	Reviewed By & Approved By
16.12.2022	1	Initial draft for John Holland internal review and SW review	All	A. Harrington	A. Harrington
15.02.2023	2	Updated revision to address SW review comments	All	D O'Brien	D O'Brien
26.02.2023	3	Updated revision to address SW final comments	All	A. Harrington	A. Harrington
01.03.2023	4	Updated revision to address SW final comments	All	A.Harrington	A.Harrington
04.04.2023	5	Updated to address ER Comments	All	M.Segaran	A.Harrington
18.04.2023	6	Updated to address ER Comments	All	M.Segaran	A.Harrington
19.05.2023	7	Updated to address DPHI comments	All	M.Segaran	A.Harrington
01.06.2023	8	Updated to address DPHI comments	All	M.Segaran	A.Harrington
22.08.2023	A	Approved by DPHI. Issued for construction.	N/A	M.Segaran	A.Harrington
05.08.2024	B	Updated to incorporate NSW Mod 2 Approval, Commonwealth variation approval and 6-monthly review	All	A.Harrington	A.Harrington

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20 October 2024

Cheryl Cahill
Sydney Water Major Projects - Environment Lead
Sydney Water
Level 11, 1 Smith Street
Parramatta NSW 2150

By Email: cheryl.cahill@sydneywater.com.au

Dear Cheryl,

Subject: Environmental Representative (ER) review and approval – Revised Construction Environmental Management Plan (CEMP), Revision B

SSI-8609189 – Upper South Creek Advanced Water Recycling Centre

Pursuant to SSI-8609189 Condition A28(j), I have reviewed the revised Construction Environmental Management Plan (CEMP) which has been updated to include the following:

- Updated Project layout map / figures
- Inclusion of Modification 2 details
- Addition of specific EPL references
- Update to the construction timeframes
- Updates to the environmental risk register (Appendix A4)
- Other minor updates associated with general administrative changes, the EPBC audit item in Table 3 3, and the environmental inspection checklist (Appendix A8).

Complete details of the reviewed document as follows:

- Upper South Creek Advanced Water Recycling Centre and Pipelines – Construction Environmental Management Plan Document No: USCP-JHG-MPL-ENV-0008, Revision B, dated 05/08/2024.

As the approved Environmental Representative (ER) for the Upper South Creek Advanced Recycling Centre Project, I am satisfied the amendments are administrative in nature and are consistent with the terms of the Project Approval (SSI-8609189) and the CEMP, CEMP Sub-plans and monitoring programs approved by the Planning Secretary. I therefore approve the minor amendments to the above listed documentation.

Please feel free to contact me if you require anything further or would like to discuss.

Yours sincerely,

Ben Bracken

Environmental Representative
Upper South Creek Advanced Water Recycling Centre Project
BBEnviro Pty Ltd

Phone: 0410 409 897 Email: ben.bracken@bbenviro.com.au

List of Emergency and Key Contacts

Position	Name	Phone
EPA Pollution Hotline		131 555
Fire and Rescue NSW		000 (for pollution incidents that present an immediate threat to human health or property) 1300 729 579 (for pollution incidents that do not present an immediate threat to human health or property)
The Ministry of Health		(02) 9391 9000
SafeWork NSW		131 050
Wollondilly Shire Council		(02) 4677 1100
Penrith City Council		(02) 4732 7991
Liverpool City Council		1300 362 170
Fairfield City Council		(02) 9725 0222
Canterbury-Bankstown Council		(02) 9707 9000
24-hour Community Information Line		1800 238 881
JH Environment & Approvals Manager (24-hour contact)	Alyce Harrington	1800 238 881
JH Community & Stakeholder Engagement Manager	Sheila Maidment	
JH Project Director (24-hour contact)	Richard Ioffrida	
Environmental Representative (ER)	Ben Bracken	
Acoustic Advisor (AA)	Larry Clark	
Sydney Water Representative (Upper South Creek, Project Director)	Kris Bradley	
Sydney Water Representative (Upper South Creek, Environmental Lead)	Cheryl Cahill	

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Glossary / Abbreviations

	Expanded Text
Acoustic Advisor (AA)	A suitably qualified and experienced person in noise and vibration management, who is independent of the design and construction personnel employed for the duration of Work. The role of the AA is defined in the CoA A30 – A34, inclusive.
AQCSP	Air Quality CEMP Sub-Plan
Ancillary Facility	A temporary facility for construction of the CSSI including an office and amenities compound, construction compound, material crushing and screening plant, materials storage compound, maintenance workshop, testing laboratory and material stockpile area
AWRC	Advanced Water Recycling Centre
BAM	Biodiversity Assessment Method
BC Act	Biodiversity Conservation Act 2016
BCS	Biodiversity and Conservation Science Group
BCSP	Biodiversity CEMP Sub-Plan
BDAR	Biodiversity Development Assessment Report
BP	Brine Pipeline
CAA	Controlled Activity Approval
CEMP	Construction Environmental Management Plan (this document)
Compliance Audit	Verification of how implementation is proceeding with respect to a CEMP (which incorporates the relevant approval conditions).
CoA	NSW Minister for Planning and Public Space's Conditions of Approval
CSEP	USC Community and Stakeholder Engagement Plan
CSSI	Critical State Significant Infrastructure
CWRUCSP	Construction Waste and Resource Use CEMP Procedure
DCCEEW	(Commonwealth) Department of Climate Change, Energy, the Environment and Water
DPHI	NSW Department of Planning, Housing and Industry
DPI	NSW Department of Primary Industries
EIS	Upper South Creek Environmental Impact Statement (September 2021)
Ecologically Sustainable Development	Using, conserving and enhancing the community's resources so that the ecological processes on which life depends are maintained and the total quality of life now and in the future, can be increased (Council of Australian Governments, 1992)
EMS	Environmental Management System
Environmental Aspect	Defined by AS/NZS ISO 14001:2015 as an element of an organisation's activities, products or services that can interact with the environment.
Environmental Impact	Defined by AS/NZS ISO 14001:2015 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.
Environmental Incident	An environmental incident is 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. This may be as a consequence of which pollution (air, water, noise, and land) or an adverse environmental impact has occurred, is occurring, or is likely to occur
Environmental Policy	Statement by an organisation of its intention and principles for environmental performance.
Environmental Representative (ER)	A suitably qualified and experienced person independent of project design and construction personnel employed for the duration of construction. The role of the ER is defined in the CoA A24 – A29, inclusive).
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)

	Expanded Text
EPBC Act	*Environment Protection and Biodiversity Conservation Act* 1999 (Cth)
EPL	Environment Protection Licence
ESCP	Erosion and Sediment Control Plan
EWMS	Environmental Work Method Statement
FERCSP	Flood Emergency Response CEMP Sub-Plan
FM Act	Fisheries Management Act 1994
G-CMP	Groundwater Construction Monitoring Program
HCSP	Heritage (Aboriginal, Non-Aboriginal, World and National heritage) CEMP Sub-Plan
Hold Point	Is a verification point that prevents work from commencing prior to approval from Sydney Water
ISO	International Organisation for Standardisation
LGA	Local Government Area, for those relevant to the Project, these include: • Wollondilly Shire Council (WSC) • Penrith City Council (PCC) • Liverpool City Council (LCC) • Fairfield City Council (FCC) • Canterbury-Bankstown City Council (CBCC)
Minister, The	Minister for Planning and Public Space (or delegate)
Minor Ancillary Facility	Lunch sheds, office sheds, portable toilet facilities, car parking, material storage, and the like that meet the requirements of CoA A19.
Non-compliance	A breach of the requirements of the project approval or any applicable licence, permit or legal requirements.
Non-conformance	Failure to conform to the requirements of project system documentation including this CEMP or supporting documentation.
NSW	New South Wales
NVCSP	Noise and Vibration CEMP Sub-plan
NVMonP	Noise and Vibration Monitoring Program
PIRMP	Pollution Incident Response Management Plan
Principal, The	Sydney Water Corporation (SWC)
POEO Act	*Protection of the Environment Operations Act 1997* (NSW)
PPW	Project Pack Web
Project, The	Upper South Creek – Advanced Water Recycling Centre and Treated Water (TW) and Brine Pipelines (BP) Project
ROL	Road Occupancy Licence
RtS	Upper South Creek Response to Submissions (March 2022)
SAP	Sensitive Area Plans
SCCSP	Soils and Contamination CEMP Sub-Plan
Soteria	John Holland's event management and tracking system
SWC	Sydney Water Corporation (the client and proponent)
SWGCSP	Surface Water and Groundwater CEMP Sub-Plan
SWQ-CMP	Surface Water Quality Construction Monitoring Program
TOBAN	Total Fire Ban
TTCSP	Traffic and Transport CEMP Sub-plan
TW	Treated Water
UMMs	Updated Management Measures
USC	Upper South Creek

1 Introduction

1.1 Background

The Upper South Creek Advanced Water Recycling Centre and Pipelines project (the project) has been proposed to support the population growth and economic development of the Western Sydney Aerotropolis Growth Area (WSAGA or Aerotropolis), South West Growth Area (SWGA) and the new Western Sydney International Airport. The project will provide wastewater services to Western Sydney to produce high-quality treated water for non-drinking reuse and for release to local waterways.

The project will comprise the following components:

- A new Advanced Water Recycling Centre (AWRC) to collect wastewater from businesses and homes and treat it, producing high-quality treated water, renewable energy and biosolids for beneficial reuse
- A new green space area around the AWRC, adjacent to South Creek and Kemps Creek, to support the ongoing development of a green spine through Western Sydney
- New infrastructure from the AWRC to South Creek, to release excess treated water during significant wet weather events, estimated to occur about 3 – 14 days each year
- A new treated water pipeline from the AWRC to Nepean River at Wallacia Weir, to release high-quality treated water to the river during normal weather conditions
- A new brine pipeline from the AWRC connecting into Sydney Water's existing wastewater system to transport brine to the Malabar Wastewater Treatment Plant
- A range of ancillary infrastructure.

An overview of the project site and associated pipelines is presented in Figure 1-1, Figure 1-2 and Figure 1-2.

The Department of Planning, Housing and Industry (DPHI) issued the final Secretary's Environmental Assessment Requirements (SEARs) for the project in January 2021. Sydney Water prepared an Environmental Impact Statement (EIS) responding to these requirements, which was on public exhibition on the major projects planning portal for 28 days from 21/10/2021 to 17/11/2021. During this time, due to its importance, the project was declared to be State Significant Infrastructure (SSI) and Critical State Significant Infrastructure (CSSI) by the then Minister for Planning and Public Spaces on 9 November 2021. Sydney Water submitted an Amendment Report for the proposal on 11 March 2022. This report provided a description of amendments to the proposal that occurred since the exhibition of the EIS. The Amendment Report was on public exhibition on the major projects planning portal from 23 March 2022 to 05 April 2022.
On 28 November 2022, the DPHI approved the construction and operation of the project (SSI 8609189) (herein referred to as the USC project), subject to the Minster's Conditions of Approval (CoA). On the 26 May 2023, DPHI issued a modification to the Infrastructure Approval SSI 8609189 (herein referred to Mod 1) for the purpose of removing the Environmental Flows Pipeline from the scope of the project and this plan. On the 10 October 2023, DPHI approved a second modification to the CSSI Approval (herein referred to as Mod 2), inclusive of the following scope:

- realignment of the treated water and brine pipeline, including:
    - Golfview Drive realignment (treated water pipeline)
    - Elizabeth Drive realignment (treated water pipeline)
    - Bartley Street realignment (brine pipeline)
    - Lansdowne Reserve access realignment (brine pipeline)
- relocation of the treated water flow splitter structure / valve station, and
- use of under-bore return lines at the Nepean River, Jerrys Creek and Badgerys Creek during construction.

Following determination of the project at a state level by the NSW Minister for Public Spaces, the project was referred to the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) for a decision about whether the project was likely to have a significant impact on any matters of national environmental significance under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999. This CEMP incorporates the assessment and outcome of DCCEEW's decision notice under EPBC 2020/8816 on 17/02/2023 and any associated conditions or requirements on the matter.

A formal request to vary the Commonwealth approval conditions for the project was made by Sydney Water on 01 December 2023 to approve the amendments included in Mod 1 and Mod 2. The delegate of the Minister for the Environment and Water approved the variation on 02 April 2024.A detailed description of the project is provided in Chapter 4 of the Upper South Creek AWRC Environmental Impact Statement (EIS), Volume 2.

The USC project will be built in stages, consisting of:

Stage 1

- building and operating the AWRC to treat a daily wastewater flow, known as the average dry weather flow (ADWF), of up to 50 megalitres per day (ML/day)
- building the treated water and brine pipelines to cater for up to 100 ML/day flow coming through the AWRC (but only operating them to transport and release volumes produced by Stage 1).

Future Stages

It is expected that the AWRC will ultimately require expansion to treat wastewater flows up to 100 ML/day. Sydney Water will remain flexible on the size and timing of these future upgrades to accommodate changes in population projections over time. Future stages will be subject to further environmental assessment.

Further detail on project staging is provided in the Upper South Creek AWRC EIS.

This CEMP applies only to Stage1. John Holland has been appointed by Sydney Water to deliver the USC project works, with detailed design and construction planning for treating a daily wastewater flow of up to 35ML/day. Greater flow capacities (including up to 50ML/day and 100ML/day, as explored in the EIS, are not covered in this CEMP.

1.2 Project Description

1.2.1 AWRC Site

The AWRC site is approximately 78 ha and is shown in Figure 1-1. The AWRC site is split into two areas. The operational area is about 40 ha and will contain the wastewater and advanced treatment infrastructure and a range of ancillary infrastructure including inlet works, tanks and process chambers, advanced treatment buildings, interconnecting pipelines, digesters, pumping stations, odour treatment units, and biosolids treatment units.

The operational area also includes a range of supporting infrastructure such as roads, carparking, an administration building, security fencing and visual screening. Other features ancillary to the main treatment process includes chemical handling facilities and photovoltaic cells for solar energy production.

The green space of the site is about 38 ha and is within the 1% Annual Exceedance Probability (AEP) flood level. As part of the project, it will be landscaped to develop a green space that enhances biodiversity, uses best practice water sensitive urban design, and provides visual screening of the AWRC.

John Holland will be delivering some of the landscaping proposed to be undertaken in the green space, however, the remainder of it will be completed as part of future stages of the USC project and is not included in the scope of this CEMP.

The overall duration of construction at the AWRC site is expected to be about 36 months, starting in August 2023. There are seven main phases of construction for the AWRC which are expected to overlap. Table 1-1 provides more details about the AWRC site construction phases, including indicative duration and key activities. Timing, staging and description of phases is indicative only. Where more detail around timing, staging and description of activities are required, the project will utilise tools such as community notification and project newsletters to provide the required level of detail to relevant surrounding receivers.

Table 1-1a AWRC Construction Phases, Timing, and Key Activities

Activity	Start	Finish	Approximate Duration[1]
Contract Award		15 September 2023	
CEMP	September 2022	August 2023	12 months
Low Impact Works	December 2022	August 2023	9 months
Construction Mobilisation	August 2023	December 2023	4 months
Bulk Earthworks	August 2023	February 2024	7 months
Civils and Structures	December 2023	September 2024	9 months
Mechanical and pipework	May 2024	July 2025	14 months
Electrical works	September 2024	September 2026	12 months
Landscaping, backfill and reinstatement works	September 2024	December 2025	15 months
Testing and commissioning (including hydro-static testing)	July 2024	September 2026	38 months

[1] Approximate durations are indicative only and are subject to unexpected events or impacts to project activity.

Table 1-1b Pipelines Construction Phases, Timing, and Key Activities

Activity	Start	Finish	Approximate Duration[2]
Contract Award		15 September 2023	
CEMP	September 2022	August 2023	12 months
Low Impact Work	December 2022	August 2023	9 months
Construction Mobilisation	August 2023	October 2023	3 months
Brine Pipeline Construction	October 2023	November 2024	13 months
Treated Water Pipeline Construction	October 2023	November 2024	13 months
Testing and commissioning	March 2024	November 2024	9 months

[2] Approximate durations are indicative only and are subject to unexpected events or impacts to project activity.

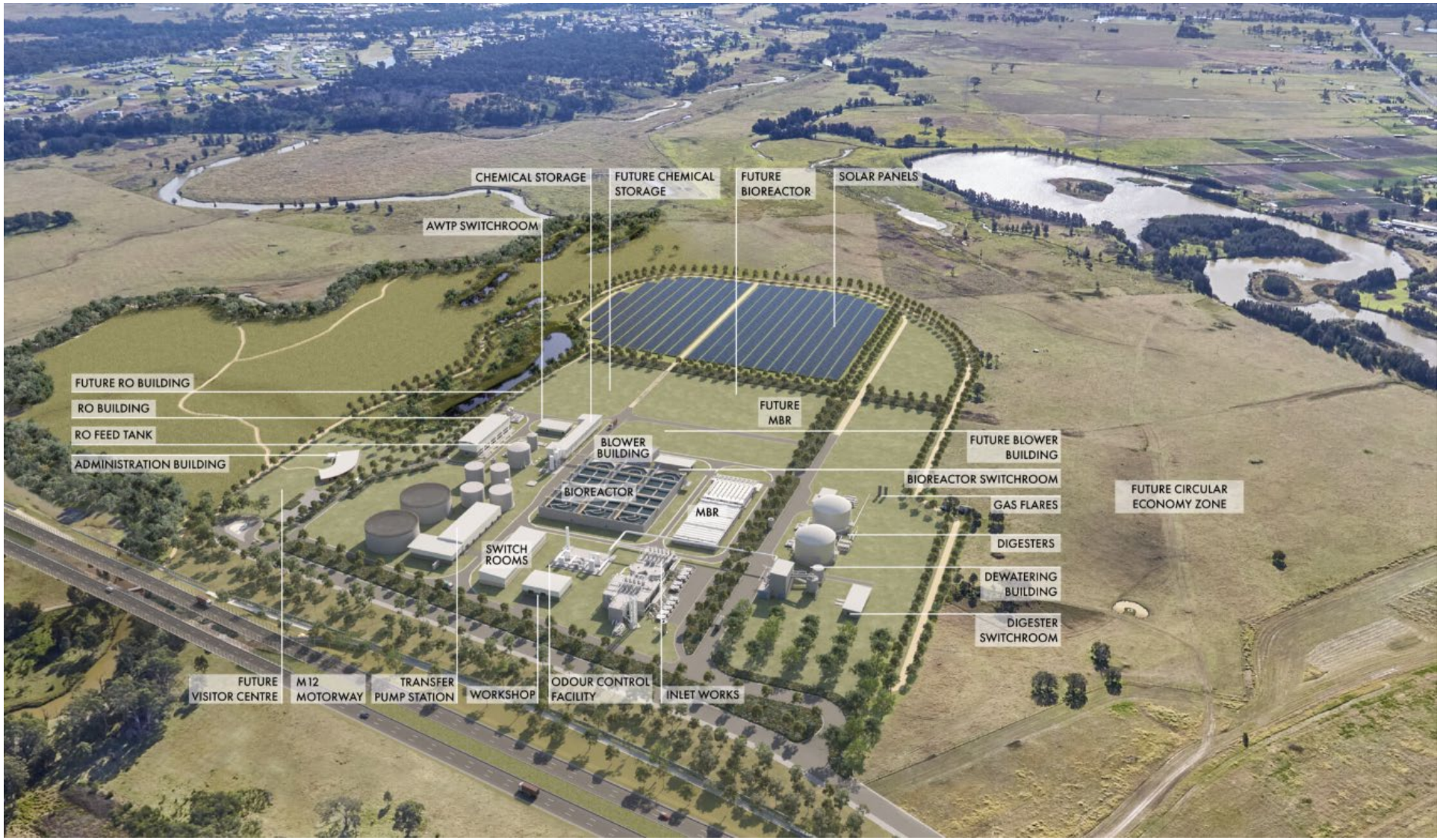


Figure 1-1 AWRC site arrangement

Figure 1-2 Overview of the AWRC site (Black outline) and Treated Water pipeline (Purple)

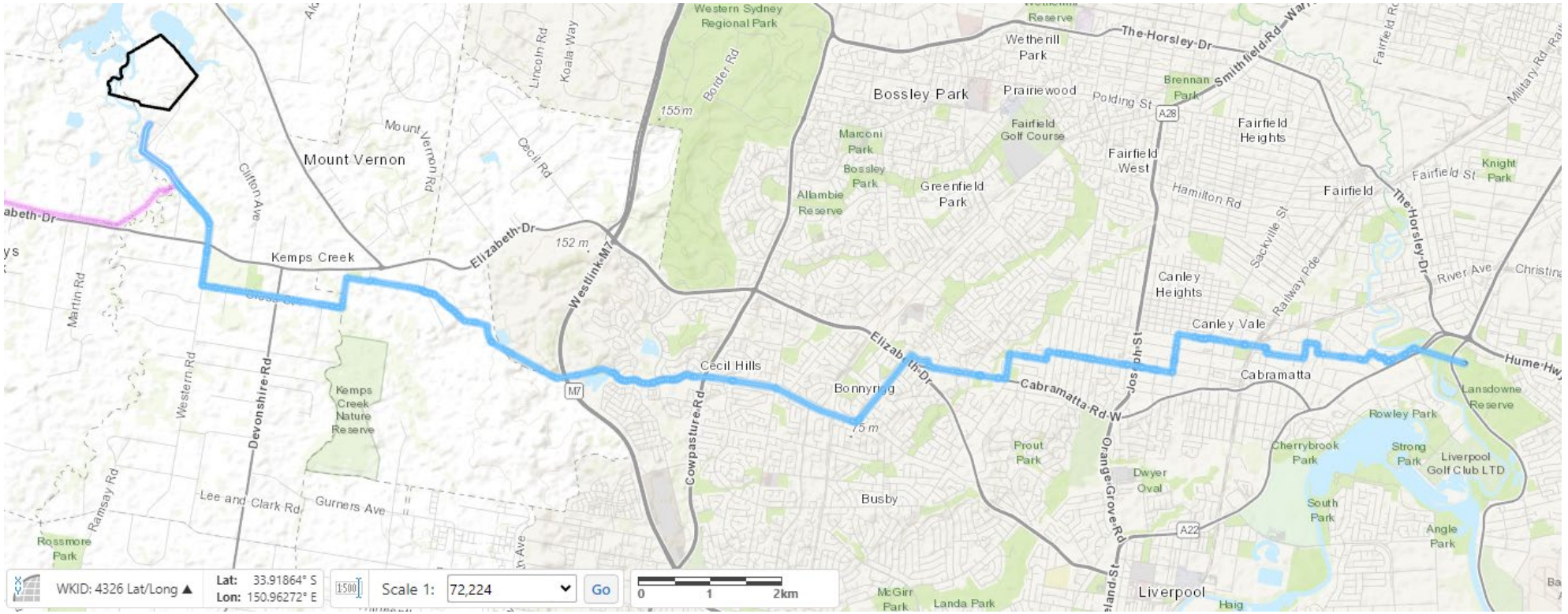


Figure 1-3 Overview of the AWRC site (Black outline) and Brine pipeline (Blue)

1.2.2 Pipelines

The project includes pipelines to take treated water and the brine waste stream away from the AWRC and release and dispose of them responsibly.

Pipelines required include the treated water pipeline to Nepean River at Wallacia Weir and the brine pipeline from the AWRC to the existing Sydney Water wastewater network at Lansdowne. All pipelines will be built to their full capacity in Stage 1.

1.2.2.1 Treated Water Pipeline

The treated water pipeline is planned to be about 16.7 km long and up to 1.2 m in diameter. The treated water pipeline will transfer treated water from the transfer pumping station at the AWRC, to the release point at Nepean River, upstream of Wallacia Weir from where it will then serve as an environmental flow.

Figure 1-2 shows the treated water pipeline location. All the wastewater received at the AWRC under normal conditions (up to 1.3 times average dry weather flow (ADWF)) receives advanced treatment. This means that a very high-quality treated water will be produced and released to Nepean River. The larger wastewater volumes during wet weather are infrequent and highly diluted so they receive lower levels of treatment.

1.2.2.2 Brine Pipeline

The brine pipeline will be about 24 km in length and about 0.6 m in diameter. The advanced treatment process at the AWRC will produce a brine waste product, which will be transferred from the AWRC to the existing Malabar wastewater system at Lansdowne for further treatment. Figure 1-3 shows the location of the brine pipeline.

Construction of pipelines is likely to occur over the entire construction phase, starting mid-2023. There are five main phases of construction of pipeline construction. Construction of the pipelines will likely occur in several locations at one time, rather than moving progressively from one end to the other, and each location is likely to be in a different phase at different times.

Table 1-2 provides more details about the pipeline's construction phases and key activities.

Table 1-2 Pipeline Construction Phases and Key Activities

Phase	Key Activities
Phase 1: Site Establishment	○ Install environmental controls and delineate site. ○ Traffic control. ○ Ancillary construction works such as roads, site compounds and fencing. ○ Plant and equipment delivery. ○ Clearing.
Phase 2: Excavation	○ Excavate trenches, drilling pits (trenchless construction) and install shoring. ○ Dewater excavation. ○ Waste disposal.
Phase 3: Pipe installation	○ Pipe delivery and placement of the section of the pipes near the trench in a line (pipe stringing). ○ Field bending of pipe. ○ Welding of each section of pipe together into one continuous length. ○ Pipe lowering into trench. ○ Pulling pipe through bore (trenchless construction). ○ Backfilling. ○ Inspection and test of pipes.
Phase 4: Commissioning	○ Pipe pressure testing and disinfection. ○ Discharging commissioning wastewater.
Phase 5: Landscaping and restoration	○ Topsoil placement and restoration.

1.3 Additional Structures

The project will require the construction of additional structures including the pipeline release structures at Nepean River and the NGRS structure at Lansdowne Reserve. The construction duration of the release structure is expected to be 12 months. Other additional structures include overflow structure, process chambers, advanced treatment buildings, interconnecting pipelines, digesters, pumping stations, carparking and an administration building.

1.4 Construction Ancillary Facilities

Construction ancillary facilities will be used to support the construction of the Project. Table 1-3 describes the indicative key activities at each type of construction ancillary facility. Main, tunnelling, and satellite compounds will be considered as construction ancillary facilities due to the geographical size of the project, while laydown would be a minor construction ancillary facility. Construction ancillary facilities (CoAA16), (including minor construction ancillary facilities established under Condition of Approval (CoA A19) will be established and operated under this Construction Environmental Management Plan (CEMP). This CEMP and Sub-plans and procedures outline the environmental management practices and procedures which will be implemented during the establishment and operation of the construction ancillary facilities.

Construction ancillary facilities will store equipment and materials and provide site office facilities and parking for construction staff. They may also be used for maintenance workshop, testing laboratory, and a fixed stockpile area. They will be required throughout the construction phase of the project at several locations close to the project. Table 1-3 and Table 1-4 describe the types and indicative locations of ancillary facilities required respectively. Refer to Figure 1-4 for approved ancillary facility locations.

John Holland may not need all ancillary facilities that are proposed, or alternative locations may be required. Depending on the type of ancillary facility, they will be required for different lengths of time during construction. In general, main construction ancillary facilities will be required for the entire construction duration, and smaller satellite and tunnelling ancillary facilities will be required for about three to 12 months.

Should the establishment and use of any minor ancillary facility that has not been identified in the EIS be proposed, a review and assessment will be made and provided to the Environmental Representative (ER) for approval in accordance with the process in Section 1.4.3.

1.4.1 Construction Ancillary Facilities and Access

During the establishment of any necessary construction ancillary facilities, heavy and light vehicle access would generally be via existing access points, e.g. driveways. However, where an existing access point is not available or is not suitable to use, an alternative access point would be established.

Following the approval of this CEMP, all ancillary facilities established by John Holland prior to the commencement of construction i.e. those established as low impact works, will be considered construction ancillary facilities and will be managed in accordance with this CEMP. In accordance with CoA A18, the use of a construction ancillary facility for construction must not commence until this CEMP and relevant CEMP Sub-plans required by CoA C4 and relevant Construction Monitoring Programs required by CoA C13 have been approved by DPHI (refer Appendix A2).

All construction ancillary facilities established by John Holland will be constructed in a manner that minimises visual impacts of construction sites. John Holland will prepare a construction site layout plan for each site prior to the commencement of works at the specific site. Where feasible and reasonable, the following examples will be considered for implementation to minimise the visual impacts of construction sites: provide temporary landscaping and/or vegetative screening of the construction sites, minimise light spill, and incorporate architectural treatment and finishes within key elements of temporary structures that reflect the context within which the construction sites are located, including recognition of Country. As summarised in Section 1.4.4, boundary fencing and/or screening will be a key tool employed by John Holland to minimise the visual impact of construction activities. The Project name; application number; telephone number; postal address and email address required under CoA B8 of the project approval (SSI-8609189) must be available on the site boundary fencing/hoarding at each ancillary facility before the commencement of construction. This information will also be provided on the project website.

Additional construction ancillary facilities (excluding minor construction ancillary facilities established under CoA A19) that are not identified by description and location in the documents listed in CoA A1 can only be established and used in each case if they are assessed to meet the conditions of CoA A16:

a. they are located within or immediately adjacent to the construction boundary; and
b. they are not located next to sensitive land use(s) (including where an access road is between the facility and the land use), unless the landowner and occupier have given written acceptance of carrying out of the relevant facility in the proposed location: and
c. they have no impacts on heritage items (including areas of archaeological sensitivity), threatened species, populations or ecological communities beyond the impacts approved under the terms of this approval; and
d. the establishment and use of the facility can be carried out and managed within the outcomes set out in the terms of this approval, including in relation to environmental, social, and economic impacts.

The project will not increase the number of active compounds as described in Section 4.9.4 of the EIS. Construction compound locations outside the impact assessment area, will be assessed to ensure they meet the following principles and are consistent with the requirements of conditions A16 and/ or A19:

- do not increase total number of compounds described the EIS
- do not increase traffic movements
- landowner agrees to use of site for compound
- no nearby sensitive receivers
- no disruption to property access
- no impact to known items of non-Aboriginal and Aboriginal heritage
- outside high-risk areas for Aboriginal heritage
- use existing cleared areas
- no impacts to remnant native vegetation or key habitat features
- no disturbance to waterways
- no disturbance of contaminated land

1.4.2 Minor Ancillary Facilities and Access

During the construction phase of the project, minor ancillary facilities may be established and operated. Minor ancillary facilities include worker amenities and materials laydown and the like that are not part of a construction ancillary facility site. In accordance with CoA A19 site facilities such as lunch sheds, office sheds, portable toilet facilities, car parking, material storage, and the like, will be established and used where they have been assessed in the EIS or Response to Submissions reports (RtS) (refer to 4).

Prior to the establishment and use of any minor ancillary facility that has not been assessed in the EIS or RtS reports, they must satisfy the following criteria detailed in Section 1.4.3.

During the establishment of any minor ancillary facilities, heavy and light vehicle access would generally be via existing access points, e.g. driveways. However, where an existing access point is not available or is not suitable to use, an alternative stabilised access point would be established.

The Project name; application number; telephone number; postal address and email address required under CoA B8 of the project approval (SSI-8609189) must be available on the site boundary fencing/hoarding at each ancillary facility before the commencement of construction. This information will also be provided on the project website.

1.4.3 Minor Ancillary Facility Approval, Review, and Improvement

. Minor ancillary facilities are defined under the Planning Approval as worker amenities and material laydown and the like.

In accordance with CoA A19, minor ancillary facilities can be established and used if they have been assessed in the EIS and RtS reports, or if they satisfy the following criteria:

a. are located within or immediately adjacent to the construction boundary, and
b. have been assessed by the ER to have:
    i. minimal amenity impacts to surrounding residences and businesses, after consideration of matters such as compliance with the Interim Construction Noise Guideline (DECC, 2009), traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts, and
    ii. minimal environmental impact with respect to waste management and flooding, and
    iii. no impacts on biodiversity, soil and water, and heritage items beyond those already approved under other terms of this approval.

John Holland will seek approval from the ER for any minor ancillary facility, or element of a minor ancillary facility not assessed in the EIS in accordance with CoA A19.

Following approval of this CEMP, changes to the ancillary facilities may be required:

- in response to changes in construction methodology and planning
- to take into account changes to the environment or generally accepted environmental management practices, new risks to the environment, any hazardous substances, contamination or changes in law
- where requested or required by DPHI or any other Authority
- in response to internal or external audits, ER's monthly reviews or quarterly management reviews.

Any changes to minor ancillary facilities will be assessed by the ER and where relevant documented in a consistency assessment.

1.4.4 Ancillary Facility Screening

Boundary fencing and/or screening will be erected around ancillary facilities that are adjacent to sensitive land user(s) in accordance with CoA A20. Boundary fencing and/or screening will not be required for minor ancillary facilities. An example of this that will be considered includes ATF fencing fitted with shade cloth or acoustic screens where reasonable and/feasible. This will be for the duration that the ancillary facility is in use unless otherwise agreed with affected residents, business operators or landowners. For work fronts established along the pipeline corridors, appropriate delineation and barriers will be used to protect workers and separate the work from potential public interaction. As they move and change over time, boundary fencing will not be erected around these work fronts but be targeted towards the ancillary facilities identified and discussed in Tables 1.3 and 1.4.

All fencing, screening and hoarding will be established in accordance with the requirements of the Community & Stakeholder Engagement Plan (CSEP).

In accordance with CoA E59 all ancillary facilities will be operated with the objective of minimising light spill by directing lighting away from residential receivers wherever possible. This lighting will be operated at the site consistent with the requirements of AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting and the relevant AS/NZ 1158 series under Lighting for Roads and Public Spaces, and National Airports Safeguarding Framework (NASF) Guideline E: Managing the Risk of Distraction to Pilots from Lighting in the Vicinity of Airports. In order to ensure site lighting does not impact on sensitive receivers the following will be implemented:

- lights will be located as far away as possible and pointed away from sensitive areas
- existing features will be used to hide the light source from view. For instance, retained vegetation will be used to shield lighting existing structures
- lights will be directed to illuminate the target area. If there is no alternative to up-lighting, shields and baffles will be fitted where feasible to help keep spill light to a minimum.

1.4.5 Restoration of Ancillary Facilities

Prior to works commencing and following completion of restoration of the areas, a pre- and post-construction land condition assessment will be undertaken for each area that has been used. Restoration of ancillary facilities will be done in accordance with Sydney Water's Guidance Standard 9.2 Compound Management (ENV-GS-002). The following mitigation measures are recommended for implementation:

- Demobilise immediately after leaving site
- Remove from site all materials associated with the compound. This includes spoil, road base, sand, equipment, pipes, fittings, waste and any hardstand areas
- Complete a post-occupation dilapidation report following demobilisation
- Complete a post-occupation contamination assessment following demobilisation, where necessary
- Restore the site to its pre-works condition or to a standard agreed to by the landowner. If the site was previously vegetated or grassed then the area is to be re-turfed or re-vegetated in accordance with relevant project requirements.
- Obtain written acceptance of the site rehabilitation from landholder once the site rehabilitation has occurred
- Remove all padlocks / locks / temporary fencing from the compound.

Areas impacted by pipeline construction will be restored upon completion of works. Where possible, ancillary facilities will be restored to their pre-construction condition. However, this is not always possible or desirable when mature vegetation has been removed over a proposed Sydney Water asset, as Sydney Water needs to ensure that plants over the pipeline would not develop root systems that could damage the pipeline. Consultation will occur with relevant landowners and local councils in planning for restoration after pipeline construction.

1.4.6 Ancillary Facility Locations and Descriptions

As detailed in Section 1.4, several ancillary facilities will be established within the construction footprint, as identified in the EIS. Key activities and the descriptions of the different types of ancillary facilities required during construction are presented in Table 1-3. Approved locations of the ancillary facilities and type are listed in Table 1-4, with the locations presented in Figure 1-4 to Figure 1-6.

Table 1-3 Overview of types of ancillary facilities

Ancillary Facility Type	Key Activities and Description	Duration
Main	Large compounds that will be active for the entire construction period. Temporary buildings such as offices and meeting rooms, amenities and first aid facilities. Stockpiling and sorting of waste material prior to disposal or reuse. Storage of site equipment, including bunded storage for any chemicals such as fuel.	Entire construction period of the project
Satellite	Smaller compounds that will be active for the entire construction of the project. They will have similar activities to main compounds.	Certain satellite will remain active for the entire construction period of the project while the majority will be active for about 3 – 12 months
Tunnelling	Only identified for larger tunnelling locations where an increased construction presence will be required. Include the launch and receival pits for sections of pipeline constructed by tunnelling. Accommodate activities associated with drilling such as the drill rig, spoil management and pipe placement. Only required during tunnelling.	About 3 – 12 months
Laydown	Small rolling compounds located at pipeline construction sites. These will only be required for short periods of time and will move along the pipeline alignments as construction progresses.	Laydown areas will be required throughout the duration of pipeline construction. Laydown areas will not be in the same location and each area will only be required for a short period of time

Table 1-4 Llocation of the ancillary facilities

Number	Location	Assessment and Approval	Ancillary facility type
C3	Treated water release location near Wallacia Weir at Nepean River	Assessed and approved as part of the EIS	Satellite
C4	West of Wallacia and Nepean River	Assessed and approved as part of the EIS	Tunnelling
C5	1 Park Rd, Wallacia	Assessed and approved as part of the EIS	Main
C6	260 Park Road, Wallacia (alternative location)	Assessed and approved as part of the EIS	Main
C7	Elizabeth Drive between The Northern Road and Luddenham Road	Assessed and approved as part of the EIS	Satellite
C8	AWRC site	Assessed and approved as part of the EIS	Main
C9	Western Sydney Parklands, near Liverpool Offtake Reservoir – multiple small compounds, including tunnel under M7	Assessed and approved as part of the EIS	Satellite/Tunnelling
C10	Liverpool reservoir, Cecil Hills	Assessed and approved as part of the EIS	Main

Number	Location	Assessment and Approval	Ancillary facility type
C12	East Parade, Fairfield	Assessed and approved as part of the EIS	Main
C13	Cumberland Street Carpark (adjacent to Cabravale Leisure Centre)	Assessed and approved as part of the EIS	Tunnelling
C15	Lansdowne east of Henry Lawson Drive	Assessed and approved as part of the EIS	Tunnelling
C21*	End of Cross Street, Kemps Creek	Assessed and approved as an additional ancillary facility under MCoA A16	Satellite
C24*	Lennox Reserve, Canley Vale	Assessed and approved as an additional ancillary facility under MCoA A16	Satellite

*Non-sequential numbering of compounds in the table above is intentional as a number of additional ancillary facilities have been assessed for viability following contract award and prior to commencement of construction, with C21 and C24 meeting the relevant criteria of MCoA A16.

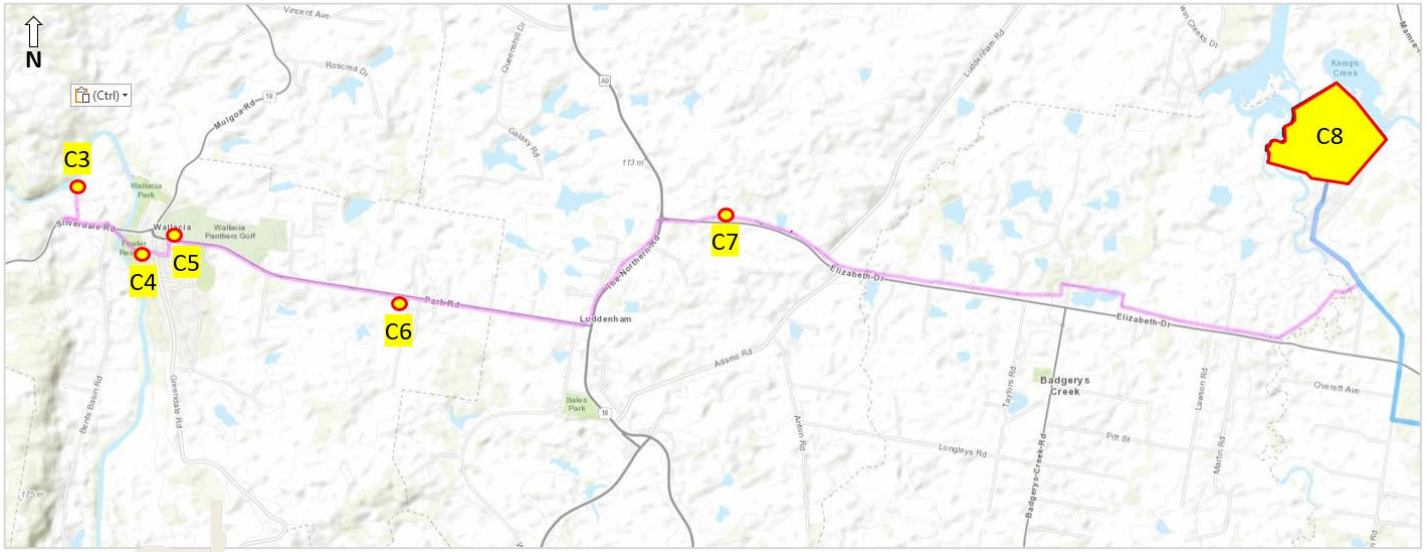


Figure 1-4a Indicative location of ancillary facilities

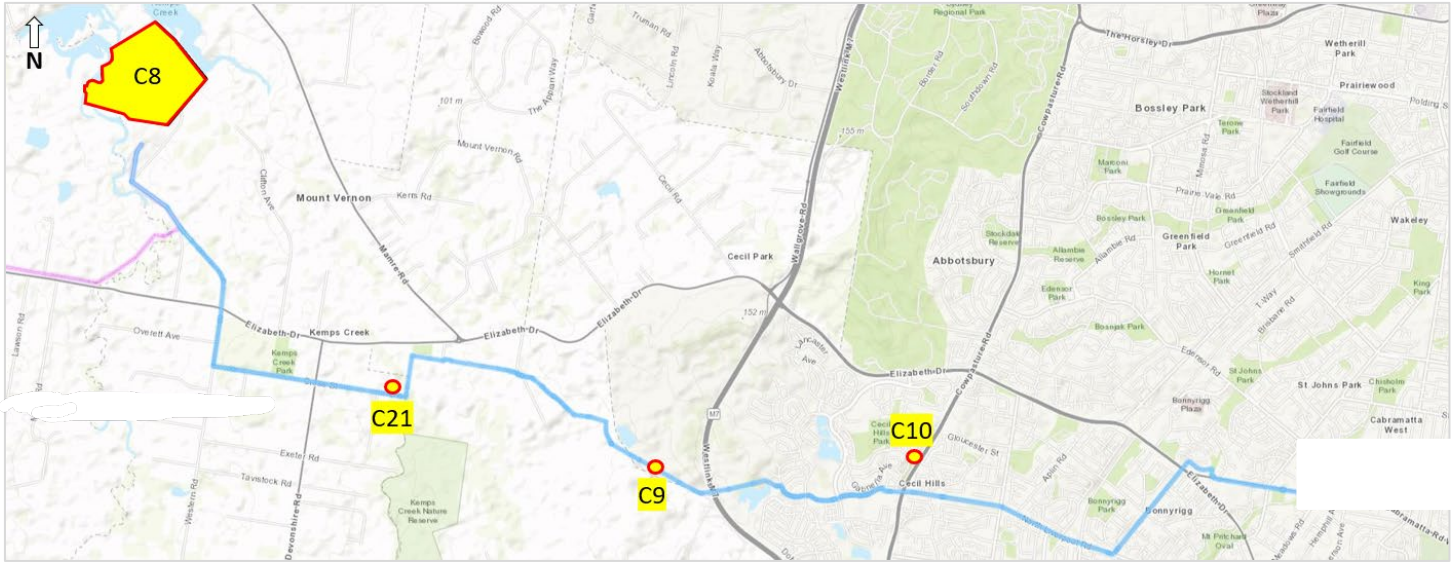


Figure 1-4b Indicative location of ancillary facilities

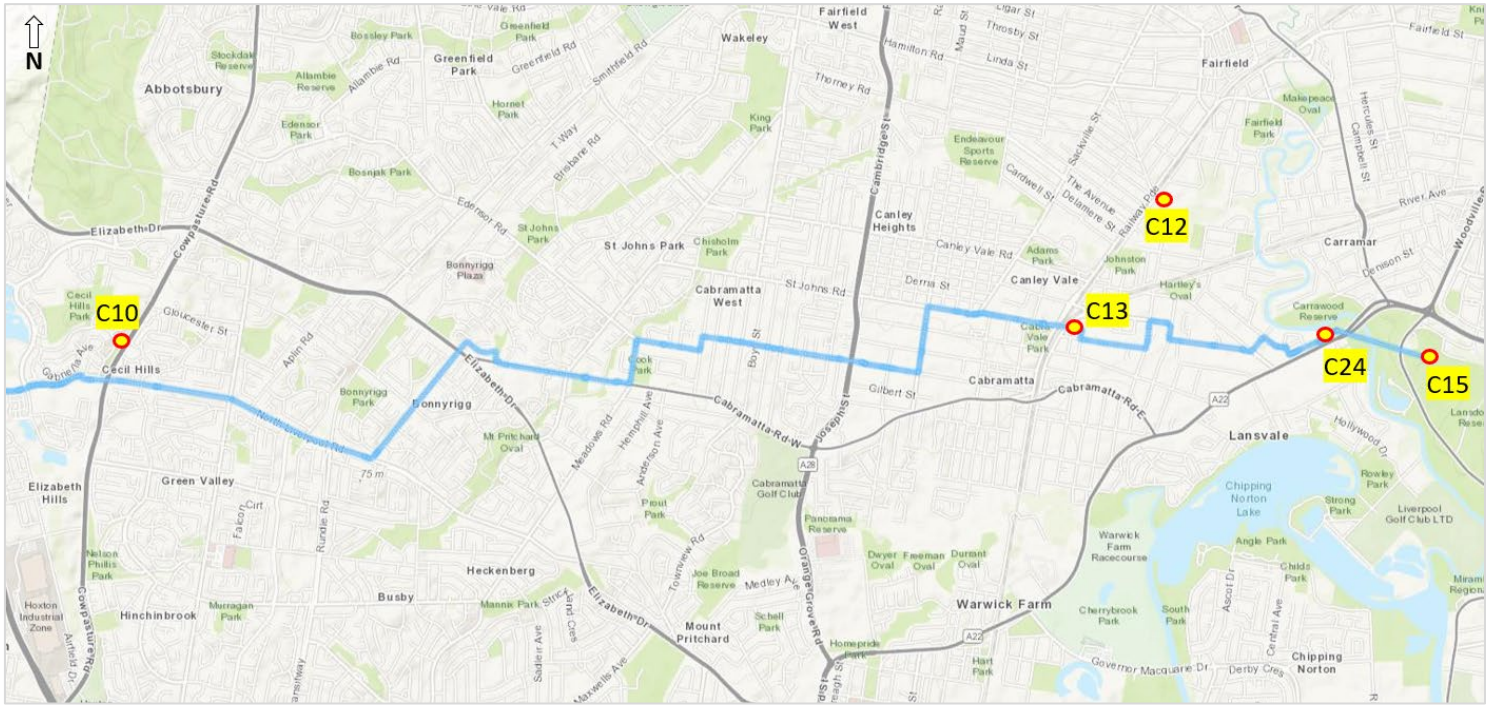


Figure 1-4c Indicative location of ancillary facilities

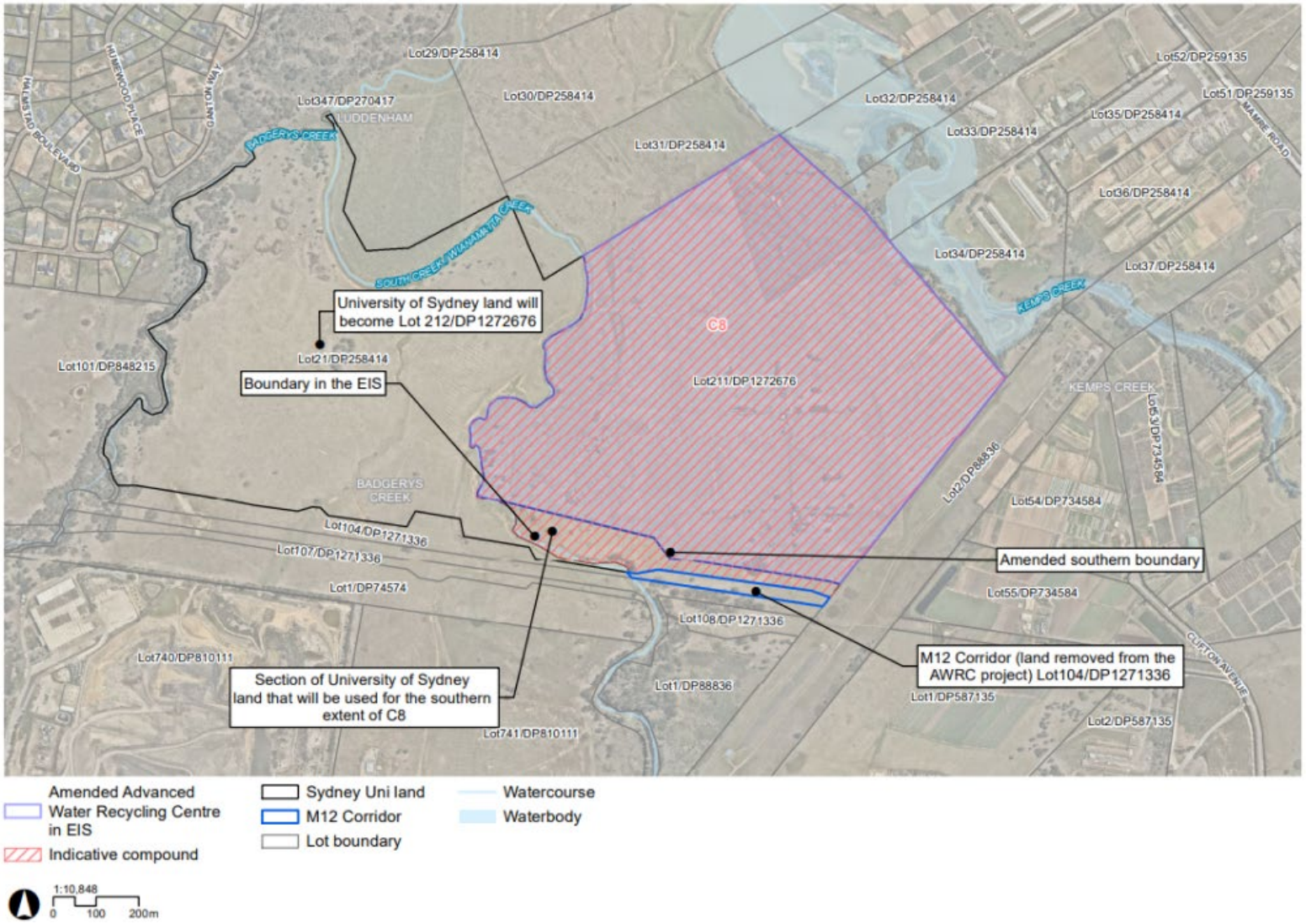


Figure 1-4 Amended C8 compound at the AWRC site (source: Amendment Report. Note: DPs have been updated since this figure was produced) (Source: USC AWRC EIS, Amendment Report, March 2022)

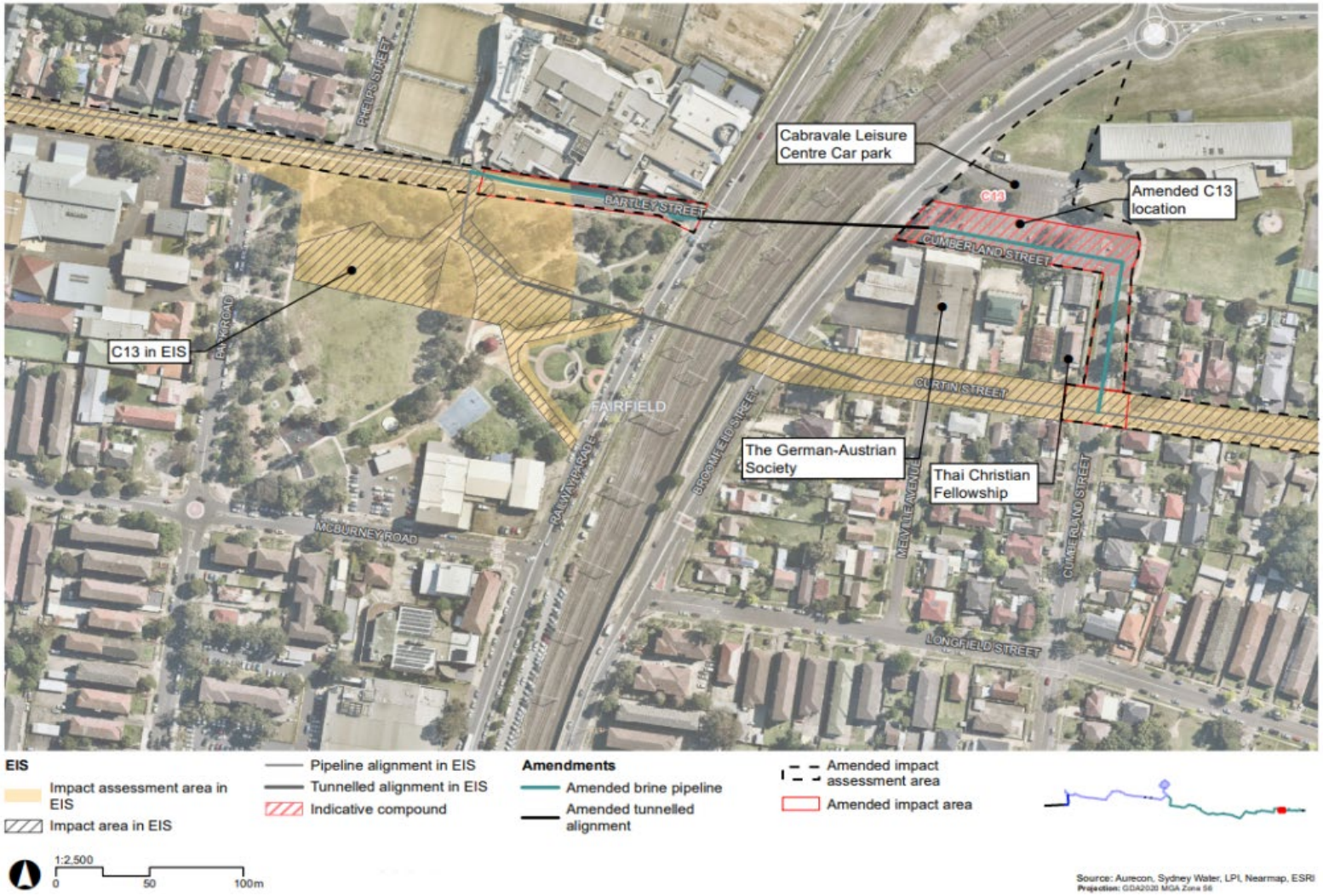


Figure 1-5 Amended C13 compound at Campbell Street, adjacent to Cabravale Leisure Centre (Source: USC AWRC EIS, Amendment Report, March 2022)

As detailed in Section 4.10 of the EIS, there will be periods throughout the construction of the project that these ancillary facilities would be required to be operated outside of standard construction hours to support construction activities. Should the use of any ancillary facility be required outside of standard construction hours for the AWRC project works, the procedures and protocols detailed in the Noise and Vibration CEMP Sub-plan (NVCSP) will be adhered to.

All boundary fencing and screening will minimise visual, noise and air quality impacts. All fencing and hoarding will be in accordance with the requirements of the CSEP.

A Stockpile Management Plan has been prepared and included in this CEMP (refer to Appendix A9). Should a temporary stockpile need to be established within the construction boundary this Protocol will be followed. The plan will also be used for all stockpile sites that are not already approved as ancillary facilities within the CEMP.

1.5 Bushfire Hazard

The project is partially located on bushfire prone land. The following measures will be implemented to manage bushfire hazard and risk during the construction stage:

- Ongoing engagement with NSW Rural Fire Service as required, including any relevant exemptions and approvals
- Specifically, works that has the potential to ignite flammable materials will be stopped during total fire bans (TOBAN) in accordance with the NSW Rural Fire Service recommendations
- Construction workers to be removed during times of elevated Fire Danger Ratings
- Construction workers to be kept informed of Fire Danger Ratings during daily pre-start meetings

Impacts from bushfire to human health during the operational phase is considered low. A Bushfire Constraints and Opportunities Assessment was completed for the AWRC during design and found that the AWRC site meets the general aims and objectives of the Planning for Bush Fire Protection guideline. During the operational phase, periodic maintenance and inspections will be undertaken for the AWRC site and the pipelines. Sydney Water policy and procedures regarding working in bushfire prone land will be implemented throughout operational management systems.

1.6 Airport Interface

Appendix AA of the EIS Airport Safeguarding details requirements around the project's interaction with Western Sydney Airport and relevant safeguarding measures are required to be taken into account during construction and operation. The proposed height for AWRC buildings does not penetrate the OLS, with the tallest structure proposed being approximately 75m clearance to the airspace. The clearance height is also considered sufficient for the use of cranes during AWRC construction.

Sydney Water will continue to engage with Western Sydney Airport on safeguarding considerations, particularly wildlife and bird strike, relevant to the development of the site. Relevant requirements as identified in the CoA and the UMMs will be incorporated into relevant CEMP sub-plans (Appendix A2).

1.7 Purpose of this CEMP

This CEMP, the Sub-plans and procedures have been prepared to outline and describe how Sydney Water and John Holland, during the USC project works, will comply with CoA of SSI-8609189 and the Commonwealth CoA (2020-8816). Additionally, it outlines how the project will minimise the environmental risks and achieve environmental outcomes on the project by providing a structured approach to ensure those applicable Updated Management Measures (UMMs) and controls are implemented. The CEMP will also detail how John Holland will comply with Environmental Protection License 21800.

This CEMP and associated Sub-plans were submitted to DPHI and the Commonwealth at least one month prior to the commencement of construction of the USC project works. Construction will not commence until the CEMP and associated Sub-plans have been approved, unless otherwise agreed by the Planning Secretary and the Commonwealth. The CEMP must be endorsed by the independent environmental representative and approved by Sydney Water's project manager before construction activities commence. The CEMP was approved by DPHI on 08/08/2023.

DPHI and the Commonwealth will be notified in writing of the dates of the commencement of construction and operation at least one month before those dates. If the construction or operation of the CSSI is to be staged, DPHI and the Commonwealth will be notified in writing at least one month before the commencement of each stage, of the date of commencement of that stage.

Implementing the CEMP and Sub-plans effectively will ensure that the project meets the requirements of the CoAs, (Controlled Activity Approval) CAA's and the UMMs.

This CEMP has been prepared in accordance with:

- the project approval (SSI #8609189)
- Commonwealth Conditions of Approval (2020-8816)
- the EIS
- the Submissions Report
- Amendment Report
- Submissions Report – Amendments
- Response to DPHI RFI 1
- Response to DPHI RFI 2
- Modification 1 – removal of the environmental flows pipeline
- Modification 2 – pipeline design changes
- EPL 21800
- Environmental Management Plan Guideline for Infrastructure Projects (Department of Planning, Industry and Environment, 2020)
- AS/NZS International Organization for Standardization (ISO) 14001
- Sydney Water Management Specification (July 2021)

The overarching purpose of this CEMP is to:

- describe the project, including the Stage 1 construction activities to be undertaken and their scheduling during the project program
- identify the environmental obligations applicable to the project and the hazards and risks associated with the works
- outline the environmental management policies, guidelines and principles to be followed during the works
- describe the roles and responsibilities of personnel in relation to environmental management during the works
- outline specific mitigation measures and controls to be applied on site to avoid or minimise negative environmental impacts and prevent unauthorised environmental harm
- provide specific mechanisms for compliance with the applicable policies, approvals, licences, permits, consultation agreements and legislation
- outline a monitoring and review regime to check the adequacy of controls as they are implemented during construction. Reference in the terms of the CoA to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Australian Standards or polices in the form they are set in as at the date of the approved SSI-8609189.

The relevant requirements of the planning approval and where they are met in this CEMP are shown in Appendix A2.

Details of agency consultation requirements required by CoA A9 will be provided in a consultation summary memorandum. The consultation summary memorandum will be reviewed by the ER prior to ER endorsement of this CEMP.

The consultation summary memorandum will also be provided to DPHI and the Commonwealth with the lodgement of each CEMP Sub-plan. Copies of all correspondence, including emails and meeting minutes, undertaken as part of this consultation process will be included as part of the consultation summary memorandum.

This CEMP is the overarching document in the environmental management system for the USC project works, that includes a number of management documents. Refer to Section 1.9 for further detail on the structure of this CEMP. It is applicable to all staff and subcontractors associated with the construction of the USC project works.

The CEMP and CEMP Sub-plans as approved, including any minor amendments approved by the ER, must be implemented for the duration of the construction of Stage 1 of the CSSI. John Holland must notify the Commonwealth within 5 business days prior to the commencement of construction. The CEMP must be endorsed by Sydney Water's environmental representative and Sydney Water's Project Manager prior to commencement of construction.

Information relating to the project is published on Sydney Water Talk (https://www.sydneywatertalk.com.au/uppersouthcreek). Information on the website is published and maintained for the duration of construction in accordance with CoA B12 and Annexure A, Part A (19) of the Commonwealth Approval. Information to be included is summarised below:

- Current implementation status of the project
- a copy of the documents listed in Condition A1, and any documentation relating to any modifications made to the CSSI or the terms of the project approval

- a copy of the project approval in its original form, a current consolidated copy of this approval (that is, including any approved modifications to its terms), and copies of any approval granted by the Minister to a modification of the terms of the project approval;
- a copy of each statutory approval, licence or permit required and obtained in relation to Stage 1 of the CSSI;
- a copy of the current version of each document required under the terms of the project approval; and
- a copy of the audit reports required under the project approval.

1.8 Environmental Management System Overview

The Environmental Management System (EMS) is an integrated set of tools and resources that define how the project will manage environmental risks at all levels of the business. John Holland will operate an environmental system compliant with AS/NZS ISO 14001.

This CEMP is part of the EMS (refer to Figure 1-7) and describes how John Holland will manage environmental issues during the construction works of the project. It provides context of where the CEMP, CEMP Sub-plans and other relevant deliverables associated with the environmental management of the project are placed in relation to the wider context of the project.

This CEMP shall be updated as necessary to ensure all components of the construction works are covered.

All works carried out on the site will be managed in accordance with this CEMP and the following requirements incorporated within this document:

- relevant legislation (refer to Appendix A3)
- EIS and CoA for the site, including any modifications to the approved project (refer to Appendix A2)
- John Holland's Safety, Health, Environment and Quality Standards and Processes
- Sydney Water Environment Policy (refer to Appendix A5)
- Principal and Contractual Requirements
- ISO 14001 Environmental Management System
- Sydney Water Environmental Guidelines and Management Specification
- John Holland's Environmental Policy.

This CEMP, as part of the John Holland EMS, will be implemented with compliance and performance monitored and reviewed through the broader context. A complete list of guidelines, legislation and other relevant documents can be found in Appendix A3.

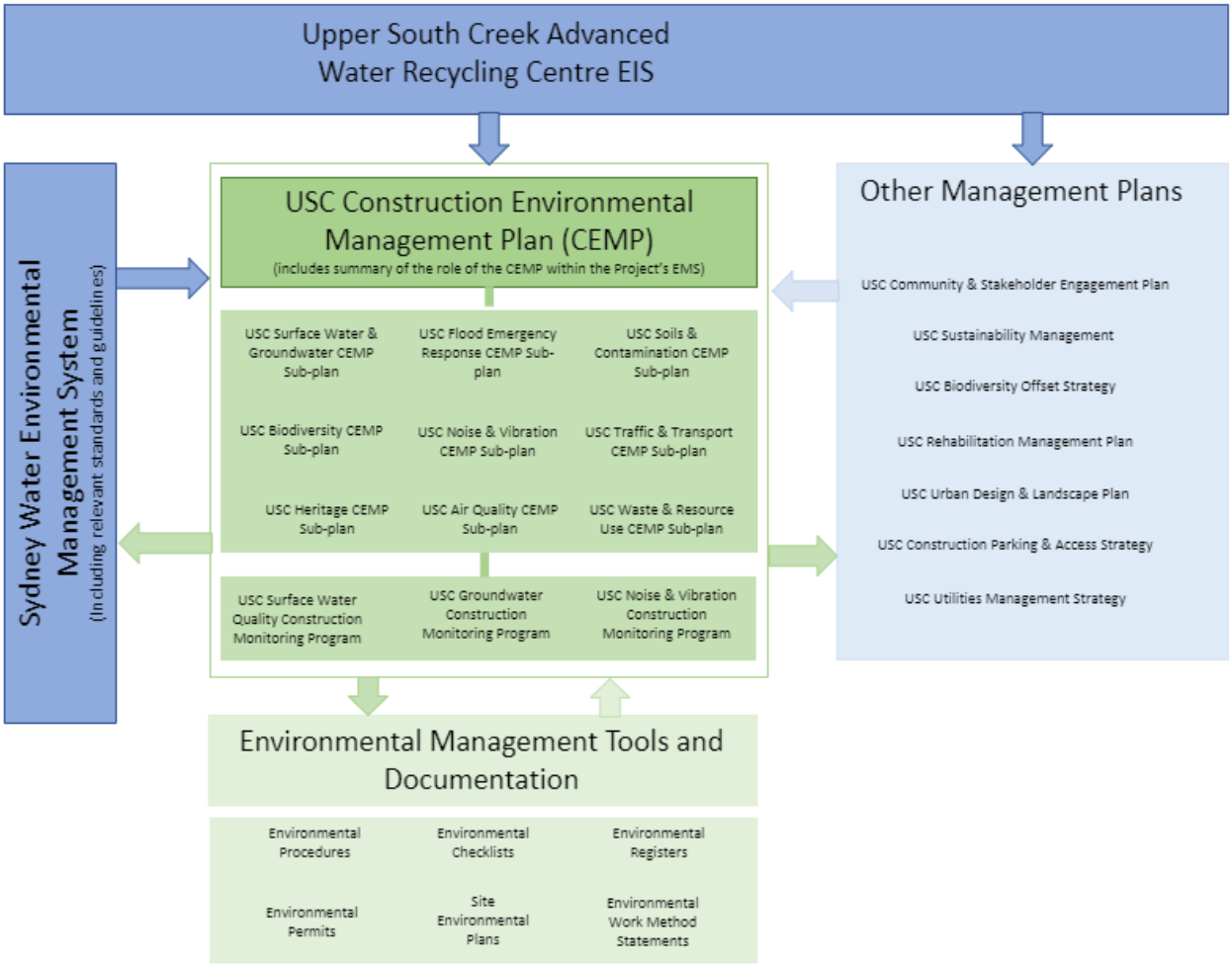


Figure 1-6 John Holland USC Environmental Management System

1.9 CEMP Structure

This CEMP is supported by a series of Sub-plans, procedures and monitoring programs as detailed in:

- CoA C4 – Environmental management Sub-plans
- CoA C13 – Monitoring programs
- EIS, RtS and Amendment Report
- UMMs

Following the completion of the Environmental Risk Assessment Workshop (Section 3.2.1), the CEMP structure for the USC project works was developed and subsequently updated after the CoA were received, as outlined below in Figure 1-8. This depicts the pathway from early planning stages through to the scope of the CEMP and sub-plans for implementation on site for the Stage 1 works.

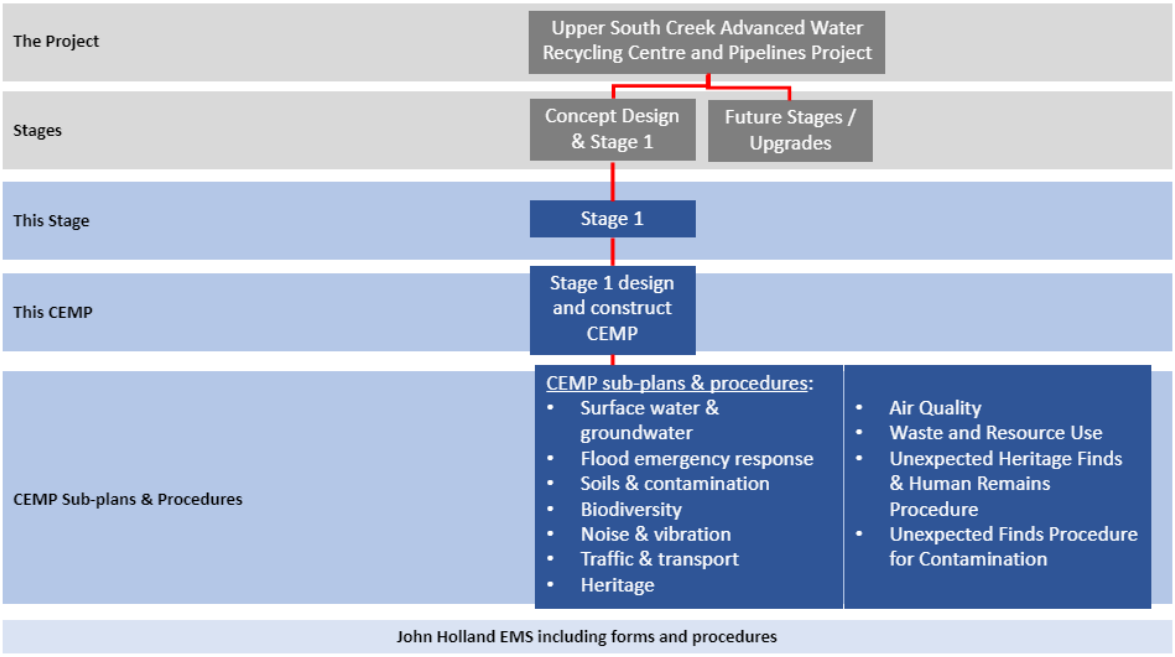


Figure 1-7 Structure of CEMP, Sub-plans, and Monitoring Programs

1.10 Working hours

Standard construction hours for the Project are defined by CoA E40 and E41. CoA E42 and E43 defines where work may be undertaken outside of these standard hours. Refer to the NVCSP for further detail on working hours and variations to working hours.

1.10.1 Standard Construction Hours

In accordance with CoA E40, work must only be undertaken during the following hours:

a. 7:00am to 6:00pm Mondays to Fridays, inclusive;
b. 8:00am to 1:00pm Saturdays; and
c. at no time on Sundays or public holidays.

1.10.2 Highly Noise Intensive Work

In accordance with CoA E41, except as permitted by an EPL, highly noise intensive works that result in an exceedance of the applicable NML at the same receiver must only be undertaken:

a. between the hours of 8:00 am to 6:00 pm Monday to Friday;
b. between the hours of 8:00 am to 1:00 pm Saturday; and
c. if continuously, then not exceeding three hours, with a minimum cessation of work of not less than one hour.

For the purposes of this condition, 'continuously' includes any period during which there is less than one hour between ceasing and recommencing any of the work.

1.10.3 Variation to Work Hours

In accordance with CoA E42, works may be undertaken outside the standard construction hours in any of the following circumstances (notwithstanding CoAs E40 and E41):

(a) Safety and Emergencies, including:

(i) for the delivery of materials required by the NSW Police Force or other authority for safety reasons; or

(ii) where it is required in an emergency to avoid injury or the loss of life, to avoid damage or loss of property or to prevent environmental harm.

On becoming aware of the need for emergency work in accordance with CoA E42(a), the Proponent must notify the Acoustic Advisor, the ER, the Planning Secretary and the EPA of the reasons for such work. The Proponent

must use best endeavours to notify all noise and/or vibration affected sensitive land user(s) of the likely impact and duration of the work.

(b) Low impact, including:

(i) construction that causes LAeq (15 minute) noise levels:

• no more than 5 dB(A) above the rating background level at any residence in accordance with the ICNG, or

• no more than the 'Noise affected' NMLs specified in Table 3 of the ICNG at other sensitive land user(s); or

(ii) construction that causes:

• continuous or impulsive vibration values, measured at the most affected residence are no more than the preferred values for human exposure to vibration, specified in Table 2.2 of Assessing Vibration: a technical guideline (DEC, 2006), or

• intermittent vibration values measured at the most affected residence are no more than the preferred values for human exposure to vibration, specified in Table 2.4 of Assessing Vibration: a technical guideline (DEC, 2006).

(c) By Approval, including:

(i) where different construction hours are permitted or required under an EPL in force in respect of the CSSI; or

(ii) works which are not subject to an EPL that are approved under an Out-of-Hours Work Protocol as required by CoA E43; or

(iii) negotiated agreements with directly affected residents and sensitive land user(s).

1.10.4 Out-of-Hours Work Protocol – Works Not Subject to an EPL

In accordance with CoA E43, works may be undertaken outside the standard construction hours following the preparation of an Out-of-Hours Work (OOHW) Protocol. The OOHW Protocol must be prepared to identify a process for consideration, management and approval of Work which is outside the hours defined in CoA E40 and that are not subject to an EPL. The Protocol must be submitted to and approved by the Planning Secretary before the commencement of the OOHW. The Protocol must be prepared in consultation with the ER, AA and EPA. The Protocol must include:

- identification of low and high-risk activities and an approval process that considers the risk of activities, proposed mitigation, management, and coordination, including where,
- the ER and AA review all proposed out-of-hours activities and confirm their risk levels
- low risk activities can be approved by the ER in consultation with the AA, and
- high risk activities that are approved by the Planning Secretary;
- a process for the consideration of out-of-hours work against the relevant NML and vibration criteria
- a process for selecting and implementing mitigation measures for residual impacts in consultation with the community at each affected location, including respite periods consistent with the requirements of CoA E55. The measures must take into account the predicted noise levels and the likely frequency and duration of the out-of-hours works that sensitive land use(s) would be exposed to, including the number of noise awakening events;
- procedures to facilitate the coordination of out-of-hours work including those approved by an EPL or undertaken by a third party, to ensure appropriate respite is provided; and
- notification arrangements for affected receivers for approved out-of-hours work and notification to the Planning Secretary of approved low risk out-of-hours works.

This condition does not apply if the requirements of CoA E42(a) or (b) are met. If the Work is subject to an EPL and the EPA does not endorse extended hours as part of the EPL, the extended hours cannot be considered under this Protocol.

1.11 Utilities Management

Due to lack of existing utilities in proximity to the project, new utilities will need to be constructed or established on site to meet project requirements. Some minor utilities, termed early works, will be required but are outside the scope of the USC EIS and therefore not included in this CEMP and related CEMP Sub-plans.

1.11.1 Required Utilities

Utilities that are required to construct and operate the Project are listed below:

- power – the power supply required for the AWRC site has been assessed in a separate environmental assessment and is not included in the EIS and this CEMP and Sub-plans. Sydney Water will obtain the relevant

approvals for the power supply required for the TW and Brine pipelines, located at Wallacia and Lansdowne, respectively. This will be managed in accordance with this CEMP and Sub-plans, following a revision update to ensure the CEMP and relevant Sub-plans incorporate the relevant scope of work and any additional mitigation measures.

- gas – a gas supply will be required as part of the initial operational phase of the AWRC site to assist with generating biogas in the digesters. The ultimate supply option will be determined during detailed design and in consultation with Jemena. Pending the outcome of this consultation, further environmental assessment will be required to be undertaken and is therefore not included in the EIS and this CEMP and Sub-plans.
- water and wastewater – the water supply network for the AWRC site will be assessed and delivered as part of a separate environmental assessment and project approval. The wastewater supply network required to deliver the wastewater to the AWRC is subject to a separate environmental assessment and is not included in the EIS and this CEMP and Sub-plans. The recycled water network that transports the advanced recycled water from the AWRC to surrounding precincts and users, for beneficial reuse, is subject to a separate environmental assessment and is not included in the EIS and this CEMP and Sub-plans.
- communication – communications will be required at particular locations along the pipelines and the AWRC site. To enable remote operating and monitoring of flows, communication infrastructure is required at key structures at Lansdowne Reserve and Wallacia. The access road to the AWRC site will be constructed as part of a separate Sydney Water project, however, the access road utilities corridor to be constructed as part of that separate project will accommodate fixed line data cables to the AWRC site.

1.11.2 Existing Utilities Impacted

Avoiding an impact to existing utilities is a priority for the project. Design considerations made during EIS development included locating infrastructure to avoid impacts on surrounding utilities and ensuring minimum offset distances are achieved. There are no existing utilities on the AWRC site that will be impacted by the project. Potential impact to existing utilities along the pipelines will be limited to accidental damage that may occur during construction.
Continued engagement and consultation, in accordance with the USC Community and Stakeholder Engagement Plan, will occur between Sydney Water, John Holland and the following authorities to ensure any potential impact is avoided or mitigated, as much as possible.

- Water NSW
- Transport for NSW (TfNSW), including Sydney Trains, Sydney Metro and Roads and Maritime.
- Australian Rail Track Corporation (ARTC)
- Impacted councils
- Endeavour Energy
- Jemena.

As part of John Holland's risk management process, existing utilities at risk of impact from construction activities will be identified as a potential risk and managed appropriately to ensure effective control measures have been implemented.

As an extension of the existing road dilapidation and condition reports required to be considered for the project under CoA E98 and E99, any utilities that have been identified that may be at risk of impact from construction will have dilapidation surveys completed to establish a pre-construction condition assessment of the asset.

Any utilities that have been damaged as a result of project construction activities will be repaired.

John Holland will build on existing Dial-Before-You-Dig (DBYD) investigations undertaken as part of the EIS, during detailed design and prior to construction. As required, John Holland will employ more sensitive investigative techniques, including AS5488 Quality Level A by potholing, where any particularly sensitive service is identified and/or the development of the design warrants it.

Where impacts to TfNSW assets are anticipated (for example, M12 Motorway; M7 Motorway; Elizabeth Drive near the intersection of The Northern Road; rail line at Cabramatta, north of Cabramatta railway station; proposed Sydney Metro – Western Sydney Airport; Hume Highway at Lansdowne; and Henry Lawson Drive), John Holland will prepare and submit civil plans to the relevant representative at TfNSW, to support any approvals required under the *Roads Act 1993*.

1.12 Environmental Objectives and Targets

As a means of assessing environmental performance during construction of the project, environmental objectives and targets have been developed for implementation. The objectives and targets are consistent with Sydney Water's

Environmental Policy (Appendix A5) and will assist with monitoring whether the commitments of the policy are being met as well as addressing the key project outcomes nominated in Section 15.5 of the EIS.

A high-level summary of these performance outcomes is provided in Table 1-5 and have been used to assist in the development of project-specific environmental objectives and targets detailed in

Table 1-6.

Table 1-5 Nominated project outcomes derived from the EIS.

Commitment	Outcome
Respond to growth	Provide wastewater services to the SWGA and WSAGA, in line with the NSW Government's long-term population forecasts and Sydney Water's licence obligations
Provide cost effective service	Provide a cost-effective value for money wastewater treatment service that is financially sustainable for Sydney Water and minimises impact on customer bills
Minimise disruption	Plan, construct and operate the infrastructure required to deliver the service with minimum disruption to the community.
Adaptable solution	Incorporate into the solution, alternative futures, addressing a range of demand scenarios (including before 2025), meeting customers changing aspirations
Sustainable design	Obtain an Infrastructure Sustainability Council of Australia (ISCA) rating of at least 'Excellent' and preferably 'Leading' for design and as built stages, with a minimum score of 65 points
Energy	Supplement 50% of Stage 1 project electricity use by: • self-generating renewable energy from installation of solar PV panels and recovered biogas to fuel co-generation • purchasing grid renewable energy
Circular economy	Reuse all biosolids to maximise reuse and recovery of resources Enable 100% of wastewater treated during normal dry weather conditions to be reused for the purpose of off-setting drinking water supply , recycled water for local supply or purified recycled water for drinking in the future Provide a source of water that can be used for green space and tree canopy irrigation to support urban cooling and greening objectives in Western Sydney
Water management	Meet EPA nutrient load limits in the Yarramundi 2 subzone. Maintain or improve instream water quality and macroinvertebrate diversity attributable to the project's operational waterway releases Support customers to develop high quality integrated water management solutions that consider a range of sources including rain/stormwater and recycled water from the AWRC where appropriate
Sustainable communities	Achieve landscape-led design of the AWRC site through developing and implementing an Urban Design and Landscaping Plan Design stormwater management at the AWRC site with the aim of meeting waterway objectives for South Creek Celebrate cultural and scientific heritage on the AWRC site
Environmental impact	Manage environmental impacts arising from construction of the project
Flood management	Not contribute to existing flood management issues in the Hawkesbury-Nepean or South Creek catchments
Climate resilience	Manage the impacts of a changing climate by including adaptation measures to support resilience of the project

The environmental objectives and targets outlined in *Table* 1-6 represent how John Holland will address the key project outcomes through the effective implementation of the project's CoA, UMMs, Commonwealth approval and any other relevant license / permit / approval required under applicable legislation, guidelines and/or standards, etc. Greater detail on the implementation of specific performance outcomes related to individual environment aspects (for example, noise and vibration, visual amenity, hydrology / surface water quality, etc) have been summarised in Appendix A1 of this CEMP and in more detail within each relevant CEMP sub-plan.

Project performance monitoring will be documented at least on an annual basis as part of the management review process.

Table 1-6 Environmental objectives and targets

Objective	Target	Measurement tool
Compliance and construction of the project in accordance with environmental approvals and Principal requirements	• All applicable conditions of approval and Principal requirements implemented throughout the project and within designated timeframes • No non-conformances identified during self-regulation • Close out the findings of ER inspections and reports within the timeframes determined based on risk assessment • Weekly inspections are undertaken	• Review of construction compliance • Weekly environmental inspections and reports • Monthly environmental reports • Management review
Compliance with all legal requirements	• No regulatory infringements (PINs or prosecutions) • No major environmental incidents	• Review of construction compliance • Management review
Implement a rigorous and comprehensive EMS that meets the requirements of AS/NZS ISO 14001	• Address non-conformances and corrective actions within specific timeframes	• Review of construction compliance • Management reviews
Engage with the affected and broader community, minimise avoidable complaints and respond to any complaints within a suitable timeframe	• Disseminate regular project updates and other information through the project website and other tools in accordance with the Community and Stakeholder Engagement Plan • Record and respond to complaints within the timeframe specified in the Community and Stakeholder Engagement Plan • No avoidable complaints	• Complaints register • Review of construction compliance • Management review
Continuously improve environmental performance	• Develop and maintain a program of ongoing environmental training • Capture lessons learnt from environmental incidents to minimise repeat issues	• Review of construction compliance • Management review

2 Consultation, Endorsement, and Approval

This CEMP and associated Sub-plans and procedures will be approved by the John Holland Construction Manager, John Holland Environmental Manager and Sydney Water prior to submission to the ER for endorsement and to DPHI and the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW), here in referred to as the Commonwealth for approval, as required (as noted in Table 2-1). The CEMP Sub-plans will be submitted to DPHI and Commonwealth along with or subsequent to the development of this CEMP. The CEMP and CEMP sub-plans will be submitted electronically to the Commonwealth. Unless otherwise agreed to in writing by the Minister, the approval holder must publish each plan on the website within 15 business days of the date:

a. of this approval, if the version of the plan to be implemented is specified in these conditions; or
b. the plan is approved by the Minister in writing, if the plan requires the approval of the Minister; or
c. the plan is submitted to the department in accordance with a requirement of these conditions, if the plan does not require the approval of the Minster; or
d. the plan is approved by a state/territory government official/the NSW Planning Secretary as required under a state/territory government condition which must be complied in accordance with these EPBC Act conditions.

It's noted that the CEMP was approved by DPHI on 08/08/2023, via the above process.

The CEMP Sub-plans are required to be prepared in consultation with the relevant government agencies as listed in CoA C4, the UMMs, EIS and the RtS reports. The Sub-plans and procedures relevant to the project and associated stakeholder consultation are listed below in Table 2-2.

Details of agency consultation requirements required by CoA A9 will be provided in a consultation summary memorandum. The consultation summary memorandum will be reviewed by the ER prior to ER endorsement of the CEMP. The consultation summary memorandum will also be provided to DPHI and the Commonwealth with the lodgement of each CEMP Sub-plan. Copies of all correspondence, including emails and meeting minutes, undertaken as part of this consultation process will be included as part of the consultation summary memorandum. Sub-plans have been prepared in consultation with required stakeholders and government agencies, as detailed in Table 2-2.

Table 2-1 Environmental management Sub-plans

Reference	Document **N**ame	Approval **P**athway
CoA C4(a)	Surface Water and Groundwater CEMP Sub-plan (including the appended surface water quality monitoring program and the groundwater monitoring program required under CoA C13 (a) and (b), respectively)	Submitted to the ER for endorsement and submitted to DPHI for approval
CoA C4(b)	Flood Emergency Response CEMP Sub-plan	Submitted to the ER for endorsement and submitted to DPHI for approval
CoA C4(c)	Soils and Contamination CEMP Sub-plan	Submitted to the ER for endorsement and submitted to DPHI for approval
CoA C4(d)	Biodiversity CEMP Sub-plan	Submitted to the ER for endorsement and submitted to DPHI and the Commonwealth for approval
CoA C4(e)	Noise and Vibration CEMP Sub-plan (including the appended noise and vibration monitoring program required under CoA C13 (c))	Submitted to the ER for endorsement and submitted to DPHI for approval
CoA C4(f)	Traffic and Transport CEMP Sub-plan	Submitted to the ER for endorsement and submitted to DPHI for approval
CoA C4(g)	Heritage CEMP Sub-plan	Submitted to the ER for endorsement and submitted to DPHI and the Commonwealth for approval
CoA C4(h)	Air Quality CEMP Sub-plan	Submitted to the ER for endorsement and submitted to DPHI for approval

Table 2-2 Stakeholder consultation requirements

Required CEMP Sub-plans and Monitoring	Consultation
Surface water and groundwater CEMP Sub-plan	EPA, EHG, DPHI Water, DPI Fisheries, WaterNSW and relevant council(s)
Flood emergency response CEMP Sub-plan	EHG, SES, relevant council(s)
Soils and contamination CEMP Sub-plan	EPA and relevant council(s)
Biodiversity CEMP Sub-plan	EHG, DPI Fisheries and relevant council(s)
Noise and vibration CEMP Sub-plan	EPA, WaterNSW and relevant council(s)
Traffic and transport CEMP Sub-plan	TfNSW and relevant council(s)
Heritage CEMP Sub-plan	Heritage NSW, EHG, WaterNSW and relevant council(s)
Air Quality CEMP Sub-plan	EPA and relevant council(s)
Surface Water Quality Monitoring Program	EPA, EHG, DPHI Water, DPI Fisheries, WaterNSW and relevant council(s)
Groundwater Monitoring Program	EPA, DPHI Water
Noise and Vibration Monitoring Program	EPA, WaterNSW and relevant council(s)
Rehabilitation Management Plan	EHG
Out of Hours Work Protocol	EPA

Prior to lodgement, any document requiring DPHI approval must first be endorsed by the ER in accordance with CoA A28(d), CoA C3 and CoA C15. In accordance with CoA A34(e), the Acoustics Advisor (AA) must also endorse the Noise and Vibration CEMP Sub-plan and the Noise and Vibration Monitoring Program (NVMonP) prior to lodgement to DPHI for approval. The Soil and Contamination CEMP Sub-plan is also to be reviewed by the NSW EPA accredited Site Auditor in accordance with CoA E74 (a). A Certified Professional in Erosion and Sediment Control (CPESC) will review the Surface Water and Groundwater CEMP Sub-plan in accordance with CoA E73.

Ongoing consultation with stakeholders, including the surrounding community, will be conducted throughout construction in accordance with the CSEP. For details regarding revisions of this document post-approval of the CEMP, refer to Sections 3.12 and 3.13 of this document.

3 Environmental Management Plan

3.1 Preparation and Availability of the CEMP

The CEMP for the project has been prepared in accordance with requirements of the CoA C1 to C3. The CEMP will be available to all workers, subcontractors, visitors or anyone working on the project throughout the duration of construction under the CSSI.

3.2 Planning

3.2.1 Environmental Risk Assessment

An environmental risk assessment workshop was held on 11 October 2022 for the project and reviewed the USC project works.

Each activity was assessed to identify the relevant steps in the activity and the associated environmental hazards, initial risk levels, mitigation measures to avoid, manage and/or minimise the risks and residual risks. Each of these items were documented in an environmental risk register (refer to Appendix A4). The environmental risk assessment will assess project changes and significant issues during the construction stage as required.

Where relevant, the requirements from the CoA, Updated Mitigation Measures, Commonwealth Approval will be incorporated into the environmental risk assessment, particularly in developing the agreed activity specific site controls.

Appendix A4 contains a list of environmental aspects and impacts including those identified in the risk assessment workshop.

As it is a live document, the environmental risk assessment will be regularly reviewed for construction staging, project changes and significant issues. An ongoing risk analysis for the USC project works will be conducted during Management Reviews as detailed in Section 3.11.

3.2.2 Regulatory Requirements and Compliance

3.2.2.1 Legislation

A register of legal and other requirements for the project is contained in Appendix A3. This register will be reviewed as part of the review of this plan (refer to Section 3.11) during management reviews and updated with any applicable changes. Any changes made to the legal requirements register will be communicated to the wider project team, including subcontractors where necessary through toolbox talks, specific training and other methods detailed in Section 3.4 of this CEMP.

3.2.2.2 Approvals, Permits and Licences

A number of approvals, permits and licenses have and/or will be obtained for the project. Appendix A3 contains a register of all relevant environmental approvals, permits and licenses. The register will be reviewed prior to the commencement of construction and/or stages of construction, and at regular intervals during construction and at least annually as part of the management review.

The Environmental Assessment recognised that the following approvals and licences are required for the project:

- Commonwealth Controlled Activity Approval (EPBC 2020/8816)
- Environment Protection Licence (EPL) (#21800)
- Road Occupancy Licences
- Water Access Licence.

3.2.3 Environmental Work Method Statement

Environmental work method statements (EWMS) will be prepared to manage and control all high-risk activities that have the potential to negatively impact on the environment. EWMS will be prepared prior to the commencement of the relevant construction activities and will incorporate mitigation measures and controls, including those from the CEMP Sub-plans and procedures. They are specifically designed to communicate requirements, actions, processes and controls to construction personnel using plans, diagrams and simply written instructions.

EWMS will be provided to the Sydney Water Environmental Lead for review and approval 10 days prior to the commencement of works. Associated works cannot commence until the EWMS is approved by Sydney Water.

EWMS will be prepared for high-risk activities identified through the Environmental Risk Assessment Workshop (see Section 3.2.1). As a minimum, EWMS will be prepared for the following activities:

- working in, on, over and/or near environmental sensitive areas (refer to Appendix A6)
- site establishment
- clearing and grubbing
- earthworks including stockpile management
- trenchless crossings
- activities that generate high levels of noise and vibration
- working in/on/around heritage (Aboriginal and/or non-Aboriginal).
- handling/managing contaminated soil and/or land
- bushfire management
- low impact work
- commissioning / discharge controls.

All construction personnel and subcontractors undertaking a task governed by an EWMS must participate in training on the EWMS and acknowledge that they have read and understood their obligations by signing an attendance record prior to commencing work.

Regular monitoring, inspections and auditing of compliance with the EWMS will be undertaken by project management and environmental personnel to ensure that all controls are being followed and that any non-conformances are recorded, and corrective actions implemented.

3.2.4 Site Environmental Plans

The USC works traverses a range of environmental and socially sensitive areas/sites. To assist with construction planning and management, these site constraints are consolidated on a series of map-based sheets called Site Environmental Plans (SEPs). The SEPs include information pertaining, but not limited to:

- flora features, including threatened species and endangered ecological communities
- Aboriginal and non-Aboriginal heritage sites, including items, places, objects and conservation areas
- local waterways
- bushfire risk/ prone land
- contamination, including potential or actual acid sulphate soil areas or contaminated sites identified in the EIS.
- construction boundary

Noise sensitive receivers are identified in the Noise and Vibration CEMP Sub-plan and explored in detail in the land-use survey completed as part of CoA E39, appended to the NVCSP.

Relevant SEPs will be used in conjunction with the developed EWMSs to help identify key risk areas and to promote ongoing environmental awareness and communication to construction personnel during the Project. As part of this CEMP, SEPs have been developed. As SEPs are a working, live element of the CEMP, they will be regularly reviewed throughout construction to reflect true ground conditions and identify new items / areas as required. For the purpose of CEMP approval, current SEPs are included in Appendix A6, however these will be managed through John Holland's online project management system, Project Pack Web (PPW). As part of the environmental induction, all staff and subcontractors working on site will be provided with an understanding of the risks associated with working in or near environmentally sensitive areas.

3.3 Resources, Responsibilities, and Authority

The key environmental management roles and responsibilities for the construction phase of the project are described below. The structure of these roles is shown in Figure 3-1.

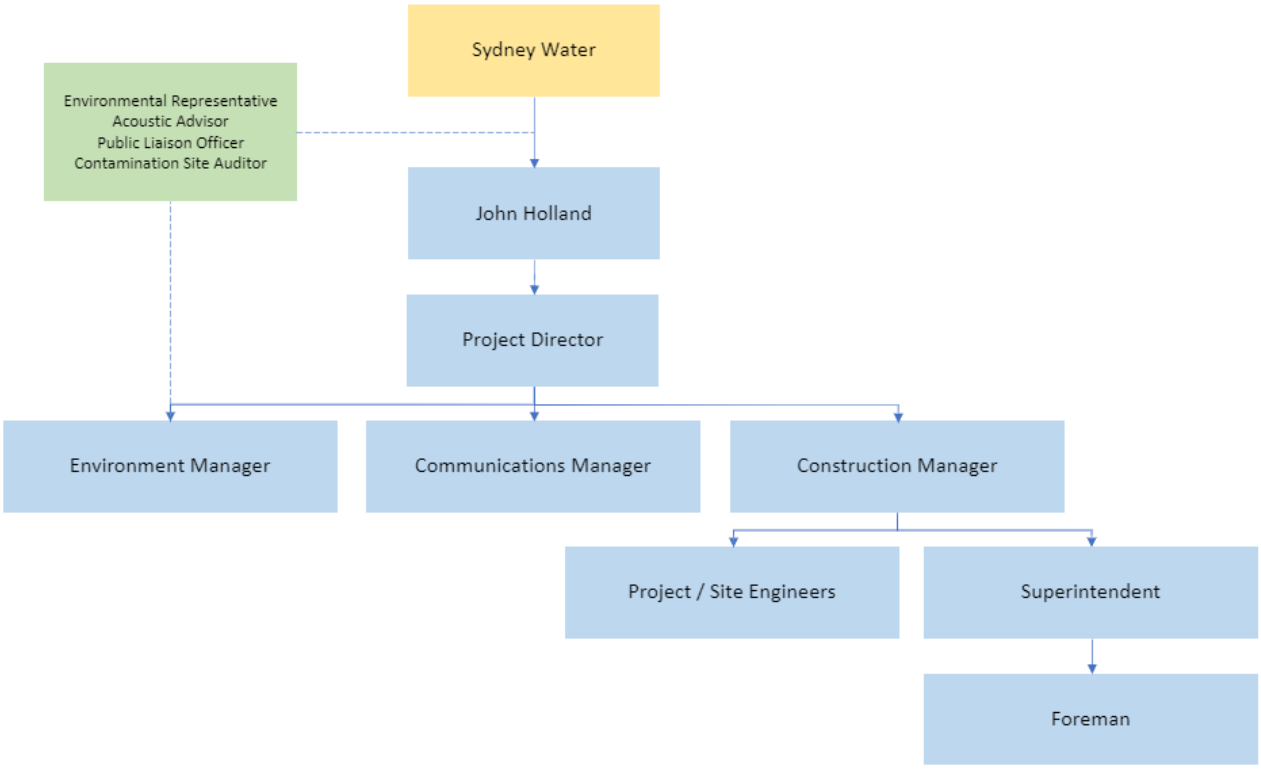


Figure 3-1 Project Management Structure

3.3.1 Environmental Representative

The Environmental Representative (ER) is engaged by Sydney Water and has been approved by the Planning Secretary. The primary role of the ER is to independently oversee compliance with the Project Planning Approval and be the principal point of advice on the environmental performance of the works.

The role and responsibilities of the ER are outlined in CoA A24 – A28. The roles and responsibilities include the following:

- receive and respond to communication from the Planning Secretary in relation to the environmental performance of the CSSI
- consider and inform the Planning Secretary on matters specified in the terms of this approval
- consider and recommend to the Sydney Water and/or John Holland any improvements that may be made to work practices to avoid or minimise adverse impact to the environment and to the community
- review documents identified in CoAs A10, A17, C1, C4 and C13 and any other documents that are identified by the Planning Secretary, to ensure they are consistent with requirements in or under this approval and if so:
  - make a written statement to this effect before submission of such documents to the Planning Secretary (if those documents are required to be approved by the Planning Secretary); or
  - make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Planning Secretary / Department for information or are not required to be submitted to the Planning Secretary/Department)
- regularly monitor the implementation of the documents listed in CoAs A10, A17, C1, C4 and C13 to ensure implementation is being carried out in accordance with the document and the terms of this approval
- as may be requested by the Planning Secretary, help plan or attend audits of the development commissioned by the Department including scoping audits, programming audits, briefings and site visits, but not independent environmental audits required under CoA A37 of this approval

- as may be requested by the Planning Secretary, assist in the resolution of community complaints
- review the appropriateness of any activities reliant on the definition of Low Impact Work
- consider or assess the impacts of minor ancillary facilities comprising lunch sheds, office sheds and portable toilet facilities as required by CoA A19 of this approval
- consider any minor amendments to be made to the Site Establishment Management Plan, CSEP, CEMP, CEMP Sub-plans and monitoring programs without increasing impacts to nearby receivers or that comprise updating or are of an administrative nature, and are consistent with the terms of the CoAs and the Site Establishment Management Plan, CSEP, CEMP, CEMP Sub-plans and monitoring programs approved by the Planning Secretary and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of this approval
- prepare and submit to the Planning Secretary and other relevant regulatory agencies, for information, an Environmental Representative Monthly Report providing the information set out in the Environmental Representative Protocol under the heading "Environmental Representative Monthly Reports." The Environmental Representative Monthly Report must be submitted within seven days following the end of each month for the duration of the ER's engagement for Stage 1 of the CSSI, or as otherwise agreed by the Planning Secretary
- assess the impacts of activities as required by the Low Impact Works definition.

3.3.2 Acoustics Advisor (AA)

The independent Acoustics Advisor (AA) is engaged by Sydney Water and has been approved by the Planning Secretary. The primary role of the AA is to independently oversee construction noise and vibration planning, management and mitigation in accordance with the Project Planning Approval. The AA has been engaged for the duration of construction and for no less than six (6) months following completion of construction of the CSSI.

The responsibilities of the Acoustics Advisor are outlined in CoAs A30 – A34. The role and responsibilities include the following:

- receive and respond to communication from the Planning Secretary in relation to the performance of the CSSI in relation to noise and vibration
- consider and inform the Planning Secretary on matters specified in the terms of this approval relating to noise and vibration
- consider and recommend to Sydney Water and/or John Holland, improvements that may be made to avoid or minimise adverse noise and vibration impacts
- review all proposed night-time works to determine if sleep disturbance would occur and recommend measures to avoid sleep disturbance or appropriate additional alternative mitigation measures
- review all noise and vibration documents required to be prepared under the terms of this approval and, should they be consistent with the terms of this approval, endorse them before submission to the Planning Secretary (if required to be submitted to the Planning Secretary) or before implementation (if not required to be submitted to the Planning Secretary)
- regularly monitor the implementation of all noise and vibration documents required to be prepared under the terms of this approval to ensure implementation is in accordance with what is stated in the document and the terms of this approval
- notify the Planning Secretary of noise and vibration incidents in accordance with CoAs A43 and A45 of this approval
- in conjunction with the ER, the AA must:
  - as may be requested by the Planning Secretary, help plan, attend or undertake audits of noise and vibration management of Stage 1 of the CSSI including briefings, and site visits,
  - in the event that conflict arises between Sydney Water and/or John Holland and the community in relation to the noise and vibration performance of the CSSI, follow the procedure in the Community and Stakeholder Engagement Plan approved under CoA B2 to attempt to resolve the conflict, and if it cannot be resolved, notify the Planning Secretary
  - consider relevant minor amendments made to the CEMP, relevant Sub-plans and noise and vibration monitoring programs that require updating or are of an administrative nature, and are consistent with the terms of this approval and the management plans and monitoring programs approved by the Planning Secretary and, if satisfied such amendment is necessary, endorse the amendment, (this does not include any modifications to the terms of this approval

- review the noise impacts of minor construction ancillary facilities
- prepare and submit to the Planning Secretary and other relevant regulatory agencies, for information, a Monthly Noise and Vibration Report detailing the AA's actions and decisions on matters for which the AA was responsible in the preceding month. The Monthly Noise and Vibration Report must be submitted within seven days following the end of each month for the duration of the AA's engagement for the CSSI, or as otherwise agreed by the Planning Secretary. The frequency of this report can be changed if agreed by the Planning Secretary

3.3.3 Contamination Site Auditor (EPA Accredited Site Auditor)

The Contamination Site Auditor has been engaged by Sydney Water for the duration of the project. The responsibilities of the Contamination Site Auditor include, but are not limited to, the following:

- review all relevant documentation and provide a written option on the contamination risk and the appropriateness of the reports and any proposed management measures of the site, including (but not limited to):
  - the contamination aspects of management and monitoring plans in CoAs C1 and C4, including any updates or amendment to those plans
  - the review of risk ratings for Areas of Environmental Concern (AECs) in CoA E76
  - sampling and Analysis Quality Plan in CoA E77
  - detailed Site Investigation Report(s) in CoA E79
  - remedial Action Plans in CoA E83
  - unexpected Finds Procedure for Contamination in CoA E88
  - post-remediation validation reports.
- where required, provide evidence that they have reviewed each of the plans and reports listed in CoA E74 and has issued an interim audit advice or a relevant Site Audit Statement regarding the appropriateness of those plans or reports, and must provide it when the plan or report is submitted to the Planning Secretary for information.
- responsibilities of the Contamination Site Auditor are further detailed in the Soils & Contamination CEMP Sub-plan.

3.3.4 Sydney Water Environmental Lead

The responsibilities of the Sydney Water Environmental Lead include, but are not limited to, the following:

- review any environmental management plans and related documents prepared for the project
- review and consider minor project refinements that are consistent with the project environmental assessment
- monitor the environmental performance of the project in relation to the Approval, CEMP and associated Sub-plans and procedures and Sydney Water requirements
- liaise with the ER, AA and other government authorities as required
- review where required, approve all project documents relating to environmental management prepared by the contractor for submission to the ER and/ or DPHI
- manage project correspondence with DPHI, including provision of project documentation to the DPHI Planning Portal (unless otherwise undertaken by ER)
- hold contractor accountable for compliance with the approval, contract obligations and other statutory instruments and conformance with the CEMP and Sub-plans and other supporting documentation developed for the project.

3.3.5 John Holland Project Director

The environmental responsibilities of the Project Director include (but are not limited to) the following:

- sign off on and approve the contents of this CEMP on behalf of the Construction Contractor
- ensure all works comply with relevant regulatory and project requirements
- ensure the requirements of this CEMP are fully implemented
- plan construction works in a manner that avoids or minimises impact to environment
- support the project environmental policy attached at Appendix A5
- liaise with Sydney Water, ER and other government authorities as required
- participate and provide guidance in the regular review of this CEMP and supporting documentation
- provide adequate resources (personnel, financial and technological) to ensure effective development, implementation and maintenance of this CEMP

- ensure construction personnel manage construction works in accordance with statutory and approval requirements
- ensure that all personnel receive appropriate induction training, including details of the environmental and community requirements
- ensure that complaints are investigated to ensure effective resolution
- stop work immediately if an unacceptable impact on the environment has or is likely to occur
- ensure that environmental protection and safeguards remains an integral element of all project planning and activities
- support the Environment Manager in achieving the project environmental objectives
- ensure environmental management procedures and protection measures are implemented.

3.3.6 John Holland Superintendent

The environmental responsibilities of the Superintendent include (but are not limited to) the following:

- communicate with all personnel and subcontractors regarding compliance with the CEMP and site-specific environmental issues
- ensure all site workers attend an environmental induction prior to the commencement of works
- co-ordinate the implementation of the CEMP
- co-ordinate the implementation and maintenance of pollution control measures
- identify and deploy resources required for implementation of the CEMP
- support the Environment Manager in achieving the project environmental objectives, including on ground implementation of the EWMS and ESCP
- report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Environment Manager or delegate
- co-ordinate action in emergency situations and allocate required resource
- stop activities where there is an actual or immediate risk of harm to the environment and advise the Project Director and Environment Manager
- follow directions given by the ER.

3.3.7 John Holland Environment Manager

The environmental responsibilities of the Environment Manager include, but are not limited to, the following:

- overall responsibility for the implementation of environmental matters on the project
- development, implementation, monitoring and updating of the CEMP and Sub-plans in accordance with ISO14001
- report to Project Director and other senior managers on the performance and implementation of the CEMP
- ensure management reviews of the CEMP are undertaken annually, documented and actions implemented
- ensure environmental risks of the project are identified and appropriate mitigation measures implemented
- identify where environmental measures are not meeting the targets set and where improvement can be achieved
- ensure environmental protocols are in place and managed
- ensure environmental compliance
- obtain, implement and update all environmental licences, approvals and permits as required
- liaise with Sydney Water Environment Lead, the ER, AA and government authorities as required
- manage environmental document control, reporting, inductions and training
- manage environmental reporting within the project team and to Sydney Water and regulatory authorities
- prepare reports on a monthly basis outlining the project works undertaken and the achievements that have been met, as well as identifying those areas where improvements were made
- oversee site monitoring, inspections and audits
- manage all subcontractors and consultants with regards to environmental matters, including assessing their environmental capabilities and overseeing the submission of their environmental documents
- prepare and/or distribute environment awareness notes
- develop and facilitate induction, toolbox talks and other training programs regarding environmental requirements for all site personnel

- determine when an incident has occurred, notify Sydney Water, John Holland and relevant authorities in the event of an environmental incident and manage close-out
- stop activities where there is an actual or immediate risk of harm to the environment, or to prevent environmental non-conformities, and advise the John Holland Project Director and Superintendent
- assist the Communications Manager to resolve environment-related complaints
- follow directions given by the ER.

3.3.8 John Holland Communications Manager (and Public Liaison Officer)

The environmental responsibilities of the Communications Manager/Public Liaison Officer include, but are not limited to, the following:

- ensure that all community consultation activities are carried out
- report any environmental issues to the John Holland Environment Manager raised by stakeholders or members of the community
- communicate general project progress, performance and issues to stakeholders including the community
- maintain the 24-hour complaints hotline
- maintain the complaint register
- liaise and coordinate communications activities with the John Holland environment team and Sydney Water as appropriate.

3.3.9 John Holland Project / Site Engineers

The environmental responsibilities of the site / project engineers include (but are not limited to) the following:

- provide input into the preparation of environmental planning documents as required
- ensure that instructions are issued, and adequate information provided to employees that relate to environmental risks on-site
- ensure that the works are carried out in accordance with the requirements of the CEMP and supporting documentation, including the implementation of all environmental controls
- identify any environmental risks
- identify resource needs for implementation of CEMP requirements and related documents
- ensure that complaints are investigated to ensure effective resolution
- take action in the event of an emergency and allocate the required resources to minimise the environmental impact
- report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Superintendent and John Holland Environment Manager.
- follow directions given by the ER.

3.3.10 John Holland Foreman

The environmental responsibilities of the foreman include (but are not limited to) the following:

- undertake any environmental duties as defined by the superintendent or project/site engineer
- control field works and implement/maintain effective environmental controls
- where required, undertake environmental risk assessment of works prior to commencement
- ensure site activities comply with relevant EWMSs and relevant records are kept
- ensure all site workers are inducted prior to commencement of works
- attend to any spills or environmental incidents that may occur on-site
- report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Superintendent
- stop activities where there is an actual or immediate risk of harm to the environment and advise the Project Director, Superintendent or John Holland Environment Manager
- follow directions given by the ER.

3.3.11 Wider Project Team (including subcontractors)

The environmental responsibilities of the wider project team (including subcontractors) include (but are not limited to) the following:

- comply with the relevant requirements of the CEMP, or other environmental management guidance as instructed by a member of the project's management team
- participate in the mandatory project/site induction program
- report any environmental incidents to the foreman immediately and take any reasonable steps to control the incident
- undertake remedial action as required to ensure environmental controls are maintained in good working order
- stop activities where there is an actual or immediate risk of harm to the environment and advise the Project Director, Superintendent or John Holland Environment Manager
- follow directions given by the ER.

3.3.12 USC Utilities Coordinator

The environmental responsibilities of the Utilities Coordinator include (but are not limited to) the following:

- the management and coordination of all utility Work associated with the delivery of the USC project
- ensure respite is provided to the community
- provide advice to the Public Liaison Officer(s) regarding upcoming utility Work, including the scope of the work and the responsibility for the Work
- investigate complaints received from the Community Complaints Mediator or the Public Liaison Officer(s) relating to utility Work and provide a response to the Community Complaints Mediator or Public Liaison Officer(s).

3.3.13 John Holland Traffic Manager

The environmental responsibilities of the Utilities Coordinator include (but are not limited to) the following:

- assist the John Holland Community and Stakeholder Engagement Manager in responding to traffic and transport related complaints
- maintain a register of such complaints for reporting to relevant agencies
- conduct an investigation to determine the potential activities that could have led to the complaint and issues reported, in consultation with the John Holland Environmental Manager

3.4 Selection and Management of Subcontractors

Environmental requirements and responsibilities will be specified to subcontractors in the contract documentation. As part of the selection process, consideration will also to be given to their past environmental performance. John Holland will ensure that all subcontractors selected to work on the project understand and have the capability to comply with their environmental management responsibilities. The John Holland subcontractor scope of works that forms part of subcontractor agreements commits all subcontractors to work in accordance with this CEMP.

Subcontractors are responsible for:

- environmental requirements and responsibilities which are specified in their contract documentation
- ensuring Work is in accordance with this CEMP, Sub-plans and procedures
- attending inductions, toolbox meeting and other meetings as required where the requirements and obligations of the CEMP, Sub-plans and procedures are communicated
- reporting environmental incidents to their contact within the project (Site Supervisor or delegate) immediately and prior to leaving the site
- participating in investigation and/or risk assessments where necessary.

A record of all subcontractors inducted will be maintained as part of the project induction and training register. Subcontractor environmental performance will be recorded during the environmental inspection detailed within Section 3.9 of this CEMP.

3.5 Competence, Training and Awareness

To ensure that this CEMP is effectively implemented, each level of management is responsible for ensuring that all personnel reporting to them are aware of the requirements of this CEMP. The John Holland Environment Manager will coordinate the environmental training in conjunction with other training (e.g. safety) and development activities.

3.5.1 Environmental Induction

All personnel (including subcontractors) are required to attend a compulsory site induction that includes an environmental component prior to commencement on-site to ensure all personnel are aware of the requirements of the CEMP and the implementation of these requirements.

Visitors to site for purposes such as deliveries and undertaking inspections will be required to be accompanied by inducted personnel at all times.

The environmental component of the induction must cover all elements of the CEMP and would include as a minimum:

- requirements of due diligence and duty of care
- environmental and compliance obligations under the terms of the approval(s), EPL and other statutory instruments
- potential environmental emergencies on site and the emergency response procedures
- reporting and notification requirements for pollution and other environmental incidents
- high risk activities and associated environmental safeguards
- the existence of EWMSs for high-risk activities, including working in or near environmentally sensitive areas
- the implementation of the unexpected finds procedure for heritage, contamination, and biodiversity
- requirements of the Driver's Code of Conduct
- information about the community the project is working in and what to do when approached by a member of the public or media.

A record of all environment inductions will be maintained. The John Holland Environment Manager may authorise amendments to the induction at any time.

3.5.2 Toolbox Talks, Training, and Awareness

Toolbox talks are used to raise environmental awareness throughout construction and educate personnel on environmental issues. They will be tailored to specific environmental issues relevant to upcoming works, including details of EWMSs for relevant personnel.

Toolbox talk attendance is mandatory and attendees of toolbox talks are required to sign an attendance form and the records maintained.

Targeted environmental awareness training will be also provided to workers with a specific authority or responsibility for environmental management or those undertaking an activity with a high risk of environmental impact. This will be documented by the project team prior to the commencement of construction during construction planning meetings and a record of attendance for all environmental training provided will be maintained.

Awareness of environmental issues will also be communicated through posters, booklets, or similar and will be used to inform the broader workforce through either daily pre-starts meeting (see Section 3.5.3) or provision in worker crib sheds / break facilities.

3.5.3 Daily Pre-Start Meetings

The pre-start meeting is used to inform the workforce of the day's activities, environmental protection practices, work area restrictions, coordination issues with other trades, a review of the daily weather forecast, hazards and other information that may be relevant to the day's work.

The Foreman will conduct a daily pre-start meeting with the site workforce before the commencement of work each day (or shift) or where changes occur during a shift.

The environmental component of pre-starts will be determined by relevant foreman and environmental personnel and will include any environmental issues that could potentially be impacted on or by the day's activities. All attendees will be required to sign on to the pre-start and acknowledge their understanding of the issues explained.

3.6 Communication

A Community & Stakeholder Engagement Plan (CSEP) has been prepared to provide mechanisms to facilitate communication between Sydney Water, the ER, the AA, the relevant Council, Aboriginal people, Registered Aboriginal Parties (RAPs) and Local Aboriginal Land councils (LALCs), relevant government agencies, other major projects, and the community in accordance with the CoA B1.

3.6.1 Internal Communication

Regular meetings will be scheduled with the Environmental Representative, relevant Sydney Water environmental and community staff and John Holland to communicate ongoing environmental performance and to identify any issues to be addressed.

Further internal communications regarding environmental issues and aspects will be through awareness training as described in Section 3.5.

3.6.2 Liaison with EPA, Government Authorities or Relevant Stakeholders

The John Holland Environment Manager will report on the ongoing environmental performance of the project to Sydney Water, the ER and relevant government agencies.

Relevant government agencies will be consulted throughout construction in accordance with the CSEP.

The John Holland Project Director and the John Holland Environment Manager are 24-hour contacts that have the authority to halt the progress of the works. They are the key emergency response personnel during an environmental site emergency.

The John Holland Project Director and John Holland Environment Manager are authorised contact person for communications with Sydney Water and the EPA on environmental matters.

A report will be prepared on each occasion the site is formally visited by EPA, and Sydney Water will be immediately notified. The Report will be provided to Sydney Water within two working days of the visit.

3.6.3 Community Liaison and / or Notification

Consultation and engagement with the community will be in accordance with the CSEP which includes the appointment of a Public Liaison Officer for construction and utility works. In accordance with CoA B6, the Public Liaison Officer will be available at all times that works are occurring and will assist the public with questions and complaints they may have in relation to the works.

Key stakeholders, other major projects and the community will be consulted during the construction phase in accordance with the CoA and the CSEP. Regular meetings will be held to discuss environmental performance, upcoming works, any planned high-risk activities and will include inspections of the work sites as required.

All communication by John Holland with DPHI are to be facilitated via Sydney Water.

3.6.4 Complaints Management

A Complaints Management System has been developed for the project by Sydney Water in accordance with the CoA B7. The CSEP contains further details on this management system, the complaints register and mediation protocols.

The John Holland Environment Manager will apply an adaptive approach to ensure that corrective actions are applied in consultation with the appropriate construction staff to allow modifications and improvements in the management of any environmental issues arising from community complaints.

3.7 Emergency and Incident Planning / Reporting

An (environmental) incident is 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. This may be as a consequence of which pollution (air, water, noise, and land) or an adverse environmental impact has occurred, is occurring, or is likely to occur.

The management and reporting of an environmental incident, including pollution incidents will be managed and reported in accordance with the John Holland Incident and Event Management Procedure located in Appendix A7.

All environmental incidents, reportable events, regulatory actions and non-compliance will be raised via the internal John Holland system, Soteria. Incidents will be reported to Sydney Water as a report action (RA) for integration into the Sydney Water Incident Recording and Learning (SWIRL) system, as is required under Sydney Water *Incident Management Procedure* (DC0000506).

RAs will capture 'actual' or 'potential' incidents or non-conformances and their severity. The following details will be provided as part of the Report Action:

- detailed explanation of the Report Action
- Root Cause Analysis (RCA)
- description of what would be put in place to prevent incident from reoccurring
- cost of Materials/Consumables used to close out the Report Action e.g. Backfill material, concrete, pipe and fittings, welding electrodes, etc.
- hours required to close out the Report Action i.e. PM, PE, Admin, Subcontractors hours, supervision, work crew hours, design hours, investigation hours etc.

The Sydney Water Environmental Lead will undertake any external notifications and regulatory incident reporting requirements detailed in CoA A43 and A44, which state:

- The Planning Secretary must be notified via the Major Projects Website as soon as possible and no later than 12 hours after the Proponent becomes aware of an incident. The notification must identify the CSSI (including the application number and the name of the CSSI if it has one) and set out the location and nature of the incident.
- subsequent notification and reporting must be undertaken in accordance with, and the requirements set out in Appendix A of the Infrastructure Approval i.e. written notification to DPHI within 7 days and a detailed report within 30 days – Refer to Appendix A of the Infrastructure Approval for further details.

Where an incident involves a potential impact to an Aboriginal site, the Sydney Water Environmental Lead will notify relevant authorities such as the Office of Environment and Heritage, and Registered Aboriginal Parties, with their input sought in closing out the incident.

As John Holland will be the licensee for the applicable construction Environmental Protection Licence (EPL), John Holland will undertake notification to the EPA for any pollution incidents on or around the site via the EPA Environment Line (telephone 131 555) in accordance with Part 5.7 of the *Protection of the Environment Operations Act 1997* (NSW) (POEO Act). The circumstances where this will take place include:

- it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
- it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations)

John Holland will notify Sydney Water no later than 24 hours after the incident was first identified. John Holland will provide all records of the environmental incidents and regulatory actions to the Sydney Water team.

John Holland will notify the Commonwealth electronically, within 2 business days of becoming aware of any incident and/or potential non-compliance and/or actual non-compliance with the conditions or commitments made in a plan. John Holland will notify the Commonwealth in writing with details, within 12 business days of becoming aware of any incident and/or potential non-compliance and/or actual non-compliance with the conditions or commitments made in a plan.

In accordance with the requirements of the EPL held by John Holland for the project works, a Pollution Incident Response Management Plan (PIRMP) will be prepared and implemented as required.

3.7.1 Incident Management Plan (IMP)

Sydney Water Management Specification requires that John Holland establish, implement and maintain an environmental incident management plan (IMP) to report, prevent and/or mitigate environmental impacts associated with emergency situation and accidents (Section 8.12). The specification also requires that John Holland respond and act on 'Report Actions' (RAs) as discussed in Section 3.7. The requirements of the IMP are addressed in Table 3-1 below.

Table 3-1 Requirements of the IMP

IMP Requirement	How it is addressed?	Reference / Location
IMP must be integrated with overall incident management for the provision of Services, Goods and Services, or Works (as applicable) by John Holland	John Holland has an Integrated Management System (IMS) that is implemented across all projects. Incident management, including environmental incidents, is addressed in the IMS (Incident and Event Management (JH-MPR-SQE-010)) and is applied on a project-level in the CEMP. The CEMP references the relevant Sydney Water and John Holland incident management procedures that will be implemented. Sydney Water's Incident Management Procedure and John Holland's Incident and Event Management Procedure are discussed in Section 3.7 and appended to the CEMP in Appendix A7.	Section 3.7 Appendix A7
The IMP must include procedures for notification of incidents to SWC within statutory timeframes	Notification procedures, including SWC requirements, are included in Section 3.7.	Section 3.7
The IMP must reference the roles and responsibilities as outlined in the Environmental Management Documentation	At an organisation level, roles and responsibilities are included in both the John Holland and Sydney Water incident management procedures in Appendix A7 of the CEMP. Project-specific roles and responsibilities derived from these procedures are explored in Section 3.3 of the CEMP.	Appendix A7 Section 3.3
The IMP must be included in the Environmental Management Documentation	Incident management requirements are included in the CEMP which is the primary environmental management document within the project's environmental management system.	This Plan
The IMP must detail the Contractor's procedures for notification of pollution incidents as defined under s148 of the POEO Act, being pollution incidents that cause or threaten material harm to the environment (s147). The Contractor must notify such pollution incidents to the appropriate authorities immediately and must report to SWC no later than 24 hours after the incident was first identified.	Notification of pollution incidents is addressed in Section 3.7 of the CEMP.	Section 3.7

3.8 Environmental Non-Conformance

3.8.1 Non-Compliance

An environmental non-compliance is a breach with any CoA, licence condition or any other statutory approval relevant to the activity and/or area where the activity occurs.

After becoming aware of an environmental non-compliance, John Holland will notify Sydney Water immediately and Sydney Water will notify DPHI via the NSW Planning Portal Website within seven days in accordance with CoA A45. The notification must identify the CSSI (including the application number and the name of the CSSI), set out the condition/s that is non-compliant, the nature of the breach; the reason for the non- compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance. The ER will also include environmental non-compliances within the Environmental Representative Monthly Report. The project must also notify the Commonwealth within 2 business days and specify the following:

a. Any condition or commitment made in a plan which has been or may have been breached
b. A short description of the incident and/or potential non-compliance and/or actual non-compliance
c. The location (including co-ordinates), date, and time of the incident and/or potential non-compliance and/or actual non-compliance

The project must provide the Commonwealth in writing, within 12 business days of any incident and/or potential non-compliance and/or actual non-compliance. The notification must specify the following:

a. Any corrective action or investigation which the approval holder has already taken
b. The potential impacts of the incident and/or non-compliance
c. The method and timing of any corrective action that will be undertaken by the approval holder.

CoA A46 states that a non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

In the event of a non-compliance, rectification and record keeping will be consistent with the procedure detailed in Section 3.8.2 of this CEMP.

3.8.2 Non-Conformance

An environmental non-conformance is failure to conform with EMS documentation including this CEMP and supporting documentation.

Any member of the project team, ER, AA, public authority or Sydney Water may raise a non-conformance, report action or improvement opportunity.

In the event of a non-conformance, the following procedures will be implemented:

- details of the non-conformance will be investigated by the John Holland Environment Manager and communicated to the Sydney Water Environment Lead
- subject to the investigation, corrective or preventative action(s) shall be implemented, the timing of which will be determined by a risk-based approach, within no later than two (2) months, unless otherwise agreed with Sydney Water, DPHI or relevant public authority, or as otherwise required by a CoA
- additional site inspections and monitoring may be undertaken
- the effectiveness of controls will be reviewed and identify the need for new/additional controls
- strategies will be identified to prevent reoccurrence
- effectiveness of awareness programs will be reviewed and identify the need for increased environmental awareness
- environmental documentation and records will be reviewed and revised (outlined in Section 3.11).

Corrective/preventative actions and improvement opportunities will be entered into John Holland's quality system databases and Sydney Water's Delivery Portal system and include details of the issue, action required and timing and responsibilities. The record will be updated with date of close out and any necessary notes. The database will be reviewed regularly to ensure actions are closed out as required.

Non-conforming activities may be stopped, if necessary, by the John Holland Environment Manager, or Project / Site Engineer following consultation with the Project Director or delegate. The works will not commence until a corrective / preventative action has been closed out. In such circumstances, a non-conformance report must be prepared in accordance with the John Holland Project Quality Plan. Non-conformance reports will be submitted to the relevant Project stakeholders including the ER in accordance with the Quality Plan.

The ER may also stop non-conforming activities as part of monitoring and inspection carried out in accordance with CoA A28(e). In such circumstances a non-conformance report must be prepared by John Holland in accordance with John Holland's Project Quality Plan. Non-conformance reports will be submitted to the relevant Project stakeholders including the ER in accordance with the Quality Plan.

3.9 Monitoring, Inspections and Auditing

3.9.1 Environmental Inspections

Inspection / Monitoring	Frequency	Responsibility
Review BoM forecast for heavy rainfall events and flood warnings	Daily	Superintendent / Foreman / Site Supervisor / Environmental Site Representative
Weekly environmental inspection The effectiveness of environmental controls will be evaluated using an inspection checklist. The inspection will also note the status and management of soils and water across the site, erosion and sedimentation risks and actions required to be closed out from these inspection activities.	Weekly	Superintendent / Foreman / Site Supervisor / Environmental Site Representative
Pre-rainfall inspection Wet weather events may be defined as more than 50% chance of 10mm of rainfall or greater in a 24-hour period and triggering the requirements for the site to prepare for wet weather. Inspections will occur to ensure that all erosion/sedimentation and stabilisation controls are in place and in working effectively in accordance with the relevant ESCP.	Prior to >80% change of 10mm of rainfall or greater	Superintendent / Foreman / Site Supervisor / Environmental Site Representative
Post-rainfall inspection Following a rainfall event of greater than 10mm, conduct a post-rainfall inspection to ensure erosion and sediment controls remain functional and any required maintenance (e.g., repairs to devices and removal of accumulated sediment) is identified and undertaken.	Following rainfall event	Superintendent / Foreman / Site Supervisor / Safety Representative
Inspections involving the Project CPESC Frequency at the direction of the CPESC, pending location and stage of the work, and other factors including the receiving environment and adjacent stakeholders.	At the direction of the Project CPESC	Environmental Site Representative / Superintendent / Foreman / Site Supervisor

3.9.1.1 Weekly and Post Rainfall Site Inspections

The John Holland Environment Manager (or delegate) will undertake weekly, pre-rainfall and post-rainfall inspections of the work sites to evaluate the effectiveness of environmental controls using an inspection checklist form. At some times this may involve inspection of the entire AWRC and pipeline alignment and at other times it may involve a targeted inspections at key work sites that has specific activities and risk. The timing of pre-rainfall and post-rainfall inspections will be consistent with rainfall criteria nominated in the USC Surface Water & Groundwater CEMP Sub-plan.

Any maintenance and/or deficiencies in environmental controls will be recorded on the checklist form, including any actions required and an implementation priority. Actions will be closed out in accordance with the identified priority and evidence of close out would be kept on file.

3.9.1.2 Shutdown Site Inspections

The John Holland Environment Manager (or delegate) will undertake inspections of the work sites to evaluate the effectiveness of environmental controls using an inspection checklist form in cases where construction work is scheduled to cease for greater than 48 hours (for example due to a public holiday long weekend or the Easter / Christmas and New Year holiday period).

3.9.1.3 John Holland, Sydney Water and ER Inspections

John Holland staff, Sydney Water Environmental Leads and the ER will undertake regular inspections of works sites, in particular critical activities, throughout construction of the project. These joint inspections would occur on a weekly or fortnightly basis depending on the complexity and anticipated risks associated with the stage of construction. Inspection frequencies will be commensurate with project activities and risk.

A member of the John Holland environment team will participate in all ER and Sydney Water inspections.

Deficiencies and required actions will be analysed and prioritised at the completion of the inspection and timeframes for implementation of corrective actions agreed.

See Appendix A8 - Environmental Inspection Checklist.

3.9.2 Environmental Monitoring

Monitoring will be undertaken to validate the impacts predicted for the project, to measure the effectiveness of environmental controls and implementation of this CEMP, and to address approval requirements in accordance with CoA C13 to C18. Construction Monitoring Programs nominated in the planning approval have been prepared as detailed in Table 3-2.

Table 3-2 Environmental monitoring programs

Monitoring Program	Document
Surface Water Quality Monitoring Program	CEMP Appendix B1 – Surface Water and Groundwater Management Sub-plan
Groundwater Monitoring Program	CEMP Appendix B1 – Surface Water and Groundwater Management Sub-plan
Noise and Vibration Monitoring Program	CEMP Appendix B5 – Noise and Vibration Management Sub-Plan

Other monitoring requirements specific to each environmental aspect (for example, traffic, contamination) are detailed in each relevant CEMP Sub-plan.

In accordance with CoA C16, unless otherwise agreed with DPHI, construction must not commence until all of the relevant Construction Monitoring Programs have been approved by DPHI, and all relevant baseline data for the specific construction activity has been collected. Monitoring requirements identified within Commonwealth Approval (including Part B, condition 26, 27 and 28) are included in Appendix A2 and subsequently incorporated into the relevant CEMP sub-plan. All monitoring data (including sensitive ecological data), surveys, maps, other spatial and metadata must be submitted electronically to the Commonwealth within 12 months of the approval, or as otherwise agreed by the Commonwealth Minister in writing.

The Sydney Water Environmental Lead will be advised of any construction phase non-conformances from monitoring. Where a non-conformance is detected or monitoring results are outside of the expected range and are directly attributable to the project (i.e. are influenced by factors under the direct control of the project e.g. noise from construction equipment), the process described in Section 3.8 will be implemented.

All environmental monitoring equipment shall be maintained and calibrated according to manufacturer's specifications and appropriate records kept.

3.9.3 Auditing

Independent environmental audits will be conducted in accordance with CoA A37, according to the audit schedule located in the Independent Audit Post Approval Requirements (DPHI, 2020). Audits will be undertaken within 12 weeks of the commencement of construction and at intervals not more than 26 weeks from the initial Independent Audit, unless otherwise agreed by the Planning Secretary.

In accordance with Condition 36-39 of the Commonwealth approval (EPBC 2020/8816), independent audits are required every 5 years. The audit report must be completed with the satisfaction of the Commonwealth and is consistent with the Environment Protection and Biodiversity Conservation Act 1999 Independent Audit and Audit Report Guidelines, Commonwealth of Australia 2014.

Sydney Water will conduct audits of the Project in accordance with the Sydney Water Management Specification (Section 6.15 and 8.10).

Internal auditing will be undertaken on the project by John Holland. Audits will include works undertaken by subcontractors. The purpose of this auditing is to verify compliance with:

- this CEMP and Sub-plans
- approval requirements (CoAs, UMMs, Commonwealth Controlled Activity Approval requirements)
- any relevant legal and other requirements (e.g. licenses, permits, regulations, Sydney Water contract documentation).

The ER will ensure that environmental auditing is undertaken in accordance with this CEMP and the project's environmental management system. In addition, and in accordance with CoA A28 (f), audits may be requested by DPHI.

Table 3-3 presents auditing requirements that are applicable to the project.

Table 3-3 John Holland, Sydney Water and Independent Audit requirements

No.	Audit	Requirement	Timing	Responsibility	Recipient
1	Internal audit	Verify compliance with approval and legal requirements, Sydney Water specifications and construction documentation	The first audit within three months of the commencement of construction and then at six monthly intervals there-after. The final report submitted no less than 5 working days prior to completion of construction.	John Holland Environment Manager	John Holland Project Director and Sydney Water
2	Independent audit (CoA A37 A38, A41)	Verify compliance with approval and legal requirements, Sydney Water specifications, construction documentation and any other commitments.	The initial independent audit will occur within 12 weeks of the commencement of construction and then half-yearly there-after (at intervals no greater than 26 weeks) The final audit report and project response to audit findings will be provided to DPHI within two months of the audit site inspection. Proposed independent auditors must be agreed to in writing by the planning Secretary prior to the commencement of an independent audit. This does not apply to the engagement of auditors required under CoAs E47 and E105.	John Holland Environment Manager and Sydney Water	John Holland Project Director and Sydney Water
3	Independent audit EPBC 2020/8816 (36-39)	Verify compliance with the Commonwealth approval (EPBC 2020/8816)	The approval holder must ensure that an independent audit of compliance with the conditions is conducted for every five-year period following the commencement of the Action until this approval expires, unless otherwise specified in writing by the Minister	Sydney Water	Sydney Water

3.9.4 Other Reporting

Prior to, during and following construction, various reports will be prepared as summarised in Table *3-4* . Additional reporting may be necessary as the works progress. In such a circumstance, Table *3-4* will be amended to reflect these changes.

Table 3-4 Reporting requirements

Report	Requirement	Timing	Responsibility	Recipient
Monthly environmental report	A monthly summary of the achievements, approvals,	Within 10 working days of the end of	John Holland Environment Manager	Sydney Water

Report	Requirement	Timing	Responsibility	Recipient
	complaints and incidents during the period.	each calendar month.		
ER monthly report (as required by A28(k))	Report of site environmental performance following routine inspections and a summary of the Complaints Register and non-compliances for the preceding month	Monthly – within seven (7) calendar days following the end of each month	ER	Sydney Water DPHI
AA Monthly Noise and Vibration Report (as required by CoA A34(h)(v))	Report detailing the AAs actions and decisions on matters for which the AA was responsible in the preceding month	Monthly – within seven (7) calendar days following the end of each month	AA	Sydney Water DPHI
Environmental risk assessment	Conducted for construction stage, project changes and significant issues.	Prior to construction during development of CEMP and as required thereafter	John Holland Environment Manager Project Director	Sydney Water
Construction Monitoring Reports	Report on monitoring data recorded and potential exceedances against criteria.	As required in the relevant CMonP	John Holland Environment Manager	Sydney Water DPHI EPA
ER environmental inspection reports	Report of site environmental performance following routine inspections.	Within 5 business days of the inspection being undertaken.	ER	Sydney Water John Holland Environment Manager
John Holland close-out environmental inspection reports (following ER/SW inspections)	Response to matters raised in ER/SW site inspections.	As required, pending frequency of ER/SW inspections	John Holland Environment Manager	Sydney Water ER
Resource Use and Recovery Report	SWC Management Specification (Section 8.11.1): Type and quantity of resources and/or waste procured, recycled, reused, avoided and generated on site or offsite.	Quarterly	John Holland Environment Manager	Sydney Water
National Greenhouse and Energy Report	SWC Management Specification (Section 8.11.2): Provision of 'greenhouse data'.	Quarterly	John Holland Environment Manager	Sydney Water
Native Vegetation Clearing and Rehabilitation Report	SWC Management Specification (Section 8.11.3): Must report where clearing and/or rehabilitation of greater than or equal to 0.01 hectares of native vegetation occurs.	Quarterly and at the completion of the contract	John Holland Environment Manager	Sydney Water
EPL annual returns	Report on compliance with EPL	Annually - Within 60 days of the anniversary of the EPL	John Holland Environment Manager	EPA

Report	Requirement	Timing	Responsibility	Recipient
Commonwealth Compliance Report	Report on compliance in accordance with the Commonwealth CoA. Must be consistent with the Annual Compliance Report Guidelines.	Annually	John Holland Environment Manager SW	Commonwealth

3.9.4.1 Commonwealth Compliance Report

As detailed in Table 3-4, an annual compliance report is required to be prepared in accordance with the Commonwealth approval (EPBC 2020/8816), conditions 29-32.

Each Commonwealth Compliance Report must include:

a. Accurate and complete details of compliance and any non-compliance with the conditions and the plans, and any incidents
b. One or more shapefile showing all clearing of any protected matters, and/or their habitat, undertaken within the 12-month period at the end of which that compliance report is prepared
c. A schedule of all plans in existence in relation to these conditions and accurate and complete details of how each plan is being implemented.

The project must:

a. Publish each compliance report on the website within 60 business days following the end of the 12-month period for which that compliance report is required.
b. Notify the department electronically, within 5 business days of the date of publication that a compliance report has been published on the website.
c. Provide the weblink for the compliance report in the notification to the department.
d. Keep all published compliance reports required by these conditions on the website until the expiry date of this approval.
e. Exclude or redact sensitive ecological data from compliance reports published on the website or otherwise provided to a member of the public.
f. If sensitive ecological data is excluded or redacted from the published version, submit the full compliance report to the department within 5 business days of its publication on the website and notify the department in writing what exclusions and redactions have been made in the version published on the website.

3.10 Records of Environmental Activities

3.10.1 Environmental Records

The John Holland Environment Manager is responsible for maintaining all environmental management documents and records as current including:

- monitoring, inspection and compliance reports/records
- correspondence with public authorities
- induction and training records
- regulatory licences and permits
- reports on environmental incidents, other environmental non-conformances, complaints and follow-up action
- minutes of review meetings and evidence of any action taken
- CEMP, Sub-plans and procedures
- EWMSs
- any relevant reports submitted to the regulatory authorities or government agencies.

All environmental management documents are subject to ongoing review and continual improvement. This includes to respond to changes in legislative or licensing requirements. All compliance documents must be accurate and complete. The documents must be provided to the Commonwealth, if requested.

Only the John Holland Environment Manager, or delegate, has the authority to change any of the environmental management documentation.

3.10.2 Document Control

John Holland, the ER and Sydney Water will coordinate the preparation, review and distribution, as appropriate, of the environmental documents and records listed above.

John Holland will implement the document control management system to control the flow of documents within and between Sydney Water, stakeholders and subcontractors.

The document control management system will also ensure that documentation is:

- Developed, reviewed and approved prior to issue
- Issued for use
- Controlled and stored for the legally required timeframe
- Removed from use when superseded or obsolete
- Archived.

3.11 Management Review

Management reviews will be undertaken as part of the continual improvement process. John Holland will conduct a formal review of the CEMP, Sub-plans and procedures on an annual basis, to verify compliance with the approval, the requirements of the standards, policies and objectives and, if not, to amend the CEMP to ensure compliance.

The review will include:

- a review of the aspects and impacts register, legal register and environmental induction
- a review of the environmental risk assessment
- analysis of the causes of non-conformances and deficiencies, including those identified in environmental inspections
- consideration of incidents and lessons learnt
- a review of the effectiveness of environmental controls
- effectiveness of environmental management documentation implementation
- potential improvements to the environmental management documentation
- adequacy of resources and organisation changes
- compliance with legal and other requirements and consideration of new issues
- effectiveness of training and inductions.
- periodic review and update of the CEMP and all associated plans (sub-plans) and programs (monitoring programs)

Where the management review identifies aspects of the CEMP that should be amended, this will be undertaken (where practicable) before the next management review. Where the change identified is necessary to avoid compliance or significant environmental risks, the amendments will be prioritised to be undertaken as soon as possible.

A project risk assessment, incorporating environment risks, has been prepared and will be progressively updated to ensure that key environmental risks are documented.

3.12 CEMP Revision and Changes to the Project

3.12.1 CEMP Revision

Continual improvement is achieved through constant measurement, evaluation, auditing and review of findings and the effectiveness of this CEMP and associated Sub-plans and Procedures. Monthly reports by the ER and the John Holland Environmental Manager and annual management reviews (refer to Section 3.11) provide specific opportunities to identify improvements in the EMS and/or this CEMP.

The CEMP will be updated as required:

- following reportable environmental incidents
- upon identification of new ‘significant’ risks, including risks identified during risk register updates
- when non-compliances are identified

- when the root cause of incident or non-conformance is identified as part of the investigation
- in response to significant project change (including modifications to the CSSI)
- within one month of any of the above occurrences
- as part of a continuous improvement process
- in response to changes in standards and legislation.

Should the document review process identify issues or items within the documents that are either redundant or in need of updating, John Holland will prepare changes to the revised documents. The revised document will then be issued to the Sydney Water Environment Lead for internal review / approval, and to the ER or DPHI to review and approve changes (subject to the requirements of the relevant CoA). Where changes are minor, they may be approved by the ER. Minor changes would typically include those that:

- are administrative in nature (e.g. staff and agency/authority name changes)
- are consistent with the CoA
- do not increase the magnitude of impacts on the environment when considered individually or cumulatively
- do not increase impacts to nearby sensitive land uses or that comprise updating or are of an administrative nature, and are consistent with the terms of the project approval (SSI #8609189)
- are in response to the approval of a consistency assessment or a modification to the project Planning Approval
- do not comprise the ability of the project to meet approval or legislative requirements.

Where the ER, Sydney Water and John Holland deem a change is not minor, it will be provided to the Secretary of DPHI for review and approval. Changes and updates to CEMP and relevant CEMP Sub-plans will be submitted to the ER for review and endorsement prior to submission to DPHI and the Commonwealth for approval.

3.12.2 Changes to the Project

Refinements to the project may result from detailed design or changed circumstances during construction.

Design changes or changes in scope of works will be communicated to the John Holland Environment Manager. The Environment Manager will then undertake an additional environmental assessment and consistency assessment in consultation with the ER and / or Sydney Water to determine if a project modification may be required.

Should the consistency assessment determine that a project modification may be required, the ER will be informed and a modification application under Section 5.25 of the EP&A Act will be prepared and lodged by Sydney Water to DPHI for determination.

Following the approval project modifications, this CEMP, the Sub-plans and procedures will be reviewed to assess if an update is required. Where the plan requires revision, the process in Section 3.12.1 would be followed.

3.12.3 Revision of Action Management Plan

The Project may apply to the Commonwealth for a variation to an action management plan (CEMP, Heritage CEMP Sub-Plan and Biodiversity CEMP Sub-Plan) approved by the Commonwealth or as subsequently revised in accordance with these conditions, by submitting an application in accordance with the requirements of section 143A of the EPBC Act. If the Minister approves a Revised Action Management Plan (RAMP) then, from the date specified, the approval holder must implement the RAMP in place of the previous action management plan.

The Project may choose to revise an action management plan approved by the Commonwealth, or as subsequently revised in accordance with these conditions, without submitting it for approval under section 143A of the EPBC Act, if the taking of the Action in accordance with the RAMP would not be likely to have a new or increased impact.

If the Project chooses to revise the action management plan without submitting to the Commonwealth, then the following conditions apply:

a. Notify the Commonwealth electronically that the approved action management plan has been revised and provide the department with:
    i. An electronic copy of the RAMP
    ii. An electronic copy of the RAMP marked up with tracked changes to show the differences between the approved action management plan and the RAMP.
    iii. An explanation of the differences between the approved action management plan and the RAMP

iv. The reasons the project considers that taking the Action in accordance with the RAMP would not be likely to have a new or increased impact.
v. Written notice of the date on which the approval holder will implement the RAMP (RAMP implementation date), being at least 20 business days after the date of providing notice of the revision of the action management plan, or a date agreed to in writing with the department.

b. If the Commonwealth provides notice that they are satisfied with the changes in presented in the RAMP then, implement the RAMP from the RAMP implementation date.
c. Document changes to approved action management plans in the compliance report, where The Project must prepare a compliance report for each 12-month period following the date of the approval.

John Holland must notify the Commonwealth 60 business days prior to the expiry of the Commonwealth Approval and must notify the Commonwealth of the date of completion of the Action and provide completion data within 20 business days.

3.13 Directions from DPHI

All written requirements or directions received from DPHI must be complied with at all times (CoA A4), including in relation to:

- the environmental performance of the CSSI
- any document or correspondence in relation to the CSSI
- any notification given to the Secretary under the terms of this approval
- any audit of the construction or operation of the CSSI
- the terms of this approval and compliance with the terms of this approval (including anything required to be done under this approval)
- the carrying out of any additional monitoring or mitigation measures
- in respect of ongoing monitoring and management obligations, compliance with an updated or revised version of a guideline, protocol, Australian Standard or policy required to be complied with under this approval.

Appendix A1 Environmental Performance Outcomes

Environmental performance outcomes specific to this CEMP have been presented in this appendix.

Desired Performance Outcome	How performance outcomes would be achieved	Measurement tool
Consultation The project is developed with meaningful and effective engagement during project design and delivery	Engaged and informed community and key stakeholders	Community consultation will be undertaken in accordance with the Community and Stakeholder Engagement Plan throughout the delivery of the project to meet the consultation performance outcomes
Transport and traffic Network connectivity, safety and efficiency of the transport system in the vicinity of the project are managed to minimise impacts The safety of transport system customers is maintained Impacts on network capacity and the level of service are effectively managed	Minimise impacts to local streets from loss of parking, road closures and heavy vehicles Minimise impacts to road network efficiency during construction Maintain pedestrian and cyclist safety Access to properties would be maintained.	Construction activities will be managed in accordance with the Traffic and Transport CEMP Sub-plan and to meet the project's transport and traffic performance outcomes
Air quality The project is designed and constructed in a manner that minimises air quality impacts (including nuisance dust and odour) to minimise risks to human health and the environment to the greatest extent.	Effective management of dust, odour and other emissions during construction	Construction activities will be managed in accordance with the Air Quality CEMP Sub-plan to meet the project's air quality performance outcomes
Health and safety The project avoids or minimises any adverse health impacts arising from the project The project avoids, to the greatest extent possible, risk to public safety	Establish and operate ancillary facilities and construction sites to protect road user and public safety Hazardous materials within project areas will be managed to protect human health Minimise incidents and crashes and risks to public safety during construction	Construction activities will be managed in accordance with John Holland's Health and Safety System.
Noise and vibration – Amenity Construction noise and vibration (including airborne noise and ground-borne noise) are effectively managed to minimise adverse impacts on acoustic amenity.	Comply with the relevant criteria from the NSW Industrial Noise Policy and Interim Construction Noise Guideline. Effective management of construction noise and vibration in accordance with relevant guidelines.	Construction activities will be managed in accordance with the Noise and Vibration CEMP Sub-plan to meet the project's noise and vibration (amenity) performance outcomes
Noise and vibration – Structural Construction noise and vibration (including airborne noise and ground-borne noise) are effectively managed to minimise adverse impacts on the structural integrity of buildings and items including Aboriginal places and environmental heritage Increases in noise emissions and vibration affecting environmental heritage as defined in the Heritage Act 1977 during operation of the project are effectively managed	No damage to features of heritage conservation significance from vibration	Construction activities will be managed in accordance with the Noise and Vibration CEMP Sub-plan and Heritage CEMP Sub-plan procedure to meet the project's noise and vibration (structural) performance outcomes

Desired Performance Outcome	How performance outcomes would be achieved	Measurement tool
Biodiversity The project design considers all feasible measures to avoid and minimise impacts on terrestrial and aquatic biodiversity.	Minimise removal of high retention value trees Compensatory tree planting Re-use of native vegetation and habitat features Minimise impacts to Key Fish Habitat	Construction activities will be managed in accordance with the Biodiversity CEMP Sub-plan, the Soil and Contamination CEMP Sub-plan and the Surface Water and Groundwater CEMP Sub-plan to meet the project's biodiversity performance outcomes.
Socio-economic, Land Use and Property The project minimises adverse social and economic impacts and capitalises on opportunities potentially available to affected communities. The project minimises impacts to property and business and achieves appropriate integration with adjoining land uses, including maintenance of appropriate access to properties and community facilities, and minimisation of displacement of existing land	Minimise property acquisition Manage the property acquisition process to minimise impacts to community Minimise impacts to businesses during construction Make provision for social infrastructure.	The implementation of the CSEP will minimise adverse social and economic impacts and capitalises on opportunities potentially available to affected communities.
Water – Hydrology and Quality Long term impacts on surface water are minimised. The environmental values of nearby, connected and affected water sources are maintained (where values are achieved) or improved and maintained (where values are not achieved). Sustainable use of water resources. The project is designed and constructed to protect the NSW Water Quality Objectives where they are currently being achieved, and contribute towards achievement of the Water Quality Objectives over time where they are currently not being achieved, including downstream of the project to the extent of the project impact including estuarine and marine waters (if applicable).	Establish water quality discharge criteria with consideration of NSW Water Quality Objectives Effectively treat water to meet water quality discharge criteria Undertake dewatering in line with the Dewatering procedure Construction of pipelines across waterways in accordance with approved methodologies Maximise reuse of treated water during construction.	Management of soil and surface water will be undertaken throughout the delivery of the project in accordance with the Surface Water and Groundwater CEMP Sub-plan, and Soil and Contamination CEMP Sub-plan. Monitoring recorded within the Surface Water Quality Monitoring Program and the Groundwater Monitoring Program.
Soils The environmental values of land, including soils, subsoils and landforms, are protected. Risks arising from the disturbance and excavation of land and disposal of soil are minimised, including disturbance to acid sulfate soils (ASS) and contaminated soils	Erosion and sediment controls will be implemented in accordance with Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom 2004) and Volume 2D (DECCW 2008), commonly referred to as the 'Blue Book' Engagement of Certified Professional in Erosion and Sediment Control Manage ASS in accordance with good practice measures Manage contamination to protect environmental values and human health.	Construction activities will be managed in accordance with the Soil and Contamination CEMP Sub-plan to meet the project's soils performance outcomes.

Desired Performance Outcome	**How performance outcomes would be achieved**	Measurement tool
Heritage The design, construction and operation of the project facilitates, to the greatest extent possible, the long-term protection, conservation and management of the heritage significance of items of environmental heritage and Aboriginal objects and places. The design, construction and operation of the project avoids or minimises impacts, to the greatest extent possible, on the heritage significance of environmental heritage and Aboriginal objects and places	Minimise impacts on heritage items during construction Minimise damage to features of heritage conservation significance from vibration	Construction activities will be managed in accordance with the heritage procedure to meet the project's heritage performance outcomes
Waste All wastes generated during the construction of the project are effectively stored, handled, treated, reused, recycled and/or disposed of lawfully and in a manner that protects environmental values.	Recycle or reuse uncontaminated spoil either on site or off-site Manage off-site waste re-use in accordance with relevant NSW Environment Protection Authority resource recovery exemptions and requirements Dispose of waste at appropriately licensed facilities.	Construction activities will be managed in accordance with the waste procedure to meet the project's Waste performance outcomes.
Sustainability Achieve a minimum "Gold" 'Design' and 'As Built' rating under the Infrastructure Sustainability Council infrastructure v2.1 rating tool, or at least "Excellent" under v1.2	Develop a sustainability strategy which will be implemented throughout design, construction and operation.	Design, construction and operation of the project will be carried out in accordance with the requirements set out in the sustainability strategy which is to be submitted to the Planning Secretary for information.

Appendix A2 CoAs, UMMs and CAA's compliance tracking

The CoAs, UMMs and CAA's detailed below are those that are related specifically to the preparation of this Construction Environmental Management Plan.

Commonwealth - Conditions of Approval

CoA No.	Condition Requirements	Document Reference / Note
Part A – Conditions specific to the Action		
1	To minimise impacts to protected matters, the approval holder must not clear more than: a. 1.44 ha of Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest b. 1.64 ha of Spiked Rice-flower habitat.	Biodiversity CEMP Sub-plan
2	The approval holder must not clear outside the impact assessment area. The approval holder must not impact on protected matters by clearing outside the impact area.	Biodiversity CEMP Sub-plan
3	To mitigate impacts on protected matters the approval holder must implement conditions C4, C5, C9, C11, C12, E23, E119, E120, E132, E133, E134, C-B1 and C-B7 of the State Infrastructure Approval, in so far as they relate to monitoring, mitigating, and avoiding impacts to protected matters.	Biodiversity CEMP Sub-plan Heritage CEMP Sub-plan
Offsets		
4	To offset the impacts of the Action on protected matters, the approval holder must implement conditions E12, E13, E14, E15 and E16 of the State Infrastructure Approval.	Biodiversity CEMP Sub-plan
5	The approval holder must notify the department in writing within 10 business days of the biodiversity credits being retired in accordance with conditions E14, E15 and E16 of the State Infrastructure Approval.	Biodiversity CEMP Sub-plan
Action Management Plan		
6	The approval holder must ensure, prior to submitting them for approval by the Planning Secretary, that the Construction Environmental Management Plan (CEMP) and sub-plans required for Biodiversity (sub-plan C4 (d)) and Heritage (sub-plan C4 (g)) required under conditions C4, C5 and C9 of the State Infrastructure Approval: a. are consistent with statutory documents for protected matters, including for the listings and management of the Greater Blue Mountains Area World Heritage property and the National Heritage place, b. demonstrate how the approval holder will protect, minimise and mitigate impacts to protected matters, and c. state how the relevant terms of the State Infrastructure Approval for protected matters will be complied with.	Biodiversity CEMP Sub-plan Heritage CEMP Sub-plan Section 3.12.3
7	The approval holder must not commence the Action unless the Minister has approved all of the CEMP, Biodiversity and Heritage sub-plans, required by condition C4 of the State Infrastructure Approval, in writing.	Section 1.8
8	The approval holder must not commence the Operation unless the Minister has approved the World Heritage Monitoring Program (WHMP) and Water Quality Monitoring Program (WQMP), required by conditions E132 and E119 of the State Infrastructure Approval, in writing.	All operational requirements will be addressed post-construction in operational management plans.
9	The approval holder must implement the CEMP, Biodiversity and Heritage sub-plans, WHMP and WQMP approved by the Minister until, at least, the end date of this approval, unless otherwise agreed to by the Minister in writing.	All operational requirements will be addressed post-construction in operational management plans.

CoA No.	Condition Requirements	Document Reference / Note
10	Each World Heritage monitoring report required by Condition E133 of the State Infrastructure Approval must be provided to the department for information within one month of submission of each annual report required by the State Infrastructure Approval.	All operational requirements will be addressed post-construction in operational management plans.
Revision of Action Management Plan		
11	The approval holder may, at any time, apply to the Minister for a variation to an action management plan approved by the Minister or as subsequently revised in accordance with these conditions, by submitting an application in accordance with the requirements of section 143A of the EPBC Act. If the Minister approves a Revised Action Management Plan (RAMP) then, from the date specified, the approval holder must implement the RAMP in place of the previous action management plan.	Section 3.12.3
12	The approval holder may choose to revise an action management plan approved by the Minister under conditions 7-8, or as subsequently revised in accordance with these conditions, without submitting it for approval under section 143A of the EPBC Act, if the taking of the Action in accordance with the RAMP would not be likely to have a new or increased impact.	Section 3.12.3
13	If the approval holder makes the choice under condition 12 to revise an action management plan without submitting it for approval, the approval holder must: a. Notify the department electronically that the approved action management plan has been revised and provide the department with: i. An electronic copy of the RAMP. ii. An electronic copy of the RAMP marked up with track changes to show the differences between the approved action management plan and the RAMP. iii. An explanation of the differences between the approved action management plan and the RAMP. iv. The reasons the approval holder considers that taking the Action in accordance with the RAMP would not be likely to have a new or increased impact. v. Written notice of the date on which the approval holder will implement the RAMP (RAMP implementation date), being at least 20 business days after the date of providing notice of the revision of the action management plan, or a date agreed to in writing with the department. b. Subject to condition 15, implement the RAMP from the RAMP implementation date. c. Document changes to approved action management plans in the compliance report, as per condition 29.	Section 3.12.3
14	The approval holder may revoke its choice to implement a RAMP under condition 12 at any time by giving written notice to the department. If the approval holder revokes the choice under condition 12, the approval holder must implement the action management plan in force immediately prior to the revision undertaken under condition 12.	Section 3.12.3
15	If the Minister gives a notice to the approval holder that the Minister is satisfied that the taking of the Action in accordance with the RAMP would be likely to have a new or increased impact, then: a. Condition 12 does not apply, or ceases to apply, in relation to the RAMP b. The approval holder must implement the action management plan specified by the Minister in the notice	Section 3.12.3
16	At the time of giving the notice under condition 15, the Minister may also notify that for a specified period of time, condition 12 does not apply for one or more specified action management plans.	Section 3.12.3

CoA No.	Condition Requirements	Document Reference / Note
Submission and Publication of Plans		
17	The approval holder must submit all plans required by these conditions electronically to the department.	Section 2
18	Unless otherwise agreed to in writing by the Minister, the approval holder must publish each plan on the website within 15 business days of the date: a. of this approval, if the version of the plan to be implemented is specified in these conditions; or b. the plan is approved by the Minister in writing, if the plan requires the approval of the Minister; or c. the plan is submitted to the department in accordance with a requirement of these conditions, if the plan does not require the approval of the Minister; or d. the plan is approved by a state/territory government official/the NSW Planning Secretary as required under a state/territory government condition which must be complied with in accordance with these EPBC Act conditions.	Section 2
19	The approval holder must keep all published plans required by these conditions on the website until the expiry date of this approval, unless otherwise agreed by the Minister in writing.	Refer to Appendix A2 (CoA B12)
20	The approval holder is required to exclude or redact sensitive ecological data from plans published on the website or otherwise provided to a member of the public.	Biodiversity CEMP Sub-plan
21	If sensitive ecological data is excluded or redacted from a plan in accordance with condition 20, the approval holder must notify the department in writing what exclusions and redactions have been made in the version published on the website.	Biodiversity CEMP Sub-plan
Part B – Administrative Conditions		
Notification of Date of Commencement of the Action		
22	The approval holder must notify the department electronically of the date of commencement of the Action, within 5 business days of commencement of the Action.	Section 1.8
23	If the commencement of the Action does not occur within 5 years from the date of this approval, then the approval holder must not commence the Action without the prior written agreement of the Minister.	Acknowledged
Compliance Records		
24	The approval holder must maintain accurate and complete compliance records.	Section 3.10.1
25	If the department makes a request in writing, the approval holder must provide electronic copies of compliance records to the department within the timeframe specified in the request.	Section 3.10.1
26	The approval holder must ensure that any monitoring data (including sensitive ecological data), surveys, maps, and other spatial and metadata required under the conditions of this approval are prepared in accordance with the Guidelines for biological survey and mapped data, Commonwealth of Australia 2018, or as otherwise specified by the Minister in writing.	Biodiversity CEMP Sub-plan
27	The approval holder must ensure that any monitoring data (including sensitive ecological data), surveys, maps, and other spatial and metadata required under the conditions of this approval are prepared in accordance with the Guide to providing maps and boundary data for EPBC Act projects, Commonwealth of Australia 2021, or as otherwise specified by the Minister in writing.	Biodiversity CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
28	The approval holder must submit all monitoring data (including sensitive ecological data), surveys, maps, other spatial and metadata and all species occurrence record data (sightings and evidence of presence) electronically to the department within 12 months of the date of this approval decision, or as otherwise agreed by the Minister in writing.	Section 3.9.2
Annual Compliance Reporting		
29	The approval holder must prepare a compliance report for each 12-month period following the date of this approval, or as otherwise agreed to in writing by the Minister.	Section 3.9.4
30	Each compliance report must be consistent with the Annual Compliance Report Guidelines, Commonwealth of Australia 2014.	Section 3.9.4
31	Each compliance report must include: a. Accurate and complete details of compliance and any non-compliance with the conditions and the plans, and any incidents. b. One or more shapefile showing all clearing of any protected matters, and/or their habitat, undertaken within the 12-month period at the end of which that compliance report is prepared. c. A schedule of all plans in existence in relation to these conditions and accurate and complete details of how each plan is being implemented.	Section 3.9.4
32	The approval holder must: a. Publish each compliance report on the website within 60 business days following the end of the 12-month period for which that compliance report is required. b. Notify the department electronically, within 5 business days of the date of publication that a compliance report has been published on the website. c. Provide the weblink for the compliance report in the notification to the department. d. Keep all published compliance reports required by these conditions on the website until the expiry date of this approval. e. Exclude or redact sensitive ecological data from compliance reports published on the website or otherwise provided to a member of the public. f. If sensitive ecological data is excluded or redacted from the published version, submit the full compliance report to the department within 5 business days of its publication on the website and notify the department in writing what exclusions and redactions have been made in the version published on the website.	Section 3.9.4
Reporting non-compliance		
33	The approval holder must notify the department electronically, within 2 business days of becoming aware of any incident and/or potential non-compliance and/or actual non-compliance with the conditions or commitments made in a plan.	Section 3.7 Section 3.8.1
34	The approval holder must specify in the notification: a. Any condition or commitment made in a plan which has been or may have been breached. b. A short description of the incident and/or potential non-compliance and/or actual non-compliance. c. The location (including co-ordinates), date, and time of the incident and/or potential non-compliance and/or actual non-compliance.	Section 3.8.1

CoA No.	Condition Requirements	Document Reference / Note
35	The approval holder must provide to the department in writing, within 12 business days of becoming aware of any incident and/or potential non-compliance and/or actual non-compliance, the details of that incident and/or potential non-compliance and/or actual non-compliance with the conditions or commitments made in a plan. The approval holder must specify: a. Any corrective action or investigation which the approval holder has already taken b. The potential impacts of the incident and/or non-compliance c. The method and timing of any corrective action that will be undertaken by the approval holder.	Section 3.8.1
Independent Audit		
36	The approval holder must ensure that an independent audit of compliance with the conditions is conducted for every five-year period following the commencement of the Action until this approval expires, unless otherwise specified in writing by the Minister.	Section 3.9.3
37	For each independent audit, the approval holder must: a. Provide the name and qualifications of the nominated independent auditor, the draft audit criteria, and proposed timeframe for submitting the audit report to the department prior to commencing the independent audit. b. Only commence the independent audit once the nominated independent auditor, audit criteria and timeframe for submitting the audit report have been approved in writing by the department. c. Submit the audit report to the department for approval within the timeframe specified and approved in writing by the department. d. Publish each audit report on the website within 15 business days of the date of the department's approval of the audit report. e. Keep every audit report published on the website until this approval expires.	Section 3.9.3
38	Each audit report must report for the five-year period preceding that audit report.	Section 3.9.3
39	Each audit report must be completed to the satisfaction of the Minister and be consistent with the *Environment Protection and Biodiversity Conservation Act 1999 Independent Audit and Audit Report Guidelines*, Commonwealth of Australia 2019.	Section 3.9.3
Completion of the Action		
40	The approval holder must notify the department electronically 60 business days prior to the expiry date of this approval, that the approval is due to expire.	Section 3.12.3
41	Within 20 business days after the completion of the Action, and, in any event, before this approval expires, the approval holder must notify the department electronically of the date of completion of the Action and provide completion data.	Section 3.12.3

DPHI - Conditions of Approval

CoA No.	Condition Requirements	Document Reference / Note
General		
A1	The Proponent must carry out Stage 1 of the CSSI in accordance with the terms of this approval and generally in accordance with the: a. *Upper South Creek Advanced Water Recycling Centre Environmental Impact Statement*, dated September 2021; b. *Upper South Creek Advanced Water Recycling Centre Submissions Report*, dated March 2022; c. *Upper South Creek Advanced Water Recycling Centre Amendment Report*, dated March 2022; d. *Upper South Creek Advanced Water Recycling Centre Submissions Report – Project Amendments*, dated April 2022; e. Response to DPHI RFI 1, regarding responses to advice received on the Response to Submissions Report (dated, 1 June 2022, 1 July 2022, and 11 July 2022); f. Response to DPHI RFI 2, regarding additional information on Flood Impact Assessment (dated, 11 July 2022); g. in accordance with modification application SSI-8609189-Mod-1 and supporting documentation; and h. In accordance with modification application SSI-8609189-Mod-2 and supporting documentation.	Section 1.8
A2	Stage 1 of the CSSI must only be carried out in accordance with all procedures, commitments, preventative actions, performance criteria and mitigation measures set out in the documents listed in CoA A1 unless otherwise specified in, or required under, this approval.	Section 1.8
A4	The Proponent must comply with all written requirements or directions of the Planning Secretary, including in relation to: a. the environmental performance of Stage 1 of the CSSI; b. any document or correspondence in relation to Stage 1 of the CSSI; c. any notification given to the Planning Secretary under the terms of this approval; d. any audit of the construction or operation of Stage 1 of the CSSI; e. the terms of this approval and compliance with the terms of this approval (including anything required to be done under this approval); f. the carrying out of any additional monitoring or mitigation measures; and g. in respect of ongoing monitoring and management obligations, compliance with an updated or revised version of a guideline, protocol, Australian Standard or policy required to be complied with under this approval.	Section 3.13
A7	References in the terms of this approval to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Australian Standards or policies in the form they are in as at the date of this approval.	Section 1.8
A9	Where the terms of this approval require consultation to be undertaken, evidence of the consultation undertaken must be submitted to the Planning Secretary and ER (as relevant) with the corresponding documentation. The evidence must include: a. documentation of the engagement with the party identified in the CoA that has occurred before submitting the document for approval;	Section 2

CoA No.	Condition Requirements	Document Reference / Note
	b. a log of the dates of engagement or attempted engagement with the identified party; c. documentation of the follow-up with the identified party where engagement has not occurred to confirm that they do not wish to engage or have not attempted to engage after repeated invitations; a. outline of the issues raised by the identified party and how they have been addressed; and b. a description of the outstanding issues raised by the identified party and the reasons why they have not been addressed.	
Staging Report		
A10	Stage 1 of the CSSI may be constructed and operated in stages (including but not limited to temporal, location or activity based staging). Where staged construction and/or operation is proposed, a Staging Report (for either or both construction and operation as the case may be) must be prepared. The Staging Report must be endorsed by the ER and then submitted to the Planning Secretary for information no later than one month before the commencement of construction of the first of the proposed stages of construction (or if only staged operation is proposed, one month before the commencement of operation of the first of the proposed stages of operation).	A Staging Report will be prepared and issued to DPHI in accordance with the CoA.
A11	The Staging Report must: a. if staged construction is proposed, set out how the construction of the whole of Stage 1 of the CSSI will be staged, including details of Work and activities to be carried out in each stage and the general timing of when construction of each stage will commence and finish; b. if staged operation is proposed, set out how the operation of the whole of Stage 1 of the CSSI will be staged, including details of activities to be carried out in each stage and the general timing of when operation of each stage will commence and finish (if relevant); c. specify how compliance with CoA will be achieved across and between each of the stages of Stage 1 of the CSSI; and d. set out mechanisms for managing any cumulative impacts arising from the proposed staging.	A Staging Report will be prepared and issued to DPHI in accordance with the CoA.
Ancillary Facilities		
A16	Construction ancillary facilities (excluding minor construction ancillary facilities established under CoA A19) that are not identified by description and location in the documents listed in CoA A1 can only be established and used in each case if: a. they are located within or immediately adjacent to the construction boundary; and b. they are not located next to sensitive land user(s) (including where an access road is between the facility and the receiver), unless the landowner and occupier have given written acceptance to the carrying out of the relevant facility in the proposed location; and c. they have no impacts on heritage items (including areas of archaeological sensitivity), threatened species, populations or ecological communities beyond the impacts approved under the terms of this approval; and	Section 1.5

CoA No.	Condition Requirements	Document Reference / Note
	d. the establishment and use of the facility can be carried out and managed within the outcomes set out in the terms of this approval, including in relation to environmental, social and economic impacts.	
A18	The use of a construction ancillary facility must not commence until the CEMP required by CoA C1, relevant CEMP Sub-plans required by CoA C4 and relevant Construction Monitoring Programs required by CoA C13 have been approved by the Planning Secretary.	Section 1.5
A19	Minor construction ancillary facilities can be established and used where they have been assessed in the documents listed in Condition A1 or satisfy the following criteria: a. are located within or immediately adjacent to the construction boundary; and b. have been assessed by the ER to have - i. minimal amenity impacts to surrounding residences and businesses, after consideration of matters such as compliance with the *Interim Construction Noise Guideline* (DECC, 2009) (ICNG), traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts, and ii. minimal environmental impact with respect to waste management and flooding, and iii. no impacts on biodiversity, soil and water, and heritage items beyond those already approved under other terms of this approval.	Section 1.5.2 Section 1.5.3
A20	Boundary screening must be erected between construction ancillary facilities (excluding minor construction ancillary facilities) and adjacent to sensitive land use(s) for the duration of the time that the construction ancillary facility is in use, unless otherwise agreed with the owner and occupier of the adjacent sensitive land use(s). Boundary screening must minimise visual impacts on adjacent sensitive land use(s).	Section 1.5.4
Environmental Representative		
A24	Work must not commence until an Environmental Representative (ER) has been nominated by the Proponent and approved by the Planning Secretary.	Section 3.3
A25	The Planning Secretary's approval of an ER must be sought no later than one month before the commencement of Work.	Section 3.3
A26	The proposed ER must meet the requirements of the Environmental Representative Protocol (Department of Planning and Environment, October 2018) and must be a suitably qualified and experienced person(s) who was not involved in the preparation of the documents listed in CoA A1, and is independent from the design and construction personnel for the CSSI and those involved in the delivery of it.	Section 3.3
A27	More than one ER may be engaged for Stage 1 of the CSSI, in which case the functions to be exercised by an ER under the terms of this approval may be carried out by any ER that is approved by the Planning Secretary for the purposes of Stage 1 of the CSSI.	Section 3.3

CoA No.	Condition Requirements	Document Reference / Note
A28	For the duration of the work until the commencement of operation, or as agreed with the Planning Secretary, the approved ER must: a. receive and respond to communication from the Planning Secretary in relation to the environmental performance of Stage 1 of the CSSI; b. consider and inform the Planning Secretary on matters specified in the terms of this approval; c. consider and recommend to the Proponent any improvements that may be made to Work practices to avoid or minimise adverse impact to the environment and to the community; d. review documents identified in Conditions A10, A17, C1, C4 and C13 and any other documents that are identified by the Planning Secretary, to ensure they are consistent with requirements in or under this approval and if so: i. make a written statement to this effect before submission of such documents to the Planning Secretary (if those documents are required to be approved by the Planning Secretary); or ii. make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Planning Secretary / Department for information or are not required to be submitted to the Planning Secretary / Department); e. regularly monitor the implementation of the documents listed in Conditions A10, A17, C1, C4 and C13 to ensure implementation is being carried out in accordance with the document and the terms of this approval; f. as may be requested by the Planning Secretary, help plan or attend audits of the development commissioned by the Department including scoping audits, programming audits, briefings and site visits, but not independent environmental audits required under Condition A37 of this approval; g. as may be requested by the Planning Secretary, assist in the resolution of community complaints; h. review the appropriateness of any activities reliant on the definition of Low Impact Work; i. consider or assess the impacts of minor construction ancillary facilities comprising lunch sheds, office sheds and portable toilet facilities as required by Condition A19 of this approval; j. consider any minor amendments to be made to the Site Establishment Management Plan, Community Communications Strategy, CEMP, CEMP Sub-plans and monitoring programs without increasing impacts to nearby sensitive land uses or that comprise updating or are of an administrative nature, and are consistent with the terms of this approval and the Site Establishment Management Plan, Community Communications Strategy, CEMP, CEMP Sub-plans and monitoring programs approved by the Planning Secretary and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of this approval; k. prepare and submit to the Planning Secretary and other relevant regulatory agencies (where requested by those agencies), for information, an Environmental Representative Monthly Report providing the information set out in the Environmental Representative Protocol under the heading “Environmental Representative Monthly Reports.” The Environmental Representative Monthly Report must be submitted within seven days following the end of each month for the duration of the ER’s engagement for Stage 1 of the CSSI, or as otherwise agreed by the Planning Secretary.	Section 2 Section 3.3 Section 3.9.4 Section 3.12.1
A29	The Proponent must provide the ER with all documentation requested by the ER in order for the ER to perform their functions specified in CoA A28 (including preparation of the ER monthly report), as well as: a. the complaints register (to be provided on a weekly basis or as requested); and b. a copy of any assessment carried out by the Proponent of whether proposed work is consistent with the approval (which must be provided to the ER before the commencement of the subject work).	Section 3.3

CoA No.	Condition Requirements	Document Reference / Note
Acoustics Advisor		
A30	A suitably qualified and experienced Acoustics Advisor(s) (AA) in noise and vibration management, who is independent of the design and construction personnel, must be nominated by the Proponent and engaged for the duration of Work and for no less than six months following completion of construction of Stage 1 of the CSSI.	Section 3.3
A31	Work must not commence until an AA has been approved by the Planning Secretary.	Section 3.3
A32	The Proponent must cooperate with the AA by: a. providing access to noise and vibration monitoring activities as they take place; b. providing for review of noise and vibration plans, assessments, monitoring reports, data and analyses undertaken; and c. considering any recommendations to improve practices and demonstrating, to the satisfaction of the AA, why any recommendation is not adopted.	Section 3.3
A34	The approved AA (*Acoustics Advisor*) must: a. receive and respond to communication from the Planning Secretary in relation to the performance of Stage 1 of the CSSI in relation to noise and vibration; b. consider and inform the Planning Secretary on matters specified in the terms of this approval relating to noise and vibration; c. consider and recommend to the Proponent, improvements that may be made to avoid or minimise adverse noise and vibration impacts; d. review proposed night-time Works to determine if sleep disturbance would occur and recommend measures to avoid sleep disturbance or appropriate additional alternative mitigation measures; e. review noise and vibration documents required to be prepared under the terms of this approval, and should they be consistent with the terms of this approval, endorse them before submission to the Planning Secretary (if required to be submitted to the Planning Secretary) or before implementation (if not required to be submitted to the Planning Secretary); f. regularly monitor the implementation of all noise and vibration documents required to be prepared under the terms of this approval to ensure implementation is in accordance with what is stated in the document(s) and the terms of this approval; g. notify the Planning Secretary of noise and vibration incidents in accordance with Conditions A43 and A45 of this approval; h. in conjunction with the ER, the AA must: i. as may be requested by the Planning Secretary, help plan, attend or undertake audits of noise and vibration management of Stage 1 of the CSSI including briefings, and site visits ii. in the event that conflict arises between the Proponent and the community in relation to the noise and vibration performance of Stage 1 of the CSSI, follow the procedure in the Community Communication Strategy approved under Condition B2 to attempt to resolve the conflict, and if it cannot be resolved, notify the Planning Secretary iii. consider relevant minor amendments made to the Site Establishment Management Plan, CEMP, relevant sub-plans and noise and vibration monitoring programs that require updating or are of an administrative nature, and are consistent with the terms of this approval and the management plans and monitoring programs approved by the	Section 2 Section 3.3

CoA No.	Condition Requirements	Document Reference / Note
	Planning Secretary and, if satisfied such amendment is necessary, endorse the amendment, (this does not include any modifications to the terms of this approval) iv. review the noise impacts of minor construction ancillary facilities v. prepare and submit to the Planning Secretary and other relevant regulatory agencies, for information, a Monthly Noise and Vibration Report detailing the AA's actions and decisions on matters for which the AA was responsible in the preceding month. The frequency of this report can be changed if agreed by the Planning Secretary. The Monthly Noise and Vibration Report must be submitted within seven days following the end of each month for the duration of the AA's engagement for Stage 1 of the CSSI, or as otherwise agreed by the Planning Secretary.	
Notification of Commencement		
A35	The Department must be notified in writing of the dates of commencement of construction and operation at least one month before those dates.	Section 1.8
A36	If the construction or operation of Stage 1 of the CSSI is to be staged, the Department must be notified in writing at least one month before the commencement of each stage, of the date of the commencement of that stage.	Section 1.8
Auditing		
A37	Independent Audits of Stage 1 of the CSSI must be conducted and carried out in accordance with the Independent Audit Post Approval Requirements (DPIE, 2020).	Section 3.9.3
A38	Proposed independent auditors must be agreed to in writing by the Planning Secretary before the commencement of an Independent Audit. This condition does not apply to the engagement of auditors required under CoA E105.	Section 3.9.3
A40	In accordance with the specific requirements in the Independent Audit Post Approval Requirements (DPIE, 2020), the Proponent must: a. review and respond to each Independent Audit Report prepared under Condition A37 or b. Condition A39;	Section 3.9.3
Incident Notification, Reporting and Response		
A43	The Planning Secretary must be notified via the Major Projects Website as soon as possible and no later than 12 hours after the Proponent becomes aware of an incident. The notification must identify the CSSI (including the application number and the name of the CSSI if it has one) and set out the location and nature of the incident.	Section 3.3 Section 3.7
A44	Subsequent notification must be given and reports submitted in accordance with the requirements set out in Appendix A of this approval.	Section 3.7

CoA No.	Condition Requirements	Document Reference / Note
Non-compliance Notification		
A45	The Planning Secretary must be notified via the Major Projects Website within seven days after the Proponent becomes aware of any non-compliance. The notification must identify the CSSI (including the application number and the name of the CSSI if it has one), identify the condition/s against which the CSSI is non-compliant, the nature of the non-compliance; the reason for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.	Section 3.8.1
A46	A non-compliance which has been notified as an incident under CoA A43 does not need to be notified as a non-compliance.	Section 3.8.1
Identification of Workforce and Compounds		
A48	The CSSI name; application number; telephone number, postal address and email address required under CoA B8 of this approval must be made available on site boundary fencing / hoarding at each ancillary facility before the commencement of construction. This information must also be provided on the website required under CoA B12 of this approval.	Section 1.5
Community Communication Strategy		
B1	A Community Communication Strategy must be prepared to provide mechanisms to facilitate communication about construction and operation of Stage 1 of the CSSI with: a. the community (including adjoining affected landowners and businesses, and others directly impacted by Stage 1 of the CSSI); b. Aboriginal people, Registered Aboriginal Parties (RAPs) and LALCs; and c. the relevant councils and relevant government agencies.	Section 3.6
B6	A Public Liaison Officer must be appointed to assist the public with questions and complaints they may have at any time during Work. The Public Liaison Officer must be available at all times that Work is occurring.	Section 3.6.3
Complaints Management System		
B7	A Complaints Management System must be prepared and implemented before the commencement of any Work and maintained for the duration of construction and for a minimum for 12 months following completion of construction of Stage 1 of the CSSI. The Complaints Management System must be consistent with Sydney Water's Complaint Policy (Document number: 735107, version 4, dated 27 October 2021).	Section 3.6.4

CoA No.	Condition Requirements	Document Reference / Note
Provision of Electronic Information		
B12	A website or webpage providing information in relation to Stage 1 of the CSSI must be established before commencement of Work and be maintained for the duration of construction, and for a minimum of 24 months following the completion of construction of Stage 1 of the CSSI. The following up-to-date information (excluding confidential, private, commercial information or any other information that the Planning Secretary has approved to be excluded) must be published before the relevant Work commences and maintained on the website or dedicated pages including: a. information on the current implementation status of Stage 1 of the CSSI; b. a copy of the documents listed in Condition A1, and any documentation relating to any modifications made to the CSSI or the terms of this approval; c. a copy of this approval in its original form, a current consolidated copy of this approval (that is, including any approved modifications to its terms), and copies of any approval granted by the Minister to a modification of the terms of this approval; d. a copy of each statutory approval, licence or permit required and obtained in relation to Stage 1 of the CSSI; e. a copy of the current version of each document required under the terms of this approval; and f. a copy of the audit reports required under this approval. Where the information / document relates to a particular Work or is required to be implemented, it must be published before the commencement of the relevant Work to which it relates or before its implementation. All information required in this condition must be provided on the Proponent's website, ordered in a logical sequence and which is easy to navigate.	Section 1.8
Construction Environmental Management Plan		
C1	A Construction Environmental Management Plan (CEMP) must be prepared having regard to the Environmental Management Plan Guideline for Infrastructure Projects (Department of Planning, Industry and Environment, 2020). The CEMP must detail how the performance outcomes, commitments and mitigation measures specified in the documents list in CoA A1 will be implemented and achieved during construction.	This CEMP Appendix A1 Appendix A2 Appendix A3
C2	The CEMP must provide: a. a description of activities to be undertaken during construction (including the scheduling of construction); b. details of environmental and social policies, guidelines and principles to be followed in the construction of Stage 1 of the CSSI; c. a program for ongoing analysis of the key environmental and social impact risks arising from the activities described in subsection (a) of this condition, including an initial risk assessment undertaken before the commencement of construction of Stage 1 of the CSSI; d. details of how the activities described in subsection (a) of this condition will be carried out to: i. meet the performance outcomes stated in the documents listed in CoA A1 and as required by this approval; and ii. manage the risks identified in the risk analysis undertaken in subsection (c) of this condition; e. an inspection program detailing the activities to be inspected and frequency of inspections;	(a) Section 1.1 to Section 1.4 (b) Section 1.8, Section 3.2.2, Appendix A3, Appendix A5 and Sub-plans (c) Section 3.2.1 and Section 3.11 (d) Section 3.2.3 (e) Section 3.9

<table>
<tr><th>CoA No.</th><th>Condition Requirements</th><th>Document Reference / Note</th></tr>
<tr><td></td><td>f. a protocol for managing and reporting any:
i. incidents; and
ii. non-compliances with this approval or statutory requirements;
g. procedures for rectifying any non-compliance with this approval identified during compliance auditing, incident management or at any time during construction;
h. a list of all the CEMP Sub-plans required in respect of construction, as set out in CoA C4. Where staged construction of Stage 1 of the CSSI is proposed, the CEMP must also identify which CEMP Sub-plan applies to each of the proposed stages of construction;
i. an organisational chart including description of the roles and environmental responsibilities for relevant employees and any independent appointments;
j. for training and induction for employees, including contractors and sub-contractors, in relation to environmental, social and compliance obligations under the terms of this approval;
k. for periodic review and update of the CEMP and all associated plans and programs; and
l. measures to manage bushfire hazard and risk during construction.</td><td>(f) Section 3.8, Section 3.7
(g) Section 3.8
(h) Section 1.9
(i) Section 3.3
(j) Section 3.5
(k) Section 3.11, Section 3.12 and Section 3.13
(l) Section 1.6, Section 3.2.3, Section 3.2.4, and relevant Sub-plans</td></tr>
<tr><td>C3</td><td>The CEMP (and relevant CEMP Sub-plans) must be endorsed by the ER and then submitted to the Planning Secretary for approval no later than one month before the commencement of construction, or where construction is staged, no later than one month before the commencement of each stage.</td><td>Section 2</td></tr>
<tr><td>C4</td><td>The following CEMP Sub-plans must be prepared in consultation with the relevant government agencies identified for each CEMP Sub-plan. Details of all information requested by an agency during consultation must be provided to the Planning Secretary as part of any submission of the relevant CEMP Sub-plan, including copies of all correspondence from those agencies as required by CoA A9.
<table>
<tr><th></th><th>Required CEMP Sub-plan</th><th>Relevant government agencies to be consulted for each CEMP Sub-plan</th></tr>
<tr><td>(a)</td><td>Surface water and groundwater</td><td>EPA, EHG, DPHI Water, DPI Fisheries, WaterNSW and relevant council(s)</td></tr>
<tr><td>(b)</td><td>Flood emergency response</td><td>EHG, SES, relevant council(s)</td></tr>
<tr><td>(c)</td><td>Soils and contamination</td><td>EPA and relevant council(s)</td></tr>
<tr><td>(d)</td><td>Biodiversity</td><td>EHG, DPI Fisheries and relevant council(s)</td></tr>
</table></td><td>Section 1.9
Section 2
Appendices: B1 to B9</td></tr>
</table>

CoA No.	Condition Requirements	Document Reference / Note
	(e) Noise and vibration — EPA, WaterNSW and relevant council(s)) (f) Traffic and transport — TfNSW and relevant council(s) (g) Heritage (Aboriginal, non-Aboriginal, World and National heritage) — Heritage NSW, EHG, WaterNSW and relevant council(s) (h) Air quality — EPA and relevant council(s)	
C5	The CEMP Sub-plans must state how: a. the environmental performance outcomes identified in the documents listed in CoA A1 will be achieved; b. the mitigation measures identified in the documents listed in CoA A1 will be implemented; c. the relevant terms of this approval will be complied with; and d. issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed through SMART principles.	Appendices: B1 to B9
C6	The Surface Water and Groundwater CEMP Sub-Plan must be prepared by a suitably qualified expert and include, but not limited to: a. measures to achieve compliance with the NSW Government Wianamatta South Creek waterway health objectives and construction phase stormwater management targets, in accordance with the Wianamatta MUSIC modelling toolkit and Technical Guidance for Achieving Wianamatta South Creek Stormwater Management Targets (DPHI, 2022); b. detail erosion and sediment controls to be implemented during construction, including as a minimum, measures in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book'; c. detail all off-site flows from the AWRC site; d. the Dewatering Procedure and Drilling Fluid Management Procedure as committed to in the documents listed in CoA A1.	Appendix B1
C7	The Flood Emergency Response CEMP Sub-Plan must include measures for managing flood risks during construction and address flood recovery.	Appendix B2
C8	The Soils and Contamination CEMP Sub-Plan must be prepared by a Contaminated Land Consultant certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme. The Soils and Contamination CEMP Sub-Plan must include measures to address any contamination found during construction. The Soils and Contamination CEMP Sub-Plan must include (but not limited to): a. details of construction activities and their locations which have the potential to expose areas known to contain, or potentially contain, contaminated soils and/or other contaminated materials;	Appendix B3

CoA No.	Condition Requirements	Document Reference / Note
	b. measures for the handling, treatment and management of hazardous and contaminated soils and materials, including measures to manage and/or minimise worker and public health and safety risks with regard to exposure to contamination; c. a description of how the effectiveness of the actions and measures for managing contamination impacts would be monitored during the proposed works, clearly indicating how often this monitoring would be undertaken, the locations where monitoring would take place, and how the results of the monitoring would be recorded and reported; d. measures to identify contamination during Works; e. measures to manage acid sulfate soils; f. measures to manage asbestos finds; and g. measures to detail unexpected finds consistent with the Unexpected Finds Procedure for Contamination required under CoA E88. The procedure must include details of who will be responsible for implementing the Unexpected Finds Procedure for Contamination and the roles and responsibilities of all parties involved. The Soils and Contamination CEMP Sub-Plan must be reviewed by the Site Auditor engaged under CoA E74. The Site Auditor must issue interim audit advice or a relevant site audit statement stating whether they consider the Soils and Contamination CEMP Sub-Plan to be adequate. Once reviewed by the Site Auditor and approved by the Planning Secretary, the Soils and Contamination CEMP Sub-Plan must be implemented throughout the duration of construction.	
C9	The Biodiversity CEMP Sub-Plan must be prepared by a suitably qualified and experienced ecologist and include, but not limited to: a. details of the measures to avoid and minimise disturbance to native vegetation, and other habitat of native flora and fauna species; b. procedures for undertaking pre-clearance surveys for native fauna, including surveys by a suitably qualified and experienced ecologist to determine the presence of native fauna in the areas impacted by Stage 1 of the CSSI, and procedures and measures to manage their relocation; c. measures to prevent the spread of weeds, pathogens and to manage biosecurity; d. protocols for incidental finds of threatened species and ecological communities within the construction boundary.	Appendix B4
C10	The Noise and Vibration CEMP Sub-Plan must include, but not limited to: a. details of all sensitive land use(s) (including noise and vibration sensitive working areas) that are potentially exposed to construction noise and vibration; b. construction noise and vibration performance criteria for Stage 1 of the CSSI; c. details of mitigation and management measure and procedures that will be implemented to manage construction noise and vibration impacts; d. construction timetabling, in particular construction activities outside of standard hours; and e. measures to minimise cumulative construction impacts and the likelihood for construction fatigue from both concurrent activities and other projects in the area.	Appendix B5
C11	Construction must not commence until the CEMP and all CEMP Sub-plans have been approved by the Planning Secretary.	Section 1.8

<table>
<tr><th>CoA No.</th><th>Condition Requirements</th><th>Document Reference / Note</th></tr>
<tr><td>C12</td><td>The CEMP and CEMP Sub-plans as approved, including any minor amendments approved by the ER, must be implemented for the duration of construction of Stage 1 of the CSSI.</td><td>Section 1.8</td></tr>
<tr><td colspan="3">Construction Monitoring Programs</td></tr>
<tr><td>C13</td><td>The following Construction Monitoring Programs must be prepared in consultation with the relevant government agencies identified for each to compare actual performance of construction of Stage 1 of the CSSI against the performance predicted in the documents listed in CoA A1 or in the CEMP:
<table>
<tr><th></th><th>Required Construction Monitoring Programs</th><th>Relevant government agencies to be consulted for each Construction Monitoring Program</th></tr>
<tr><td>(a)</td><td>Surface water quality</td><td>EPA, EHG, DPHI Water, DPI Fisheries, WaterNSW and relevant council(s)</td></tr>
<tr><td>(b)</td><td>Groundwater</td><td>EPA, DPHI Water</td></tr>
<tr><td>(c)</td><td>Noise and vibration</td><td>EPA, WaterNSW and relevant council(s)</td></tr>
</table></td><td>Section 3.9.2 and applicable management Sub-plan</td></tr>
<tr><td>C14</td><td>C14 Each Construction Monitoring Program (CMP) must have consideration of SMART principles and provide:
a. details of baseline data available;
b. details of baseline data to be obtained and when;
c. details of all monitoring of the project to be undertaken;
d. the parameters of the project to be monitored;
e. the frequency of monitoring to be undertaken;
f. the location of monitoring;
g. the reporting of monitoring results and analysis results against relevant criteria;
h. details of the methods that will be used to analyse the monitoring data;
i. procedures to identify and implement additional mitigation measures where the results of the monitoring indicate unacceptable project impacts; and
j. any consultation to be undertaken in relation to the monitoring programs.</td><td>Section 3.9.2 and applicable management Sub-plan</td></tr>
<tr><td>C15</td><td>The CMP(s) must be endorsed by the ER and then submitted to the Planning Secretary for approval no later than one month before the commencement of construction, or where construction is staged, no later than one month before the commencement of each stage.</td><td>Section 3.9.2 and applicable management Sub-plan</td></tr>
<tr><td>C16</td><td>Construction must not commence until the relevant CMP(s) have been approved by the Planning Secretary and all relevant baseline data for the specific construction activity has been collected.</td><td>Section 3.9.2 and applicable management Sub-plan</td></tr>
<tr><td>C17</td><td>The CMP(s), as approved, including any minor amendments approved by the ER, must be implemented for the duration of construction and for any longer period set out in the monitoring program or specified by the Planning Secretary, whichever is the greater.</td><td>Section 3.9.2 and applicable management Sub-plan</td></tr>
</table>

CoA No.	Condition Requirements	Document Reference / Note
C18	The results of the CMP(s) must be submitted to the Planning Secretary, and relevant regulatory agencies, for information in the form of a Construction Monitoring Report at the frequency identified in the relevant CMP. *Note: Where a relevant CEMP Sub-plan exists, the relevant Construction Monitoring Program may be incorporated into that CEMP Sub-plan.*	Section 3.9.2 and applicable management Sub-plan
Air Quality and Odour		
E1	In addition to the performance outcomes, commitments and mitigation measures specified in the documents listed in CoA A1, all reasonably practicable measures must be implemented to minimise the emission of dust and other air pollutants, including odours during the construction and operation of Stage 1 of the CSSI.	Air Quality CEMP Sub-plan
Biodiversity		
E12	The clearing of native vegetation must be minimised to the greatest extent practicable with the objective of reducing impacts to threatened ecological communities, threatened species and their habitat.	Biodiversity CEMP Sub-plan
E13	Impacts to plant community types and species credit species must not exceed those identified in Table 5 and Table 6 of the CoAs	Biodiversity CEMP Sub-plan
E14	Prior to impacts on the biodiversity values of Stage 1 of the CSSI, the number and classes of ecosystem credits and species credits (like-for-like) as set out in Table 5 and Table 6 (of the CoAs), must be retired. The retirement of the credits must be carried out in accordance with the Biodiversity Conservation Act 2016, and can be achieved by: a. acquiring and retiring "biodiversity credits" within the meaning of the BC Act; and / or b. making a payment into the Biodiversity Conservation Fund of an amount equivalent to the class and number of ecosystem and species credits, as calculated by the Biodiversity Offsets Payment Calculator; and/or c. funding a biodiversity conservation action that benefits the entity impacted and is listed in the ancillary rules of the biodiversity offset scheme.	Biodiversity CEMP Sub-plan
E16	Evidence of the retirement of credits in satisfaction of CoA E14 must be provided to the Planning Secretary prior to impacts on biodiversity values.	Biodiversity CEMP Sub-plan
E17	Where lands mapped as non-certified existing native vegetation (ENV) under the Order to confer biodiversity certification on the State Environmental Planning Policy (Sydney Regional Growth Centres) 2006 (the Order) are proposed to be impacted, the Proponent must prepare a Growth Centres Biodiversity Certification Offset Strategy. The strategy must: a. be prepared in consultation with EHG and submitted to the Planning Secretary for approval prior to the commencement of construction; b. be prepared in accordance with the Order; c. detail how the Proponent proposes to meet the requirements specified under Relevant Biodiversity Measure (RBM) 8 of the Order; and d. include the location of the offsets and the proposed measures to ensure the long-term protection of the offsets. *Note: The Growth Centres Biodiversity Certification Offset Strategy under CoA E17 is only required in the event impacts on non-certified existing native vegetation (ENV) are proposed.*	Biodiversity CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
E18	The Proponent must avoid direct or indirect impacts to ENV within RBM 12 red-hatched lands at Kemps Creek and Cross Street during construction of Stage 1 of the CSSI. *Note: Refer to Appendix B of CoAs*	Biodiversity CEMP Sub-plan
E19	The Proponent must prepare a Rehabilitation Management Plan to revegetate and restore impacted RBM 12 red-hatched lands at Kemps Creek, mapped within the amended impact assessment area at Appendix B. Rehabilitation must occur as soon as practical after construction of the brine pipeline mapped at Appendix B, or as otherwise agreed with relevant landowner(s) or EHG.	Biodiversity CEMP Sub-plan - Rehabilitation Management Plan
E20	The Rehabilitation Management Plan required under CoA E19 must be prepared in consultation with EHG and submitted to the Planning Secretary for approval one month before the commencement of construction in the RBM 12 red-hatched lands. The plan must include: a. removal of all equipment, materials and environmental controls from site; b. where like-for-like re-vegetation is not possible (for example, to minimise risk to pipelines from tree roots), consider vegetation suited to the infrastructure requirements and environmental conditions; c. return disturbed areas to preconstruction ground level where practical; d. rehabilitate areas of native vegetation removal to the highest ecological condition possible; e. in areas of native vegetation removal, reuse felled vegetation (logs and tree-hollows) and other habitat features such as rocks and boulders to increase habitat values; f. in areas of native vegetation removal, use locally sourced (local provenance) tube stock only. All species installed are to be locally indigenous and suitable and characteristic of the Plant Community Type (PCT) that would have originally occurred at the site; g. where possible, reuse stockpiled vegetation as part of rehabilitation works; h. where open trenching of waterways is required, enhance aquatic habitat and restore creeks to an improved state; and i. preparation of six-monthly summary progress report(s) over the revegetation maintenance period, for submission to EHG for comment until EHG is satisfied that the vegetation is established.	Biodiversity CEMP Sub-plan - Rehabilitation Management Plan
E21	The Proponent must minimise impacts to Key Fish Habitat (KFH) as defined in Policy and Guidelines for Fish Habitat Conservation and Management (DPI, 2013 update).	Biodiversity CEMP Sub-plan
E22	The Proponent must take all reasonable and practicable measures to avoid open trenching of waterways, particularly Kemps Creek and South Creek, between late April and early June, and late October to late December, to minimise disruption of downstream and upstream Australian Bass migration.	Biodiversity CEMP Sub-plan
E23	Stage 1 of the CSSI must maximise the reuse of native vegetation and other habitat features that have been approved for removal. Where reuse by the CSSI is not possible, relevant council(s), NSW National Parks & Wildlife Service, Western Sydney Parklands Trust, Greater Sydney Local Land Services, local Landcare groups, DPI Fisheries and any additional relevant government agencies must be consulted prior to the removal of vegetation and other habitat to determine if: a. hollows, tree trunks (greater than 25-30 centimetres in diameter and 2-3 metres in length), mulch, bush rock and root balls salvaged from native vegetation impacted by the CSSI; and b. collected plant material, seeds and/or propagated plants from native vegetation impacted by the CSSI,	Biodiversity CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
	could be used by others in habitat enhancement and rehabilitation activities, before pursuing other disposal options. If the native vegetation and other habitat features can be reused by others, the Proponent must advise them and facilitate access for salvage.	
Flooding		
E24	Measures identified in the documents listed in CoA A1 to not worsen flood characteristics during operation or other measures that achieve the same outcomes, must be incorporated into the AWRC site detailed design of Stage 1 of the CSSI. The incorporation of these measures into the detailed design must be reviewed and endorsed by a suitably qualified flood consultant, who is independent of the project's design and construction, in consultation with directly affected landowners, EHG, and relevant council(s).	Flood Emergency Response CEMP Sub-plan
E25	Unless otherwise agreed by the Planning Secretary, Stage 1 of the CSSI must be designed and constructed to limit impacts on flooding characteristics in areas outside the project boundary, to those impacts documented in the amended Flood Impact Assessment (FIA) (July 2022) listed in CoA A1. Where the requirements set out in the amended FIA (July 2022) listed in CoA A1 cannot be met alternative flood levels or mitigation measures may be agreed to with the affected landowner. In the event that the Proponent and the affected landowner cannot agree on the measures to mitigate the impact as described in the amended FIA (July 2022) listed in CoA A1, the Proponent must engage a suitably qualified and experienced independent person to advise and assist in determining the impact and relevant mitigation measures.	Flood Emergency Response CEMP Sub-plan
E26	Flood information including flood reports, models and geographic information system outputs, and work as executed information from a registered surveyor certifying finished ground levels and the dimensions and finished levels of all structures within the flood prone land, must be provided to the relevant council(s), EHG and the SES in order to assist in preparing relevant documents and to reflect changes in flood behaviour as a result of Stage 1 of the CSSI. The council(s), EHG and the SES must be notified in writing that the information is available no later than one month following the completion of construction. Information requested by the relevant council(s), EHG or the SES must be provided no later than six months following the completion of construction or within another timeframe agreed with the relevant council(s), EHG and the SES.	Flood Emergency Response Sub-plan
E27	Prior to the commencement of construction within the green space area as mapped in Figure 4-7 and Figure 4-8 of the Environmental Impact Statement listed in CoA A1, the Proponent must prepare a Flood Impact and Risk Assessment (FIRA) for the proposed concept design of the green space area. The FIRA must incorporate all proposed elements (including but not limited to vegetation, walking paths, fences, irrigation area and outdoor learning spaces). The FIRA must be prepared by a suitably qualified and experienced flood consultant in consultation with EHG, and provided to the Planning Secretary for approval. *Note: CoA E27 excludes construction of elements required for effective operation and management of operational components of the AWRC plant. This includes release infrastructure to South Creek, fences around the AWRC operational area and fire trail around the AWRC operational area.*	Flood Emergency Response CEMP Sub-plan
E28	The FIRA required under CoA E27 must address the performance outcome criteria specified in Table 9.1.2 of the draft Western Sydney Aerotropolis Development Control Plan 2021 (draft Aerotropolis DCP Phase 2, October 2021).	Flood Emergency Response CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
Aboriginal Cultural Heritage		
E29	All reasonable steps must be taken so as not to harm, modify or otherwise impact Aboriginal objects or places of cultural significance except as authorised by this approval.	Heritage CEMP Sub-plan
E30	The Registered Aboriginal Parties (RAPs) must be kept regularly informed about Stage 1 of the CSSI. The RAPs must continue to be provided with the opportunity to be consulted about the Aboriginal cultural heritage management requirements of Stage 1 of the CSSI. The Proponent must provide the RAPs an opportunity to identify potential sites within the construction boundary for cultural salvage. The Proponent must allow the RAPs to undertake cultural salvage at each site they have determined has cultural significance. *Note: Details regarding ongoing engagement with RAP's must be provided in the Communication Strategy required under CoA B1.*	Section 3.6 Heritage CEMP Sub-plan
E31	At the completion of Aboriginal cultural heritage test and salvage excavations, an Aboriginal Cultural Heritage Excavation Report(s) must be prepared by a suitably qualified person. The Aboriginal Cultural Heritage Excavation Report(s), must: a. be prepared in accordance with the Guide to Investigation, assessing and reporting on Aboriginal cultural heritage in NSW, OEH 2011 and the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, DECCW 2010; and b. document the results of the archaeological test excavations and any subsequent salvage excavations (with artefact analysis and identification of a final repository for finds). The RAPs must be given a minimum of 28 days to consider the report and provide comments before the report is finalised. The final report must be provided to the Planning Secretary, Heritage NSW, the relevant council(s), LALC, the RAPs and local libraries within 24 months of the completion of the Aboriginal archaeological excavations (both test and salvage).	Heritage CEMP Sub-plan
E32	Where previously unidentified Aboriginal objects or places of cultural significance are discovered, all Work must immediately stop in the vicinity of the affected area. Works potentially affecting the previously unidentified objects and places must not recommence until Heritage NSW has been informed. The measures to consider and manage this process must be specified in the Unexpected Heritage Finds and Human Remains Procedure required by CoA E37 and include registration in the Aboriginal Heritage Information Management System (AHIMS).	Heritage CEMP Sub- plan Unexpected Heritage Finds and Human Remains Procedure
Non-Aboriginal Heritage		
E33	Archival photographic digital recording must be undertaken as proposed in the documents listed in CoA A1 for all listed heritage items which will be affected by Stage 1 of the CSSI. The recording must be undertaken prior to the commencement of Work which may impact the items and sites. The Archival recording must be undertaken by a suitably qualified heritage specialist and prepared in accordance with NSW Heritage Office's How to Prepare Archival Records of Heritage Items (1998) and Photographic Recording of Heritage Items Using Film or Digital Capture (2006). A copy must be provided to Heritage NSW and the relevant council(s) and submitted as part of the Heritage Report required by CoA E35.	Heritage CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
E34	Prior to commencement of archaeological excavation, the Proponent must nominate a suitably qualified Excavation Director who complies with Heritage NSW's Criteria for Assessment of Excavation Directors (September 2019) to oversee and advise on matters associated with historical archaeology. The Excavation Director must be present to oversee excavation, advise on archaeological issues, advise on the duration and extent of oversight required during archaeological excavations consistent with the Archaeological Research Design and Excavation Methodology included as part of the Environmental Impact Statement listed in CoA A1.	Heritage CEMP Sub-plan
E35	Following completion of archaeological excavation programs a Heritage Report must be prepared that includes: a. the details of any archival recording, b. further historical research undertaken c. results of archaeological excavations (including artefact analysis and identification of a final repository for finds); and d. details of any significant artefacts recovered, where they were located, and details of their ongoing conservation and protection in perpetuity. The report must be prepared in accordance with guidelines and standards required by Heritage NSW.	Heritage CEMP Sub-plan
E36	The Heritage Report must be submitted to the Planning Secretary, Heritage NSW, the relevant council(s), relevant local libraries and relevant local historical societies no later than 12 months after the completion of archaeological excavation programs.	Heritage CEMP Sub-plan
Unexpected Heritage Finds		
E37	An Unexpected Heritage Finds and Human Remains Procedure must be prepared to manage unexpected heritage finds in accordance with any guidelines and standards prepared by Heritage NSW and the Heritage Council of NSW. The Unexpected Heritage Finds and Remains Procedure must be submitted to the Planning Secretary for information before the commencement of Work. The procedure must be included in the Heritage CEMP Plan required by CoA C4.	Heritage CEMP Sub-plan
E38	The Unexpected Heritage Finds and Human Remains Procedure, as submitted to the Planning Secretary, must be implemented for the duration of Work. Where archaeological investigations have been undertaken as a result of Unexpected Finds notifications then a Final Archaeological Report must be provided in accordance with Heritage Council guidance and standard requirements for final reporting under Excavation Permits. Note: Human remains that are found unexpectedly during the carrying out of Work may be under the jurisdiction of the NSW State Coroner and must be reported to the NSW Police immediately.	Heritage CEMP Sub-plan
Land Use Survey		
E39	A detailed land use survey must be undertaken to confirm sensitive land use(s) (including critical working areas such as operating theatres and precision laboratories) potentially exposed to construction noise and vibration, construction ground-borne noise and operational noise. The survey may be undertaken on a progressive basis but must be undertaken in any one area before the commencement of activities which generate construction or operational noise, vibration or ground-borne noise in that area. The results of the survey must be included in the Noise and Vibration CEMP Sub-plan required by CoA C4.	Noise and Vibration CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
Construction Hours		
E40	Work must be undertaken during the following hours: a. 7:00am to 6:00pm Mondays to Fridays, inclusive; b. 8:00am to 1:00pm Saturdays; and c. at no time on Sundays or public holidays.	Section 1.11 Noise and Vibration CEMP Sub-plan
Highly Intensive Work		
E41	Except as permitted by an EPL, highly noise intensive Works that result in an exceedance of the applicable NML at the same receiver must only be undertaken: a. between the hours of 8:00 am to 6:00 pm Monday to Friday; b. between the hours of 8:00 am to 1:00 pm Saturday; and c. if continuously, then not exceeding three hours, with a minimum cessation of Work of not less than one hour. For the purposes of this condition, 'continuously' includes any period during which there is less than one hour between ceasing and recommencing any of the Work.	Section 1.11.2 Noise and Vibration CEMP Sub-plan
Variation to Work Hours		
E42	Notwithstanding CoAs E40 and E41 Work may be undertaken outside the hours specified in the following circumstances (a, b, or c): a. Safety and Emergencies, including: i. for the delivery of materials required by the NSW Police Force or other authority for safety reasons; or ii. where it is required in an emergency to avoid injury or the loss of life, to avoid damage or loss of property or to prevent environmental harm. On becoming aware of the need for emergency work in accordance with CoA E42(a), the AA, the ER, the Planning Secretary and the EPA must be notified of the reasons for such work. Best endeavors must be used to notify all noise and/or vibration affected residents and owners/occupiers of properties identified sensitive land use(s) of the likely impact and duration of those works; or b. Work that meets all of the following criteria: i. construction that causes LAeq(15 minute) noise levels: • no more than 5 dB(A) above the rating background level at any residence in accordance with the ICNG, and • no more than the 'Noise affected' NMLs specified in Table 3 of the ICNG at other sensitive land use(s); or ii. construction that causes: • continuous or impulsive vibration values, measured at the most affected residence are no more than the preferred values for human exposure to vibration, specified in Table 2.2 of Assessing Vibration: a technical guideline (DEC, 2006), or	Noise and Vibration CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
	• intermittent vibration values measured at the most affected residence are no more than the preferred values for human exposure to vibration, specified in Table 2.4 of Assessing Vibration: a technical guideline (DEC, 2006). c. By Approval, including: i. where different construction hours are permitted or required under an EPL in force in respect of the CSSI; or ii. works which are not subject to an EPL that are approved under an Out-of-Hours Work Protocol as required by CoA E43; or iii. negotiated agreements with directly affected residents and sensitive land use(s).	
Out-of-Hours Work - not subject to an EPL		
E43	An Out-of-Hours Work Protocol must be prepared to identify a process for the consideration, management and approval of Work which is outside the hours defined in CoA E40, and that are not subject to an EPL. The Protocol must be submitted to and approved by the Planning Secretary before commencement of the out-of-hours work. The Protocol must be prepared in consultation with the ER, AA and EPA. The Protocol must include: a. identification of low and high-risk activities and an approval process that considers the risk of activities, proposed mitigation, management, and coordination, including where: i. the ER and AA review all proposed out-of-hours activities and confirm their risk levels, ii. low risk activities can be approved by the ER in consultation with the AA, and iii. high risk activities that are approved by the Planning Secretary; b. a process for the consideration of out-of-hours work against the relevant NML and vibration criteria; c. a process for selecting and implementing mitigation measures for residual impacts in consultation with the community at each affected location, including respite periods consistent with the requirements of CoA E55. The measures must take into account the predicted noise levels and the likely frequency and duration of the out-of-hours works that sensitive land use(s) would be exposed to, including the number of noise awakening events; d. procedures to facilitate the coordination of out-of-hours work including those approved by an EPL or undertaken by a third party, to ensure appropriate respite is provided; and e. notification arrangements for affected receivers for approved out-of-hours work and notification to the Planning Secretary of approved low risk out-of-hours works. This condition does not apply if the requirements of CoA E42(a) or (b) are met. *Note: If the Work is subject to an EPL and the EPA does not endorse extended hours as part of the EPL, the extended hours can not be considered under this Protocol.*	Section 1.11 Noise and Vibration CEMP Sub-plan
Construction Noise Management Levels and Vibration Criteria		
E44	Mitigation measures must be implemented with the aim of achieving the following construction noise management levels and vibration objectives: a. construction 'Noise affected' NMLs established using the Interim Construction Noise Guideline (DECC, 2009);	Noise and Vibration CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
	b. vibration criteria established using the Assessing vibration: a technical guideline a. (DEC, 2006) (for human exposure); c. Australian Standard AS 2187.2 - 2006 “Explosives - Storage and Use - Use of Explosives”; d. BS 7385 Part 2-1993 “Evaluation and measurement for vibration in buildings Part 2” as they are “applicable to Australian conditions”; and e. the vibration limits set out in the German Standard DIN 4150-3: Structural Vibration- effects of vibration on structures (for structural damage). Work that exceeds the noise management levels and/or vibration criteria must be managed in accordance with the Noise and Vibration CEMP Sub-plan required by CoA C4, as applicable. *Note: The ICNG identifies ‘particularly annoying’ activities that require the addition of 5 dB(A) to the predicted level before comparing to the construction NML.*	
E45	Mitigation measures must be applied when the following residential ground-borne noise levels are exceeded: a. evening (6:00 pm to 10:00 pm) — internal LAeq(15 minute): 40 dB(A); and b. night (10:00 pm to 7:00 am) — internal LAeq(15 minute): 35 dB(A). The mitigation measures must be outlined in the Noise and Vibration CEMP Sub-plan, including in any Out-of-Hours Work Protocol, required by CoA E43.	Noise and Vibration CEMP Sub-plan
E46	Noise generating Work in the vicinity of community, religious, educational institutions, noise and vibration-sensitive businesses and critical working areas (such as theatres, laboratories and operating theatres) resulting in noise levels above the NMLs must not be timetabled during sensitive periods, unless other reasonable arrangements with the affected institutions are made at no cost to the affected institution.	Noise and Vibration CEMP Sub-plan
E47	At no time can noise generated by construction exceed the National Standard for exposure to noise in the occupational environment of an eight-hour (8hr) equivalent continuous A-weighted sound pressure level of LAeq,8h of 85 dB(A) for any employee working at a location near the CSSI.	Noise and Vibration CEMP Sub-plan
E48	Construction Noise and Vibration Impact Statements (CNVIS) must be prepared for Work that may exceed the noise management levels, vibration criteria and/or ground-borne noise levels specified in CoA E44 and CoA E45 at any residence outside construction hours identified in CoA E40, or where receivers will be highly noise affected. The CNVIS must include specific mitigation measures identified through consultation with affected sensitive land use(s) and the mitigation measures must be implemented for the duration of the Works. A copy of the CNVIS must be provided to the AA and ER prior to the commencement of the associated Works. The Planning Secretary may request a copy/ies of CNVIS.	Noise and Vibration CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
E49	Owners and occupiers of properties at risk of exceeding the screening criteria for cosmetic damage must be notified before Work that generates vibration commences in the vicinity of those properties. If the potential exceedance is to occur more than once or extend over a period of 24 hours, owners and occupiers are to be provided a schedule of potential exceedances on a monthly basis for the duration of the potential exceedances, unless otherwise agreed by the owner and occupier. These properties must be identified and considered in the Noise and Vibration CEMP Sub-plan required by CoA C4 and the Community Communication Strategy required by CoA B1.	Noise and Vibration CEMP Sub-plan
E50	Industry best practice construction methods must be implemented where reasonably practicable to ensure that noise levels are minimised. Practices must include, but are not limited to: a. use of regularly serviced low sound power equipment; b. early occupation and later release of road carriageways and construction sites; c. scheduling of noisiest Works before 11.00 pm Sunday to Thursday and before 12 midnight Friday and Saturday; d. temporary noise barriers (including the arrangement of plant and equipment) around noisy equipment and activities such as rock hammering and concrete cutting; and e. use of alternative construction and demolition techniques.	Noise and Vibration CEMP Sub-plan
Construction Vibration Mitigation		
E51	The Proponent must conduct vibration testing before and during vibration generating activities that have the potential to impact on heritage items to identify minimum working distances to prevent cosmetic damage. In the event that the vibration testing and attended monitoring shows that the preferred values for vibration are likely to be exceeded, the construction methodology must be reviewed and, if necessary, additional mitigation measures implemented.	Noise and Vibration CEMP Sub-plan
E52	Advice from a heritage specialist must be sought on methods and locations for installing equipment used for vibration, movement and noise monitoring at heritage-listed structures. Note: The installation of noise and vibration equipment must not impact on the heritage values of the Heritage items.	Heritage CEMP Sub-plan
E53	Before conducting at-property treatment at any heritage item identified in the documents listed in CoA A1, the advice of a suitably qualified and experienced built heritage expert must be obtained and implemented to ensure any such Work does not have an adverse impact on the heritage significance of the item.	Heritage CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
Utility Coordination and Respite		
E54	All work undertaken for the construction of Stage 1 of the CSSI, including those undertaken by third parties (such as utility relocations), must be coordinated to ensure respite periods are provided. This must include: a. rescheduling Work to provide respite to impacted noise sensitive land use(s) so that the respite is achieved in accordance with CoA E55; or b. the provision of alternative respite or mitigation to impacted noise sensitive land use(s); and c. the provision of documentary evidence to the AA in support of any decision made in relation to respite or mitigation. The consideration of respite must also include all other CSSI, SSI and SSD projects which may cause cumulative and/or consecutive impacts at receivers affected by the delivery of Stage 1 of the CSSI.	Noise and Vibration CEMP Sub-plan
Out-of-Hours Works - Community Consultation on Respite		
E55	In order to undertake out-of-hours work outside the hours specified under CoA E40, the appropriate respite periods must be identified for the out-of-hours work in consultation with the community at each affected location on a regular basis. This consultation must include (but not be limited to) providing the community with: a. a progressive schedule for periods of likely out-of-hours work; b. a description of the potential work, location and duration of the out-of-hours work; c. the noise characteristics and likely noise levels of the work; and d. likely mitigation and management measures which aim to achieve the relevant noise management levels and vibration criteria under CoA E44 (including the circumstances of when respite or relocation offers will be available and details about how the affected community can access these offers). The outcomes of the community consultation, the identified respite periods and the scheduling of the likely out-of-hour work must be provided to the AA, ER, EPA and the Planning Secretary for information prior to undertaking the Work scheduled for the subject period. *Note: Respite periods can be any combination of days or hours where out-of-hours work would not be more than 5 dB(A) above the rating background noise level at any residence.*	Noise and Vibration CEMP Sub-plan CSEP
Place, Design and Visual Amenity		
E58	Stage 1 of the CSSI must be constructed in a manner that minimises visual impacts of construction sites. For example, decorative hoarding, landscaping and/or vegetative screening of ancillary facilities, minimising light spill, and incorporating architectural treatment and finishes within key elements of temporary structures that reflect the context within which the construction sites are located, including recognition of Country.	Section 1.5

CoA No.	Condition Requirements	Document Reference / Note
E59	Stage 1 of the CSSI must be constructed and operated with the objective of minimising light spillage to surrounding properties. All lighting associated with the construction and operation of Stage 1 of the CSSI must be consistent with the requirements of AS/NZS 4282:2019 Control of the obtrusive effects of outdoor lighting, relevant Australian Standards in the series AS/NZ 1158 – Lighting for Roads and Public Spaces, and National Airports Safeguarding Framework (NASF) Guideline E: Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports. Additionally, mitigation measures must be provided to manage any residual night lighting impacts to protect properties adjoining or adjacent to the CSSI, in consultation with affected landowners. *Note: The outcomes of this condition must be demonstrated in the Urban Design and Landscape Plan.*	Section 1.5 Urban Design and Landscape Plan
E62	Where Work results in the temporary removal of a recreational or community use, and no similar use with sufficient capacity for regular users is located within two (2) kilometres of the site, then a temporary facility of comparable scale must be provided for the duration of the use of that site.	At this stage of construction planning, John Holland has not identified any location (recreational or community) where CoA E62 will be triggered. John Holland will continue to monitor potential locations as construction planning progresses and will engage with relevant stakeholders, including Sydney Water, should the need arise.
E63	An Urban Design and Landscape Plan (UDLP) must be prepared for the AWRC site to document and illustrate the permanent built works and landscape design of Stage 1 of the CSSI and how these works are to be maintained. The UDLP must be: a. prepared by a suitably qualified and experienced person(s) in place, urban and landscape design and bush regeneration; b. prepared in consultation with relevant council(s) and the community, including affected landowners and businesses; c. submitted to the Planning Secretary for approval no later than one month before the construction of permanent built surface works and/or landscaping in the area to which the UDLP applies; and d. implemented during construction and operation of Stage 1 of the CSSI. *Note: The UDLP may be developed and considered in stages to facilitate design progression and construction. Any such staging and associated approval would need to facilitate a cohesive final design and not limit final design outcomes.*	Urban Design and Landscape Plan
E64	The UDLP must document how the following matters have been considered in the design and landscaping of the project: a. the requirements of CoAs E61 to E62; the requirements of the Wildlife Management Plan under CoA E130; b. demonstrated integration of Crime Prevention Through Environmental Design (CPTED) principles; c. Designing with Country and the principles and objectives of the draft Connecting with Country Framework; d. the finalised version of the draft guideline 'Recognise Country – Draft Guidelines for development in the Aerotropolis'; e. constraints associated with bushfire, flooding and airport safeguarding; f. vegetation management that considers the principles of Guidelines for Vegetation Management Plans on Waterfront Land (NSW Office of Water, DPI 2012), draft Western Sydney Aerotropolis Riparian Revegetation	Urban Design and Landscape Plan

CoA No.	Condition Requirements	Document Reference / Note
	Strategy, and the tree planting provisions in the draft Western Sydney Aerotropolis Development Control Plan – Phase 2 (October 2021); g. architectural design to soften the industrial aesthetic; h. integrating heritage character of the site with treatment and finishes of the new design; and i. inputs from relevant experts in architecture, landscape architecture, bushfire management, heritage, revegetation, ecology, wildlife hazard management and flooding.	
E65	The UDLP must include descriptions and visualisations (as appropriate) of: a. the design of the permanent built elements for the AWRC site including their form, materials and detail; b. place, design and landscape outcomes for the proposed green space area, consistent with the Upper South Creek Advanced Water Recycling Centre Urban Design Report, dated July 2021 (provided as Attachment A to RFI 1, dated 1 June 2022) and identified in the documents listed in CoA A1; c. the design of the project landform and landscaping elements; d. the type and design of public and open space; e. details of strategies to rehabilitate, regenerate or revegetate disturbed areas with local native species; and f. management and routine maintenance standards and regimes for design elements and landscaping Work (including adequate watering of plants following planting depending on forecast weather conditions and weed management) to ensure the success of the design and landscape outcomes. Unless otherwise agreed with the Planning Secretary, construction of permanent built work or landscaping that are the subject of the UDLP must not be commenced (in the area to which the UDLP applies) until the UDLP has been approved by the Planning Secretary.	Urban Design and Landscape Plan
Condition Survey		
E69	The Proponent must offer pre-construction surveys to the owners of surface and sub-surface structures and other relevant assets identified at risk from vibration, including all listed heritage items and buildings/structures of heritage significance as identified in the documents listed in CoA A1. Where the offer is accepted, the survey must be undertaken by a suitably qualified and experienced engineer and/or building surveyor prior to the commencement of vibration generating Works that could impact on the structure/asset. The results of each survey must be documented in a Pre-construction Condition Survey Report and the report must be provided to the owner of the item(s) surveyed no later than one month before the commencement of all other potentially impacting Works.	Noise and Vibration CEMP Sub-plan
E70	Where pre-construction surveys have been undertaken in accordance with CoA E69, subsequent post-construction surveys of the structure / asset must be undertaken by a suitably qualified and experienced engineer and/or building surveyor to assess damage that may have resulted from the vibration-generating Works. The results of the post-construction surveys must be documented in a Post-Construction Condition Survey Report for each item surveyed. The Post-construction Condition Survey Reports must be provided to the owner of the structures/assets surveyed, and no later than four months following the completion of construction activities that have the potential to impact on the structure / asset.	Noise and Vibration CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
Soils		
E72	Prior to the commencement of any Work, erosion and sediment controls must be installed and maintained, as a minimum, in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book'. In the South Creek catchment, controls must also be in accordance with the construction phase targets and sediment and erosion control design principles outlined in the Technical Guidance for Achieving Wianamatta South Creek Stormwater Management Targets (DPHI, 2022).	Soils and Contamination CEMP Sub-plan
E73	The Proponent must engage a Certified Professional in Erosion and Sediment Control (CPESC) with minimum five years' experience to oversee all construction and sediment controls required for the AWRC.	Soils and Contamination CEMP Sub-plan
Contaminated Sites		
E74	A NSW EPA accredited Site Auditor(s) must be engaged before the commencement of contamination investigations until the completion of construction to ensure that any Work required in relation to contamination is appropriately managed. The Site Auditor is to be provided with all documentation relevant to the consideration of contamination risk and the management of contamination for the project, including previous site audits and site audit statements. The Site Auditor is to review all relevant documentation and provide a written opinion on the contamination risk and the appropriateness of the reports and any proposed management measures of the site, including (but not limited to): a. the contamination aspects of management and monitoring plans in CoAs C1 and C4 including any updates or amendments to those plans; b. the review of the Proponent's risk rating for Areas of Environmental Concern (AECs) in CoA E76; c. Sampling and Analysis Quality Plan in CoA E77; d. Detailed Site Investigation Report(s) in CoA E79; e. Remedial Action Plans in CoA E83; f. Unexpected Finds Procedure for Contamination in CoA E88; and g. Post-remediation validation reports.	Soils and Contamination CEMP Sub-plan Section 3.3
E75	Evidence that the NSW EPA accredited Site Auditor has reviewed each of the plans and reports listed in CoA E74, and has issued an interim audit advice or a relevant Site Audit Statement regarding the appropriateness of those plans or reports, must be provided when the plan or report is submitted to the Planning Secretary for information. Where the NSW EPA accredited Site Auditor confirms that no further investigations are warranted, CoAs E76 to E82 do not apply.	Soils and Contamination CEMP Sub-plan
E76	The NSW EPA accredited Site Auditor must be engaged to review the risk rating for AECs identified in Appendix N (Soils and Contamination Impact Assessment) of the Environmental Impact Statement listed in CoA A1. Following this review, the Site Auditor must issue an interim audit advice confirming whether the risk rating has been undertaken appropriately.	Soils and Contamination CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
E77	Prior to the commencement of construction, a Sampling and Analysis Quality Plan (SAQP) for medium and high risk AECs, as confirmed by the Site Auditor and identified in the documents referred to in CoA E76, must be prepared to ensure that field investigations and analyses will be undertaken in a way that enables the collection and reporting of reliable data to meet project objectives, including the relevant site characterisation requirements of the detailed site investigations. The SAQP must: a. be prepared (or reviewed and approved) by consultants certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme; and b. be prepared in accordance with relevant guidelines made or approved by the EPA under section 105 of the Contaminated Land Management Act 1997 (CLM Act).	Soils and Contamination CEMP Sub-plan
E78	For medium to high-risk AECs as confirmed by the NSW EPA accredited Site Auditor, Detailed Site Investigations(s) must be conducted to determine the full nature and extent of the contamination at project areas identified in the SAQP(s). The Detailed Site Investigations(s) must: a. be prepared (or reviewed and approved) by consultants certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme b. be prepared in accordance with relevant guidelines made or approved by the EPA under section 105 of the CLM Act; and c. state if the land within the project footprint is suitable for the proposed use or if the land requires remediation to be made suitable for the proposed use.	Soils and Contamination CEMP Sub-plan
E79	A Detailed Site Investigation Report must be submitted to the Planning Secretary upon request following the completion of the Detailed Site Investigation(s) required by CoA E78. The Detailed Site Investigation Report must be prepared in accordance with: a. the land use criteria applicable to the final land use at the opening of Stage 1 of the CSSI. Where the final land use is unknown the most stringent criteria for the land use assumed in the documents listed in CoA A1 is to be applied; and b. relevant guidelines made or approved by the EPA under section 105 of the CLM Act including Consultants Reporting on Contaminated Land: Contaminated Land Guidelines (NSW EPA 2020). The report must be prepared by a Contaminated Land Consultant certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme. *Notes:* *1. Nothing in this condition prevents the Proponent from preparing individual Detailed Site Investigation Reports for separate contaminated sites.* *2. Where Detailed Site Investigation(s) have already been undertaken for contaminated soils, materials, groundwater or sediments, and the Site Auditor agrees that these Detailed Site Investigation(s) are appropriate in determining the nature and extent of contamination, they do not need to be undertaken again for the purposes of this condition.*	Soils and Contamination CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
E80	The Detailed Site Investigation Report must provide details on: a. primary sources of contamination, for example potentially contaminating activities, infrastructure (such as underground storage tanks, fuel line, sumps or sewer lines) or site practices; b. contaminant dispersal in air, hazardous ground gases, surface water, groundwater, soil vapour, separate phase contaminants, sediments, infrastructure (e.g. concrete), biota, soil and dust; c. contaminant characterisation and behaviour (volatility, leachability, speciation, degradation products and physical and chemical conditions on-site which may affect how contaminants behave); d. potential effects of contaminants on human health, including the health of occupants of built structures (for example arising from risks to service lines from hydrocarbons in groundwater, or risks to concrete from acid sulphate soils) and the environment; e. potential and actual contaminant migration routes including potential preferential pathways; f. the adequacy and completeness of all information available for use in the assessment of risk and for making decisions on management requirements, including an assessment of uncertainty; g. the review and update of the conceptual site model from the preliminary and detailed site investigations; h. nature and extent of any existing remediation (such as impervious surface cappings); and i. whether the land is suitable (for the intended final land use) or can be made suitable through remediation.	Soils and Contamination CEMP Sub-plan
E81	Detailed Site Investigation Reports must be reviewed by the NSW EPA accredited Site Auditor in accordance with CoA E74 and all recommendations made by the NSW EPA accredited Site Auditor implemented before Work commencing that could result in any disturbance of any land confirmed as a moderate to high risk area of potential contamination by the NSW EPA accredited Site Auditor. *Notes:* *1. The intention of this condition is to require Detailed Site Investigation(s) of locations identified as an area of potential contamination to be completed before any form of excavation including the use of hand tools to expose soil to prevent unacceptable risk to human health or the environment on or off site.* *2. This condition does not prevent disturbance required to complete the Detailed Site Investigation(s).* *3. This condition does not prevent other activities that do not disturb the land where the ER has reviewed the appropriateness of those activities in accordance with CoA A28(j).*	Soils and Contamination CEMP Sub-plan
E82	Any recommendations made in the Detailed Site Investigation Report for changes to management measures in the CEMP Sub-plan(s) must be incorporated into the relevant subplan required by CoA C4, unless otherwise approved by the Planning Secretary.	Soils and Contamination CEMP Sub-plan
E83	Where remediation is required to make land suitable for the final intended land use, a Remedial Action Plan must be prepared and/or reviewed and approved by consultants certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme. The Remedial Action Plan must be prepared in accordance with relevant guidelines made or approved by the EPA under section 105 of the CLM Act and must include measures to remediate the contamination at the site to ensure the site will be made suitable for the final intended land use. Note: Nothing in this condition prevents the Proponent from preparing individual Remedial Actions Plan(s) for separate contaminated sites.	Soils and Contamination CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
E84	If remediation is required to make land suitable for the final intended land use, then prior to commencing with the remediation, the Proponent must submit the Remedial Action Plan(s) and an interim audit advice from a NSW EPA accredited Site Auditor to the Planning Secretary for information, which considers that the Remedial Action Plan is appropriate and that the site can be made suitable for the proposed land use. The Remedial Action Plan must be implemented and any changes to the Remedial Action Plan must be approved in writing by the NSW EPA accredited Site Auditor.	Soils and Contamination CEMP Sub-plan
E85	For any land confirmed as a moderate to high risk area of potential contamination by the NSW EPA accredited Site Auditor as per CoA E76, a Section A1 or A2 Site Audit Statement (accompanied by an Environmental Management Plan) and its accompanying Site Audit Report, which state that the contaminated land disturbed by the Work has been made suitable for the intended land use, must be submitted to the Planning Secretary and relevant council(s) after remediation and no later than one month before the commencement of operation of Stage 1 of the CSSI. *Note: Nothing in this condition prevents the Proponent from obtaining Section A Site Audit Statements for individual parcels of remediated land.*	Soils and Contamination CEMP Sub-plan
E86	Contaminated land must not be used for the purpose approved under the terms of this approval until a Section A1 or A2 Site Audit Statement is obtained which states that the land is suitable for that purpose and any conditions on the Section A Site Audit Statement have been complied with.	Soils and Contamination CEMP Sub-plan
E87	Any recommendations to minimise risk to human health or the environment or for the management of contamination arising, the NSW EPA accredited Site Auditor review, advice or audits must be incorporated into the relevant CEMP Sub-plan and implemented.	Soils and Contamination CEMP Sub-plan
E88	An Unexpected Finds Procedure for Contamination must be prepared before the commencement of Work and must be followed should unexpected contamination or asbestos (or suspected contamination) be excavated or otherwise discovered. The procedure must include details of who will be responsible for implementing the unexpected finds procedure and the roles and responsibilities of all parties involved. The Procedure must be reviewed by the Site Auditor and interim audit advice or a Section B Site Audit Statement provided certifying that the Unexpected Finds Procedure is appropriate. The Unexpected Finds Procedure must be submitted to the Planning Secretary for approval at least one month prior to the commencement of Work and a copy of the interim audit advice or Section B Site Audit Statement attached. The Unexpected Finds Procedure for Contamination must be implemented throughout Work. *Note: Nothing in this condition prevents the Unexpected Finds Procedure for Contamination required under CoA E88 to be submitted for approval as part of the Soils and Contamination CEMP Sub-Plan under CoA C8.*	Soils and Contamination CEMP Sub-plan
Sustainability		
E89	A Sustainability Strategy must be prepared and implemented to achieve a minimum “Gold” ‘Design’ and ‘As built’ rating under the Infrastructure Sustainability Council infrastructure v2.1 rating tool, or at least “Excellent” under v1.2.	John Holland has established and will implement and maintain a sustainability management system on the Project. An USC Sustainability Management Plan has been developed to document the sustainability management system,
E90	Evidence that the minimum rating in Condition E89 have been achieved must be provided to the Planning Secretary for information within one month of receiving the ratings.	
E91	The Sustainability Strategy must be implemented throughout design, construction and operation, and be submitted to the Planning Secretary for information.	

CoA No.	Condition Requirements	Document Reference / Note
		including compliance with CoA E89, E90 and E91. The USC Sustainability Management Plan is not related to the CEMP, but is a standalone plan required to support the achievement of a minimum 'Gold' Design & As-built rating under the Infrastructure Sustainability Council v2.1 rating tool.
E92	A Water Reuse Strategy must be prepared, which sets out options for the reuse of collected stormwater and groundwater during construction and operation. The Water Reuse Strategy must include, but not be limited to: a. evaluation of reuse options; b. details of the preferred reuse option(s), including indicative volumes of water to be reused, proposed reuse locations and/or activities, proposed treatment (if required), and any additional licences or approvals that may be required; c. measures to avoid misuse of stormwater and groundwater as potable water; d. consideration of the public health risks from reuse of stormwater or groundwater; and e. a time frame for the implementation of the preferred reuse option(s). The Water Reuse Strategy must be prepared based on best practice and advice sought from relevant agencies, as required. The Strategy must be applied during construction and operation. Justification must be provided to the Planning Secretary if it is concluded that no reuse options prevail before the commencement of construction. A copy of the Water Reuse Strategy must be made publicly available prior to the commencement of construction. If reuse is only proposed during operation, then the Strategy must be made publicly available prior to the commencement of operation. *Note: Nothing in this condition prevents the Proponent from preparing separate Water Reuse Strategies for the construction and operational phases of the CSSI.*	Surface Water and Groundwater CEMP Sub-plan
Construction Traffic Management		
E93	Access to all utilities and properties must be maintained during construction, where practicable, unless otherwise agreed with the relevant utility owner, landowner or occupier.	Traffic and Transport CEMP Sub-plan
E94	Any property access physically affected by Stage 1 of the CSSI must be reinstated to at least an equivalent standard, unless otherwise agreed by the landowner or occupier.	Traffic and Transport CEMP Sub-plan
E95	Local roads that are proposed to be used by heavy vehicles (for the purposes of Stage 1 of the CSSI) that are immediately adjacent to the construction boundary and ancillary facilities, and that are not identified for use by heavy vehicles in the documents listed in CoA A1, must be approved by the Planning Secretary as part of the Traffic and Transport Management CEMP Sub-plan.	Traffic and Transport CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
E96	All requests to the Planning Secretary under CoA E95 must include the following: a. a swept path analysis; b. demonstration that the use of local roads by heavy vehicles for the Stage 1 of the CSSI will not compromise the safety of pedestrians and cyclists or the safety of two-way traffic flow on two-way roadways; c. provide details as to the date of completion of the road dilapidation surveys for the subject local roads; d. measures that will be implemented to avoid where practicable the use of roads past schools, aged care facilities and child care facilities during their peak operation times; and e. written advice from an appropriately qualified professional on the suitability of the proposed heavy vehicle route which takes into consideration items (a), (b), (c), and (d) of this condition.	Traffic and Transport CEMP Sub-plan
E97	The locations of all heavy vehicles used for spoil haulage must be monitored in real time and the records of monitoring be made available electronically to the Planning Secretary and the EPA upon request for a period of no less than one year following the completion of construction. *Note: Refer to CoA A47 in relation to vehicle identification.*	Traffic and Transport CEMP Sub-plan
Road Dilapidation Report		
E98	Before any local road is used by a heavy vehicle for the purposes of the Stage 1 of the CSSI, a Road Dilapidation Report must be prepared for the road. A copy of the Road Dilapidation Report must be provided to the relevant council(s) within three weeks of completion of the survey and no later than one month prior to the road being used by heavy vehicles associated with Stage 1 of the CSSI.	Traffic and Transport CEMP Sub-plan
E99	If damage to roads occurs as a result of Stage 1 of the CSSI, the Proponent must either (at the relevant road authority's discretion): a. compensate the relevant road authority for the damage so caused; or b. rectify the damage to restore the road to at least the condition it was in pre-works as identified in the Road Dilapidation Report(s).	Traffic and Transport CEMP Sub-plan
Pedestrian and Cyclist Access		
E100	Safe pedestrian and cyclist access must be maintained around work sites during construction. In circumstances where pedestrian and cyclist access is restricted or removed due to construction activities, a proximate alternative route which complies with relevant standards, unless otherwise endorsed by an independent, appropriately qualified and experienced person, must be provided (including signposting) prior to the restriction or removal of the impacted access.	Traffic and Transport CEMP Sub-plan
Construction Parking Management		
E101	Vehicles (including light and heavy vehicles) associated with Stage 1 of the CSSI must be managed to: a. minimise parking on public roads; b. minimise idling and queueing on state and regional roads; c. not carry out marshalling of construction vehicles near sensitive land user(s);	Traffic and Transport CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
	d. not block or disrupt access across pedestrian or shared user paths at any time; and e. ensure spoil haulage vehicles adhere to the nominated haulage routes identified in the Traffic and Transport Management CEMP Sub-plan.	
E102	A Construction Parking and Access Strategy must be prepared to identify and mitigate impacts resulting from on- and off-street parking changes during construction in highly urbanised settings. The Strategy must include, but not necessarily be limited to: a. achieving the requirements of CoA E101; b. confirmation and timing of the removal of on- and off-street parking associated with construction of Stage 1 of the CSSI; c. parking surveys of all parking spaces to be removed or occupied by the CSSI workforce in the vicinity of the tunnelling compounds at Cabravale Leisure Centre and Bartley Street, Cabramatta to determine current demand during peak, off-peak, school drop off and pickup, weekend periods and during special events; d. consultation with affected stakeholders utilising existing on- and off-street parking stock which will be impacted as a result of construction; e. assessment of the impacts to on- and off-street parking stock taking into consideration, occupation by the CSSI workforce, outcomes of consultation with affected stakeholders and considering the impacts of special events; f. identification of mitigation measures to manage impacts to stakeholders as a result of on- and off-street parking changes including, but not necessarily limited to, staged removal and replacement of parking, and provision of alternative parking arrangements; g. mechanisms for monitoring, over appropriate intervals, to determine the effectiveness of implemented mitigation measures; h. details of shuttle bus service(s) to transport the CSSI workforce to construction sites from public transport hubs and off-site car parking facilities (where these are provided) and between construction sites; i. provision of contingency measures should the results of mitigation or monitoring indicate implemented measures are ineffective; and j. provision of reporting of monitoring results to the Planning Secretary and relevant council(s) at three monthly intervals. The Construction Parking and Access Strategy must be submitted to the Planning Secretary for information at least one month before the commencement of any construction that reduces the availability of existing parking. The Strategy must be implemented before impacting on on-street parking and incorporated into the Traffic and Transport Management CEMP Sub-plan.	Traffic and Transport CEMP Sub-plan
E103	During construction, all reasonably practicable measures must be implemented to maintain pedestrian and vehicular access to, and parking in the vicinity of, businesses and affected properties. Disruptions are to be avoided, and where avoidance is not possible, minimised. Where disruption cannot be minimised, alternative pedestrian and vehicular access, and parking arrangements must be developed in consultation with affected businesses and implemented prior to the disruption. Adequate signage and directions to businesses must be provided prior to, and for the duration of, any disruption.	Traffic and Transport CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
Road Safety Audit		
E105	An independent Road Safety Audit must be undertaken to assess the safety performance of new or permanently modified local road, parking, pedestrian and cycle infrastructure provided as part of Stage 1 of the CSSI (including ancillary facilities) to ensure that they meet the requirements of relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Management. The audit(s) must be undertaken by an appropriately qualified and experienced person during detailed design development (audit of plans) and prior to opening (pre-opening audit). The audit findings and recommendations of the detailed design plans (audit of the plans) must be actioned prior to construction of the relevant infrastructure. The pre-opening audit findings and recommendations must be actioned prior to the relevant infrastructure being made available for use. All audit findings must be made available to the Planning Secretary on request, within the timeframe stated in the request.	Traffic and Transport CEMP Sub-plan
Utility Management		
E109	A Utility Coordination Manager must be appointed for the duration of Stage 1 of the CSSI Work. The role of the Utility Coordination Manager must include, but not be limited to: a. the management and coordination of all utility Work associated with the delivery of Stage 1 of the CSSI, to ensure respite is provided to the community; b. providing advice to the Public Liaison Officer(s) regarding upcoming utility Work, including the scope of the Work and the responsibility for the Work; and c. investigating complaints received from the Public Liaison Officer(s) relating to utility Work and providing a response to the Public Liaison Officer(s).	CSEP
Waste		
E110	Waste generated during construction and operation must be dealt with in accordance with the following priorities: a. waste generation must be avoided and where avoidance is not reasonably practicable, waste generation must be reduced; b. where avoiding or reducing waste is not possible, waste must be re-used, recycled, or recovered; and c. where re-using, recycling or recovering waste is not reasonably practicable, waste must be treated or disposed of.	Waste and Resource Use CEMP Sub-plan
E111	The importation of waste and the storage, treatment, processing, reprocessing or disposal of such waste must comply with the EPL in force for Stage 1 of the CSSI, or be done in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, as the case may be.	Waste and Resource Use CEMP Sub-plan
E112	Waste must only be exported to a site licensed by the EPA for the storage, treatment, processing, reprocessing or disposal of the subject waste, or in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, or to any other place that can lawfully accept such waste.	Waste and Resource Use CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
E113	All waste must be classified in accordance with the EPA's Waste Classification Guidelines, with appropriate records and disposal dockets retained for audit purposes.	Waste and Resource Use CEMP Sub-plan
Water - Construction Requirements		
E114	Works on waterfront land and within watercourses must have regard to Guidelines for controlled activities on waterfront land – Riparian Corridors (NRAR, 2018), Controlled activities on waterfront land – Guidelines for watercourse crossings on waterfront land (NSW Office of Water, 2013) and Policy and Guidelines for Fish Habitat Conservation and Management (DPI Fisheries, 2013). This includes outlets and watercourse crossings.	Surface Water and Groundwater CEMP Sub-plan
E115	Suitably qualified expert(s) must agree to methods of construction of pipelines across waterways and through shallow aquifers, in consultation with relevant State and/or local authorities.	Surface Water and Groundwater CEMP Sub-plan
E116	Drainage feature crossings (permanent and temporary watercourse crossings and stream diversions) and drainage swales and depressions must be carried out taking into consideration relevant guidelines and designed by a suitably qualified and experienced person.	Surface Water and Groundwater CEMP Sub-plan
E117	Rehabilitation and revegetation of the riparian corridor and banks of watercourses impacted by Stage 1 of the CSSI must be commenced within three months of the completion of the watercourse Work and any other Work required in the riparian corridor.	Surface Water and Groundwater CEMP Sub-plan Biodiversity CEMP Sub-plan
E118	The Proponent must ensure sufficient water entitlement is held in a Water Access License(s) (WAL) to account for the maximum predicted take for each water source prior to the take occurring.	Surface Water and Groundwater CEMP Sub-plan
E119	The Proponent must develop and implement an ongoing Water Quality Monitoring Program (WQMP) to assess the impacts of the AWRC effluent discharges on water quality. The WQMP must include: a. monitoring of treated effluent from the AWRC under different release streams; b. monitoring of waterways that may be impacted by AWRC discharges (including comparison with baseline and upstream conditions). c. details of the sampling frequency, analysis, and locations used in the program; d. reporting requirements for the program to the EPA, including consideration of any expanded Beachwatch monitoring program in the Hawkesbury Nepean catchment.	This is an operational requirement. Separate documentation will be developed by Sydney Water with accordance with the condition requirements and not included in the scope of the CEMP.
E120	The WQMP required under Condition E119 must be submitted to the EPA for review at least 18 months prior to the commencement of operation of Stage 1 of the CSSI, and must be approved by the EPA and submitted to the Planning Secretary for information at least one year prior to the commencement of operation of Stage 1 of the CSSI.	This is an operational requirement. Separate documentation will be developed by Sydney Water with accordance with the condition requirements and not included in the scope of the CEMP.

CoA No.	Condition Requirements	Document Reference / Note
E121	The Proponent must develop and implement a monitoring program to assess wet weather infiltration into the sewer network connected to the AWRC. The program must include: a. monitoring of sewer infiltration rates throughout the AWRC sewer catchment from the commencement of operation onward; b. proposed investigative actions and potential remedial actions for wet weather infiltration in the sewer network in the event that high wet weather infiltration is identified; and c. reporting requirements for the program to the EPA.	This is an operational requirement. Separate documentation will be developed by Sydney Water with accordance with the condition requirements and not included in the scope of the CEMP.
E122	The monitoring program required under Condition E121 must be submitted to the EPA for review at least 18 months prior to the commencement of operation of Stage 1 of the CSSI, and must be approved by the EPA and submitted to the Planning Secretary for information at least one year prior to the commencement of operation of Stage 1 of the CSSI.	This is an operational requirement. Separate documentation will be developed by Sydney Water with accordance with the condition requirements and not included in the scope of the CEMP.
Stormwater Drainage		
E123	Surface water drainage on the AWRC site as part of Stage 1 of the CSSI must be designed, constructed and operated to achieve compliance with the NSW Government Wianamatta South Creek waterway health objectives and construction and operational phase stormwater management targets, in accordance with the Wianamatta MUSIC modelling toolkit and Technical Guidance for Achieving Wianamatta South Creek Stormwater Management Targets (DPHI, 2022).	Construction-phase compliance addressed in the Surface Water and Groundwater CEMP Sub-plan Design and operational-phase components addressed in
E124	If construction stage stormwater discharges are proposed, a Water Pollution Impact Assessment will be required to inform licensing consistent with section 45 of the POEO Act. Any such assessment must be prepared in consultation with the EPA and be consistent with the National Water Quality Guidelines, with a level of detail commensurate with the potential water pollution risk.	Surface Water and Groundwater CEMP Sub-plan
E125	The Proponent must undertake further hydrological and hydraulic modelling for the AWRC site based on the detailed design of Stage 1 of the CSSI to determine the ability of the receiving stormwater drainage systems to effectively convey pavement drainage from Stage 1 of the CSSI where it is proposed to discharge these flows to council or Sydney Water receiving stormwater drainage systems. The modelling must be undertaken in consultation with the relevant council(s) and the outcomes documented in the Stormwater Drainage Report required under Condition E126.	This condition is not applicable as there are no existing stormwater drainage systems that will receive runoff from the AWRC site. The AWRC and onsite detention will discharge into new effluent channel and then into South Creek.
E126	The Stormwater Drainage Report must be prepared at least one month prior to the commencement of any new permanent drainage Works, modifications or connections to existing drainage Works, construction of hard surfaces that are associated with the operation of the project and would result in runoff to existing council or Sydney Water stormwater drainage systems. The Stormwater Drainage Report must:	The Stormwater Drainage Report is not required as there is no connection into a council stormwater system

CoA No.	Condition Requirements	Document Reference / Note
	a. assess the potential impacts of pavement drainage discharges from Stage 1 of the CSSI drainage systems on the receiving environment and capacity of council(s) or Sydney Water's drainage infrastructure; b. identify all mitigation measures to be implemented where pavement drainage from Stage 1 of the CSSI drainage systems are predicted to adversely impact on the receiving environment or capacity of council or Sydney Water drainage infrastructure; and c. set out a clear time frame for the implementation of mitigation measures. Nothing in this condition prevents the Proponent from preparing separate Stormwater Drainage Reports for pavement discharges to the drainage system provided that each report is prepared at least one month prior to the subject Works/discharges commencing.	
E127	All new or modified drainage systems associated with Stage 1 of the CSSI must be designed to: a. where they connect with council(s) or Sydney Water drainage system, meet the capacity constraints to receive and convey the proposed flows from Stage 1 of the CSSI, or otherwise upgrade council(s) or Sydney Water drainage system at the Proponent's expense, in consultation with the relevant council(s); b. minimise impacts on the receiving environment at the final outflow point resulting from any additional flow volume (including, but not limited to scour, flooding, water quality impacts, and impacts on riparian vegetation, aquatic ecology and property); and c. ensure mitigation measures are implemented where increased flows through cross drainage systems adversely impact on council or Sydney Water drainage infrastructure and the receiving environment.	Surface Water and Groundwater CEMP Sub-plan
E128	Prior to the commencement of operation of Stage 1 of the CSSI, the Proponent must submit a report to the Planning Secretary, the EPA and EHG for information, that provides an update on the status of implementing any proposed stormwater harvesting system(s) across the Western Sydney Parkland City that connect to the AWRC.	Surface Water and Groundwater CEMP Sub-plan
Aviation Safeguarding		
E129	The Proponent must consider the provisions of the Airports (Protection of Airspace) Regulation 1996 for any intrusions into prescribed airspace, including: a. constructing permanent structures, such as buildings, into the protected airspace; b. temporary structures such as cranes protruding into the protected airspace; or c. activities causing non-structural intrusions into the protected airspace, such as air turbulence from stacks or vents, smoke, dust, steam or other gases or particulate matter. If any of the above components result in an impact on protected airspace, then approval is required in accordance with the Airports Act 1996 and the Airports (Protection of Airspace) Regulation 1996.	Section 1.7 Relevant requirements incorporated into AWRC design plans and requirements around temporary structures and activities causing non-structural intrusions into the protected airspace to be incorporated into AWRC Construction Management Plans.
E130	Prior to the commencement of operation of Stage 1 of the CSSI, the Proponent must prepare a Wildlife Management Plan to identify the project's contribution to increased risk of wildlife strikes by aircraft. The Wildlife Management Plan must include: a. wildlife monitoring surveys and regular wildlife hazard assessments;	Biodiversity CEMP Sub-plan Operational Environmental Management Plan

CoA No.	Condition Requirements	Document Reference / Note
	b. wildlife awareness and management training for operational staff; c. implementation of activities to reduce hazardous bird populations; d. adoption of wildlife deterrent technologies to reduce hazardous bird populations; e. performance indicators to evaluate implementation and compliance; f. a review process to regularly assess implementation against performance indicators, identify gaps, and ensure currency; and g. roles and responsibilities for plan implementation and review. The Wildlife Management Plan must be submitted to the Planning Secretary, Western Sydney Airport and DPI Agriculture for information prior to the commencement of operation of Stage 1 of the CSSI, and be implemented throughout operation.	
World and National Heritage		
E132	The Proponent must prepare a World Heritage Monitoring Program (WHMP) to verify whether potential impacts on the Greater Blue Mountains Area World Heritage property and National Heritage place during Stage 1 of the CSSI are in accordance with impacts assessed in the documents listed in CoA A1. The WHMP must be prepared in consultation with EHG and submitted to the Planning Secretary and EHG for information prior to the commencement of operation of Stage 1 of the CSSI. The WHMP must include, but not necessarily limited to: a. baseline and post-commissioning monitoring of representative attributes that: i. contribute to the Outstanding Universal Value (OUV) of the Greater Blue Mountains Area; and ii. are identified in the documents listed in CoA A1 as potentially impacted during Stage 1 of the CSSI; b. relevant water quality monitoring data; and c. photos at each monitoring point.	Operation Environmental Management Plan, to be developed by Sydney Water and not included in the scope of the CEMP.
E133	Within twelve months after the commencement of operation of Stage 1 of the CSSI, and every year thereafter, unless otherwise agreed by the Planning Secretary, the Proponent must prepare an annual World Heritage monitoring report. The World Heritage monitoring report must include, but not necessarily limited to: a. analysis of results from the WHMP under Condition E132, including verifying whether potential impacts are as predicted in the documents listed in Condition A1; b. mitigation measures proposed, where the WHMP under Condition E132 identifies an impact on the Blue Mountains World Heritage Property and National Heritage place, that is attributable to the project and exceeds the impacts described in the documents listed in Condition A1; c. effectiveness of mitigation measures implemented, and any necessary additional mitigation measures; and d. any corrective actions that may be required and/or have been employed. The World Heritage monitoring report must be provided to EHG for information within one month of completion of each annual report.	Operation Environmental Management Plan, to be developed by Sydney Water and not included in the scope of the CEMP.
E134	No Work within Blue Mountains National Park (part of the Greater Blue Mountains Area) is to occur as part of Stage 1 of the CSSI (such as for investigations, monitoring or temporary construction compounds), unless authorisation is granted by the NSW National Parks and Wildlife Service under the National Parks and Wildlife Act 1974 (NPW Act) or the National Parks and Wildlife Regulation 2019.	Heritage CEMP Sub-plan

CoA No.	Condition Requirements	Document Reference / Note
Hazards and Risks		
E135	At least one month prior to the commencement of construction of the AWRC development (except for construction of those works that are outside the scope of the hazard studies), or within such further period as the Planning Secretary may agree, the Proponent must prepare and submit to the Planning Secretary the studies set out under subsections (a) to (b) below (the preconstruction studies). Construction, other than of works, must not commence until recommendations have been considered and, where appropriate, acted upon. With respect to the Fire Safety Study, the study must meet the requirements of Fire and Rescue NSW. a. a Final Hazard Analysis of the AWRC development, prepared generally consistent with the Department's Hazardous Industry Planning Advisory Paper No. 6, 'Hazard Analysis' and Multi-Level Risk Assessment. The Final Hazard Analysis must: i. include a final site layout including dangerous goods storage locations; ii. provide verification to Australian Standards for the storage and handling of the dangerous goods stored on the AWRC site including, but not limited to: • flammable dangerous goods (Class 3); and • corrosive liquids (Class 8). The verification should be focused on key elements such as separation distances described in the relevant standard and critical controls. b. A Fire Safety Study for the AWRC development. This study must cover the relevant aspects of the Department's Hazardous Industry Planning Advisory Paper No. 2, 'Fire Safety Study Guidelines' and the New South Wales Government's Best Practice Guidelines for Contaminated Water Retention and Treatment Systems (NSW HMPCC, 1994). The study must meet the requirements of Fire and Rescue NSW.	Relevant hazard studies under this condition is currently being developed by John Holland in consultation with relevant qualified experts and key stakeholders.
E136	The Proponent must develop and implement the plans and systems set out under subsections (a) to (c) below, no later than two months prior to the commencement of the commissioning of the AWRC development, or within such further period as agreed with the Planning Secretary. a. arrangements covering the transport of dangerous goods including details of routes to be used for the movement of vehicles carrying dangerous goods to the AWRC development. The routes must be selected in accordance with the Department's Hazardous Industry Planning Advisory Paper No. 11, 'Route Selection'. Suitable routes identified in the study must be used except where departures are necessary for local deliveries or emergencies; b. a comprehensive Emergency Plan and detailed emergency procedures for the AWRC development. The Emergency Plan must include consideration of the safety of all people outside of the AWRC development who may be at risk from the AWRC development. The plan must be prepared in accordance with the Department's Hazardous Industry Planning Advisory Paper No. 1, 'Emergency Planning'; c. a document setting out a comprehensive Safety Management System, covering all on-site operations and associated transport activities involving hazardous materials. The document must clearly specify all safety	Relevant plans and systems required under this condition will be developed in consultation with Sydney Water and the operator of the asset as detailed design around with these hazards and risks are finalised.

CoA No.	Condition Requirements	Document Reference / Note
	related procedures, responsibilities and policies, along with details of mechanisms for ensuring adherence to the procedures. Records must be kept on-site and must be available for inspection by the Planning Secretary upon request. The Safety Management System must be developed in accordance with the Department's Hazardous Industry Planning Advisory Paper No. 9, 'Safety Management'. This document is not required if the Proponent has a certified Safety Management System (SMS) or equivalent as agreed with the Planning Secretary, and demonstrates, to the satisfaction of the Planning Secretary, that the certified SMS or equivalent addresses these requirements.	

Updated Management Measures

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
General		
G01	Prepare and implement a Construction Environmental Management Plan (CEMP) consistent with Environmental Management Plan Guideline – Guideline for Infrastructure Projects (DPIE, 2020). The CEMP will include construction environmental management measures outlined in this table and may be divided into Sub-plans. The CEMP must be endorsed by Sydney Water's environmental representative and approved by Sydney Water's project manager before construction activities commence. Induct all project staff and contractors into the CEMP requirements before they start site work on the project.	This CEMP and relevant Sub-plans Section 1.8 Section 3.5
G03	Prepare and implement an environmental work method statement(s) for low-impact early works. The work method statement must be endorsed by Sydney Water's environmental representative and approved by Sydney Water's project manager before early works commence.	Section 3.2.3
G05	Develop and implement a Rehabilitation Management Plan to restore pipeline work sites as soon as possible to pre-existing condition or as otherwise agreed with relevant landowner or council. This plan will also include the following: • removing all equipment, materials and environmental controls from site. • where like for like re-vegetation is not possible (for example to minimise risk to pipelines from tree roots), consider vegetation suited to the infrastructure requirements and environmental conditions. • where street trees cannot be replaced like for like, consider other opportunities to reduce impacts to streetscape character and visual amenity. • return disturbed areas to preconstruction ground level where practical. • rehabilitate areas of native vegetation removal to the highest ecological condition possible. • in areas of native vegetation removal, reuse felled vegetation (logs and tree- hollows) and other habitat features such as rocks/boulders to increase the habitat values. • in areas of native vegetation removal, use locally sourced (local provenance) seed stock only. All species installed are to be locally indigenous and suitable and characteristic of the surrounding Plant Community Types (PCTs). • where possible reuse stockpiled vegetation as part of rehabilitation works. • where open trenching of waterways is required, enhance aquatic habitat and restore creeks to an improved state. • in areas covered by the Phase 2 Aerotropolis DCP, consider tree planting provisions of the DCP in designing re-vegetation, including in relation to the risk of wildlife attraction. • incorporate inputs from relevant experts in revegetation, ecology, geomorphology. • approach to maintaining revegetated areas during their establishment phase.	Biodiversity CEMP Sub-plan - Rehabilitation Management Plan

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
G06	Develop and implement construction site layout plans as part of the project's CEMP. Development of the plans should consider the following as a minimum: • for any locations with potential for flooding impacts (eg waterway crossings, compounds C1, C2, C3, C4, C8, C9, C14): • determining the existing flood risk at each location • locating stockpiles and equipment storage areas away from drainage pathways, and where possible in elevated positions or at alternative sites • locating site buildings outside the 1% AEP flood extent, where possible. If not possible, allow for flood waters to pass underneath buildings • maximise the offset distance between noisy plant and adjacent sensitive receivers, including directing noise-emitting plant away from sensitive receivers • show locations of waste storage and stockpiles of materials within each of the construction compounds (including contingency for unexpected volumes and longer-term storage of waste such as excess spoil if commercial arrangements for reuse or disposal are delayed).	Section 1.1 Section 3.2.4 Section 1.5.1
G08	Develop and implement a Community and Stakeholder Engagement Plan (CSEP) that will outline the following engagement activities: • ongoing consultation with landowners, stakeholders, local councils, businesses and other government agencies • notifications of construction impacts to impacted communities and how these will be managed, including significantly impacted residents near long-term compounds and pipeline tunnelling locations • regular project updates to nearby communities, including information on positive impacts and long-term project benefits • processes for community complaints and response management system • a dedicated 1800 toll free number for enquiries • a dedicated email address and website for the project • resident notifications regarding: – start of construction – significant milestones – major detours, traffic disruptions and controls – after hours work • communication of key messages in a range of languages to reflect diversity of the community • vehicle management signs to communicate traffic changes to road users and communicate traffic management plans. The CSEP will also outline the scope of ongoing community and stakeholder engagement that is appropriate and required when construction is completed.	Section 3.6 Community Stakeholder Engagement Plan
G09	Develop and implement a Complaints Management Record that will document the following information for each complaint and record it in Sydney Water's customer relationship systems: • date and time complaint received • type of communication (letter/email/phone call) • name, address and contact number of the complainant • nature of the complaint • action taken in response (including follow up with the complainant) • details on whether a resolution was reached • details on whether mediation was required/used • monitoring to confirm the complaint was resolved.	Section 3.6.4 Community & Stakeholder Engagement Plan

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
G10	Continue to consult and coordinate with other major projects and utility providers that may be impacted during construction, or where cumulative impacts may occur.	Section 3.6.3 Community & Stakeholder Engagement Plan
G11	Obtain all relevant approvals required under legislation as outlined in Chapter 5.	Section 3.2 Appendix A3
G12	Consult with DPI Fisheries during development of the CEMP, including the Biodiversity Management Plan, Soil and Water Management Plan and management measures at the Hinchinbrook Creek crossing.	Section 2
G13	Consult with WaterNSW during the development of relevant sections of the CEMP.	Section 2
G14	Incorporate the requirements of the Planning for Bush Fire Protection 2019 into the detailed design of the AWRC.	Urban Design and Landscaping Plan
G15	Consult with WSA regarding the final design of the AWRC and any changes in risks relating to wildlife strikes	Section 2 Biodiversity CEMP Sub-plan
Strategic Context		
SC03	Consult with Greater Sydney Parklands to ensure impacts on the parkland and rehabilitation of disturbed areas are appropriately managed, to coordinate any interactions between project infrastructure and future recreation or other facilities proposed in the Cecil Park precinct or as part of the Southern Parklands Framework.	Community & Stakeholder Engagement Plan
Urban Design		
UD01	Prepare an Urban Design and Landscaping Plan for the AWRC site aligning with the themes and principles outlined in Table 4-4 and consider the opportunities identified in Table 4-4 as the urban design progresses. This plan will also: • address constraints associated with bushfire, flooding, and airport safeguarding • incorporate vegetation management that considers the principles of Guidelines for Vegetation Management Plans on Waterfront Land (NSW Office of Water, DPI 2012) and the Western Sydney Aerotropolis Riparian Revegetation Strategy (once finalised) and the tree planting provisions of the Phase 2 Aerotropolis Development Control Plan (once finalised) • include architectural design to soften the industrial aesthetic. • consider integrating the heritage character of the site with the treatment and finishes of the new design. • consider the finalised version of the draft guideline 'Recognise Country – Draft Guidelines for development in the Aerotropolis' • incorporate inputs from relevant experts in architecture, landscape architecture, bushfire management, heritage, revegetation, ecology, wildlife hazard management and flooding.	Urban Design and Landscaping Plan

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
Waterways		
WW01	Design and implement construction methodologies for works in waterways to appropriately manage site-specific geomorphic conditions in each waterway (for example dispersive soils in South Creek), seeking inputs from a qualified geomorphologist where needed.	Soil or Contamination CEMP Sub-plan
WW02	• Minimise the duration of instream works and where practical, conduct instream work during periods of low flow. • Minimise the 'wet area' impacted during the installation of trenched crossings.	Surface Water and Groundwater CEMP Sub-plan
WW03	Whenever possible: • operate equipment on land or from a floating barge to minimise disturbance to the banks and bed of the water body • use temporary crossing structures or other practices to cross watercourses with steep and/or highly erodible banks and beds. • limit machinery fording of the watercourse to a one-time event (i.e. over and back).	Surface Water and Groundwater CEMP Sub-plan
WW04	Isolate works in waterways using booms, silt curtains or similar, to contain suspended sediment.	Surface Water and Groundwater CEMP Sub-plan
WW05	Undertake the following measures: • store materials excavated from the trench above the top of bank until the materials can be backfilled into the trench. The top 10 to 50 cm of channel substrate should be stored separately and replaced during backfilling, where practical or material of the same quality should be used. • restore bed and banks of the watercourse or water body to their original contour and gradient; if the original gradient cannot be restored due to instability, a stable gradient should be restored. Consider principles in relevant policy and guidelines including Fish Habitat Conservation and Management (DPI, 2013a) and Why do fish need to cross the road? (Fairfull and Witheridge, 2003).	Surface Water and Groundwater CEMP Sub-plan
WW06	When using an isolated construction method such as a coffer dam, do not remove the isolation method until all works, including backfilling, contouring and stabilisation have taken place.	Surface Water and Groundwater CEMP Sub-plan
WW07	If replacement rock reinforcement or armouring is required to stabilise eroding or exposed areas, ensure that appropriately sized, clean rock is used; and that rock is installed at a similar slope to maintain a uniform bank and natural stream alignment.	Surface Water and Groundwater CEMP Sub-plan
WW08	Ensure pipeline designed to sufficient depth to avoid streambed slumping, incision and erosion.	Surface Water and Groundwater CEMP Sub-plan
WW09	Determine an alternative crossing method (e.g. contingency crossing plan) in the event the trenchless crossing method is not successful.	Surface Water and Groundwater CEMP Sub-plan
WW10	Locate the entry and exit points back from the channel, beyond the top of bank to allow containment of any sediment or other substances above the top of bank. Restore entry and exit points to pre-construction conditions.	Surface Water and Groundwater CEMP Sub-plan

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
WW11	Consider riparian planting and natural bank stabilisation measures in the detailed design phase.	Urban Design & Landscape Plan
WW12	Ensure that the erosion control and armouring extends sufficiently into the waterways. Confirm the existing substrate prior to construction to determine the likelihood of erosion as well as the scale of time over which erosion can be expected to occur. If non-cohesive substrate or easily eroded substrate is identified, instream works may be required for protection of the riverbed.	Surface Water and Groundwater CEMP Sub-plan
WW13	Implement subsurface drainage controls, where appropriate, to maintain groundwater and surface water interactions and to maintain the stability of any reclaimed land. The type and location of subsurface drainage controls should be determined through onsite investigation with considerations for: subsurface flow potential, erodibility of backfill materials, and degree of slope.	Surface Water and Groundwater CEMP Sub-plan
WW14	Design and install coffer dams and temporary in-stream structures associated with open trenching in accordance with the Policy and Guidelines for Fish Habitat Conservation and Management (DPI, 2013a).	Surface Water and Groundwater CEMP Sub-plan
WW15	Temporary in-stream structures should be installed during low-flow periods, and measures established in the CEMP about how high flow events will be managed to limit erosion of the structures and associated sedimentation of downstream waterways.	Surface Water and Groundwater CEMP Sub-plan
WW16	For dewatering of temporary in-stream structures: • notify NSW DPI seven days prior to any dewatering activities in order to organise potential fish rescue activities. A separate s.37 permit may be required from NSW DPI to relocate fish. • pump water a minimum of 30 m away from the waterway so it preferentially does not re-enter the waterway. If water is to re-enter the waterway, ANZECC water quality guidelines (or Wianamatta -South Creek Water Quality Objectives) the waterway objectives need to be adhered to.	Surface Water and Groundwater CEMP Sub-plan
WW17	Where practical, open trenching of waterways, particularly Kemps Creek and South Creek are to be avoided between late April and early June, and late October to late December, to minimise disruption of downstream and upstream Australian Bass migration.	Biodiversity CEMP Sub-plan
WW19	Design release structures considering the principles in Guidelines for Outlet Structures on Waterfront Land (DPI, 2012).	Surface Water and Groundwater CEMP Sub-plan
WW20	Consider opportunities, where practical, to improve mixing and dilution of releases (for example investigating options for submerging release structures). The feasibility/acceptance of alternative options would need to be assessed against a number of key considerations including (but not limited to) engineering requirements, operations and maintenance risk, geomorphology and energy dissipation requirements.	Surface Water and Groundwater CEMP Sub-plan
WW21	Investigate whether there are any scenarios where treated water releases to South Creek could occur when creek flows are low and still increasing in response to rainfall. If necessary and where feasible, identify opportunities to minimise releases while flows are still increasing in South Creek.	Surface Water and Groundwater CEMP Sub-plan
WW21A	Where reasonable and practical, incorporate recommendations in the 'Guidelines for controlled activities on waterfront land' (DPI 2012) and 'Guidelines for controlled activities on waterfront land – Riparian corridors' (NRAR 2018).	Surface Water and Groundwater CEMP Sub-plan

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
Terrestrial Biodiversity		
TB01	Prepare and implement a Biodiversity Management Plan as part of the project's CEMP. The plan will include: • identification of no-go zones and physical delineation of vegetation to be cleared and/or protected on site, including installation of appropriate signage prior to works commencing • construction phase terrestrial biodiversity measures from this table • roles and responsibilities • monitoring and auditing requirements (including recording areas and locations of vegetation removed and revegetation) • measures to prevent the spread of weeds, pathogens and to manage biosecurity.	Biodiversity CEMP Sub-plan
TB02	Vegetation trimming or removal is not to proceed without written authorisation from the Sydney Water Project Manager or delegate.	Biodiversity CEMP Sub-plan
TB03	Minimise vegetation clearance and disturbance, including impacts to standing dead trees and riparian zones. Where possible, limit clearing to trimming rather than the removal of whole plants.	Biodiversity CEMP Sub-plan
TB04	Adjust construction methodology (for example avoid area, hand excavate, implement exclusion fencing) to protect sensitive areas where possible (such as mature trees, known threatened species, populations or ecological communities).	Biodiversity CEMP Sub-plan
TB05	Protect trees in accordance with the requirements of Australian Standard 4970-2009 for the Protection of Trees on Development Sites. Engage a qualified arborist where roots >50mm are impacted within the Tree Protection Zone.	Biodiversity CEMP Sub-plan
TB06	Engage qualified ecologists to undertake pre-clearance inspections (including fauna relocation) of vegetation for potential fauna prior to clearing or trimming, including the banks of larger watercourses to be impacted. Habitat trees are to be soft felled in the presence of a qualified ecologist. Undertake daily inspections of open pits and trenches to monitor for trapped fauna.	Biodiversity CEMP Sub-plan
TB07	Where practicable do not undertake works that impact directly on potential microbat habitat at Warragamba River during breeding season (November to February).	Biodiversity CEMP Sub-plan
TB08	If any damage occurs to vegetation outside of the impact area stop work in that area and notify the Sydney Water Project Manager or delegate.	Biodiversity CEMP Sub-plan
TB10	Prepare a Biodiversity Offset Strategy in accordance with the NSW Biodiversity Offset Scheme to address the species and ecosystem credit requirements outlined in the 'Upper South Creek Advanced Water Recycling Centre project amendments: Biodiversity Assessment', (Biosis, November 2021).	Biodiversity CEMP Sub-plan
TB11	Consult with Regional NSW in the event that a Biodiversity Stewardship Site(s) is proposed.	Biodiversity CEMP Sub-plan
Surface Water		

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
SW01	Prepare and implement a Soil and Water Management Plan as part of the project's CEMP. The plan will include: • construction phase surface water, groundwater, contaminated land and soils and waterways management measures from this table • roles and responsibilities • monitoring and auditing requirements	Surface Water and Groundwater CEMP Sub-plan
SW03	Progressively construct operational stormwater management measures for potential use and contribution to stormwater management during construction, if practical.	Surface Water and Groundwater CEMP Sub-plan
SW05	Implement and maintain sediment and erosion control measures that consider the construction phase stormwater quality targets in the draft Western Sydney Aerotropolis DCP – Phase 2 (October 2021) (PO1 in section 4.3.2 and PO1-PO5 in section 9.6.2) and the guidance provided in the project's Surface Water Impact Assessment (Aurecon, Arup, 2021d).	Surface Water and Groundwater CEMP Sub-plan
SW06	Store chemicals, fuels and oils in bunded areas on the AWRC site.	Surface Water and Groundwater CEMP Sub-plan
SW07	Develop and implement the following as part of the CEMP: • spill response procedure in accordance with Australian Spill Control Industry Standard for Spill Response Kits (ASCIS 2695) • vehicle, plant and equipment maintenance and refuelling procedure.	Surface Water and Groundwater CEMP Sub-plan
SW08	Construction of the trenched section through the farm dam of the proposed Elizabeth Drive realignment will not occur prior to dewatering of the farm dam by Sydney Metro.	Surface Water and Groundwater CEMP Sub-plan
SW09	Pressure test mud return lines before use and conduct daily inspections for leaks or damage. Rectify any identified leaks or damage immediately.	Surface Water and Groundwater CEMP Sub-plan
Flooding		
FL01	Develop and implement a construction and operational flood preparedness procedure in consultation with NSW SES, Wollondilly Shire Council and Penrith City Council and in accordance with the Flood Impact study in Appendix L. As a minimum, this will include: • monitoring procedures for rainfall and flood warnings (Flood Watch, Early Warning Network) • actions to be completed prior, during and post flood events • identifying evacuation routes, rescue procedures and steps to resume normal operations. • reporting requirements and corrective actions	Flood Emergency Response CEMP Sub-plan
Groundwater		

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
GW01	Identify appropriate trench/shaft support systems (for example sheet piling) in areas with higher hydraulic conductivity and storage properties to minimise groundwater drawdown. This includes all areas mapped as Quarternary alluvial sediments/deposits (Mid-Nepean hydrogeological landscape (HGL), Mulgoa HGL, Upper South Creek HGL, Upper South Creek (Variant A) HGL and Moorebank HGL).	Surface Water and Groundwater CEMP Sub-plan
GW02	Monitor baseline groundwater levels at the AWRC site and levels in South Creek, by: • installing two additional groundwater monitoring wells mid-way between the South Creek and the north western boundary of the site. These will be a shallow and a deep well targeting the upper alluvial aquifer and the residual soil profile. • installing a level gauge at South Creek. Continuous loggers will be installed to monitor water levels. Results will be used to establish baseline conditions, verify the existing surface water and groundwater connectivity and assist in developing a risk-based approach to managing groundwater impacts at the site.	Groundwater Monitoring Program
GW03	Develop a risk-based approach to managing drawdowns and impacts to South Creek during construction at the AWRC. This approach should include: • monitoring the difference in elevation between South Creek and groundwater levels. • identify trigger values and associated management measures to take should groundwater levels fall below the water level in South Creek. Management measures should be commensurate with the potential risk of impact to South Creek and nearby GDEs.	Surface Water and Groundwater CEMP Sub-plan
GW04	Determine the most appropriate trenchless construction techniques to minimise groundwater drawdown, for example 'key' the launch and reception shafts into underlying material with relatively low permeability (e.g. competent bedrock) to reduce the amount of groundwater entering through the floor and inadvertently scouring the stream bed to the depth of the pipe.	Surface Water and Groundwater CEMP Sub-plan
GW05	Develop options to minimise the potential of increased hydraulic connection between aquifers during pipeline trenching. This will include consideration of the following: • Installation of permanent vertical cut-offs within the trench to prevent the lateral migration of groundwater along the alignment of the pipelines. • Horizontal trench cut-offs where perched aquifers are encountered, to prevent lateral migration and dewatering of the system. Maintenance of the perched layers may also be achieved through backfilling to prevent vertical migration.	Surface Water and Groundwater CEMP Sub-plan
GW06	Adopt a staged approach to dewatering by dewatering in discrete, smaller areas that align with the construction schedule.	Surface Water and Groundwater CEMP Sub-plan – Dewatering procedure
GW07	Construct adjacent recharge trenches to maintain saturation in high risk areas. If the extent of the drawdown is likely to include an area with existing contamination, consider constructing recharge trenches to limit the cone of depression and create a hydraulic barrier that could prevent the migration of contaminants.	Surface Water and Groundwater CEMP Sub-plan

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
GW08	Develop and implement a dewatering procedure that identifies how extracted groundwater and contaminated runoff will be managed. Including requirements for storage, transport, testing and disposal. Disposal options to be considered include: • discharge to land • discharge to stormwater or waterway in accordance with Sydney Water's Water Quality Management During Operational Activities (D0001667) and any relevant conditions of the project's Environment Protection Licence • discharge to the wastewater system in accordance with Sydney Water discharge criteria • tanker by a licensed waste contractor and dispose off-site to an appropriately licensed facility.	Surface Water and Groundwater CEMP Sub-plan
GW09	Undertake a risk assessment at trenchless crossings to determine the likelihood of 'frac-outs' and need for any design changes or additional management measures, including consideration of: • refining the design to intersect more competent rock and avoid any preferential pathways such as fault lines, fractures, unconsolidated material • casing at the entry / exit points where there are unconsolidated materials, reduced ground cover and reduced bearing pressure • the need for and location of drill pressure relief wells to provide a pathway for controlled release of drilling fluid pressures • geotechnical conditions at each tunnelling site and the maximum allowable drilling fluid pressures.	Surface Water and Groundwater CEMP Sub-plan
GW10	Develop a Drilling Fluid Management procedure to avoid impacts, including: • potential risk for 'frac-outs' at tunnelled crossings • approach to identify and manage frac-outs • contain and monitor drilling fluid at entry/exit points until it can be transported to a licensed waste facility • reuse and/or disposal of drilling fluids by appropriately qualified personnel to a licensed facility • prioritising the use of fluids that reduce the risk of seepage into groundwater from boreholes.	Surface Water and Groundwater CEMP Sub-plan
GW11	As part of geotechnical program, investigate: • Identify any additional measures required to prevent groundwater seepage into the Warragamba Pipelines Corridor and the Upper Canal. • potential surface water - groundwater linkages around watercourses. If needed, consider options to avoid disrupting the connectivity.	Surface Water and Groundwater CEMP Sub-plan
GW12	Consider the inclusion of vertical and horizontal drainage layers and 'chimneys' with coarse filter material to achieve desired drawdowns against the underground structures more quickly and reduce the amount of dewatering required.	Surface Water and Groundwater CEMP Sub-plan
GW13	Adopt a staged approach to dewatering by dewatering in discrete, smaller areas that align more closely to the maintenance schedule.	Surface Water and Groundwater CEMP Sub-plan
GW14	Ensure the approach to managing dewatering is consistent with the requirements set out in the NSW Government guideline 'Minimum requirements for building site groundwater investigations and reporting' (DPIE, 2021)	Surface Water and Groundwater CEMP Sub-plan

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
Contaminated Land and Soils		
CLS01	Review soil sampling and areas of environmental concern identified for the project as part of the Soils and Contaminated Land Impact Assessment (Aurecon Arup, 2021). Where detailed design indicates soils will be disturbed, develop and implement a soil sampling program to assess excavated soils for salinity, acid sulfate soils (ASS), contamination and sodicity. If identified: • saline soils will be managed in accordance with NSW Department of Primary Industries (2014) Salinity Training Handbook and NSW guidelines for salinity management. • develop an ASS management plan (ASSMP) in accordance with the NSW ASSMAC (1998) guidelines and consideration of the Department of Agriculture and Water Resources 'National Acid Sulfate Soils guidance: National acid sulfate soils sampling and identification methods manual, that includes: – identification of ASS locations – handling and storage procedure to avoid and minimise exposure of stockpiles – where stockpiles are exposed, treat exposed areas with lime • excavation of sodic soils will be avoided if possible. If not possible to avoid excavation, they will not be reused within the project for landscaping or surface rehabilitation Undertake Prepare a Sampling and Analysis Quality Plan prior to implementation of any soil sampling investigations in accordance with ASC NEPM (2013), Sampling Design Guidelines (NSW EPA, 1995), Consultants Reporting on Contaminated Land, (NSW EPA, 2020) and Assessment and Management of Hazardous Ground Gases (NSW EPA, 2020).	Soils and Contamination CEMP Sub-plan
CLS02	Undertake a pre-demolition destructive hazardous material survey of any buildings and structures within the AWRC site to confirm hazardous materials and estimate types and volumes.	Soils and Contamination CEMP Sub-plan
CLS03	Develop and implement a remedial action plan for AECs, if the soil sampling program or pre-demolition destructive hazardous material survey identifies this is required. Prepare this in accordance with the ASC NEPM (2013) and Consultants Reporting on Contaminated Land, (NSW EPA, 2020).	Soils and Contamination CEMP Sub-plan
CLS04	Develop and implement an unexpected finds procedure that will include: • stop work in area suspected of contamination • inspection and verification of the area by a contaminated lands practitioner • collection of soil samples and analysis for chemicals of potential concern (COPC) identified by the inspection • management, risk assessment or remedial action based on the type, extent, waste implications and significance of the COPC • requirement to notify the NSW EPA under section 60 of the CLM Act • remediation in accordance with remedial action plan	Soils and Contamination CEMP Sub-plan
CLS05	Develop and implement a procedure to manage the importation of Virgin Excavated Natural Material, Excavated Natural Material or materials covered by any resource recovery orders or exemptions under the Protection of the Environment Operations Act 1997, the Protection of the Environment Operations Waste Regulation (2014) for use as fill material on the AWRC site. Prepare this in accordance with any relevant EPA guidelines and the ASC NEPM 2013.	Soils and Contamination CEMP Sub-plan

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
Aboriginal Heritage		
AH01	Explore opportunities to avoid or further reduce the identified potential impacts to Aboriginal items where practical.	Heritage CEMP Sub-Plan
AH02	Develop and implement a Heritage Management Plan as part of the CEMP. This will include: • roles and responsibilities • construction phase Aboriginal heritage and non-Aboriginal heritage measures from this table • an unexpected finds procedure for managing any items of potential Aboriginal archaeological, cultural heritage, or non-Aboriginal heritage significance identified during construction inducting all construction site staff (before they start work) on known Aboriginal and non-Aboriginal heritage items in the impact area and measures to be implemented during construction to avoid impacts. Inductions will include: – briefing on the heritage sensitivity of the site – management measures – guidance on identifying unexpected finds – obligations under the Heritage Act 1977.	Heritage CEMP Sub-Plan
AH03	Undertake archaeological salvage in accordance with an approved Salvage Excavation Methodology, where ground disturbance is proposed within the following sites: • Baines Creek Wallacia PAD 1 • Bents Basin Road Wallacia PAD 1 • Wallacia Weir PAD 1 • Oaky Creek Elizabeth Drive PAD 1 • Elizabeth Drive/Adams Road AFT 1 • TNR AFT 15 • Elizabeth Drive AFT 1 • Elizabeth Drive AFT 3 • Elizabeth Precinct PAD 03 • Fleurs1 Fleurs Radio Telescope (including duplicate recordings M12 A4 and South Creek East (SCE)) • P-CP7 • P-CP12 • PAD-OS-5 Coordinate this program with non-Aboriginal heritage salvage excavation, in locations where salvage is required for both.	Heritage CEMP Sub-Plan
AH04	Construction activities undertaken in the following sites will be in accordance with the existing AHIP conditions: • GLC1 (including Artefact Scatter PAD 2023-846) • IFSC 7 Cecil Park	Heritage CEMP Sub-Plan

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
AH05	In the event that construction activity reveals possible human skeletal material (remains) an unexpected finds human skeletal remains procedure will be implemented in accordance with the Skeletal Remains – Guidelines for the Management of Human Skeletal Remains under the Heritage Act 1977 (NSW Heritage Office 1998) and the Aboriginal Cultural Heritage Standards and Guidelines Kit (NPWS 1997).	Heritage CEMP Sub-Plan
AH06	Implement management measures in Table 6 and section 11 of the Aboriginal Cultural Heritage Assessment Report in Appendix O of the EIS.	Heritage CEMP Sub-Plan
Non-Aboriginal Heritage		
NAH02	Construction activities in proximity to the Upper Canal and Warragamba Pipelines will be undertaken in accordance with WaterNSW 'Guideline for Development Adjacent to the Upper Canal and Warragamba Pipelines'. This will include: • dilapidation survey prior to any construction work commencing • monitoring of vibration and ground movement during tunnelling construction.	Heritage CEMP Sub-Plan
NAH03	Prior to the removal of identified historic elements related to the Fleurs Radio Telescope site, photographic archival recording will be undertaken by an experienced heritage consultant and in accordance with the Photographic Recording of Heritage Items using Film or Digital Capture, NSW Heritage Office, 2006.	Heritage CEMP Sub-Plan
NAH05	Manage ground disturbance (excavation) in the following PAS areas of moderate to high significance by: • avoiding disturbance where practical • where disturbance cannot be avoided, complete archaeological testing in accordance with the Archaeological Research Design and Excavation Methodology (ARDEM) in Appendix P • complete archaeological salvage and archival recording where this is recommended in archaeological testing. The sites of moderate to high significance are: • Blaxland's Farm • Blaxland's Gardens • Blaxland's Crossing • McMaster Field Station • Upper Canal • Lennox Reserve • Lansvale Park Coordinate this program with Aboriginal heritage salvage excavation, in locations where salvage is required for both.	Heritage CEMP Sub-Plan
NAH06	Manage disturbance in the following PAS areas of low significance through an unexpected finds procedure: • McGarvie-Smith Farm • Exeter House and Farm • Fleurs Radiophysics Field Station.	Heritage CEMP Sub-Plan
NAH07	Any accidental damage to heritage items is to be treated as an incident, with appropriate recording and notification.	Heritage CEMP Sub-Plan

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
NAH08	Advise WaterNSW of any unexpected heritage items found on WaterNSW land.	Heritage CEMP Sub-Plan
Air Quality		
AQ02	Include the following measures in the project's CEMP: • maintain equipment in good working order to comply with the Clean Air Regulations of the Protection of the Environment Operations Act 1997, having appropriate exhaust pollution controls, and meeting Australian Standards for exhaust emissions. • water exposed areas using a non-drinking water source, where possible. • cover exposed areas, where possible (for example with tarpaulins or geotextile fabric). • modify or cease dust-generating work in windy conditions. • when designing site layout, consider opportunities to maximise distance of dust-generating activities from sensitive receivers.	Air Quality CEMP Sub-Plan
Noise and Vibration		
NV01	Prepare a Construction Noise and Vibration Management Plan (CNVMP) as part of the project's CEMP. This will include: • roles and responsibilities • noise sensitive receiver locations • construction phase noise and vibration management measures from this table • monitoring methodology • community engagement.	Noise and Vibration CEMP Sub-plan
NV02	Schedule construction works for standard construction hours, where possible. If it is not possible to restrict the works to the day period, then they are to be completed as early as possible in each work shift. Provide appropriate respite to affected receivers in accordance with the Interim Construction Noise Guideline (ICNG).	Noise and Vibration CEMP Sub-plan
NV03	Select equipment to minimise noise emissions. For example: • select equipment with lower noise emissions than alternative equipment. • use electric/ hydraulic equipment where possible. • use the minimum size and power requirement to complete a task.	Noise and Vibration CEMP Sub-plan

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
NV04	Regularly train workers and contractors (such as at toolbox talks) to use equipment ways to minimise noise, including: • site managers to periodically check the site and nearby residences for noise problems so that solutions can be quickly applied. • avoid the use of radios or stereos outdoors. • avoid the overuse of public address systems. • avoid shouting and minimise talking loudly and slamming vehicle doors. • turn off all plant and equipment when not in use. • maintain and monitor equipment to ensure proper and efficient operation. • aligning with Sydney Water's Noise Management Code of Behaviour (SWEMS0056.01)	Noise and Vibration CEMP Sub-plan
NV05	Implement and use non-tonal reversing beepers (or an equivalent mechanism) on all construction vehicles and mobile plant, where possible. Consider the use of ambient sensitive alarms that adjust output relative to the ambient noise level.	Noise and Vibration CEMP Sub-plan
NV06	Consult with residents that will be impacted by OOHW about measures to manage impacts in accordance with the ICNG, including considering alternative accommodation. This includes residents near long term pipeline tunnelling compounds at Bents Basin Road and Lansvale Park.	Noise and Vibration CEMP Sub-plan
NV07	Investigate opportunities for using alternatives to vibration generating equipment where vibration impacts have the potential to occur, including the WaterNSW Upper Canal.	Noise and Vibration CEMP Sub-plan
NV08	Undertake in-situ vibration monitoring to confirm vibration levels and assess potential impacts where minimum vibration impact distances cannot be achieved. Where the monitoring identifies exceedances in the relevant criteria, or where impacts are identified, additional management measures will be identified and implemented to appropriately manage impacts.	Noise and Vibration CEMP Sub-plan
NV09	Complete dilapidation and condition surveys on infrastructure and structures at risk from being damaged by vibration during construction, including heritage items.	Noise and Vibration CEMP Sub-plan
NV10	Investigate opportunities to reduce the operational noise from the project, particularly at the AWRC. This will include: • pump selection with reduced noise levels • barriers and enclosures around noisy equipment to comply with AS 2436- 2010 • building materials.	Noise and Vibration CEMP Sub-plan
Landscape Character and Visual		
LCV01	Consider opportunities to install temporary screens/ hoarding with finishes to minimise visibility of construction areas and to minimise noise impacts to surrounding sensitive receivers. As a minimum, install temporary screens at compounds C7 from viewpoint (VP) 12, C6 from VP13, C5 from VP17, C2 from VP18, C3 from VP20, C9 from VP23, C10 from VP25, C13 from VP27 Cabravale Leisure Centre users, C14 from VP28, C15 from VP29.	Section 1.5.4

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
LCV02	Ensure lighting for construction night-work and operations is in accordance with AS4282-1997 Control of the obtrusive effect of outdoor lighting to minimise light spill. Design and implement lighting at AWRC site to reduce light spill towards residential receptors for VP1-5 and VP7-10 and in accordance with NASF Guideline E – Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports.	Noise and Vibration CEMP Sub-plan Section 1.5.4
Traffic and Transport		
TT01	Prepare Site Specific Construction Traffic Management Plans (SSCTMP) in consultation with relevant local councils, bus companies, Bicycle NSW, Western Sydney Cycling Network, impacted residents and businesses, TfNSW and in accordance with relevant guidelines and the Framework Construction Traffic Management Plan (CTMP) (Appendix U). Each SSCTMP will outline: • staging and timing of construction for each area of the project • any changes to traffic conditions, including road closures or diversions • identification of haulage routes • safe alternative routes for pedestrians, cyclists and other active transport in accordance with relevant safety standards • parking arrangements for construction workers • construction access points • measures to minimise impacts on public transport network, including bus stops • opportunities to reduce road traffic noise, including restricting heavy vehicle movements to standard construction hours • measures to minimise impacts to businesses • measures to outline construction interface management with the M12 Motorway project. In addition to the above, SSCTMP will include: • signage at key locations across the local influence area including Wallacia, and Luddenham to ensure the visitor experience is made as clear and easy as possible. Signage mitigation will also be required throughout busier areas where facilities are clustered together and subject to frequent access such as: – Luddenham Main Street (the Old Northern Road) in Luddenham – Elizabeth Drive in Luddenham and Kemps Creek – Liverpool Road North in Bonnyrigg – St Johns Road, Cabramatta Road and Bartley Street in Cabramatta • specific consideration of the highly urbanised setting in Cabramatta within the local influence area. This includes planning parking changes to reduce potential impacts and planning traffic diversions in consultation with Fairfield Council.	Traffic and Transport CEMP Sub-plan
TT02	Finalise the Framework CTMP to guide the development of the SSCTMPs.	Traffic and Transport CEMP Sub-plan
TT03	Investigate opportunities to minimise cumulative impacts along Clifton Avenue and Elizabeth Drive with the M12 Motorway project. Measures outlined in TT01 will also help minimise cumulative impacts from the project on the traffic network.	Traffic and Transport CEMP Sub-plan
TT04	Prioritise the use of arterial and sub-arterial roads over collector and local roads, especially during AM and PM peaks, for construction haulage routes. This will include planning traffic routes to minimise impacts to sensitive receivers on local roads.	Traffic and Transport CEMP Sub-plan

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
TT06	Consult with the Cabravale Diggers Club and ensure emergency access off Bartley Street for the Club is maintained and included in the SSCTMPs.	Traffic and Transport CEMP Sub-plan
Human Health		
HIA03	Measures to manage bushfire hazard and risk during construction will be included as part of the CEMP, and will comply with the Rural Fire Service's exemptions and approvals for working during a Total Fire Ban.	Section 3.7 and relevant Sub-plans
HIA04	Ensure adequate capacity in the AWRC stormwater system to contain water used for firefighting for testing prior to disposal, if required.	To be incorporated (and documented) in AWRC design development and review workshops.
Socio-economics		
SELU01	Develop an Australian Industry Participation (AIP) Plan including consideration of the following: • Where practical training to meet minimum competency requirements. • Measures to maximise local procurement and employment.	Community & Stakeholder Engagement Plan
SELU02	Implement measures for ongoing consultation with the business community including minimum notification periods for works close to business or commercial operations and a means for receiving feedback to reduce impacts to business operation.	Community & Stakeholder Engagement Plan
SELU03	Where business visibility is impacted by construction activities, provide signage to maintain visibility and wayfinding of businesses and access to businesses during construction.	Community & Stakeholder Engagement Plan
SELU04	Consult and work with local councils during the construction period to minimise impacts to social infrastructure and local events, such as memorials and festivals etc. This includes timing construction activities to minimise impacts to events: • at Luddenham Showground • on public holidays and school holidays.	Community & Stakeholder Engagement Plan
SELU05	Consult with: • educational facilities such as child-care centres and schools to discuss timing and duration of construction. Construction activities should be timed in consideration of exam periods (i.e. NAPLAN and HSC) and school events to minimise impacts. • community facilities and places of worship to understand potential impacts during times of worship and events/activities including amenity impacts and potential access impacts.	Community & Stakeholder Engagement Plan

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
SELU06	Investigate further ways to mitigate potential impacts associated with construction, in particular the location of construction compounds and additional construction areas at the following locations: • Fowler Reserve, Wallacia • Western Sydney Parklands, Kemps Creek and Cecil Hills • Cabravale Leisure Centre, Cabramatta and nearby businesses and places of worship including the Shaolin Temple Foundation/Ukrainian Association of Cabramatta, the German-Austrian Club, the Kin Fu Ma Zu Association and Chinese Temple, the Thai Christian Fellowship and the Slavic Church • Lennox Reserve, Lansvale • Lansvale Reserve, Lansvale.	Community & Stakeholder Engagement Plan
SELU07	Continue consultation with emergency services that use the local influence area to understand access requirements so that access can be maintained during construction. This includes consultation with the SES, RFS, Ambulance and Police.	Community & Stakeholder Engagement Plan
Sustainability		
SU01	Develop a Sustainability Management Plan that outlines how the project will embed and continually improve sustainability throughout the project. This plan will outline: • the IS rating process, including timeframes for achieving a project IS rating • roles and responsibilities relating to sustainability • how sustainability objectives will be embedded into the construction and operation of the project • how, and if, the future aspirations of Sydney Water can be accommodated and implemented in the project.	Sustainability Management Plan (also refer to CoA E89, E90 and E91)
SU02	Investigate opportunities to: • procure recycled or reused materials where the options exist, and comparable performance can be achieved • reduce material quantities, where possible, while maintaining the design performance • implement passive design measures at the AWRC such as optimum solar orientation, shading and natural ventilation to reduce demand for heating and cooling of occupied site buildings • implement alternative technologies to reduce nitrous oxide emissions from operation of the AWRC	Sustainability Management Plan

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
Waste Management		
W01	Develop and implement a Waste Management Plan as part of the project's CEMP. This plan will include: • opportunities to minimise the generation of spoil including suitability for re-use within the project • targets for different waste streams with disposal being the least preferred approach, including diverting 75% of spoil from landfill (e.g. through offsite reuse), recycling rates of 80% for construction and demolition waste and reuse of stormwater for construction activities • classification of all waste generated by the project in accordance with the EPA waste classification guidelines • site specific measures (in accordance with the compound locations) for waste segregation, storage, handling, collection and transport according to their waste classification, including for liquid wastes • instructions on clear signage to be provided at construction compounds to encourage correct recycling and reduce contamination. • measures to ensure safe storage and transport of waste materials and avoid or minimise any risk of waste or contaminated materials creating dust or other impacts to the community or surrounding sensitive environments • regular monitoring and auditing to assess the performance of waste management activities against the determined targets • training and awareness for all construction personnel • a record keeping system on site so that waste tracking systems can be maintained. This should include the use of the NSW EPA's online waste tracking system where required. Keep records of receipts to prove that waste diversion and recycling targets have been met.	Waste and Resource Use CEMP Sub-plan
W02	Develop and implement a procedure for managing special waste in accordance with legislative and policy requirements. This should include as a minimum: • review contaminated spoil volumes identified in the Waste Impact Assessment (Aurecon Arup 2021). Confirm volumes of soils contaminated with ACM as detailed design develops. • identify lawful offsite storage and disposal options (including those listed in the Waste Impact Assessment (Aurecon Arup 2021)) • if asbestos waste is transported off site, ensure appropriate containment methods are in place including, as a minimum, wrapping asbestos sheets and wetting down soil contaminated with ACM. • ensure transportation of asbestos waste by appropriately qualified personnel.	Waste and Resource Use CEMP Sub-plan
W03	Store, manage and dispose of hazardous wastes in accordance with legislative and policy requirements, including disposal by a licensed contractor and at a lawful disposal facility.	Waste and Resource Use CEMP Sub-plan
W04	Investigate opportunities to divert food waste from landfill. This could include the provision of site waste facilities such as bins to separate food waste at source.	Waste and Resource Use CEMP Sub-plan

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
Airport Operations		
AO01	Investigate opportunities for additional design measures at the AWRC site to manage potential wildlife populations. These will include: • covering large (100 m2) open bodies of still water • exclusionary devices • enclosing waste receptacle areas • selection of landscaping plant species that are less attractive to wildlife as a food and shelter source • steepening the slopes of basins to deter wildlife. Implement feasible design opportunities to deter wildlife that present a risk of wildlife strikes by aircraft.	Biodiversity CEMP Sub-plan
AO03	Assess consistency of any changes to the location and size of structures, or plume estimations, with Western Sydney International Airport OLS and CASA plume rise assessments outlined in this EIS.	Section 2
Utilities		
U01	Prepare and submit civil plans for road crossings to TfNSW to support any required approvals under the Roads Act 1993	Section 3.3.12
U02	Identify any existing utilities that may be at risk of impact from construction. Once identified, complete dilapidation surveys to establish a pre-construction condition assessment of the assets.	Section 3.3.12
U03	Repair any utilities that have been directly impacted from project construction activities	Section 3.3.12
U04	Complete Dial Before You Dig (DBYD) searches of existing services during detailed design and prior to construction. Where required, sensitive services or those critical to the design will be accurately located to AS5488 Quality Level A by potholing. Sydney Water will continue to consult with relevant utility agencies and organisations during detailed design and construction planning.	Section 3.3.12
U05	Consult with WaterNSW during detailed design of infrastructure on WaterNSW land or that will directly affect WaterNSW infrastructure	Section 2
U07	Sydney Water will comply with the 'Sydney Water and WaterNSW Access Protocol' regarding any required access to WaterNSW land, including the WaterNSW Pipelines corridor, Upper Canal or Warragamba sites.	Community & Stakeholder Engagement Plan
Baseline and post-commissioning water quality and aquatic ecology monitoring of waterways		
WW22	Continue baseline monitoring program outlined in section 8.2.2 until project starts operating. Complete a report documenting results and analysis at completion of monitoring program. Monitoring results from construction or commissioning phases to be analysed separately to avoid skewing baseline results.	Surface water quality monitoring program
WW24	Include an additional monitoring point to the programs outlined in WW22 and WW23 at the Penrith Weir pool (at the bar at the mouth of Glenbrook Creek). Inclusion of this additional point will fill a gap in the current monitoring program and enable a longitudinal assessment of potential change driven by AWRC releases and enable Sydney Water to investigate any ecological changes that occur in the Penrith Weir pool and in particular the Glenbrook Creek bar.	Surface water quality monitoring program

Updated Management Measures No.	Updated Management Measures Requirements	Document Reference
Monitoring of flow related impacts in waterways		
WW25	Develop and implement a baseline and impact monitoring program of bed and banks prior to the commencement of operational releases. The monitoring program design and reporting will be by a qualified geomorphologist. The baseline monitoring will include an analysis of historical aerial photos to understand historical and potential future geomorphological changes. Following commencement of releases, the monitoring should be undertaken at six monthly intervals for the first two years. After this, monitoring should be undertaken after three, four, six, eight and ten years. Monitoring should also be undertaken following three flood events greater than 20% Annual Exceedance Probability (AEP) (1 in 5 year flood). The monitoring will include a report documenting the results and analysis, including identifying changes that can be attributed to the treated water releases. Monitoring will include appropriate methods to establish potential impacts from the project including consideration of the following approaches: • for the riverbed – cross sectional survey. The cross section must be made accurately to a fixed point, with redundancy to cope with disturbance (intentional or otherwise). • for riverbanks – riverbank fixed photo-points at strategic locations, cross section surveys at strategic locations, drone-monitoring baseline survey (topographic and imagery data) for some representative sections of each reach. It is recommended that the baseline survey include a detailed visual inspection by an experienced geomorphologist of the reach between Bents Basin and Wallacia Weir to identify priority site locations for future monitoring.	Surface Water and Groundwater CEMP Sub-plan
WW29	Include monitoring of vegetation extent and species composition at the bar at the mouth of Glenbrook Creek as part of the monitoring programs outlined in WW23. A baseline survey is also required prior to works commencing.	Surface Water and Groundwater CEMP Sub-plan

Appendix A3 Legal requirements and compliance tracking

Legal register

Act	Activity / Aspect	Requirement	Reference	Division 5.2 Applicability	Relevant section of CEMP or supporting documentation
General					
Environmental Planning and Assessment Act, 1979 (EP&A Act)	All	The Project has been declared Critical State Significant Infrastructure (CSSI) by virtue of Schedule 3, clause 1(1) of *State Environmental Planning Policy (State and Regional Development) 2011.* Comply with the terms of approval for the project (SSI-8609189). Obtain the Minister's approval for any project modifications that are not consistent with the planning approval.	S5.13 S5.14	Yes	Section 1.1
Environmental Planning and Assessment Act, 1979 (EP&A Act)	All	Environmental assessment and public consultation, including a preferred infrastructure report that outlines any proposed changes to the CSSI.	S5.17	Yes	Section 1.1 Section 2
Environmental Planning and Assessment Act, 1979 (EP&A Act)	All	• Application of other provisions of the *EP&A Act* • Approvals and legislation that does not apply • Approvals and legislation that must be applied consistently	S5.22 S5.23 S5.24	Yes	This table Appendix A3
Environmental Planning and Assessment Act, 1979 (EP&A Act)	All	The proponent may request the Minister to modify the Minister's approval for CSSI, which should be lodged with the Planning Secretary.	S5.25	Yes	Section 1.1
Protection of the Environment Operations Act 1997	Environmental protection	Do not risk harming the environment by wilfully or negligently: • Disposing of waste unlawfully • Causing any substance to leak, spill or otherwise escape (whether or not from a container) or • Emitting an ozone depleting substance.	S115 S116 S117	Yes	Waste and Resource Use CEMP Sub-plan Surface Water and Groundwater CEMP Sub-plan (SWGCSP) Air Quality CEMP Sub-Plan (AQCSP)
Roads Act 1993	Road work	Requires the consent of the appropriate road authority for carrying out work on, or disturbing, the surface of a public road. Where the proponent is a public authority, the roads authority must consult with the applicant before making a decision.	S138	Yes	Traffic and Transport CEMP Sub-plan (TTCSP)

Act	Activity / Aspect	Requirement	Reference	Division 5.2 Applicability	Relevant section of CEMP or supporting documentation
Water					
Water Management Act 2000 With the exception of controlled activity approvals, the *Water Management Act 2000* (WM Act) only applies in relation to those water sources covered by operational water sharing plans – these areas cover most of the State's major regulated river systems.	Water access and use.	Do not take water from a water source (a lake, river or estuary or place where water occurs naturally on or below the surface of the ground, and includes coastal waters) without an access licence. Do not use water on land (unless supplied by a water utility, irrigation corporation etc or in accordance with basic landholder rights) without a water use approval.	S56 S60A S89 S90 S91A	Yes	Surface Water and Groundwater CEMP Sub-plan (SWGCSP) Section 3.2.2
Water Management Act 2000	Water management works	Do not construct/use a water supply work, drainage work or flood work without the appropriate approval.	S90 S91B S91C S91D	No	Under the *EP&A Act*, the Project is exempt from this requirement.
Water Management Act 2000	Waterfront land.	Do not deposit material, excavate, or remove material within a watercourse bank, shore or bed, or on land 40 metres inland, or interfere with the likely flow of water to such a body, without a controlled activity approval.	S91	No Public authorities are exempt from the need to obtain a controlled activity approval. Water Management (General) Regulation 2011 (cl.38)	Under the *EP&A Act*, the Project is exempt from this requirement.
Water Management Act 2000	Activity approvals	An aquifer interference approval confers a right on its holder to carry out one or more specified aquifer interference activities at a specified location, or in a specified area, in the course of carrying out specified activities.	S91(3)	Yes	Surface Water and Groundwater CEMP Sub-plan (SWGCSP)

Act	Activity / Aspect	Requirement	Reference	Division 5.2 Applicability	Relevant section of CEMP or supporting documentation
Water Act 1912 Note that this Act is being progressively repealed by the Water Management Act 2000 (WM Act).	Surface water	Obtain a licence or permit for construction or use of 'work' for purposes including the taking and using of water	S21B	Yes	SWGCSP
Sydney Water Act 1994	Wastewater	Approval to discharge wastewater to sewer and Trade Waste Agreement	S49	Yes	SWGCSP
Sydney Water Regulation 1994	Plumbing and drainage	Permit required to do plumbing or drainage work, which includes connection to a stormwater drain	S18	Yes	SWGCSP
Protection of the Environment Operations Act 1997	Water pollution	Do not cause water pollution (other than to a sewer), except in accordance with the conditions of an Environment Protection Licence.	S120 S122	Yes	SWGCSP
Noise					
Protection of the Environment Operations Act 1997	Plant maintenance and operation	Do not operate plant if it emits noise caused by poor maintenance or operation.	S139	Yes	Noise and Vibration CEMP Sub-plan (NVCSP)
Protection of the Environment Operations Act 1997	Materials management	Do not cause noise by failing to properly and efficiently deal with materials.	S140	Yes	NVCSP
Protection of the Environment Operations (Noise Control) Regulation 2008	Marine vessels – offensive noise and noise control equipment	As owner or captain, do not allow a vessel to be used on navigable waters so as to emit offensive noise. Do not use a vessel on navigable waters if its noise control equipment is defective.	cl. 34-35 cl. 37	Yes	NVCSP
Contaminated Material					
Protection of the Environment Operations Act 1997	Land pollution	Do not cause or permit land pollution other than under authority of a licence or regulation. (However it is not a land pollution offence to place virgin excavated natural material or lawful pesticides and fertilisers on land, or by placing matter on land that has been notified	S142A – S142E	Yes	Soils and Contamination CEMP Sub-plan (SCCSP)

Act	Activity / Aspect	Requirement	Reference	Division 5.2 Applicability	Relevant section of CEMP or supporting documentation
		to the EPA as an unlicensed landfill and which is operated in accordance with the regulations.)			
Contaminated Land Management Act 1997	Reporting contamination	Notify the EPA if; • contaminants exceed thresholds contained in guidelines or the regulations where contamination has entered or will foreseeably enter neighbouring land, the atmosphere, groundwater or surface water. • contaminants in soil are equal to or exceed guideline levels with respect to the current or approved use of the land. • contamination meets other criteria that may be prescribed by the regulations.	S60	Yes	SCCSP
Biodiversity					
Biodiversity Conservation Act 2016	Fauna	Do not harm any animal that is; of a threatened species, that is part of a threatened ecological community or is a protected animal, unless authorised under other legislation (e.g. planning approval).	S2.1 S2.8	Yes	Biodiversity CEMP Sub-plan (BCSP)
Biodiversity Conservation Act 2016	Habitat	Do not damage habitat of a threatened species or ecological community unless authorised under other legislation (e.g. planning approval).	S2.4 S2.8	Yes	BCSP
Biodiversity Conservation Act 2016	Biodiversity	Do not damage declared areas of outstanding biodiversity value unless authorised under other legislation (e.g. planning approval).	S2.3 S2.8	Yes	BCSP
Biodiversity Conservation Act 2016	Flora	Do not pick a plant that is; of a threatened species, that is part of a threatened ecological community or is a protected plant, unless authorised under other legislation (e.g. planning approval).	S2.2 S2.8	Yes	BCSP
Biosecurity Act 2015	Biosecurity matters including pests, disease and weeds	The duty to prevent, eliminate and minimise biosecurity risks posed by biosecurity matters as defined by the Act.	S22	Yes	BCSP
Biosecurity Regulation 2017	Pests and Diseases	Notify the presence any pest or disease listed in Schedule 1 of the Biosecurity Regulation 2014, within 1 working day after suspecting or becoming aware of the pest or disease.	Regulation cl.7 Schedule 1	Yes	BCSP
Fisheries Management Act 1994	Dredging or reclamation	Provide the Minister for Primary Industries 28 days notice of planned dredging or reclamation work.	S199	No	Under the *EP&A Act*, the Project is exempt from this requirement.

Act	Activity / Aspect	Requirement	Reference	Division 5.2 Applicability	Relevant section of CEMP or supporting documentation
Fisheries Management Act 1994	Mangroves, seagrasses and marine vegetation	Do not harm any mangroves, seagrasses or other marine vegetation on public water land protected by the regulations without a permit.	S205	No	Under the *EP&A Act*, the Project is exempt from this requirement.
Fisheries Management Act 1994	Fish passage	Do not block fish passage without a permit	S219	No	Under the *EP&A Act*, the Project is exempt from this requirement.
Environment Protection Biodiversity Conservation Act, 1999 (Commonwealth)	Flora and fauna conservation	Do not kill, injure or take a member of a listed threatened species without a permit.	Part 13	Yes	BCSP
Air Quality					
Protection of the Environment Operations Act 1997	Air quality	Do not operate machinery which emits air pollution caused by poor maintenance or operation	S124	Yes	Air Quality CEMP Sub-plan (AQCSP)
		Do not cause or neglect to prevent air pollution (e.g. dust exceeding reasonable levels without active management measures in place)	S126	Yes	AQCSP
		Do not cause or permit the emission of an offensive odour	S129	Yes	AQCSP
Protection of the Environment Operations (Clean Air) Regulation 2002	Air quality	Excessive impurities are visible for a continuous period of more than 10 seconds.	S15	Yes	AQCSP
		Air emission concentrations for scheduled premises.	Schedule 4	Yes	AQCSP
Waste					
Protection of the Environment Operations Act 1997	Littering	Do not litter in a public place or an open private place. Do not litter from a vehicle. Only deposit advertising material in receptacles provided for mail or newspapers or under the door of the premises. Do not deposit advertising material on or in vehicles.	Part 5.6A	Yes	Waste and Resource Use CEMP Sub-plan (WRUCSP) Community & Stakeholder Engagement Plan (CSEP)
Protection of the Environment Operations Act 1997	Waste and transportation	Do not undertake a scheduled waste activity unless in accordance with an environmental protection licence. A licence must be obtained when construction and demolition wastes are applied to land under certain circumstances. This includes the reincorporation of crushed road base material back into roads and the placing of excess fill material onto properties. A licence is not required if the material: • is VENM.	Part 3.2 Schedule 1	Yes	WRUCSP

Act	Activity / Aspect	Requirement	Reference	Division 5.2 Applicability	Relevant section of CEMP or supporting documentation
		• does not exceed 200 tonnes in the Sydney, Newcastle and Wollongong areas, or 20,000 tonnes outside these areas. • is covered by a "general exemption". Current exempted materials are ENM, recycled aggregates and raw mulch. These exemptions are conditional and require some chemical testing of materials before they are placed onto land. • a licence must be obtained if more than 2,500 tonnes (or cubic metres) is stored on a stockpile site at any one time, or more than 30,000 tonnes of waste is received per year from off site.			
		Only transport waste to a facility that can lawfully accept the waste.	S143	Yes	WRUCSP
		Do not dispose of waste in a manner that harms or is likely to harm the environment.	S115	Yes	WRUCSP
Protection of the Environment Operations (Waste) Regulation 2005	Waste and transportation	Comply with general requirements for the transport of waste. For example, any vehicle used by the person to transport waste must be kept in a clean condition and be maintained so as to prevent spillage of waste. For some wastes only licensed transporters can be used.	Regulation cl.49	Yes	WRUCSP
		Comply with record keeping requirements in relation to the transport of certain types of waste.	Regulation Part 3	Yes	WRUCSP
Waste Avoidance and Resource Recovery Act 2001	Waste and transportation	Establish the waste hierarchy. Promotes waste avoidance and resources recovery by developing waste avoidance and resource recovery strategies.	-	Yes	WRUCSP
Heritage					
Heritage Act 1977	Heritage	Do not undertake an activity that will affect a place, building, work, relic, moveable object or precinct which is subject to an Interim Heritage Order without approval from the Heritage Council.	S56-57	No	Under the *EP&A Act*, the Project is exempt from this requirement.
		Do not disturb or excavate land with knowledge or reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed; or Do not disturb or excavate land on where a relic has been discovered or exposed.	S139	No	Under the *EP&A Act*, the Project is exempt from this requirement.

Act	Activity / Aspect	Requirement	Reference	Division 5.2 Applicability	Relevant section of CEMP or supporting documentation
		Notify the heritage Council on discovery of a relic	S146	Yes	Heritage CEMP Sub-plan (HMCSP) Unexpected Finds Procedure
National Parks and Wildlife Act 1974	Aboriginal places and objects	Do not harm or desecrate an Aboriginal object or Aboriginal place without consent.	S86	No	HMCSP
		Notify the NPWS within reasonable time of becoming aware of the location or discovery of certain Aboriginal objects.	S89A	Yes	HMCSP
		An Aboriginal heritage impact permit may be issued.	S90	No	Under the *EP&A Act*, the Project is exempt from this requirement.
Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Commonwealth)	Protection of areas and objects	Report any discovery of Aboriginal remains to the Federal Minister for the Environment and Heritage.	S20	Yes	HMCSP
		Comply with the provisions of any declaration in relation to a significant Aboriginal area or object.	S22	Yes	HMCSP
Environment Protection Biodiversity Conservation Act, 1999 (Commonwealth)	World and National Heritage Matters	Impact to Matters of National Environmental Significance. Deciding whether approval of actions is needed.	Part 7	Yes	HCSP
Traffic					
Transport Administration Act 2988	Traffic management	Comply with the functions of Roads and Maritime relating to traffic management and safety.	S52A	Yes	Traffic & Transport CEMP Sub-plan (TTCSP)
Road Rules 2014	Use of roads	Establish the road rules that are applicable to vehicles and road users on roads in NSW.	-	Yes	TTCSP
		Provisions of Road Rules 2014 not applicable to a person at the site of, and engaged in, roadworks.	310	Yes	TTCSP
Roads Act 1993	Use of roads	Obtain a Road Occupancy Licence prior to commencement of traffic related works that require access to roads.	S138	Yes	TTCSP
Hazard and Risk					
Environmentally Hazardous Chemicals Act 1985	Hazards and risks	Obtain a licence to undertake prescribed activities involving environmentally hazardous chemicals or declared chemical wastes.	S28	Yes	Section 3.2.2
Dangerous Goods (Road and Rail Transport) Act 2008	Hazards and risks	Ensure that dangerous goods are transported in a safe manner.	S9	Yes	TTCSP SCCSP

Act	Activity / Aspect	Requirement	Reference	Division 5.2 Applicability	Relevant section of CEMP or supporting documentation
Pesticides Act 1999	Hazards and risks	Do not use an unregistered pesticide without a permit. Use pesticides in an environmentally sensitive manner. Read the label or permit for the pesticide. Use registered pesticides in accordance with instructions on the label. Do not use any restricted pesticide unless authorised by a certificate of competency or a pesticide control order under the Act. Compliance with pesticide codes of practice is required.	S12 S13 S14 S15 S17	Yes	BCSP
Incident Response					
Protection of the Environment Operations Act 1997	Notification of pollution incidents	Notify the EPA immediately of pollution incidents where material harm to the environment is caused or threatened.	S148	Yes	Section 3.7 Appendix A7
Protection of the Environment Operations Act 1997	Pre-emptive pollution/incident control	Properly and efficiently maintain and operate any installed pollution control equipment (including monitoring devices)	S167	Yes	Section 3.7 SWGCSP; SCCSP
Local Government Act 1993	Fire related incident	In the event of a fire related incident the project will comply with the requirements of the Act.	N/A	Yes	Section 3.7
Rural Fires Act 1997	Fire related incident	In the event of a fire related incident the project will comply with the requirements of the Act.	N/A	Yes	Section 3.7

Other Approvals and Licences

Approval / Licence	Requirement	Relevant section of CEMP or supporting documentation
Road Occupancy Licences	Prior to commencement of traffic related works that require access to roads	Section 3.2.2

Environmental Management Plan Guideline for Infrastructure Projects (DPHI, 2020)

Environmental Management Plan Guideline for Infrastructure Projects (DPHI, 2020)

Requirement	Plan Reference	Yes /No / Not Applicable
Document Preparation and Endorsement		
Has the EMP been prepared in consultation with all relevant stakeholders as per the requirements of the conditions of consent? (Section 4.1)	Section 2	Yes
Have the views of the relevant stakeholders been taken into consideration? Have appropriate amendments been made to the EMP and does the EMP clearly identify the location of any changes? (Section 4.1)	Section 2	Yes
Has the EMP been internally approved by an authorised representative of the proponent or contractor? (Section 4.2)	Document Control Table	Yes
Version and Content		
Does the EMP describe the proponent's Environmental Management System (EMS) (if any), and identify how the EMP relates to other documents required by the conditions of consent? (Section 3.5.1)	Section 1.9	Yes
Does the EMP include the required general content and version control information? (Section 3.1)	Version Control Table	Yes
Does the EMP have an introduction that describes the project, scope of works, site location and any staging or timing considerations? (Section 3.2)	Section 1	Yes
Does the EMP reference the project description? (Section 3.3)	Section 1.2	Yes
Does the EMP reference a Community and Stakeholder Engagement Plan (or similar) or include community and stakeholder engagement actions (if required)? (Section 3.4)	Section 1.9	Yes
Have all other relevant approvals been identified? Has appropriate information been provided regarding how each approval is relevant? (Section 4)	Section 3.2.2	Yes
Has the environmental management structure and responsibilities been included? (Section 3.5.2)	Section 3.3	Yes
Does the EMP include processes for training of project personnel and identify how training and awareness needs will be identified? (Section 3.5.3)	Section 3.5	Yes
Does the EMP clearly identify the relevant legal and compliance requirements that relate to the EMP? (Section 3.5.3)	Section 3.2.2 Appendix A3	Yes
Does the EMP include all the conditions of consent to be addressed by the EMP and identify where in the EMP each requirement has been addressed? (Section 3.5.13)	Section 3.2.2 Appendix A2	Yes
Have all relevant guidelines, policies and standards been identified, including details of how they are relevant? (Section 3.5)	Section 3.2.2 Appendix A3	Yes

Requirement	Plan Reference	Yes /No / Not Applicable
Is the process that will be adopted to identify and analyse the environmental risks included? (Section 3.5.5)	Section 3.2.1	Yes
Have all the environmental management measures in the EIA been directly reproduced into the EMP? (Section 3.5.7)	Sub-plans and procedures Appendices B1-B7	Yes
Have any additional environmental management measures been included in the EMP? (Section 3.5.7)	Sub-plans and procedures Appendices B1-B7	Yes
Have environmental management measures been written in committed language? (Section 3.5.7)	Sub-plans and procedures Appendices B1-B7	Yes
Have project environmental management measures, including hold points, been identified and included? (Section 3.5.6)	Sub-plans and procedures Appendices B1-B7	Yes
Are relevant details of environmental monitoring that will be carried out included? (Section 3.5.8)	Section 3.9 Sub-plans and procedures Appendices B1-B7	Yes
Have the components of any environmental monitoring programs been incorporated? (Section 3.5.8)	Sub-plans and procedures Appendices B1-B7	Yes
Are environmental inspections included? (Section 3.5.9)	Section 3.9	Yes
Does the EMP document all relevant compliance monitoring and reporting requirements for the project? (Section 3.5.12 and 3.5.13)	Section 3.9	Yes
Does the EMP describe the types of plans or maps (such as environmental control maps) that will be used to assist with the management of environmental matters on site? (Section 3.5.10)	Section 3.2.4 Appendix A6	Yes
Does the EMP list environmental management documents? (Section 3.5.11)	Section 1.9	Yes
Is an auditing program referenced? (Section 3.5.13)	Section 3.9	Yes
Does the EMP include the incident notification and reporting protocols that comply with the relevant conditions of consent? (Section 3.5.15)	Section 3.7	Yes
Does the EMP identify the project role/position that is responsible for deciding whether an occurrence is an incident? (Section 3.5.15)	Section 3.7 Section 3.3	Yes
Does the EMP describe a corrective and preventative action process that addresses the requirements? (Section 3.5.16)	Section 3.7 Section 3.8 Section 3.9	Yes
Does the EMP include details of a review and revision process that complies with the requirements? (Section 3.6)	Section 3.11 and Section 3.12	Yes

Appendix A4 Environmental aspects and impacts

ENVIRONMENTAL RISK REGISTER

Project: Upper South Creek
Date: Tuesday 06 August 2024
Revision: 5
Red text denotes change since last revision. ~~Strikethrough~~ denotes text to be deleted.

	Ranking Matrix					Residual Ranking Matrix		
Hazard Description	**Initial Likelihood**	**Initial Consequence**	**Risk Matrix**	**Potential Consequence**	**Mitigation Strategy**	**Likelihood**	**Consequence**	**Residual Risk**
Proposed works not consistent with EIS, CoA or Contract requirements, lacking in an expected aspect	Almost certain	3	B	Delays through consistency reviews or modification required	~~*Environment in Design*~~ ~~Checklist and/or~~ Consistency assessment completed using Sydney Water (SW) template and reviewed and approved by SW Environment Lead. Project-specific CA preparatory checklist prepared to assist the construction delivery team with gathering efficient information in a timely manner to ensure CA approvals availabe as needed. Environment and consistency raised and documented at key project coordination / interface meetings and tracked accoridngly. Process implemented early inclusive of clear process to avoid additional impact to sensitive areas.	possible	3	C
Non-compliance with Environmental Approvals (EIS,CoA)	Almost certain	4	A	Breach of Legislation,	Compliance Tracking, adequate resourcing, project induction, staff training, auditing, carry out works in accordance with CEMP, measures detailed in plan. Development and implementation of: ~~- Ancillary Facility Establishment Management Plan~~ - Construction Environment Management Plan - Traffic and Transport Management Sub-Plan - Noise and Vibration Management Sub-Plan - Soil and Contamination Management Sub-Plan - Surface Water and Groundwater Management Sub-Plan - Heritage Management Sub-Plan (including Aboriginal, non-Aboriginal, World and National heritage) - Biodiversity Management Sub-Plan - Emergency Response Plan (including~~sive of the requirements under~~ the Flood Emergency Response Management Sub-Plan) - Air Quality CEMP Sub-Plan - Community & Stakeholder Engagement Plan	unlikely	4	C
Non-conformance with CEMP, Failure to follow Sub Plans legislative requirements	likely	3	C	delays, fines, prosecutions, environmental harm	CEMP on boarding to be implemented for staff on the Project. Consistency / compliance review of relevant documents that are prepared in timely manner. Develop and implement an efficient and robust audit / inspection plan as part of the CEMP. Use appropriate communication methods (e.g. ERG, coordination meetings) to raise CEMP issues from agencies or from internal reviews.	unlikely	3	D
Failure to obtain third party approvals	Almost certain	3	B	Delay in program	Early identification of and engagement with key stakeholders. Approvals strategy, planning meetings. Utilising GIS information provided as part of the tender process and building on those layers as the design develops.	unlikely	3	D

Construction footprint cannot be achieved	possible	3	C	Additional approvals required, costs, alternative techniques required.	Construction methodology developed early confirm space checking with plant and equipment.	unlikely	3	D	
Unable to achieve required design and as-built ISC rating.	likely	3	C	Noncompliance with MCoA and Deed	Develop and implement a Sustainability Management Plan. *Environment in Design* Checklist for relevant design packages. Specialist sustainability contractors identified and engaged early. Develop and implement an efficient and robust audit / inspection plan as part of the SMP.	unlikely	3	D	
Change of legislative / regulatory requirements	possible	3	C	Breach of Legislation, additional approvals, costs	Compile and maintain a legislation register. Identify and review new legislation. Subscribe to EnviroLaw. Compliance tracking, auditing, inspections, training. Change management processes incorporated in the CEMP.	possible	3	C	
Delay in obtaining project approval	Almost certain	4	A	Time and cost	Frequent communication with regulators. Preparation of documents to be ready for submission to DPE on day 1 (following approval).	possible	4	C	
Changes to intersection and traffic performance due to heavy vehicle movements, narrowing of lanes, speed restrictions and temporary lane closures	likely	3	C	Traffic delays, complaints	Develop and implement a Traffic and Transport Management Sub-Plan. Early identification of local roads during construction planning that will be impacted as part of the work, under E95 Local Roads Approval. Prioritise the use of arterial and sub-arterial roads. Investigate opportunities to minimise cumulative impacts along Clifton Avenue and Elizabeth Drive with the M12 Motorway project (EIS TT01). Community & Stakeholder Engagement Plan	possible	3	C	
Disruptions and delays to public transport operations, particularly buses	likely	3	C	Traffic delays, complaints	Develop and implement a Traffic and Transport Management Sub-Plan. Project-specific Communication Strategy. Changes will be designed and implemented in consultation with Transport NSW and bus operators, where relevant. Community notificaitons in advance of changes.	unlikely	3	D	
Impacts on the availability of on street and off-street parking surrounding construction work areas	Almost certain	3	B	Community amenity impacted, public complaints	Develop and implement a Traffic and Transport Management Sub-Plan; and Construction Parking & Access Strategy. Induction and training.	possible	3	C	
Traffic impact to roads utilised by the project due to cummulative impacts from other surrounding projects (i.e. M12)	likely	3	C	Community amenity impacted, public complaints	Develop and implement a Traffic and Transport Management Sub-Plan; and Construction Parking & Access Strategy. Induction and training. Consult with the Cabravale Diggers Club and ensure emergency access off Bartley Street for the Club is maintained and included in the SSCTMPs (EIS TT04). Community & Stakeholder Engagement Plan.	unlikely	3	D	
Physical impact to roads utilised by the project (dilapidation), including consideration of cummulative impacts from other surrounding projects (i.e. M12)	Almost certain	3	B	Community amenity impacted, public complaints, cost of vehicle damage claims	Develop and implement a Traffic and Transport Management Sub-Plan; and Construction Parking & Access Strategy. Induction and training. Consult with the Cabravale Diggers Club and ensure emergency access off Bartley Street for the Club is maintained and included in the SSCTMPs (EIS TT04). Community & Stakeholder Engagement Plan. Temporary and permanent restoration methodologies and timing. Planning to include consideration of dilapidation approach.	possible	3	C	

Elevated noise and vibration levels around construction sites, compounds, site accesses and haul routes affects amenity for sensitive receivers	Almost certain	4	A	Possible breach in approvals, Community complaints, construction fatigue, property damage.	Environmental Protection Licence under the *Protection of the Environment Operations Ac*t 1997. Noise and Vibration Management Sub-Plan, including Out of Hours Work (OOHW) Protocol and approval process. Construction Noise & Vibration Impact Statement Project-specific Communication Strategy (as part of the CSEP) Traffic and Transport Management Sub-Plan Induction,Toolbox and Training Monitoring, validation and project-specific noise modelling Specialist consultants Alternate construction methods (for e.g. shears vs hammering) Respite periods Consideration of noise mitigating arrangements, including mats, shielding, hoarding, and site design generally. Minimise idling, shouting and staff gathering near sensitive area.	possible	3	C	
Noise impacts on sensitive receivers (including residents, employeesand recreation facility users) for work undertaken outside of standard working hours (such as works required to be undertaken under an ROL arrangement)	Almost certain	4	A	Community complaints, regulator involvement	Environmental Protection Licence under the Protection of the Environment Operations Act 1997. Noise and Vibration Management Sub-Plan, including Out of Hours Work (OOHW) Protocol and approval process. Construction Noise & Vibration Impact Statement Project-specific Communication Strategy (as part of the CSEP) Monitoring, validation and project-specific noise modelling Induction, training and Toolboxes Specialist consultants	possible	3	C	
Cumulative noise impacts with the M12 Project and other projects	likely	2	D	Community complaints, regulator involvement	Noise and Vibration Management Sub-Plan, including Out of Hours Work (OOHW) Protocol and approval process. Project-specific noise modelling Project-specific Communication Strategy (as part of the CSEP) Staged construction to consider potential noise mitigating arrangements, including mats, shielding, hoarding, and site design generally. Monitoring and validation.	possible	2	D	
Vibration impacts on heritage and other structures causing damage (cosmetic and/or structural)	possible	4	C	Property damage, delays, breach of CoA.	Noise and Vibration Management Sub-Plan, including Out of Hours Work (OOHW) Protocol and approval process. Heritage Management Sub-Plan. Consideration of alternate construction methodologies. Implementation of exclusion zones. Project-specific modelling and monitoring. Building conditions surveys.	unlikely	2	E	
Vibration impacts on sensitive equipment	possible	4	C	Damage complaints, delays	Noise and Vibration Management Sub-Plan, including Out of Hours Work (OOHW) Protocol and approval process. Project-specific modelling and monitoring. Community & Stakeholder Engagement Plan.	unlikely	3	D	

Impacts on air quality as a result of dust generation during construction (from earthworks, ground disturbance, vegetation removal, exposed soil/stockpiles, excavation and vehicle movements)	likely	4	B	community concerns, regulator involvement, fines, impacts flora fauna, pollution	Air Quality Management Sub-Plan Soil & Contamination Management Sub-Plan Surface Water & Groundwater Management Sub-Plan Rehabilitation Management Plan Acid Sulphate Soil Management Plan Asbestos Management Plan Contamination Remediation Action Plan (if required) Complaint management processes (considered in the relevant sub-plans and the CSEP) Use of water as suppression as required Minimise exposed surfaces and stage works to minimise disturbed areas. Restrict dust and odour generating activities in strong wind conditions. Materials to and from site to be covered. Stockpile sites chosen as far as reasonably practical from sensitive receivers. Stabilised Access tracks local roads. Engagement with relevant stakeholders (LGAs and EPA).	unlikely	4	C	
Impacts on air quality as a result of emissions from vehicles or plant during construction	likely	2	D	community concerns, pollution	Sustainability Management Plan Air quality Management Sub-Plan Construction Staging and Temporary Work Plans Induction and training Plant pre acceptance and maintenance records (as plant are floated to site); and daily pre-start checks (as plant are operated day-to-day).	unlikely	2	E	
Accidental discharge of potentially contaminated groundwater	possible	3	C	Pollution, breach of legislation, fines	Soil and Contamination Management Sub-Plan Surface Wwater & Groundwater Management Sub-Plan Surface Water Monitoring Program Groundwater Monitoring Program Dewatering Management Strategy Contamination Remediation Action Plan Permits and Licencing Removal off-site as a waste to a licensed waste facility.	unlikely	3	D	
Exposure/ Mistreatment of Acid Sulfate Soils causing pollution or impacting construction in ground	possible	3	C	Pollution, breach of legislation, fines	Soil and Contamination Management Sub-Plan Acid Sulfate Soil Management Plan Contamination Remediation Action Plan Specialist Contractor(s) including CPESC	unlikely	3	D	
Contamination of soils and groundwater due to spills or leaks of fuels, oil or other hazardous substances	possible	3	C	Pollution, soil contamination, breach of legislation, fines	Emergency Response Plan (inclusive of emergency spill response) Soil and Contamination Management Sub-Plan Surface Water & Groundwater Management Sub-Plan Fuel tanks and associated pipe work to be located within bunds with 110% capacity. Spill kits to be made available on site to prevent material entering the watercourse or surface water drains. Tanks, bunds, plant and machinery to be regularly maintained. Training key personnel in emergency spill response. Daily prestart inspection for all hydraulic plant. Appropriate storage and management of chemicals. Refuelling and wash-down in designated areas only.	unlikely	3	D	

Contaminated stockpile storage and containment inadequate in space or build	likely	3	C	Pollution, breach of legislation, fines, costs due to added disposal/management of material	Approved design Soil and Contamination Management Sub-Plan Acid Sulfate Soil Management Plan Surface Water & Groundwater Management Sub-Plan Dewatering Management Strategy Contamination Remediation Action Plan Permits and Licencing Specialist Contractor(s) including CPESC ERSED Plans Training toolbox and induction Materials Tracking Register	unlikely	3	D	
Not recognising/ improperly treating unexpected finds	Almost certain	3	B	Pollution, breach improperly legislation, fines, incorrect waste disposal, potential cross contamination of stockpiles.	Soils & Contamination Management Sub-Plan Surface Water & Groundwater Management Sub-Plan Acid Sulphate Soils Management Plan Unexpected Finds Procedure for contamination Remediation Action Plan Dewatering Management Strategy Permits and Licencing Specialist Contractor(s) including CPESC ERSED Plans Clear delineation on site and designated storage areas. Training toolbox and induction	unlikely	3	D	
Incorrect classification of waste	Almost certain	4	A	Pollution, breach of legislation, fines	Soils and Contamination Management Sub-Plan Acid Sulfate Soil Management Plan Surface Water & Groundwater Management Sub-Plan Dewatering Management Strategy Remediation Action Plan Permits and Licencing Specialist Contractor(s) including CPESC SEP/ERSED Plans Training toolbox and induction	unlikely	4	C	
Incorrect disposal of waste	Almost certain	4	A	Pollution, breach of legislation, fines	Waste & Resource Recovery Management Sub-Plan Waste disposal site approval process Waste tracking register Soils and Contamination Management Sub-Plan Dewatering Management Strategy Remediation Action Plan Permits and Licencing Acid Sulfate Soil Management Plan Specialist Contractor(s) including CPESC ERSED Plans Training toolbox and induction Unexpected Finds Protocol for Contamination	unlikely	4	C	

Sedimentation of local and downstream watercourses and water bodies	likely	3	C	Pollution, breach of legislation, fines	Soil and Contaminatin Management Sub-Plan Surface Water & Groundwater Management Sub-Plan Surface water monitoring program Groundwater monitoring program Dewatering Management Strategy Acid Sulfate Soil Management Plan Remediation Action Plan Installation and maintenance of controls Construction planning Develop and implement Erosion and Sediment Control Plans (ESCPs) prior to works commencing. Delineate areas to be retained or cleared. Stabilise exposed areas and stockpiles. Diversion of water to sediment basins (where applicable). Treat and test basins prior to discharge.	unlikely	3	D	
Impacts to water quality due to disturbance of actual or potential acid sulphate soils	possible	4	C	Pollution, breach of legislation, fines	Soils and Contamination Management Sub-Plan Acid Sulfate Soil Management Plan SEP / ERSED plans Construction planning and methodology Installation and maintenance of controls.	unlikely	4	C	
Impacts on surface water from spills or leaks from construction plant and equipment.	Almost certain	2	C	Pollution, breach of legislation, fines	Soils and Contamination Management Sub-Plan Surface Water & Groundwater Management Sub-Plan Spill Kits / training Plant Pre-Acceptance Maintenance Records Daily pre-starts on plant/equipment to be used.	likely	2	D	
Impairment or modification of existing drainage infrastructure	likely	3	C	Change in overland flow paths and flood regimes	Soil and Contamination Management Sub-Plan Surface Water & Groundwater Management Sub-Plan Dewatering Management Strategy Flood Mitigation Strategy and modelling (and/or review existing modelling undertaken) Hydrologic and hydraulic assessment (and/or review existing assessments undertaken) Urban Design and Landscape Plan Consultation with relevant councils re drainage designs and systems.	unlikely	3	D	
Changes to impervious areas and/or the catchment area of existing drainage infrastructure,	Almost certain	2	C	reduction in floodplain storage, impacted water quality	Soil and Contamination Management Sub-Plan Surface Water & Groundwater Management Sub-Plan Flood Mitigation Strategy and modelling (and/or review existing modelling undertaken) Hydrologic and hydraulic assessment (and/or review existing assessments undertaken)	unlikely	2	E	
Dewatering activities resulting in drawdown of the groundwater table, impacts to subsurface flow and potential settlement / stability of nearby structures (trenchless crossings for pipelines). Impacts on existing groundwater well.	possible	3	C	Nearby ground formation and structures potentially impacted. Ecological impacts to due change in subflow.	Surface Water & Groundwater Management Sub-Plan Groundwater monitoring program Dewatering Management Strategy Biodiversity Management Sub-Plan Acid Sulfate Soil Management Sub-Plan Licencing and Permit processes Modelling (and/or review of existing modelling undertaken as part of the EIS).	unlikely	3	D	

Direct physical impacts to items listed on the State Heritage Register	Almost certain	4	A	Delays in approval to recommence. Additional measures, archaeological salvage, DPE approvals, irreversible damage	Heritage Management Sub-Plan Noise and Vibration Management Sub-Plan Noise and vibration monitoring program (where physical impacts to heritage structures/fabric potentially arise from vibration and/or ground-bourne noise) Photographic Archival Recording report Heritage Report (E35) EWMS / SEP Physical delineation, including fencing / barriers Training and awareness, including induction (and specifically content for artefact find). Specialist consultant Sympathetic design Heritage Interpretation Plan as per NSW Heritage manual and guidelines Sensitive Area Plans to include heritage sites and briefed to site teams. Unexpected Finds Protocol to be followed should potential Heritage items be uncovered.	unlikely	4	C	
Direct (physical) impacts on other heritage items	Almost certain	4	A	Prosecutions, infringements, Permanent damage/harm to items of significance	Heritage Management Sub-Plan Noise and Vibration Management Sub-Plan Noise and vibration monitoring program (where physical impacts to heritage structures/fabric potentially arise from vibration and/or ground-bourne noise)Photographic Archival Recording report Heritage Report (E35) Heritage Interpretation as per NSW Heritage manual and guidelines Sensitive Area Plans to include heritage sites and briefed to site teams. Unexpected finds to be followed should potential Heritage items be uncovered. EWMS / SEP Physical delineation, including fencing / barriers Training and awareness, including inductions (and specifically content for artefact find).	unlikely	4	C	
Impacts to the fabric of items as a result of vibration generated by construction in the vicinity of the item	possible	2	D	damage to property, complaints, regulator involvement,	Heritage Management Sub-Plan Noise and Vibration Management Sub-Plan Noise and vibration monitoring program (where physical impacts to heritage structures/fabric potentially arise from vibration and/or ground-bourne noise) Photographic Archival Recording report Heritage Report (E35) EWMS / SEP Physical delineation, including fencing / barriers Training and awareness, including inductions.	unlikely	2	E	
Impacts on the identified areas of archaeological potential	Almost certain	3	B	Prosecutions, infringements, Permanent damage/harm to items of significance	Heritage Management Sub-Plan Heritage Interpretation Plan Aboriginal Cultural Heritage Assessment (Appendix O of the EIS) Archaeological excavations and salvage Physical delineation, including fencing / barriers Training and awareness, including inductions. Detailed design to consider avoiding areas as identified. Stakeholder consultation.	unlikely	3	D	
Disturbance of any previously undiscovered items of Aboriginal heritage significance	possible	2	D	Delays in approval to recommence. Additional measures, archaeological salvage, OEH approvals, irreversible damage	Heritage Management Sub-Plan Unexpected Finds Protocol Archaeological excavations and salvage Physical delineation, including fencing / barriers Training and awareness, including inductions Stakeholder consultation.	unlikely	2	E	

Reduced water quality down stream from clearing activities	likely	4	B	Injury to flora and fauna, Delays, DPE investigation, fines, prosecutions	Biodiversity Management Sub-Plan Soil & Contamination Management Sub-Plan Urban Design and Landscape Plan Rehabilitation Management Plan EWMS/clearing permit ESCP/SEP.	unlikely	4	C	
Impacts on foraging habitat for threatened species	likely	3	C	Damage to flora communities, Delays, investigation, fines,	Biodiversity Management Sub-Plan Urban Design and Landscape Plan Rehabilitation Management Plan Delineation and Fencing Training and awareness, including induction.	possible	2	D	
Clearing greater than design allowances (although still approved project boundaries) Impacts to native vegetation from earthworks and clearing	possible	2	D	Prosecutions, fines, damage to flora communities and habitat for fauna	Biodiversity Management Sub-Plan Urban Design and Landscape Plan Rehabilitation Management Plan Soil and Contamination Management Plan Delineation and Fencing - TPZ's Training and awareness, including induction Replant native vegetation as soon as possible Reuse of vegetation as mulch Pre-clearing surveys to be undertaken by an ecologist Habitat areas to be protected to be clearly demarcated as no go zones with fencing Clearing flagging to be maintained through to works completion Sensitive Area Plans and Environmental Work Method Statements to be briefed to site staff highlighting protected areas, clearing limits, habitat trees etc. Clearing permits to be issued prior to any clearing activity.	unlikely	2	E	
Loss of fauna habitat, fragmentation and loss of connectivity	possible	3	C	Further assessment required, physical impact to species, DPE delay in management measures once identified	Biodiversity Management Sub-Plan Urban Design and Landscape Plan Rehabilitation Management Plan Soil and Contamination anagement Plan Training and awareness, including induction Minimise vegetation clearance Replant native vegetation as soon as possible Reuse of vegetation as mulch Pre-clearing surveys to be undertaken by an ecologist Habitat areas to be protected to be clearly demarcated as no go zones with fencing Clearing flagging to be maintained through to works completion Sensitive Area Plans and Environmental Work Method Statements to be briefed to site staff highlighting protected areas, clearing limits, habitat trees etc. Clearing permits to be issued prior to any clearing activity.	unlikely	3	D	
Significant impacts to threatened flora species and/or communities	Almost certain	3	B	Delays, OEH investigation, fines, prosecutions, physical loss of fauna species	Biodiversity Management Sub-Plan Urban Design and Landscape Plan Rehabilitation Management Plan Pre-clearance inspection of site Delineation and Fencing Training and awareness, including induction.	unlikely	3	D	

Mortality of fauna during construction	possible	3	C	Delays, OEH investigation, fines, prosecutions, physical loss of fauna species	Biodiversity Management Sub-Plan Urban Design and Landscape Plan Rehabilitation Management Plan Pre-clearing surveys to be undertaken by an ecologist, including fauna spotting and retrieval / exclusion and relevant fauna rescue protocols to do so. Delineation and Fencing Training and awareness, including induction.	unlikely	3	D	
Fauna Interaction	possible	4	C	Injury or mortality of fauna	Crew to be fully briefed on stop work protocol and the Fauna if unexpected fauna is encountered. Should injured marine fauna be encountered, local marine wildlife care groups and/or local veterinarians are to be contacted and arrangements made for the welfare of the animal. NSW DPI (Fisheries) will be immediately notified of any fish kills in the vicinity of the works.	possible	2	D	
Unsuccessful rehabilitation of works	likely	3	C	Rework, delays	Biodiversity Management Sub-Plan Rehabilitation Management Plan Soil and Contamination Management Sub-Plan Preferenial reuse of topsoil and/or mulch removed from earthworks and clearing to be used in rehabilitation (where appropriate). Do not use contaminated soils in rehabilitation. Complete landscaping as per landscaping deliverables and seek opportunity to introduce native vegetation. Undertake progressive rehabilitation.	rare/remote	3	D	
Erosion of exposed soil and stockpiled materials	Almost certain	3	B	Environmental harm, prosecution, rework and delays	Air Quality Management Plan Soil and Contamination Management Sub-Plan Surface Water & Groundwater Management Sub-Plan Rehabilitation Management Plan Acid Sulphate Soil Management Plan Remediation Action Plan Erosion and Sediment Control Plans CPESC Specialist	likely	2	D	
Exposure of soil with acid sulphate risk (near Prospect Creek)	likely	3	C	Environmental harm, prosecution	Soil and Contamination Management Sub-Plan Acid Sulphate Soil Management Sub-Plan Air Quality Management Sub-Plan Surface Water & Groundwater Management Sub-Plan Erosion and Sediment Control Plans CPESC Specialist Geotechnical and DSI reports and excavation permits.	likely	1	D	
Hazardous materials exposure risk across both plant and pipeline, however, particularly relevant to buildings and former structures at the AWRC site.	Almost certain	3	B	Environmental harm, prosecution, delays	Soil and Contamination Management Sub-Plan Asbestos Management Plan Destructive hazardous materials survey Air Quality Management Sub-Plan Waste and Resource Recovery Management Sub-Plan SEP Geotechnical and DSI reports and excavation permits.	possible	1	E	

Inappropriate management of waste generated during construction resulting in excessive waste being directed to landfill.	likely	3	C	Cost, loss of reuse potential and impact to sustainability outcomes for the project (ISC rating)	Waste and Resource Recovery Management Sub-Plan Dewatering Management Strategy Acid Sulfate Soil Management Plan Sustainability Management Plan Maximise reuse/recycle of waste Consider use of recycled materials in construction process such as recycled concrete. Maximise reuse of waste on site and minimise waste to landfill Ensure all waste is considered and tabulated in a waste register and segregate waste wherever possible and removed to licensed waste contractor. Use licensed contractors to remove waste and investigate options for onsite reuse and recycling e.g. use of vegetation as mulch, reuse of spoil. Undertake site inspections to ensure that waste is disposed into correct skips and inspections of waste carriers to ensure that they are following their duty of care. Waste to leave site to a facility licensed to accept it only or with an approved Section 143 notice.	unlikely	3	D	
Inappropriate management of waste during construction and operation resulting in environmental, health and amenity impacts, including contamination, water quality impacts, odour and dust, attraction of birds under flight path	likely	3	C	Pollution, breach of legislation, fines,	Waste and Resource Recovery Management Sub-Plan Dewatering Management Strategy Soils and Contamination Management Sub-Plan Surface Water and Groundwater Management Sub-Plan Acid Sulfate Soil Management Plan Air Quality Management Sub-Plan Sustainability Management Plan Unexpected Finds Protocol Designated space for unexpected waste stockpiling	unlikely	3	D	
Sustainability, including Climate change and GHG									
Hazard, potential consequences and mitigation strategies related to the Sustainability discipline, including climate change and greenhouse gas emissions, are detailed in a separate risk register.									
Other									
Light spill from construction site impacting residences/businesses - sleep disturbance etc	Almost certain	4	A	Community complaints, regulator involvement	Construction Environmental Management Plan Lighting Design as per relevant Australia Standard - AS 4282:2019 *Control of the obtrusive effects of outdoor lighting* Evening and night work (including those undertaken as part of an approved OOHW protocol and permit system) to consider potential impact of light spill due to project activities Task lighting and consideration of directional lighting generally, to be prioritised.	possible	2	D	
Inappropriate management of bushfire hazard and risks during construction.	possible	4	C	Environmental harm, prosecution, rework and delays	Measures to manage bushfire hazard and risks during construciton through incorporation in the Construction Environmental Management Plan Early engagemet with relevant stakeholder about bushfire management strategies Relevant exemptions and approvals identified and obtained prior to relevant / impacted work periods (for example during TOBAN).	possible	2	D	
Working within Waterways									

Compliance with working within waterways requirements	likely	5	A	Commencement of work without relevant approval(s) in place; Breach of legislation, Stop work, Warning / caution, fine, etc., Non-compliance.	Works on waterfront land and within watercourses will have regard to guidelines referenced in CoA E114 The Project's CPESC, Geomorphologist and Aquatic Ecologist (where appropriate) will agree to methods of construction of pipelines across waterways. Methodologies will be agreed to in consultation with relevant state and/or local authorities. In the South Creek catchment, controls will also be implemented to meet with the construction phase targets and sediment and erosion control design principles outlined in the Technical Guidance for Achieving Wianamatta South Creek Stormwater Management Targets (DPE, 2022). These will be detailed on ESCPs developed for the area. Appropriate trench/shaft support systems (for example sheet piling) will be identified in areas with higher hydraulic conductivity and storage properties to minimise groundwater drawdown. This includes all areas mapped as Quaternary alluvial sediments/deposits (Mid-Nepean hydrogeological landscape (HGL), Mulgoa HGL, Upper South Creek HGL, Upper South Creek (Variant A) HGL and Moorebank HGL). Methodologies which cover this will be documented in the PESCP and AMS developed for the works.	unlikely	4	C
	possible	2	D	Impacts to Australian Bass migration	All reasonable and practicable measures will be taken to avoid open trenching waterways, particularly in South Creek, between late April and early June, and late October to late December. Instream works and associated methodologies will consider fish passage in consultation with the project ecologist.	unlikely	2	E
Flood preparation	possible	5	B	Inadequate flood planning / preparation causing adverse impacts to waterways stability, aquatic wildlife, surrounding environments	Daily monitoring of Severe Weather Warnings and Detailed Severe Thunderstorm Warnings, weather forecasts and flood alerts, using the Bureau of Meteorology (BoM). There are no formal warning systems for South Creek or Kemps Creek, BoM alerts will be used to provide an indication of heavy rainfall that may lead to flash flooding. Training in flood emergency response will be provided to key personnel including Construction Contractor Superintendent and Foreman / Site Supervisor Activities that may affect existing drainage systems during construction will be planned and carried out so that existing hydraulic capacity of these systems is maintained where practicable Pre-rainfall inspections (of significant rainfall events) including the following tasks: Minimise obstructions within flood prone areas, including stockpiles Relocate stockpiles away from waterways Relocate waste containers, ablution facilities, chemicals and dangerous goods above flood prone areas Identify plant and equipment that can be moved to higher ground Inspect/repair erosion and sediment controls in accordance with the SWGCSP. In the event of potential flood events: Diversion pumps will be removed and relocated to suitable areas.	unlikely	3	D

Operating plant and equipment	likely	4	B	Fuel or oil leak, resulting in soil contaminate and water pollution	Plant to be assessed and approved for use on project prior to start. Plant pre-start to be conducted each day. Refuelling of plant and equipment to take place as far away as possible from waterways including stormwater inlets. Consideration to be given to securing hydraulic hose joints with potential to leak or burst. Regular visual water quality checks for turbid plumes, hydrocarbon spills / slicks will be carried out when working in or near the waterway. All containers on vessels (e.g. drilling fluids, fuel, waste) should be closed and secured to the vessel where possible. Spill kits and containment booms to be readily available at all work areas in or near creeks / waterways and crews trained in their use. Spill response training to be carried out on a regular basis by crews involved. Carry out any refuelling of plant and equipment, chemical storage and decanting at least 50 metres away from aquatic habitats unless otherwise approved; Report all incidents to USC representative immediately	possible	3	C
Access to site	possible	3	C	Impacts on residents and community complaints	Community notification of the works to be distributed prior to commencement. Access via approved access routes only.	unlikely	2	E
Set-up of plant and equipment around waterways	likely	4	B	Frequent movements in and around waterway causing erosion and impacts to riparian zones	Operating equipment on land or from a floating barge to minimise disturbance to the banks and bed of the water body Where possible, temporary crossing structures or other practices to cross watercourses with steep and/or highly erodible banks and beds will be implemented. Whenever possible: equipment will be operated on land or from a floating barge to minimise to the banks and bed of the water body temporary crossing structures or other practices to cross watercourses with steep and/or highly erodible banks and beds will be considered The limiting of machinery fording of the watercourse to a one-time event (i.e. Over and back). Minimise vehicle access within the riparian zone	possible	3	C
Works causing indirect and/or direct impacts to aquatic wildlife	possible	4	C	Mitigating potential impacts to aquatic fauna	A suitably qualified Ecologist will be engaged to assess any potential impacts to aquatic wildlife and will provide input to the mitigation measures and methodology proposed for works within waterways. Refer to 'In-stream Works' within this risk register for controls during works within waterways	possible	2	D

Establish clearing limits	possible	5	B	Avoid over clearing on site or outside of project boundary	Clearing limits will be clearly demarcated with green flagging and no-go signage, as indicated in App G in BCSP – fencing and signage protocol Workforce will be briefed on scope of works and requirements around clearing limits during the induction, toolbox talk and pre-start meetings. Pre-clearance inspection will be done 48 hours before clearing takes place and tree protection zones will be established on retained trees Trees that will be cleared or trimmed will be clearly flagged Vegetation clearing procedure in App A of the BCSP will be implemented including the stage 2 process for hollow bearing trees. SEP will detail locations of clearing and requirements surrounding the works	unlikely	2	E
Inadequate erosion and sediment control	possible	5	B	Onsite water and sediment entering waterways	Erosion and sediment controls will be implemented in accordance with the site ESCP. Progressively stabilise disturbed creeks/ rivers will avoid potential scouring and sedimentation and implement permanent stabilisation measures as soon as practicable; Booms, silt curtains and/or similar will be used by the construction team will contain and capture suspended sediment, during instream works. Prior to open trenching through key fish habitat creeks, all controls as per the ESCP will be installed, this will include silt curtains within creeks prior to clearing the creek embankments. Where replacement rock reinforcement or armouring is required to stabilise eroding or exposed areas, appropriately sized, clean rock will be used; this will be installed at a similar slope to maintain a uniform bank and natural stream alignment A mesh net or similar is will be used at the openings of any instream pumps used to avoid impacting any aquatic fauna. When using an isolated construction method, such as a coffer dam, do not remove the isolation method until all works, including backfilling, contouring and stabilisation, have taken place.	possible	4	C
	possible	3	C	Construction in waterways reducing bank stability	Diversion pump inlets will be floating to ensure no sediment is carried/ accidently drawn in and released. If replacement rock reinforcement or armouring is required to stabilise eroding or exposed areas, appropriately sized, clean rock will be used and the rock will be installed at a similar slope to maintain a uniform bank and natural stream alignment	unlikely	2	E

Timing works with consideration to water levels and flows within waterways	possible	4	C	Limiting erosion within and around creeks and associated sedimentation downstream	The duration and extent of instream work and trenched crossings will be minimised where practical, including prioritising undertaking instream works during periods of low flow and minimising the wet area impacted during these activities. Construct instream crossings during low flows and design so that drainage off the crossing does not contribute to the sediment load of the stream. This will be detailed in the AMS/PESCP. Geofabric, jute matting, clean rock and/or similar methods will be used to stabilise the work area for instream crossings. Consultation with the Projects CPESC and Geomorphologist for agreement on method will take place. Coordination with nearby projects will take place to ensure that any activities (e.g. discharge to waterways) occurring with potential to increase flows will be considered and where necessary, additional controls will be implemented as per the ESCP	possible	9	D
Adverse impacts to existing environments due to incorrect set up of diversion	likely	4	B	Impact to the health of aquatic wildlife	Any fauna capture required within a waterway should take place prior to install of a pump, the task will only be carried out but suitably qualified professionals Prior to commencing instream works, a suitably qualified Ecologist will be present to assess the risk of impact to aquatic wildlife and determine whether any relocation activities will take place. Where a diversion pump is required within a waterway, a mesh screen will be placed on the opening of the pump to avoid impacting any fauna movement within creek	unlikely	3	D
	likely	4	B	Bank erosion outside of immediate work areas due to diversion set up Temporary obstruction and interference with normal drainage channels and subsequent ponding or damming of water upstream.	Diversion pumps will be floating above the bed of the waterway to avoid bed disturbance Channels for any diverted water will be selected with consideration to the existing conditions including assessing the risk of sediment flow, flow rates, existing drainage channels Scour protection will be in place for pump discharge locations as per the ESCP Controls for instream diversions will be depicted on an ESCP and reviewed by the Project CPESC and Geomorphologist.	unlikely	3	D
Management of water	likely	4	B	Dewatering and discharge of contaminated (including sediment-laden) water from excavations or stockpiles, altering pH and water quality and causing potential soil contamination incidents and possible downstream ecological impacts.	NSW DPI will be notified seven days prior to any dewatering activities in order to organise any potential fish rescue activities. No discharge of water from site will occur unless written authorisation has been obtained from the JH Environment Team All dewatering activities will be done in accordance with the Projects dewatering procedure, including meeting requirements for water quality for any approved dewatering activities (USCP-JHG-MPL-ENV-0001) Any construction water which seeps into the work area will be pumped a minimum of 30m away from the waterway to ensure it does not flow into the waterway. Where the water re-enters the waterway, the ANZG (or Wianamatta-South Creek Water Quality Objectives) will be adhered to, as specified in Section 3.2 in the Surface Water Quality Construction Monitoring Program.	unlikely	3	D

Impacts to sensitive environments due to construction works	likely	4	B	Lack of preparation for inclement weather causing overflow of water into active sites, pollution of waters and impacts to biodiversity	Water quality monitoring will be undertaken monthly at Oaky, Cosgrove and South Creek for duration of construction. Where there is a 50% likelihood of greater then 10mm or more of rain in a 24-hour period, a pre-rainfall and post-rainfall inspection will take place to ensure controls are in place and adequate. Monthly water quality testing will take place within Oaky, Cosgrove and South Creek as per the SWGCP. During in-stream works, water quality testing will take place following a substantial rainfall event, defined as greater than 20 millimetres recorded over the course of a 24-hour period. Daily informal observations will be undertaken of the construction work and will be recorded in site diaries in Project Pack Web, as required. General monitoring of construction areas will occur for evidence of adverse impact which may result from construction activities	unlikely	2	E
Clearing and Grubbing in Riparian Areas								
Vegetation clearing	possible	4	C	Over clearing or unauthorised clearing of vegetation	A clearing permit will be prepared and signed by the clearing contractor prior to the commencement of clearing in accordance with the Vegetation Clearing Procedure in Appendix A of the BCSP. Delineate clearing limit with temporary fencing or bunting. When clearing adjacent waterways, a vegetation buffer of 10m will be retained on both banks for the longest duration possible prior to final clearing. Only trees assessed in the EIS boundary and marked to be removed to be cleared in accordance with the Clearing permit. Environmental Manager/ Coordinator will check and ensure temporary fencing is in place Pre-clearing walkthrough with the site supervisor and clearing contractor to confirm clearing limit Habitat trees to be cleared in accordance with the two stage process as detailed in Appendix A of the BCSP Arborists assessing trees will be a Qualified Level 5 Arborist	unlikely	3	D
	possible	4	C	Impacts to waterway during clearing works due to erosion and sediment runoff	Clearing will take place in a two-stage process on the banks of creeks Stage one: Stumps and root balls will be retained with minimal ground disturbance. Stage two: Further controls will be placed in creeks to capture any potential sediment flowing, this may include damming of the creek to restrict flow (particular to open trenching within the riparian zone). Root balls, stumps and groundcover will be removed once controls are placed within creeks. Retain stumps in riparian zones and aquatic habitats, where practicable, to reduce the potential for bank erosion	unlikely	3	D

Introducing and/or spreading noxious weed species	possible	4	C	Spread of priority weeds	Identify and pre-treat priority weeds listed in the pre-clearing reports in accordance with the weed and pathogen management procedure as detailed in Appendix F of the BCSP. Follow all terrestrial biosecurity procedures set out in the above report to ensure the spread of any residual weeds or pathogens is minimised Weeds will be removed and disposed in accordance the pre-clearance report. These will be separated from green waste to ensure they are not mulched and reused on site Check all plant and equipment is free of weeds and seeds prior to demobilisation from site. If any weeds are mulched,- machine to be cleaned out of any weed material prior to mulching of native vegetation	unlikely	3	D
Disturbance of habitat within vegetation	possible	3	C	Impacts to Fauna	Advise WIRES and local vets, prior to commencement of vegetation clearing, to 'be on standby' to receive injured fauna (refer to Appendix C, D and E of the BCSP) Any trees with habitat features identified as per the pre-clearance reports will be identified with blue and white hazard tape on site to distinguish it from other trees to be cleared. This will be done in accordance with the protocol in Appendix G of the BCSP All habitat trees to be cleared are required to be left for a minimum of 24 hrs after the first stage of clearing. A qualified ecologist should be present during the removal and trimming of any habitat tree	unlikely	2	E
Post-Clearing	possible	3	C	Non-compliance with management plan	At the conclusion of clearing, the project ecologist will undertake an inspection to document the area of vegetation cleared The JH Environmental Delegate will close out the relevant clearing permit to ensure post-clearing information has been recorded and closed out.	unlikely	2	E
	possible	3	C	Contamination from stockpiled materials	All weeds will be identified in the pre-clearance report and if stockpiling is required of any high risk weeds or pathogen containing soil, these stockpiles will be clearly marked and separated from native vegetation and other stockpiles Mulch stockpiles for high tannin generating vegetation types (e.g. Melaleuca species) will incorporate an impermeable bund using soil or similar to capture stockpile leachate or tannin impacted water. Bunds will be a minimum of 300 millimetres high. All bunded stockpiles that are planned to be in place for a period longer than 1 month will include a lined discharge point (spillway) for overflow in extreme rainfall events Stockpiles established on sloping sites will have upslope diversion bunds installed to divert stormwater runoff around stockpiles Bunded stockpiles will be inspected within 24 hours of cessation of any rainfall event greater than 10 mm to ensure tannin impacted water does not overflow.	unlikely	3	D

Stockpiling cleared vegetation or soil	likely	4	B	Stockpiled materials impacting surrounding environment due to incorrect placement	Store excavated materials from the trench above the top of the banks until backfilling can occur. Mulch stockpile sites will be established on elevated ground wherever possible Stockpile sites with a storage duration less than 1 month will be established at least 20 metres away from any watercourse, including flood prone areas Stockpile sites with a storage duration of more than 1 month will be established at least 50 metres away from any watercourse, including flood prone areas Fit for purpose diversions of upslope run on water will be installed around mulch stockpiles to prevent water from entering the stockpile site Stockpiles will be arranged to minimise any damage to natural vegetation and trees Mulch stockpiles will be monitored and turned over 6 monthly to avoid spontaneous combustion Where suitable, silt fencing or equivalent measures shall be installed around the perimeter of exposed/disturbed soil stockpiles and at the toe of exposed batters.	unlikely	3	D
	likely	4	B	Tannin leachate from clearing and mulching discharging to near site drainage pathways resulting in eutrophication, altered water pH, reduced available oxygen and visual aesthetic issues	The site will be regularly monitored for the generation of tannins arising from vegetation mulch. Such monitoring will be carried out as part of daily supervisor or weekly environmental inspections Tannin impacted areas can be readily identified visually as dark coloured ponded water. Site staff will be trained to identify and report potential tannin impacts to the site supervisors or environment team Tannin management practices will be reviewed regularly (in line with CEMP revision frequency) to prevent the generation of tannins in identified problem areas; and DPI (Fisheries) (1800 043 536) is to be immediately notified of any fish kills in the vicinity of the works.	unlikely	3	D
RESTORATION OF WATERWAYS / WATERFRONT LAND								

Restoring creeks and riparian zones	possible	4	C	Decreasing ecological value and/or causing bank erodibility as a result of incorrect restoration measures	Restoration works will commence while the creek diversion is in place and within 3 months of completing works within a waterway or waterfront land. Finished creek bed level will match pre-existing levels. Creek bed soil material may be reused during restoration of the creek bed (underlying the jute matt) where feasible. If the material is unsuitable (highly saturated/slurry, highly erodible etc.), other appropriate material will be placed in the creek bed in consultation with the CPESC and geomorphologist. Creek bank to be shaped to an approximate 1:2 slope and to generally tie into the existing conditions. Soil excavated from the creek bank to be reused to reshape/form the creek bank during restoration where the material is deemed suitable. Creek banks to be stabilised with jute matting (min. 470gms). Jute matt to be appropriately secured e.g. pinned down, keyed in at the top of bank. Different sized rock, as recommended by the geomorphologist, will be used to stabilize the creek bed Planting of the creek bank (through the jute matt) to be undertaken. Species and densities are to be in accordance with the Rehabilitation Management Plan (RMP).	unlikely	3	D

Appendix A5 Environmental Policies

JOHN HOLLAND

ENVIRONMENT POLICY

UP FOR THE CHALLENGE OF IMPROVING LIVES

OUR COMMITMENT

To value the natural environment and communities in which we work.

Our goal across all business activities is to use resources efficiently, respond to climate change, prevent pollution, enhance and protect the environment and our heritage.

OUR APPROACH

John Holland's four values of caring, empowering, imaginative and future-focused are the platform for our everyday interactions. We use these values to guide our approach to the environment.

Caring

We care deeply about what we do and how it affects the environment now and for the future by:

- Driving a strong culture to respect the environment across the business in our offices, on our projects and with our joint venture partners.
- Prioritising the environment, the community, sustainable products and resource efficiency in our decision making.
- Providing best practice training and education to our people to build awareness and capability to protect the environment and respect the communities in which we work and live.

Empowering

We gain trust through action by:

- Empowering our people, partners and subcontractors to speak up about how we can better protect and enhance the environment.
- Encouraging participation and collaboration to achieve sound environmental performance and outcomes.
- Driving accountability by ensuring everyone is responsible for valuing and protecting the environment.

Imaginative

We push the boundaries by:

- Focusing on continual learning and improvement by reviewing performance, capturing and sharing lessons learnt and celebrating successes.
- Exploring and introducing new technologies and approaches that minimise impacts on the environment and provide cost effective solutions that are resource efficient.
- Having a transparent critical risk management process that helps us to continuously identify opportunities and improvements to our systems and processes.

Future-focused

We're in it for the long, long term by:

- Exceeding our legislative, customer and other mandatory requirements.
- Establishing and maintaining an effective management system.
- Ensuring our work leaves a positive legacy for the communities we serve and the environments we operate in.

Joe Barr
Chief Executive Officer
January 2020

Environmental Policy

Sydney Water is committed to protect, restore and enhance our natural environment. We deliver world-class essential and sustainable water and wastewater products and services to our city, creating a better life for our customers and communities

Scope

This policy applies to all Sydney Water staff and contractors. It covers all aspects of our business including property acquisitions and disposals; and the planning, construction, operation, maintenance of systems, products and services for water, wastewater, recycled water and stormwater throughout our area of operations.

Objective

We will conduct our operations in compliance with the principles of ecologically sustainable development. We will continually improve our environmental performance until our operations cause no harm to the environment while supporting a thriving, livable and sustainable city.

We are committed to:

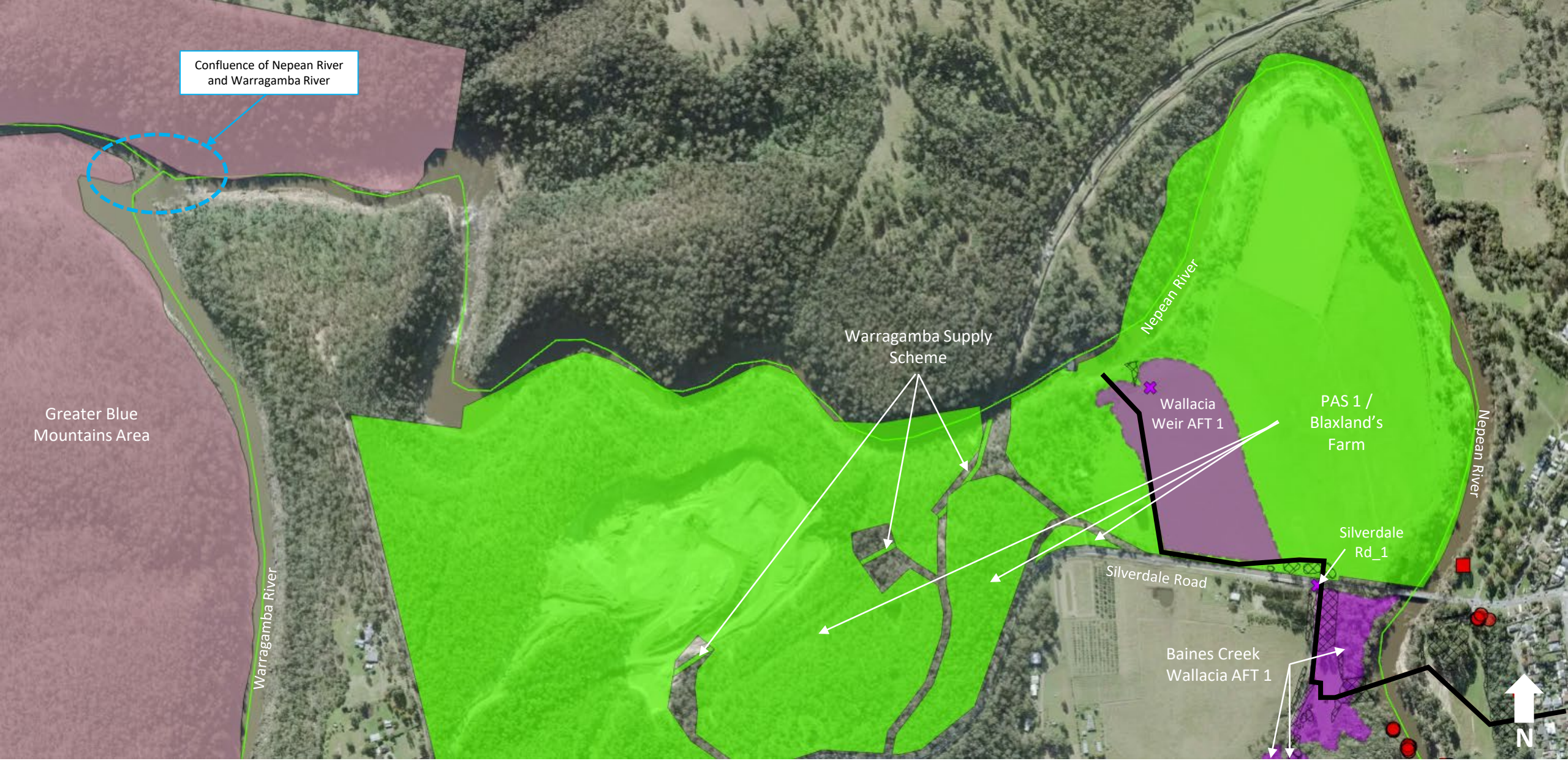
- having no net impact from our discharges to the air, water or land
- maximising resource value and supporting a circular economy by responsibly managing energy, water and materials, and minimising waste creation
- achieving net carbon zero in our operations by 2030 and supply chain by 2040
- managing the entire integrated water cycle
- protecting, restoring, and enhancing our natural and heritage assets
- social responsibility by having at the forefront the wellbeing of the community to improve our overall environmental performance.

We will achieve this by:

- proactively engaging and partnering with stakeholders, customers and community groups to achieve positive environmental outcomes and build their values into our environmental management decisions
- promoting a supportive work culture and embracing behaviours that contribute to sustainable and improved environmental outcomes
- requiring staff and contractors to operate in an environmentally responsible manner and providing environmental awareness and training
- adopting a systematic and integrated risk management approach
- pursuing opportunities that enable our services to be resilient to increasing environmental challenges, including climate extremes
- making decisions (from supply chain to infrastructure and servicing) that are sustainable, socially responsible and contribute to a reduction in carbon emissions
- continually improving our certified ISO14001 Environmental Management System (EMS)
- complying with all applicable legal, contractual and internal environmental obligations.

Roch Cheroux
Managing Director

Appendix A6 Site Environmental Plans



Treated water pipeline alignment

Biodiversity (no-go zone / item)

BC Act TEC

Threatened flora sighting

Threatened fauna sighting

Key fish habitat

Heritage (Aboriginal)

Archaeological site (no-go zone)

Heritage (non-Aboriginal)

Local heritage

Heritage (National Parks & World Heritage)

National Parks and World Heritage areas

Treated water pipeline alignment

Biodiversity (no-go zone / item)

- BC Act TEC
- Threatened fauna sighting
- Threatened flora sighting
- HBT
- Key fish habitat

Heritage (Aboriginal)

- Archaeological site (no-go zone)

Heritage (non-Aboriginal)

- Local heritage

Treated water pipeline alignment

Biodiversity (no-go zone / item)

- BC Act TEC
- Threatened fauna sighting
- HBT
- Key fish habitat

Heritage (non-Aboriginal)

- Local heritage

Treated water pipeline alignment

Biodiversity (no-go zone / item)

BC Act TEC

Threatened flora sighting

Threatened fauna sighting

EPBC Act TEC
Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (CEEC)

Key fish habitat

Treated water pipeline alignment

Biodiversity (no-go zone / item)

BC Act TEC

Key fish habitat

Heritage (non-Aboriginal)

Local heritage

Treated water pipeline alignment

Biodiversity (no-go zone / item)

- BC Act TEC
- Threatened fauna sighting
- HBT
- EPBC Act TEC
  Coastal Swamp Oak Forest (EEC)
- Key fish habitat

Contamination

- Low risk

Treated water pipeline alignment

Biodiversity (no-go zone / item)

- BC Act TEC
- Threatened flora sighting
- Threatened fauna sighting
- HBT

Heritage (Aboriginal)

- Archaeological site (no-go zone)

Heritage (non-Aboriginal)

- Local heritage

Contamination

- Low risk
- Medium risk

Brine pipeline alignment

Treated water pipeline alignment

Biodiversity (no-go zone / item)

BC Act TEC

Threatened fauna sighting

HBT

EPBC Act TEC
Coastal Swamp Oak Forest (EEC)

Key fish habitat

Heritage (Aboriginal)

Archaeological site (no-go zone)

Heritage (non-Aboriginal)

Local heritage

Contamination

Low risk

Medium risk

Brine pipeline alignment
Treated water pipeline alignment
Access road

Biodiversity (no-go zone / item)

BC Act TEC
Threatened flora sighting
Threatened fauna sighting

EPBC Act TEC
Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (CEEC)

EPBC Act TEC
Cooks River/Castlereagh Ironbark Forest (CEEC))

Key fish habitat

Heritage (Aboriginal)

Archaeological site (no-go zone)

Contamination

Low risk
Medium risk

Brine pipeline alignment

Biodiversity (no-go zone / item)

BC Act TEC

EPBC Act TEC
Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (CEEC)

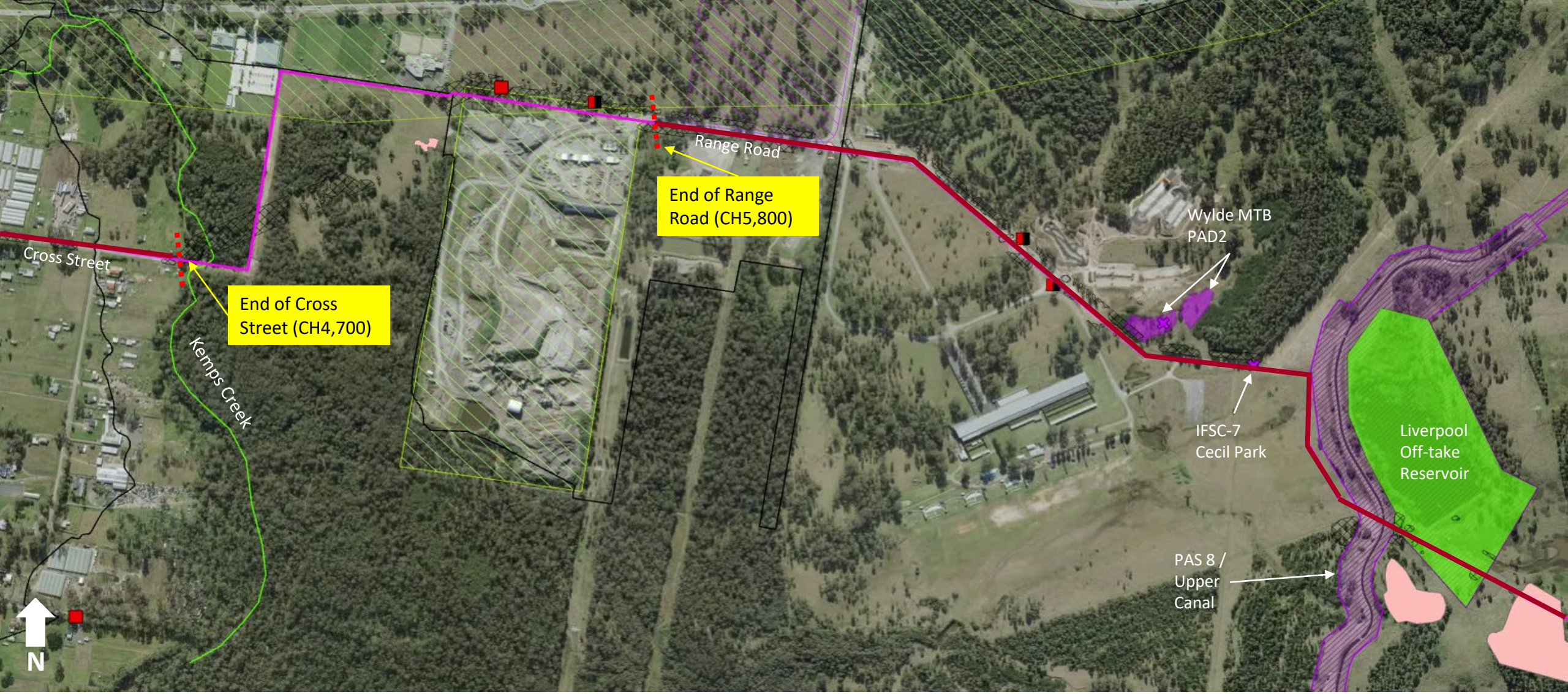
Threatened flora sighting

Threatened fauna sighting

Key fish habitat

Contamination

Low risk



Brine pipeline alignment

Exclusion zone through Plant Pathogen Phytophtorain – **NO-GO ZONE**

Heritage (non-Aboriginal)

State heritage (no-go zone)

Local heritage

Heritage (Aboriginal)

Archaeological site (no-go zone)

Archaeological site location

Biodiversity (no-go zone / item)

BC Act TEC

EPBC Act TEC
Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (CEEC)

RBM 12 red hatched lands

HBT

Key fish habitat

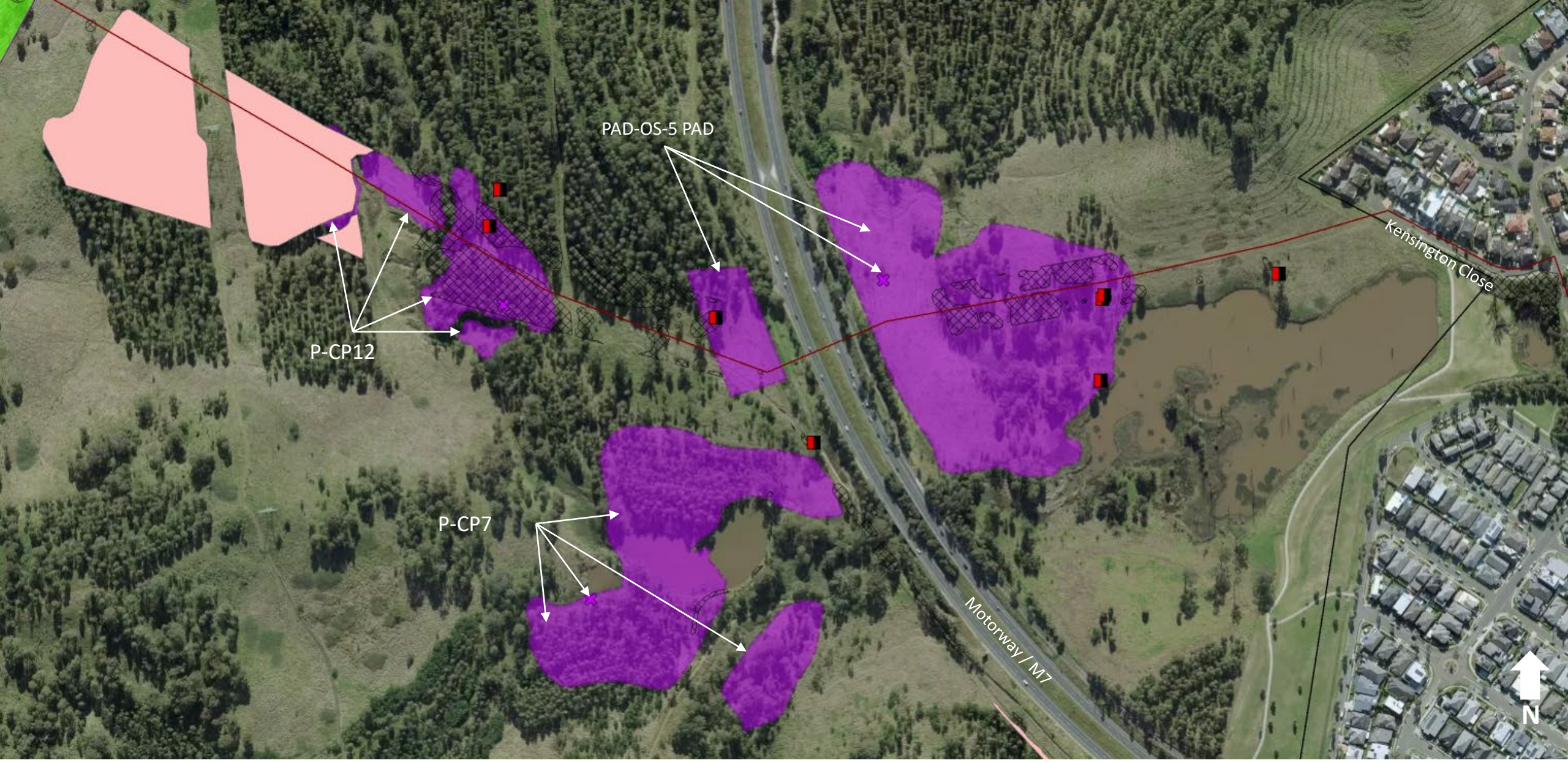
Threatened flora sighting

Threatened fauna sighting

Contamination

Medium risk

Low risk



Brine pipeline alignment

Heritage (Aboriginal)

Archaeological site (no-go zone)

Archaeological site location

Biodiversity (no-go-zone / item)

BC Act TEC

HBT

EPBC Act TEC
Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (CEEC)

Brine pipeline alignment

Biodiversity (no-go zone / item)

BC Act TEC

Key fish habitat

Heritage (Aboriginal)

Archaeological site location

Brine pipeline alignment

Biodiversity (no-go zone / item)

BC Act TEC

Contamination

Medium risk

Biodiversity (no-go zone / item)

Brine pipeline alignment

BC Act TEC

Key fish habitat

Brine pipeline alignment

Contamination

Medium risk

Biodiversity (no-go zone / item)

BC Act TEC

Key fish habitat

Brine pipeline alignment

Biodiversity (no-go zone / item)

Key fish habitat

Heritage (non-Aboriginal)

Brine pipeline alignment

Brine pipeline alignment (via underbore)

Local heritage

Brine pipeline alignment

Biodiversity (no-go zone / item)

Key fish habitat

Contamination

Medium risk

Brine pipeline alignment

Biodiversity (no-go zone / item)

BC Act TEC

EPBC Act TEC
Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (CEEC)

HBT

Threatened flora sighting

Heritage (non-Aboriginal)

Local heritage

Appendix A7 Incident Management

Incident and Event Management

Scope: This procedure describes the incident notification, management, investigation and reporting of events for all John Holland workplaces

Procedure No: JH-MPR-SQE-010 **Process Owner:** Martin Smith **SME:** Melissa Davies

Key Responsibilities

GM HSE

- For Class 1A incidents – select an investigation team, notify the OFSC of notifiable events and approve ICAM reports

Business Unit EGM

- Take an active role in all Class 1A and 1P incidents and ensure adequate resources are available to appropriately investigate the incidents

Business Unit HSE Managers

- Ensure notifiable incidents are reported to the relevant authorities.
- Review and approve ICAM and Root Cause Analyses for Class 1P events

Workplace Manager

- Plan for the emergency response of incidents
- Notify the Business Unit EGM of any Class 1 incidents.
- Ensure all incidents are recorded and closed out in Soteria

Workforce

- Notify the Supervisor immediately of all incidents

Procedure Steps

Steps	Description	Accountable	Supporting Info
1	Ensure all workplace staff and employees are familiar with incident notification and investigation requirements	Workplace Manager	Section 8 Manage the Incident Section 6 Incident Notification & Reporting Matrix Section 11 Incident Investigation and Approvals Matrix
2	Identify and plan for and ensure capability to launch an effective Emergency Response for all serious incidents that have potential to occur in the workplace	Workplace Manager	Section 8 Manage the Incident Section 7 Incident Management Process Map Incident Investigation Training Handout Appendix Incident Investigation Training ICAM Appendix
3	Record the client and Regulatory Authority notification requirements in the Workplace Safety Management Plan (WSMP) & Environment Management Plan (EMP)	Workplace Manager	Workplace Safety Management Plan (WSMP) Environment Management Plan (EMP)

4	Notify the supervisor immediately of all incidents (e.g. people injury, near miss, unsafe act/condition, property damage, rail safety or environmental damage)	Worker	Section 6 Incident Notification & Reporting Matrix
5	Determine the event classification (event type and actual and potential outcome) in consultation with the Business Unit and Workplace HSE teams	Workplace Manager	Section 7 Incident Management Process Map Section 1 of Performance Statistics -Safety, Quality & Environment Procedure Section 1 Incident & Event Reporting Definitions Section 2 Environment Incident Severity Classification
6	Ensure all Class 1 incidents are immediately notified and escalated up to the COO and Group GM HSE in accordance with the Incident Notification and Reporting Matrix by phone call (or text message if no response to call).	Workplace Manager	Section 6 Incident Notification & Reporting Matrix
7	If the event has not been classified as a Class 1A incident, yet has the potential to result in: • serious or actual threat to life, property or environment; • extended business or project disruption; or • serious adverse reputation impacts; Notify the BU EGM and HSE Manager that a Significant Event has occurred and ensure the event is communicated in accordance with the Significant Event Communication Protocol	Workplace Manager	Section 6 Incident Notification & Reporting Matrix Section 1 Incident & Event Reporting Definitions Section 10 Significant Event Communication Protocol
8	In the event of a serious incident, preserve the scene & ensure it is not disturbed until an investigation has taken place (except to rescue an injured person or prevent damage to the environment or prevent escalation of the situation). If the incident is notifiable to a Safety or Environmental Regulatory Authority, the scene must not be disturbed until approval has been given by that Regulatory Authority	Workplace Manager	Section 8 Manage the Incident Section 4 Alteration & Disturbance of a Site Section 6 Incident Notification & Reporting Matrix
9	Notify the Office of the Federal Safety Commissioner (OFSC) of any Class 1A or notifiable WHS incidents within 24 hours of the incident occurring	General Manager HSE	Section 6 Incident Notification & Reporting Matrix
10	Ensure all class 1A or notifiable WHS/Environment incidents are notified to the external authorities within the required timeframe	Business Unit HSE Manager	Section 6 Incident Notification & Reporting Matrix Section 10 Significant Event Communication Protocol

			Section 1 Incident & Event Reporting Definitions
11	Ensure all incidents are recorded in Soteria. Use the Incident Management Process Map to determine whether an ICAM or Root Cause Analysis (5-Whys) is required.	Workplace Manager	Soteria Section 7 Incident Management Process Map Section 11 Incident Investigation and Approvals Matrix
12	For all Class 1A and 1P incidents (not Unsafe Acts or Conditions), attend the workplace where the HSE incident occurred as soon as possible, take an active role in the investigation and ensure adequate resources are available to investigate all 1A and 1P incidents within the required timeframes.	Business Unit EGM	Incident Notification and Investigation Report (ICAM) Form Section 10 Significant Event Communication Protocol Section 1 Incident & Event Reporting Definitions Free Text Incident Cause Analysis Method (ICAM) Report Template Form Root Cause (5 Whys) Analysis Report Template Form
13	Select an investigation team for Class 1A incidents	General Manager HSE	Section 8 Manage the Incident Section 11 Incident Investigation and Approvals Matrix
14	Select an investigation team for all other investigations	Business Unit HSE Manager & EGM OSM/OEM Workplace Manager	Section 11 Incident Investigation and Approvals Matrix Section 8 Manage the Incident Section 3 Sample Investigation Plan Investigation Plan Form
15	Ensure the incident investigation and all associated actions are closed out in Soteria within required timelines	Workplace Manager	Section 11 Incident Investigation and Approvals Matrix Soteria
16	Review and approve Class 1A ICAM Reports	General Manager HSE COO/CEO	Section 11 Incident Investigation and Approvals Matrix Incident Notification and Investigation Report (ICAM) Form

17	Review and approve ICAM and Root Cause Analyses for Class 1P events	Business Unit HSE Manager and EGM	Section 11 Incident Investigation and Approvals Matrix Incident Notification and Investigation Report (ICAM) Form Root Cause (5 Whys) Analysis Report Template Form
18	Review and approve ICAM and Root Cause Analyses for Class 2 events	OSM/OEM Workplace Manager	Section 11 Incident Investigation and Approvals Matrix Incident Notification and Investigation Report (ICAM) Form Root Cause (5 Whys) Analysis Report Template Form
19	Ensure actions arising out of ICAM investigations and Root Cause Analyses are closed out and verified within 14 days of completion of the investigation unless approval has been given by the respective EGM. Apply the Accountable Culture Tool when required	Workplace Manager	Section 8 Manage the Incident Soteria Section 12 Accountable Culture Tool
20	Where an ICAM Investigation has been conducted, a Lessons Learned must be developed within 14 days of completion of the investigation and provided to the General Manager HSE for sharing across the business	Business Unit HSE Manager	Lessons Learned Template Form
21	Periodically review all recent investigations and associated corrective actions to determine any trends across them that need to be shared and addressed across the business	Business Unit HSE Manager	Soteria

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1 Incident and Event Reporting Definitions

Alternate Work Injury (AWI)	An alternate work injury is any work related injury or illness which results in the person being issued with a certificate by a medical practitioner which requires the person to work alternate and/or restricted duties and/or hours of work due to the injury for one full shift or more. Also known as a Restricted Work Injury (RWI). Where a worker is put on alternate work without certification from a medical practitioner, e.g. where a supervisor/manger places the worker on alternate duties for a First Aid injury then the injury is not classed as an AWI. An Alternate Work Injury (AWI) can only be classified as a Class 1 or Class 2 incident depending upon the severity.
Average No. of Workers Engaged	Sum total of full time and part time workers each day divided by the number of days worked. Note that these are calculated separately for John Holland and Contractor workers.
Audits	Formal internal or external audits conducted to a defined standard (e.g., Comcare National Audit Tool, Federal Safety Commissioner Audit, AS/NZS 4801 OHSMS, SafetyMAP, Industry Standard audits, ISO14001, ISO9001 or JHG Audit Tool). These do not include Senior Managers Inspections in accordance with Managing Safety for Senior Leaders Procedure. John Holland maintains certification under both AS/NSW 4801 Occupational Health and Safety Management Systems and AS/NZS ISO 45001 Occupational Health and Safety Management Systems. This arrangement shall remain in place until such time as John Holland completes the transition to full operation under AS/NZS ISO 45001
Client	Entity for which the works are ultimately being performed.
Communication Events	Prestart, Toolbox or other formal communication events conveying WHS, Quality or Environmental information.
Contractor Subcontractors Engaged	The total number of 2nd and 3rd tier subcontractors employed by John Holland contractors in the reporting period.
Days Lost to LTI	Total number of complete working days or shifts lost from work as a result of an injury or disease. Time lost for part-time workers is calculated as for full time workers irrespective of the number of hours usually worked each day or shift.
Days Lost to AWI	Total number of complete working days or shifts where a worker is on alternative duties and unable to perform normal work activities. Refer AWI.
Dangerous Incident	An occurrence at a workplace where there is an immediate and significant risk to any person in or near the worker's work zone and could have caused a fatality or serious personal injury. For example the collapse or over-turning of a scaffold, damage or malfunction of major plant, collapse or failure of an excavation, a building or structure collapse, uncontrollable fire or explosion, the fall or release from height of any plant, object or substance, uncontrolled spillage or leakage of a harmful substance, uncontrolled release of gas, steam or a pressurised substance, electric shock.
Emergency Response Services	May, as appropriate, mean planned internal response, ambulance, fire brigades, state emergency services, hospitals or other specialist groups.
Evaluations	Assessments conducted on WHS, Quality or Environmental processes which do not include Observations, Daily or Weekly Inspections or Audits (e.g., informal or formal evaluations).
Fatality	A fatality is a death resulting from a work injury or illness regardless of the time intervening between injury and death. A fatality is classified as a Class 1A LTI. Note that in terms of industry reporting (refer AS1885), occurrences that result in a fatality should be assigned a time loss of 12 months (220 standard working days).
First Aid Injury (FAI)	An injury that requires first aid treatment only. Such treatment is considered first aid even if it is administered by a Medical Practitioner. The injured employee would typically return immediately to their normal duties. First Aid Injuries include but are not limited to:

	• Use of non-prescription medication and administration of a single-dose treatment using prescription medication on the first visit for a minor injury or discomfort (non-prescription medication can only be used at non-prescription strength); Excluding prescriptions for low-dose (<30mg) codeine • Administering vaccinations or other immunisations proactively prior to any symptoms or signs of infection or disease e.g. Tetanus • Cleaning, flushing or soaking wounds on the surface of the skin • Using wound coverings such as bandages, Band-Aids™, gauze pads, etc.; or using butterfly bandages, Steri-Strips™ or surgical glue (other wound closing devices such as sutures, staples, etc. are considered medical treatment) • Using hot or cold therapy • Using any non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc. (devices with rigid stays or other systems designed to immobilize parts of the body are considered medical treatment for record keeping purposes) • Using temporary immobilization devices while transporting an accident victim (e.g., splints, slings, neck collars, back boards, etc.) • Drilling of a finger or toenail to relieve pressure, or draining fluid from a blister • Using eye patches • Removing foreign bodies from the eye using only irrigation or a cotton swab • Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs or other simple means • Using finger guards • Using massages • Up to two visits to an Allied Health Professional as prescribed by a qualified medical practitioner • Drinking fluids for relief of heat stress • Visits to a doctor solely for observation, counselling or confirmation of diagnosis without any further medical treatment • Diagnostic procedures such as X-rays (unless the result is positive), laboratory analysis, blood tests, administration of prescription medication used for diagnostic purposes, e.g. eye drops to dilate pupils unless they lead to further medical treatment • Treatment of superficial burns A First Aid Injury can only be classified as a class 3A incident. Classification of class potential is dependent on realistic potential severity of the incident.
Hours Worked	Total number of hours worked by workers in the reporting period. In calculating the total hours worked, any extra hours worked such as additional shifts and overtime must be included. NOTE: For calculating direct worker hours and where hours are not able to be calculated via time sheets, minimum fifty-seven and a half (57.5) hours per person per week or eleven (11.5) hours per person per day will be allocated to calculate total hours worked. Monthly total per person will equate to 249 hours minimum. For calculation of indirect worker hours and where hours are not supplied to John Holland, fifty-seven and a half (57.5) hours per person per week or eleven (11.5) hours per person per day will be allocated to calculate the total hours worked. Monthly total per person will equate to 249 hours. When classifying who falls under the definition of indirect, consideration should be given to those who may visit the worksite but may not be there for the whole shift. A good question to ask is, if an incident occurs on site for this particular individual will this be recorded into our statistics. For example: • A truck delivers a load to the work site; there are 4 deliveries in a day, taking 30 minutes each delivery, which equates to 2 hours for that day. • Driving up to a security guard, obtaining clearance to enter the initial site gate, driving to the delivery point, unloading material and then returning back to security to exit the site. The round trip takes about 1 hour for each delivery which equates to 4 hours for that day). • From the example above the total recordable hours are: 2 + 4 = 6 Business Unit Office Based Hours: Hours worked by personnel located in Business Unit offices are also recorded. Corporate and Business Unit offices, hours are calculated at ten (10) hours per day per

	person (If not calculated via time sheets). This includes all permanent staff, contractors, service providers, consultants, JV partner staff, trades people undertaking maintenance or modification works, visitors and delivery drivers etc. Project personnel (including consultants, other specialist service providers etc.) may on occasions be temporarily based in Business Unit office locations for specific activities/tasks rather than on the project sites. For example, this may include offsite design development and estimating activities for the project. In such circumstances any hours worked must be recorded against the relevant project and not against the Business Unit office.
Incident	Any unplanned event(s) which has the potential to, or has resulted in, personal damage such as physical or psychological injury, illness, disease and/or damage to plant, the environment, materials or our operations and reputation.
Incident Investigation Coordinator	The person appointed by the Workplace Manager to co-ordinate investigation and reporting of Accidents and/or Incidents.
Incident Investigation Team	The Incident Investigation Team may comprise of Workplace Manager, Superintendent, Supervisor, Group and/or Business Unit HSE Managers, Safety Advisor, Rail Safety SME, WH&S Representative and/or external/internal expertise as required.
Initial Investigation	An initial investigation carried out by the supervisor responsible for the person/s and/or area/s where an incident has occurred and is used to determine and document the immediate causes and to determine the risk potential of an incident.
Investigation	A formal investigation process designed to identify the Direct Contributing Factor/s and Root Cause/s of an incident and determine the control measures required to prevent recurrence.
ICAM – Incident Cause Analysis Method	ICAM identified systemic deficiencies, assist investigation teams to identify what really went wrong and ensures recommendations are focused on what needs to be done to prevent recurrence. It is directed towards building 'error-tolerant' defences against future incidents.
Root Cause Analysis (5 Whys)	5 Whys is an iterative question-asking technique used to explore the cause-and-effect relationships underlying a problem.
JHG	John Holland Group Pty Ltd and its subsidiary companies.
Lost Time Injury (LTI)	A lost time injury is a work related injury or illness (physical or psychological) which results in the injured person being certified by a medical practitioner unfit for any duties for one full shift or more after the shift the injury occurred (but not necessarily immediately). A Lost Time Injury (LTI) can only be classified as a Class 1 or Class 2 incident depending upon the severity. Classification of class potential is dependent on realistic potential severity of the incident.
Medical Treatment Injury (MTI)	A medical treatment Injury is a work related injury or illness (physical or psychological), which has not been classified as a Loss Time Injury (LTI) or Alternate Work Injury (AWI), which required treatment beyond first aid. Medical Treatment Injury (MTI) include but is not limited to: • Application of antiseptics during second or subsequent visits to medical personnel. • Treatment of partial or full thickness burns. • Insertion of sutures. • Removal of foreign bodies embedded in eye. • Removal of foreign bodies from a wound if the depth of embedment, size or location complicates the procedure. • Use of prescription medications (except a single dose administered on the first visit for minor injury or discomfort). • Surgical debridement. (Surgical removal of foreign object or suspect tissue from a wound).

	• Positive x-ray diagnosis of fractures (excludes hairline fractures where no treatment and/or stabilisation is required) • Admission to a hospital or equivalent for treatment. Note: the admission has to be based on severity of injury/illness and/or symptoms, not on a hospital's automatic admission protocols • Any work injury that results in a loss of consciousness. • Doctor prescribed visits to an associated health professional (eg. Physiotherapist) of 3 or more visits. • Any injury requiring two visits or more to a Doctor or mental health practitioner. Medical Treatment Injuries can only be classified as actual class 3 incidents. Classification of class potential is dependent on realistic potential severity of the incident.
Near Miss	Any unplanned event which occurs as a result of an uncontrolled release of damaging energy in the workplace that, although not resulting in injury or significant property damage or discharge to the environment, had the potential to do so.
Non Work Related (NWR)	Any injury that occurs for which work is not a material contributing factors, but is reported for the purposes of injury management.
Notifiable Incidents	An Accident or Incident that is required, under legislation (such as Work Health and Safety, Rail Safety National Law and/or Mines Legislation), to be notified within a specific time frame.
Potential	The most realistic outcome that could have potentially resulted from the incident. (This rating must not just simply be taken as the worst case scenario but must be realistic outcome potential)
Business Unit HSE Manager	Business Unit HSE Manager
Register of Injury	Is a record of the injury and initial treatment details as completed by the injured worker and/or treating first aider after treatment or notification of the injury. This document lists information required under the Accident Compensation requirements of each jurisdiction. Refer Incident and Event Management Procedure.
Report Only (RO)	Report Only (RO) incidents incorporates any work related injury which is of such a minor nature that it does not require any treatment or any incident which is not a Near Miss, FAI, MTI, AWI, or LTI, but requires recording and if necessary notification. The Potential Rating will be determined from the investigation (e.g., 1P, 2P or 3P). Corrective/Preventative Actions shall be assigned and recorded. Precautionary non inpatient checks (e.g., X-rays, Ultrasounds, ECG, blood test etc.) are classified as Report only unless treatment provided.
Serious Injury or illness	An injury or illness requiring the person to have immediate treatment as an in-patient in a hospital; or immediate treatment for: • the amputation of any part of his or her body; or a serious head injury; or • a serious eye injury; or a serious burn; or the separation of his or her skin from an underlying tissue (such as de-gloving or scalping); or a spinal injury; or the loss of a bodily function; or • serious lacerations; or • medical treatment within 48 hours of exposure to a substance; and includes any other injury or illness prescribed by the WH&S Regulations.
Significant Event	Events that have the potential to result in: • serious or actual threat to life, property or environment • extended business or project disruption • serious adverse reputation impacts. Such events may escalate in severity over time or be sudden, high impact events. They may be attributed to operational and/or commercial causes, or to events beyond the control of John Holland.

Supervisor	Worker member immediately responsible for supervising the person and/or area.
Uncontrolled release of energy	Hazards are seen as sources of potentially damaging energy which either exist naturally or as a result of humankind's modification. All work activities require the use of energy, when energy becomes uncontrolled it may cause serious injury or major damage. Uncontrolled release of energy examples: • A stationary JH vehicle is hit by a moving truck; the moving truck is the hazard as the kinetic energy from the impact has caused damage to both vehicles. • An object falls from heights and hits a worker; the hazard is the object that hits the worker. • A worker slips on the floor, the worker slipped as the traction of the floor changed causing the person to fall.
Workplace Inspection	Informal and formal WHS, Quality or Environmental inspections. These do not include internal or external audits programs (e.g., Safety Meter or site specific inspection programs).
Quality Related Definition	Refer to Quality Non-conformance & Statistical Definitions.
Event Type	Events are categorised in two ways: 1. a **Hazard** is an Unsafe Act or Unsafe Condition, usually with no associated release of damaging energy 2. an **Incident** which occurs as a result of an uncontrolled release of damaging energy (People Injury, Near Miss, Environmental Harm, Property Damage and Rail Safety)
Event Classification	Event classifications are based on the severity of actual, or the realistic potential for, damage as a direct result of the event.
Classifications include:	
Class 1 (1A)	Class 1 damage can include: a) People Injury Injury that alters the future of an individual permanently; including: • Fatality • LTI that results in disability, for example: – Quadriplegia/paraplegia, – Amputation – Impaired back, Disfigurement, – Psychological disturbance. – Permanent hearing loss – Permanent sight loss – Permanent sensitisation – Permanent respiratory damage or lung function loss – Permanent restricted impairment – Chronic serious conditions/disease (including blood borne pathogenic)/degeneration – Permanent nerve, system and/or organ damage – Permanent loss of control or function of bladder, bowels or sexual organ. "Permanent damage" will be determined by a Medical Practitioner
	b) Environmental **Harm:** Environmental discharges, environmental pollution or degradation which has high severity impacts on the community and/or environment (>3 months), or may have irreversible detrimental long term impacts. **Legal:** Serious breach of Legislation or conditions of an Approval resulting in prosecution and/or significant financial penalties or contractual action against company, Executive Officers or individuals. **Procedural Breach**: Wilful breach of environmental procedures. **Community or Media:** Media attention with national or international coverage; Lobbying of State and/or Federal Governments has potential to result in action against company. **Costs:** >$500,000

	For full details and Severity Classification see Environment Incident Severity Classification
	c) Property Damage Causes or has the potential to cause damage to plant/equipment and/or property greater than $100,000.
	d) Rail Safety Any Category 'A' occurrence as described in Regulation 57 of Rail Safety National Law National Regulations 2012 with an actual outcome or credible potential outcome to result in a fatality, serious personnel injury, running line derailment, running line collision, level crossing accident or other major occurrence which may generate intense public interest, involve significant failure of a safety management system; or; any AS4292.1 Category 'B' occurrence (e.g. level crossing incident, signal passed at danger or irregularity, safe working irregularity or breach, track infrastructure irregularity, fire, explosion, alleged assault, suspected or attempted suicide, alcohol or drugs test irregularity or vandalism) which has the actual outcome or credible potential outcome that is equivalent to a Class 1A or 1P people, environment or plant/equipment or property incident.
Potential Class 1 (1P)	Any event where there was an absence or failure of controls that resulted in a ***Realistic Potential*** for Class 1 classification; regardless of actual severity. For further guidance on assessing and classifying 1P Events, see Incident Management Process Map
Class 2 (2A)	a) People Injury Injury that alters the future of an individual temporarily; for example: • injuries that result in time off work (LTI) for one full shift or more • alternate duties (AWI) for one full shift or more • results in permanent non-disabling injury, e.g. loss of a tip of a finger, permanent practical restrictions to a limb, partially disabled back movements or serious psychological injury.
	b) Environmental **Harm:** Environmental discharges, environmental pollution or degradation which has moderate severity impacts on the community and/or environment (1 to 3 months) but is fully reversible in the long term. **Legal:** Breach of Environment Legislation or conditions of an Approval resulting in Regulatory action in the form of one or more Infringements or other penalty notices, suspension or cancellation of an Approval, or potential prosecution **Procedural Breach:** Wilful breach of environmental procedures likely to result in 2A consequences, or Inadvertent breach of environmental procedures likely to result in 1P consequences. **Community or Media:** State-wide media attention and/or heightened concern by local community; Lobbying of Regulatory Authorities has potential to result in action against company. **Costs:** $50,000 to <$500,000 For full details and Severity Classification see Environment Incident Severity Classification
	c) Property Damage Causes or has the potential to cause damage to plant/equipment and/or property between $20,000 and $99,000.
	d) Rail Safety Any Category 'B' occurrence as categorised Regulation 57 of Rail Safety National Law National Regulations 2012, with an actual outcome or credible potential outcome that is equivalent to a Class 2A or 2P people, environment or plant/equipment or property incident.
Potential Class 2 (2P)	Any incident that had the ***Realistic Potential*** to cause Class 2 damage. Actual classification cannot be greater than 2A. This includes events where the Potential for Class 1 damage was determined to be Worst Case only (e.g. where effective controls prevented realistic potential for Class 1 Damage).

Class 3 (3A)	a) People Injury Injury that causes or that has realistic potential to cause temporary inconvenience and/or alternate duties for less than one full shift, such as minor cuts or sprains (MTI or FAI)
	b) Environmental **Harm:** Environmental discharges, environmental pollution or degradation which has low severity impacts on the community and environment in the short term (<1 month) and is fully reversible with no residual impacts. Includes nuisance level impacts. **Legal**: Minor non-compliance or non-conformance with Legislation or conditions of an Approval that does not result in formal Regulatory action. **Procedural Breach:** Inadvertent breach of environmental procedures likely to result in 2P or 3P consequences. **Community or Media:** Public concern restricted to isolated or repeated local complaints and/or articles in local papers. **Costs:** <$50,000 For full details and Severity Classification see Incident Notification Report
	c) Property Damage Causes or has the potential to cause damage to plant/equipment and/or property less than $20,000.
	d) Rail Safety Any Category 'A' or 'B' occurrence as categorised in Regulation 57 of Rail Safety National Law National Regulations 2012 with an actual outcome or credible potential outcome that is equivalent to a Class 3A or 3P people, environment or plant/equipment or property incident.
Potential Class 3 (3P)	Any incident that had the Potential to cause Class 3 damage. Actual classification cannot be greater than 3A.

2 Environment Incident Severity Classification

Classify according to the most severe outcome

Outcome	Report Only	Class 3	Class 2	Class 1
Cost (1)		up to $50,000	$50,000 to <$500,000	more than $500,000
Reputation		Public concern restricted to substantiated local complaint(s) or article(s) in local papers which is directly related to John Holland activities	State wide media attention directly related to John Holland Lobbying of State regulatory authority(ies) has potential to result in action against John Holland	National or international media attention directly related to John Holland Lobbying of federal or international authority(ies) has potential to result in action against John Holland
Legal		Minor non-compliance or non-conformance with Legislation or conditions of an Approval that does not result in formal Regulatory action	Breach [2] of Legislation or conditions of an Approval resulting in Regulatory action in the form of one or more Infringements, fines or other penalty notices, suspension or cancellation of an Approval, or potential prosecution	Serious breach[2] of Legislation or conditions of an Approval resulting in prosecution and/or significant financial penalties or contractual action against company, Executive Officers, or individuals
Environment	Refer to the Environment Impact Severity table			

1. **Cost**: includes the expenditure of all materials, labour, plant, disposal, consultants, etc. directly related to that incident but does not include the cost of any lost production in the period or any fines or any infringements occurred
2. **Breach**- includes any non-compliance with legislation or conditions of an environmental approval or licence that results in formal regulatory action (such as improvement notice, penalties or prosecution against the company. For clarity, a breach does not include minor non-compliances with legislation or conditions of an environmental approval or licence that do not result in regulatory action.

Environment Impact Type		Report Only Pollution or degradation which is not related to John Holland operations	Class 3 Pollution or degradation which has low severity impacts on the community and/or environment in the short-term (< 1 month duration) and is fully reversible with no residual impacts.	Class 2 Pollution or degradation which has moderate severity impacts on the community and/or environment (1 - 3 months duration) but is fully reversible with no residual impacts.	Class 1 Pollution or degradation which has high severity impacts on the community and/or environment and may have irreversible residual impacts.
DMR	Dirt and Mud on Roads	Tracking of soil onto roads resulting from an event that are not related to John Holland activities.	Tracking of soil onto local roads requiring minor clean-up: • Exit controls are in place but ineffective (e.g. rumble grids, wheel-washes) • Clean up regime in place by ineffective (e.g. street-sweepers). • Occasional failure by trucks to cover loads in accordance with project requirements	Tracking of soil material onto local roads requiring significant resources for clean-up works. • Exit controls are required but not in place • Clean up regime required but not in place • Repeated failure by trucks to cover loads in accordance with project requirements • Dangerous road surface has potential to result in an accident • Warning letter or investigation by Local Government or State Government Agency	Tracking of soil onto roads resulting in major clean-up works and major delays to arterial traffic. • Accident resulting from dangerous conditions caused by soil tracked from project site or spoil lost from trucks • Local Government or State Government Agency restricts access/egress to site, significantly affecting program
ESC	Erosion and Sediment Control	Failure or lack of erosion and sediment controls resulting in alteration of landscape topography external to John Holland site and not related to John Holland activities	Failure or lack of erosion and sediment controls resulting in one or more of the following: • Minor reversible alteration of landscape topography. • Erosion causing minor offsite impacts that are immediately reversible. • Placement of excavated soil or low toxicity materials in a location where it could potentially result in pollution (3P).	Failure or lack of erosion and sediment controls resulting in one or more of the following: • Significant release of sediment off-site into drains or receiving waters, causing significant impacts that are reversible in less than 3 months. • Freshwater or marine water disruptions (up to 3 months). • Placement of contaminated wastes or medium toxicity materials in a location where it could potentially result in pollution (2P).	Failure or lack of erosion and sediment controls resulting in one or more of the following: • Significant irreversible damage to ecological systems. • Erosion causing major irreversible impacts to surrounding environments. • Major clean-up works requiring significant resources (≥ 3 months). • Placement of high toxicity materials in a drainage line or adjacent to a waterway resulting in prosecution (1P).

ASS	Acid Sulphate Soils	Exposure, lack of containment or poor management of acid sulphate soils external to John Holland site and resulting from an event not related to John Holland activities.	Minor exposure of acid sulphate soils: • Unauthorised entry to known acid sulphate soils site. • Exposure of previously unidentified acid sulphate soils during works e.g. during excavation, clear and grub • Noted failure of protective bunding – no run-off resulting • Localised soil degradation	Exposure, lack of containment or poor management of acid sulphate soils: • Significant downstream ecological impact – small fish kill event, or decreased plant productivity; • Runoff from acid sulphate soils entering water bodies or leaching into groundwater; • Demonstrated short term impact to aquatic habitat • Minor human health effects e.g. odour causing nausea, minor skin irritation Disruption of public recreational activities.	Mismanagement of acid sulphate soils results in high level or catastrophic downstream impacts: • Major ecological damage e.g. significant fish kill incident • Demonstrated long term changes in aquatic habitat • Significant damage to infrastructure • Significant damage to aquatic
CON	Contamination of Land & Groundwater (Inc. spills & contaminated soils)	Spill of ecotoxic or hazardous materials (hydrocarbons, chemicals, effluent, contaminated materials) to land resulting from an event not related to John Holland activities Unexpected find or management of contaminated soil additional to baseline investigation that is not related to John Holland activities	Minor spill of ecotoxic or hazardous materials (hydrocarbons, chemicals, effluent, contaminated materials) to land. • No residual contamination of land; • Spill contained to defined area(s) within site or workplace; • No significant clean-up required other than removal of contaminated material to land farm or approved waste area; • Release of low ecotoxicity substances (refer SDS).	Significant spill of ecotoxic or hazardous materials (hydrocarbons, chemicals, effluent, contaminated materials) to land. Some residual contamination of land; • Spill contained to defined area(s) within site or workplace; • Significant clean-up required over and above removal of contaminated material to land farm or approved waste area; • Release of moderate ecotoxicity substances (refer SDS); • Spill of a volume that must be reported to a regulatory body.	Major spill of ecotoxic or hazardous materials (hydrocarbons, chemicals, effluent, contaminated materials) to land. • Persistent contamination of land; • Residual effects experienced offsite; • Extensive clean-up required; • Release of high ecotoxicity substances (refer SDS);

WAT	Discharges to Surface Waters	Discharge of pollutants to surface water resulting from an event not related to John Holland activities.	Minor pollutant discharge to surface water, no permanent impact on water resources e.g. • Oil spill escapes into offsite stormwater system where it is contained and does not enter a flowing watercourse; • Controlled discharge from sedimentation basin or site drainage system above allowable limits;	Significant and/or persistent discharge to water; or Short-term/localised impact on water resources e.g. • Oil spill escapes into offsite flowing watercourse; • Uncontrolled discharge from sedimentation basin or site drainage system above allowable limits (eg pumping untreated water to receiving waters);	Major and/or multiple discharges of pollutant to water outside site or workplace. Wide spread or long-term impact (=> 3 months) on water resources e.g. • Acid drainage run-off from mining operations; • Tailings dam failure; • Extensive contamination / pollution of waterways or water catchment areas.
NVL	Noise, Vibration & Light Escape	Generation of, noise, vibration, light or odour exceeding documented limits or controls and causing occasional inconvenience or disruption to community and the environment resulting from an event not related to John Holland activities	Unplanned generation of, noise, vibration, light or odour exceeding documented limits or controls and causing occasional inconvenience or disruption to community and the environment e.g. • Occasional unplanned breach of noise, vibration or light criteria at sensitive receivers e.g. concrete pour takes longer than planned. • Substantiated public complaint satisfactorily resolved at project level • 'Please Explain' received from Regulatory Authority satisfactorily, resolved at project level	Generation of, noise, vibration, light or odour causing sustained periods of inconvenience or disruption to community and the environment e.g. • Sustained noise, vibration or light levels causes confirmed impact to sensitive receivers e.g. nesting or roosting birds, hospitals, schools. • Noise, vibration or light levels continuously in excess of set criteria • Vibration causes confirmed minor damage to property. • Regulatory Authority investigation requiring intervention at Business Unit or Group level	Generation of, noise, vibration, light or odour causing severe damage to property outside site or workplace, or the environment or severe disruption to the community e.g. • Noise generated causes damage to hearing and human health; • Vibration causes confirmed substantial damage to property.

AIR	Dust, Odour & Emissions to Air	Discharge of pollutant to atmosphere resulting from an event not related to John Holland activities	Minor discharge of pollutant to atmosphere outside site or workplace or in breach of a documented obligation e.g. • Overfill of cement silo, cement dust release; • Occasional/sporadic exceedences of air quality criteria. • Nuisance dust requiring minimal or no offsite clean-up (eg issue of carwash voucher) • Refrigerant gas accidentally released to the atmosphere	Major or persistent releases of pollutant to atmosphere outside site or workplace or in breach of a documented obligation e.g. • Regular exceedences of air quality criteria. • Nuisance dust levels requiring significant offsite clean-up (eg cleaning of inside of houses) • Odour complaints requiring relocation of material or significant changes to waste, earthworks of stockpile management • Refrigerant gas purposely released to atmosphere	Major or persistent discharge of hazardous pollutant to atmosphere outside site or workplace e.g. • Explosion or leak of hazardous gas; • Possible or actual evacuation of local vicinity; • Continuous exceedence of air quality criteria.
WAS	Waste (solids, liquids, hazardous & non-hazardous classified/ prescribed, etc.) Note: Refer to local dangerous goods legislation for appropriate manifest levels requiring Licences, placarding, etc.	Incorrect storage, transport, treatment or disposal of waste not related to John Holland activities	Unauthorised storage, transport, treatment or disposal of a minor, non-trivial quantity (up to1000 litres, 1000 kg or 1.0 m3) of non-regulated waste in contravention of regulations or project waste management requirements. Examples include: • Disposal of materials in an incorrect waste facility or outside designated area (lay down/landfill areas).	Unauthorised storage, transport, treatment or disposal of a moderate quantity (up to 10,000 litres, 10 tonnes or 10.0 m3) of non-regulated waste, in contravention of regulations or project waste management requirements. Unauthorised storage, transport, treatment or disposal of a minor quantity (refer to legislation) of regulated waste (eg classified, prescribed, hazardous) in contravention of Waste Management Legislation Examples include: • Failure to meet regulatory requirements for environmentally hazardous waste disposal. • Repeated dumping of non-hazardous waste in an incorrect waste facility or outside designated areas.	Unauthorised storage, transport, treatment or disposal of a significant quantity (=> 10,000 litres, 10 tonnes or 10.0 m3) of non-regulated waste, in contravention of regulations or project waste management requirements. Unauthorised storage, transport, treatment or disposal of a significant quantity (refer to legislation) of regulated waste (eg classified, prescribed, hazardous) in contravention of waste management Legislation Examples include: • Reasonable probability of being detrimental to public health.

HER	Aboriginal & European Cultural Heritage	Damage to heritage structures resulting from an event not related to John Holland activities	**European Heritage** • Minor accidental, repairable damage to commonplace structures, or minor infringement of cultural values. **Aboriginal Heritage** • Entering of protected sites	**European Heritage** • Significant damage to registered structures / items of cultural / heritage significance, **Aboriginal Heritage** • Damage to registered sites of significance, to artefacts, or significant infringement of known cultural values / sacred locations.	**European Heritage** • Destruction or irreparable damage to highly valued structures / items / locations of cultural or heritage significance or value. **Aboriginal Heritage** • Destruction or irreparable damage to artefacts, human remains or spiritual overlay.
F&F	Flora & Fauna (inc. weeds & pathogens)	Damage to flora or fauna resulting from an event not related to John Holland activities Introduction or spread of weeds or disease resulting from an event not related to John Holland activities	Minor loss or impact on land or water based flora, fauna & habitat, but no negative effect on the eco-system or habitat. Limited damage to an area of land of no local ecological significance e.g. • Death of a native animal or species, that is not identified as a pest; • Accidental felling of a tree; • Over clearing of an area that is not native bush; • Localised spread of weeds or pathogens material within site.	Medium impact on land or water based flora, fauna and habitat. Short-term impact on eco-system that is of regional significance. Damage that can be remediated e.g. • Partial destruction of native habitat leading to impact on local species numbers or disruption to breeding cycles; • Short-term disruption of protected fauna breeding cycle. • Unapproved clearing of an area of remnant native vegetation/Declared Threatened or Rare flora	Major loss or impact on land or water based flora or fauna. Destruction of ecologically significant habitat that is of national significance. Endangering viability of species, habitat or eco-system. Damage that cannot be remediated without risk of long-term loss e.g. • Unapproved destruction of habitat in a national park or similar; • Death of an animal or species that is in danger of extinction; • Clearing of a protected area of Declared Rare Flora in excess of 100m2, or the destruction of more than 10 individual specimens of DRF • Long term or permanent disruption of protected fauna breeding cycle

RES	Impact on Availability of Resources	Temporary unplanned disruption to the availability of resources to the community or the environment resulting from an event not related to John Holland activities	Operations cause temporary unplanned disruption to the availability of resources to the community or the environment. Minor impact on other energy / natural resource users outside site or workplace. Examples include: • Rehabilitation area disturbed. • Land-use changed without approval from Client or Regulator • Loss of water supply volume to localised minor environment due to continuous moderate leakage from reservoirs, pipelines, tanks, etc.	Operations cause substantial unplanned disruption to the availability of resources to the community or the environment. Significant impact on other energy / natural resource users outside site or workplace. Examples include: • Water usage / de-watering by operations causes loss of pressure or flow to local / adjacent water bores • Disturbance to priority/rare flora • Moderate to major loss of growth medium resources • Unrecoverable loss of stockpiled growth medium (e.g. buried, flood) • Loss of minor water supply volume off-site or continuous loss of supply water volume from non-licensed discharge point.	Operations cause persistent unplanned disruption to the availability of resources to the community or the environment. Exhaustion or serious degradation of natural resources for future use e.g. • Activities cause acid drainage run-off & subsequent deforestation of surrounding land • Operations cause loss of flow in natural watercourses • Continuous loss of supply water volume from non-licensed discharge point, with evidence of supply water contaminatio

3 Sample Investigation Plan

Date and Time of Incident:	03rd August 2014 08:00 am	**Classification of Incident** (e.g., Class 1 LTI)	Class 1 LTI
Brief Description of Incident as Recorded in Soteria	Employee was fitting new electrical general purpose outlet (gpo) to building and suffered a shock. The Employee sustained a significant burn to the hands and was visibly shaken by the incident.		
Investigation Parameters	The investigation will include a review of the TRA/SWMS material and follow up review process, interview injured employed and co-workers, produce a report for the workplace manager to review.		
Names and Contact Details of Relevant People to the Incident (e.g., Injured person, witnesses, Supervisor etc.)	**Name**	**contact details**	**relationship to incident**
	John Citizen	0400 123 456	Injured employee
	Sara Jones	0412 345 678	assistant
	Peter Brown	EXTN 123	WITNESS
	Simon Smith	EXTN 456	leading hand
Names of Investigation Team Composition in accordance with Incident and Event Management	**Lead Incident Investigation Team Leader:** Ian Preston (PM) **Incident Team Members:** • Sam Safety (project Safety Advisor) • Blue Collar (DWG HSR) • Brian Boss (General Manager) (Oversee investigation process) • Ian Senior (HSE Manager)		
Resources Required to Complete Investigation (include external resources if necessary)	Camera: Dictaphone, clipboard, paper, t Tape: scotch tape, tape measure, barrier, mirror, Meter: Noise meter ID tags: Compass Lux meter: Incident Notification and Investigation Report (ICAM) Free Text Incident Cause Analysis Method (ICAM) Report Template Graph Paper, PPE, Interview: Room, Regulations, codes site plans Other		
Materials to be Obtained for Investigation (e.g., parts, papers, people, positions etc.)	• Witness Statements • Project WHS Management Plan (including Project Workplace Risk Assessment – WRA) • SWMS activity was being performed to • SWMS review documentation • Isolation procedure • Photographs of incident location and materials used		

No.	Action Description	Action By Whom	Action By When	Status
1	Take images of affected area. Place on project safety directory.	Sam Safety	By end of shift	

2	Investigation team meeting. Brief HSR on the investigation process.	Ian Preston	First opportunity	
3	Obtain permission to remove 'Do Not Disturb' material from injury location.	Ian Senior	When images are taken of affected area	
4	Determine from affected employees if counselling is required.	Ian Preston	First available opportunity	
5	Ensure all notifications are conducted, documented, and placed on Soteria database (e.g., Comcare, Worksafe Authority, Soteria notification). GM to be briefed on situation.	Sam Safety / Ian Senior	By end of shift.	
7	Get witness statements from Assistant, leading hand, incident Witness and Safety Advisor.	Sam Safety	First opportunity	
8	Get witness statement from injured employee or interview injured employee when able to do so.	Ian Senior	First opportunity	
9	Interview Assistant, Witness and leading hand. Make notes of interview. Use interview question	Sam Safety / Ian Senior	By end of shift	
10	Collate information as indicated in 'Material to be Obtained for Investigation'.	Ian Preston	First opportunity	
11	With all relevant gathered information/material, reconstruct incident and determine critical events, causal factors.	All	No later than end of shift tomorrow.	
12	Investigation team to determine Corrective/Preventative Actions and Follow Up Actions in accordance with Incident and Event Management	All		
13	Document investigation results in accordance with Incident and Event Management	Sam Safety / Ian Senior		
14	Brief GM on investigation findings. GM to sign off on investigation report.	Ian Preston		
15	Ensure all relevant investigation materials are recorded on Soteria (e.g., images, statements, notes etc.).	Sam Safety / Ian Senior		
16	Ensure Comcare / WorkSafe is advised as appropriate.	Ian Senior	As appropriate	

4 Alteration & Disturbance of a Site

4.1 General

John Holland has obligations under the Work Health and Safety Act to ensure that it does not alter or disturb the site of a notifiable incident (as defined) arising out of an activity undertaken by John Holland or another PCBU on a John Holland site.

A notifiable incident means:

(a) the death of a person; or

(b) a serious injury or illness of a person; or

(c) a dangerous incident.

4.2 Before Altering the Site

Before the site of an incident can be altered or disturbed, approval from the Workplace Manager must be sort. Where the incident has been deemed notifiable an investigation of the incident or dangerous occurrence must have been completed by John Holland and the regulator has given permission for the alteration or disturbance of the site. Notifiable Incident examples where non-disturbance provisions apply include examples as follows:

- Fatality, immediate treatment as an in-patient in a hospital; or
- Immediate treatment to a worker or member of the public resulting from the workplace for:
  1. the amputation of any part of his or her body; or
  2. a serious head injury; or
  3. a serious eye injury; or
  4. a serious burn; or
  5. the separation of his or her skin from an underlying tissue (such as degloving or scalping); or
  6. a spinal injury; or
  7. the loss of a bodily function; or
  8. serious lacerations; or
- Medical treatment within 48 hours of exposure to a substance
- People, including workers, being placed in imminent danger from:
  - an uncontrolled escape, spillage or leakage of a substance; or
  - an uncontrolled implosion, explosion or fire; or
  - an uncontrolled escape of gas or steam; or
  - an uncontrolled escape of a pressurised substance; or
  - electric shock; or
  - he fall or release from a height of any plant, substance or thing; or
  - the collapse, overturning, failure or malfunction of, or damage to, any plant that is required to be authorised for use in accordance with the regulations; or
  - the collapse or partial collapse of a structure; or
  - the collapse or failure of an excavation or of any shoring supporting an excavation; or
  - the inrush of water, mud or gas in workings, in an underground excavation or tunnel;
  - the interruption of the main system of ventilation in an underground excavation or tunnel

4.3 WHS Act

The Work Health and Safety Act allows John Holland to alter or disturb the site of a notifiable incident:

- to assist an injured person; or
- to remove a deceased person; or
- that is essential to make the site safe or to minimise the risk of a further notifiable incident; or
- that is associated with a police investigation; or
- for which an inspector or the regulator has given permission.

  Where possible, guidance should be sought by the HSEQ Manager, Group HSEQ Department or directly with the regulator prior to altering or disturbing the site of a notifiable incident.

5 Communicating SQE Events

Notification Type	Purpose of Notification	Notification Criteria *(more than one may apply)*	Authorisation	Requirements	Distribution	Timeframe
Intervention	Interventions are used to disseminate important information and instructions to more than one John Holland workplace, management level, discipline, or business unit.	• An intervention may stem from a single or a series of events (internal or external), and present a significant HSE risk or business continuity issue with potential to have a critical event outcome. • Multiple Business Units can benefit from the intervention; • The intervention is of national significance/impact; • Requires robust actions to be undertaken and detailed responses. • Set timeframe by which actions must be completed and verified. • Feedback/response are to be provided via the communication pathways nominated in the intervention notification • Record keeping is critical	Limited to CEO or COO.	• Must meet the criteria of an Intervention • Need to use FRM-SQE-010-05 SQE Alert Template • Determine if the timing is appropriate (i.e. consider other alerts / events / programs in progress) • Intervention distributed in PDF format only • Corrective actions and instructions assigned through Soteria • Made available on the applicable system	**Distributed by**: CEO, COO or delegate **To:** COO, REGM's, EGM's **Cc'd to:** Group General Manager ,HSE and Business Unit HSE Managers	As Required
Alert	To communicate critical event details. Identify similar circumstances / risks on other JH workplaces. Nominate preventative actions to be taken. Follow up form to be completed.	**John Holland Group** • Event presents serious HSEQ implications. • Incident Investigation findings indicate the need to raise an alert • Multiple Business Units can benefit from the Alert;	Group General HSE Manager or delegate	• Must meet the criteria of an Alert • Must use FRM-SQE-010-05 SQE Alert Template • Determine if the timing is appropriate (i.e. consider other alerts / events / programs in progress)	**Distributed by**: Group General Manager HSE or delegate **To:** Business Unit HSE Managers **Cc'd to:** CEO, COO, BUEGM's, EGM's, HSRs Further distribution to relevant personnel as	Finalised and distributed as soon as enough facts are gathered and verified to inform the alert and actions.

		• The event is of national significance/impact; • Product recall/product or equipment defect which has serious HSEQ, Operational or Financial implications • External Alert which is relevant to John Holland and the source of which has been validated		• Alert distributed in PDF format only • Made available on the Intranet sub-site • Action to respond to the alert is to be assigned in Soteria • Follow up forms completed and recorded (via Soteria or sent to Business Unit HSE Managers	coordinated by Business Unit HSE Managers	
		Business Units • Determined by Business Unit HSE Managers, Business Unit EGM or EGM to be relevant to a Business Unit • Class 1 Incident Investigation findings • The event has occurred more than once. • Product recall/product or equipment defect which has serious SQE, Operational or Financial implications	Business Unit EGM, EGM or Business Unit HSE Managers	• Must meet the criteria of an Alert • Need to use FRM-SQE-010-05 SQE Alert Template • The development and distribution must be controlled through an Region or Business Group numbering system. • Determine if the timing is appropriate (i.e. consider other alerts / events / programs in progress) • Alert distributed in PDF format only • Made available on the applicable SQE sub-site	**Distributed by:** Business Unit HSE Managers **To:** Relevant PM's, HSE Practitioner's, Business Unit or Project personnel **Cc'd to:** Group General Manager HSE, Business Unit HSE Managers, relevant Group, Business Unit and Project personnel, HSRs.	as above
Bulletin	To share lessons learned within one workplace or across John Holland, and raise awareness of current legislative or	**John Holland Group Bulletin** • Determined to be relevant across the business	Group General HSE Manager or delegate	• Bulletins must be raised using FRM-SQE-010-08 HSEQ Bulletin	**Distributed by:** Business Unit HSE Managers **To:** Relevant PM's, HSE Practitioner's, Group,	As required

	system requirements that apply to the event. No corrective actions imposed or response required.			• Bulletins must be identifiable (e.g. raised by, date raised or unique numbering system). • Filed in Lessons Learnt library	Business Unit, or Project personnel **Cc'd to:** GGM HSES, Business Unit HSE Managers, relevant Group, Business Unit and Project personnel, HSRs.	
		Business Unit Bulletin • Determined to be relevant to a Business Unit.	Business Unit EGM, EGM or Business Unit HSE Managers		**Distributed by:** Business Unit HSE Managers **To:** Relevant PM's, HSE Practitioner's, Group, Business Unit and Project personnel **Cc'd to:** Group General Manager HSE, Business Unit HSE Managers, relevant Group, Business Unit and Project personnel, HSRs	
Preliminary event notification (PEN)	To quickly disseminate facts pertaining to a serious (e.g class 1) event. Inform other workplaces / JH senior leaders to gain an understanding of what happened and to inform discussion about further actions.	• Event occurs that requires senior (off project) managers to be aware of the circumstances and current situation.	Business Unit HSE Managers	• Must meet the criteria of a PEN • Use FRM-SQE-010-07 Preliminary Event Notification Template • Created onsite and reviewed by OSM and Business Unit HSE Manager prior to wider dissemination • An Alert may follow once more details are obtained through investigation. • Some immediate actions may be assigned.	**Distributed by:** Business Unit HSE Managers **To:** GGM HSES, Business Unit EGM, EGM, Relevant PM's, Business Unit HSE Managers **Cc'd to:** as required	Distributed before the completion of a formal investigation (within hours of the event / end of shift)

NOTES: The source of any JH HSE notification may be either internal or external (alerts, incidents, product recalls, etc)

6 Event Notification and Reporting Matrix

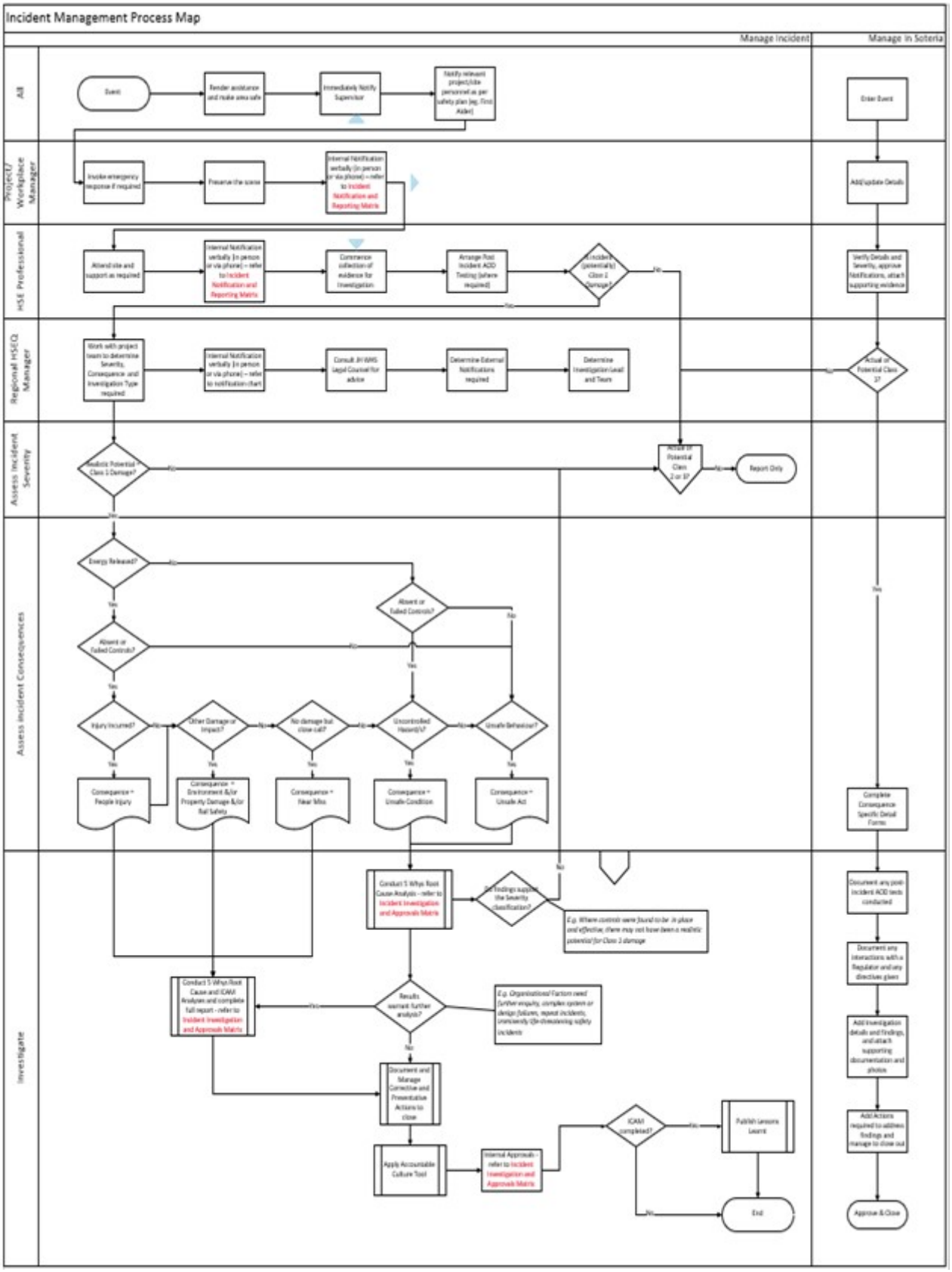
Click here to view the full version

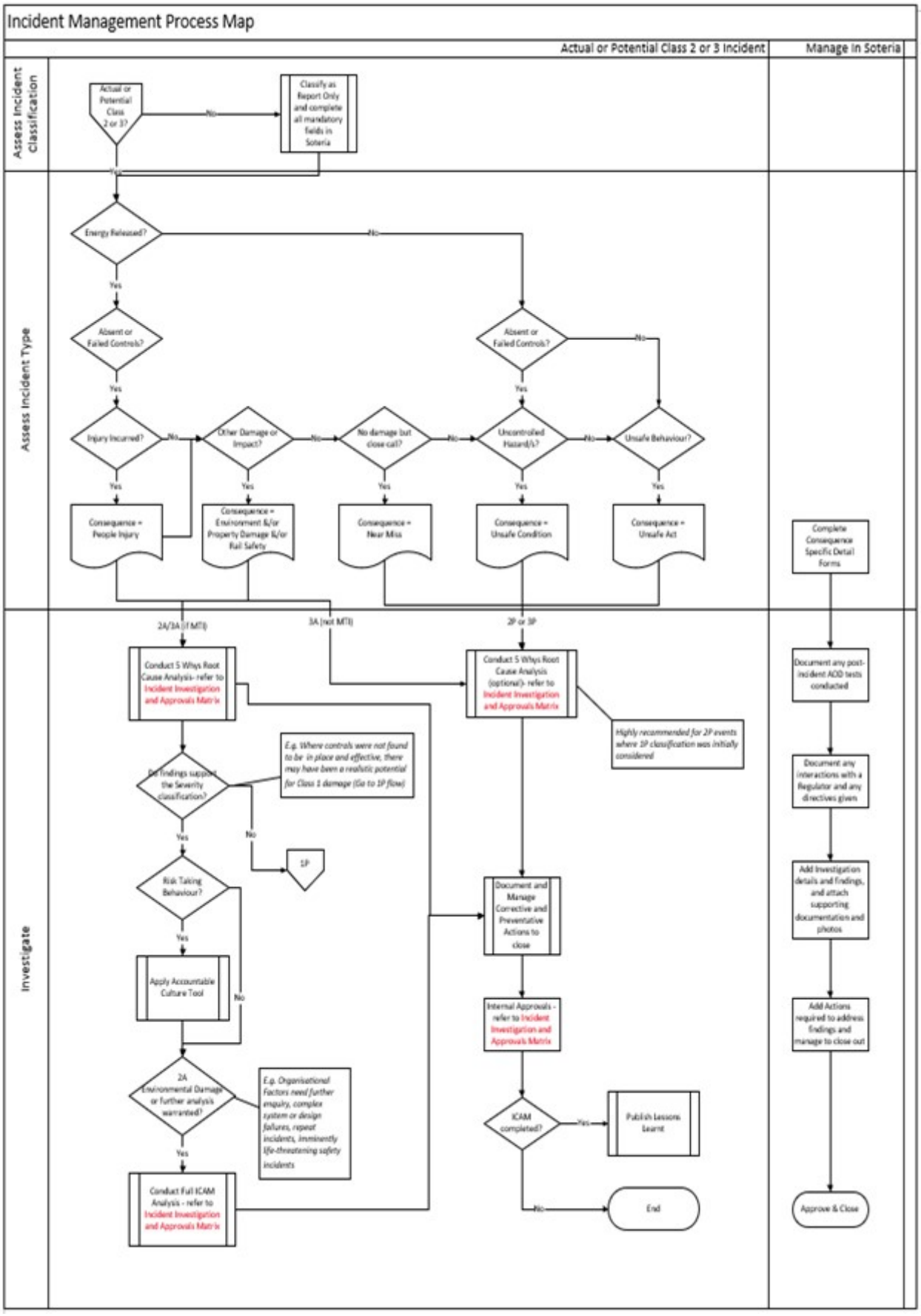
Incident Notification and Reporting Matrix

Responsible	Event Classification (Time Frame)	Project/Site	Region/Business Unit		Group
Rail		Project Rail Safety Mgr.	BU Rail Safety Manager		Group Rail Safety Accreditation Mgr.
Operations	Supervisor	Workplace Manager	Operations Manager	BU EGM	COO/CEO JH WHS Legal
HSC		HSE Manager/ Advisor	OSM/OEM	BU HSC GM	Group General Manager HSC
	Class 1 Actual IMMEDIATELY	Notifies → Who then Notifies	Who then Notifies	Who then Notifies	COO/CEO Group GM HSC JH WHS Legal (Do not consult external Legal firms without explicit advice)
		NOTIFY IMMEDIATELY			
		PEN (Compose and Email to Regional/BU HSC Manager)		PEN (Review and email to GM HSC)	
	Actions	Ensure site is not disturbed Minimise environmental harm	Complete Preliminary Event Notice (PEN) Enter Event details in Soteria and manage to close	External Notifications Review and update event details in Soteria and track to close	EGM to attend site External Notifications	Notify OFSC immediately by phone and report within 48 hours (Group GM HSC)
	Emergency Services Required to Respond (Regardless of Classification)	Notifies → Who then Notifies	Who then Notifies	Who then Notifies	COO/CEO Group GM HSC
		NOTIFY AS SOON AS PRACTICABLE - NO LATER THAN 1 HOUR			
	1P Within 24 Hours	Notifies → Who then Notifies	Who then Notifies	Who then Notifies	Group GM HSC
		NOTIFY AS SOON AS PRACTICABLE - NO LATER THAN 24 HOURS			
		PEN (Email)	PEN (Email)	PEN (Email)	
	Actions	Ensure site is not disturbed Minimise environmental harm	Complete Preliminary Event Notice (PEN) Enter Event details in Soteria and manage to close	External Notifications Review and update event details in Soteria and track to close	EGM (or 2IC) to attend site (if not Unsafe Act / Unsafe Condition) External Notifications	Notify OFSC if Recordable Injury and/or Notifiable Dangerous Occurrence Event (Central HSC team)
	Note: Once notified, any 1P Events that are to be downgraded to a lower classification prior to the completion of the investigation require Regional/BU EGM and GM HSC approval and signoff.				
	2A 2P Within 24 Hours	Notifies → Who then Notifies	Who then Notifies	BU EGM BU HSC GM	
		NOTIFY WITHIN 24 HOURS			
	Actions	Ensure site is not disturbed (if required) Minimise environmental harm	Enter Event details in Soteria and manage to close	External Notifications Review and update event details in Soteria and track to close	External Notifications	Notify OFSC if Recordable Injury and/or Notifiable Dangerous Occurrence Event (Central HSC team)
	3A (MTI only) Within 24 Hours	Notifies → Who then Notifies	Who then Notifies	BU HSC GM (MTI Only)	Notify OFSC if Scheme Project (Central HSC team)
		NOTIFY WITHIN 24 HOURS			
	Actions		Enter Event details in Soteria and manage to close	*Internal Notification (denoted by arrows) should be completed in person or by phone * **External Notifications** - where a prescribed requirement exists to notify a regulatory, enforcement, governing, accrediting or certifying body of the event, condition, disease or exposure. Refer to the respective jurisdiction or regulatory body for confirmation of specific notifiable incident requirements. All Regulator interactions should be recorded in Soteria. Notify clients in accordance with contractural requirements. Each project should prepare and have readily available a list of requirements for external notifications.(Section 1.3 Incident and Event Management Procedure JH-MPR-SQE-010)		
	3A (not MTI), 3P ASAP	Notifies → NOTIFY ASAP	Workplace Manager HSE Manager/ Advisor		
	Actions		Enter Event details in Soteria and manage to close		
	For Actual or Potential Class 1 Events: if a nominated manager is absent or unavailable, notification should be made to their designated second in charge/delegated authority				

7 Incident Management Process Map

Click here to view the Incident management process Map




Incident Management Process Map
Actual or Potential Class 2 or 3 Incident
Manage in Soteria
Assess Incident Classification
Actual or Potential Class 2 or 3?
No
Classify as Report Only and complete all mandatory fields in Soteria
Yes
Assess Incident Type
Energy Released?
No
Yes
Absent or Failed Controls?
Yes
Injury Incurred?
No
Other Damage or Impact?
No
No damage but close call?
No
Absent or Failed Controls?
Yes
No
Uncontrolled Hazard/s?
No
Unsafe Behaviour?
Yes
Consequence = People Injury
Consequence = Environment &/or Property Damage &/or Fail Safety
Consequence = Near Miss
Consequence = Unsafe Condition
Consequence = Unsafe Act
Complete Consequence Specific Detail Forms
Investigate
2A/3A (if MTI)
3A (not MTI)
2P or 3P
Conduct 5 Whys Root Cause Analysis- refer to Incident Investigation and Approvals Matrix
Conduct 5 Whys Root Cause Analysis (optional)- refer to Incident Investigation and Approvals Matrix
Highly recommended for 2P events where 1P classification was initially considered
Do findings support the Severity classification?
E.g. Where controls were not found to be in place and effective, there may have been a realistic potential for Class 1 damage (Go to 1P flow)
Yes
No
1P
Risk Taking Behaviour?
Yes
Apply Accountable Culture Tool
No
2A Environmental Damage or further analysis warranted?
E.g. Organisational Factors need further enquiry, complex system or design failures, repeat incidents, imminently life-threatening safety incidents
Yes
Conduct Full ICAM Analysis - refer to Incident Investigation and Approvals Matrix
Document and Manage Corrective and Preventative Actions to close
Internal Approvals - refer to Incident Investigation and Approvals Matrix
ICAM completed?
Yes
Publish Lessons Learnt
No
End
Document any post-incident AOD tests conducted
Document any interactions with a Regulator and any directives given
Add Investigation details and findings, and attach supporting documentation and photos
Add Actions required to address findings and manage to close out
Approve & Close

8 Manage The Incident

8.1 Incident Management

Incident Management includes but is not limited to;

• HSE/ Rail Safety incidents, and Quality Product non-conformance; and	• Inspections;
• System non-conformances	• Investigative Reviews;
• Audits;	• Management Reviews.

It applies to vendors (subcontractors/suppliers) on JH, joint venture and alliance workplaces in the absence of a satisfactory equivalent alternative.

Plan for an Emergency Response for all incident types.

In the event of an incident the Project/Workplace Manager will ensure:

- Persons and/or environment are immediately protected from further injury or damage.
- Appropriate emergency response and control are initiated in accordance with the site Emergency Response Plan.

Note: The Project specific Emergency Response Plan will include details and instructions to deal with credible emergency scenarios.

8.2 Internal Notifications

Notification of incidents within John Holland

All incidents (e.g. injury, near miss, Unsafe Act/Condition, property damage or environmental damage) must be notified to the relevant Supervisor immediately.

Any injury sustained as a result of a workplace incident is to be recorded on an Injury Register and Notification form or directly entered into the Soteria system. Depending on the incident classification, other John Holland personnel will be notified of incidents within certain timeframes, see Incident Notification Matrix.

The Project Supervisor/Workplace Manager is responsible for notifying relevant John Holland personnel of any incident in their workplace. NOTE: Once a 1A/1P has been entered into Soteria, it will be sent to the relevant Business Unit HSE Manager for review and approval. The Business Unit HSE Manager will review and obtain a final determination and clarification of the incident classification. All classes of incidents will be entered into Soteria, for class 1 & 2 product non-conformances refer to Non-conformance Corrective Action

If a Class 1A (actual) or Class 1P (potential) incident occurs the Project/Workplace Manager, along with the relevant Infrastructure, Building or Rail/Construction Manager is required to report either verbally or in person to the Business Unit Executive General Manager or his delegate within 1 hour of the incident and provide the following details based on the facts known at the time:

1. Why the incident occurred 2. What systems of work were in place prior to the incident? 3. What actions will be taken to prevent any recurrence of the incident? 4. What actions were taken prior to the event to mitigate the incident? 5. What immediate actions were taken to control the incident	NOTE: The Project/Workplace Manager will ensure that all incidents which have resulted in, or have the potential to affect the public and/or cause adverse publicity to John Holland, are reported to the relevant HSEQS Managers within one hour of the incident occurring. Before the investigation report is commenced, any incident which has the potential to result in an infringement notice and/or legal proceedings must be reported to the Group General Manager HSE, HSE Managers and/or Group General Manager Self-Insurance as appropriate.

8.3 External Notifications

Where required, incidents will be reported to the relevant Regulatory Authority and/or client in accordance with the relevant Regulations, State or Territory Authority's legislation and/or client's requirements.

The Workplace Manager will consult with the Business Unit HSE Manager and determine if the relevant regulatory authority needs to be notified, depending on the nature of the incident.

Where a subcontractor is involved in an incident, this must be reported to the relevant State or Territory Authority by the subcontractor nominated person. The subcontractor nominated person must provide a copy of this notification to John Holland.

The relevant Business Unit HSE Manager must ensure that any incident that occurs is reported within the required time frame to the relevant regulator regardless of which operating unit sustained the incident. The Business Unit HSE Manager is also required to notify the relevant lead Infrastructure, Building or Rail/Construction Manager who will report to the appropriate Business Unit Executive General Manager. The Infrastructure, Building or Rail/Construction Manager must also ensure that a copy of the Regulatory Authority notification is attached to the Soteria incident report.

Rail Safety Incidents related to John Holland Accredited Railway Operations that require regulatory notification must be reported through the Rail Group Safety and Accreditation Manager.

8.4 Legal Issues

An incident may result in criminal and civil litigation. External parties may be entitled to request company documents including incident investigation reports. Requests for documents must be referred to Legal Counsel WHS. After an incident has occurred, workers may be questioned by officers/representatives of external parties (e.g. local inspectorates, police) and the following procedural steps must be followed:

- Ask to see some form of identification or authority;
- Consult with the JH Legal Counsel WHS or Group General Manager HSE
- Provide the officer/representative with co-operation and assistance;
- Provide the officer/representative with necessary information, but claim before making statements that such statements may be incriminatory and that you are claiming privilege in respect of any answer you give to questions asked
- Obtain a receipt for items removed from the work place;
- Obtain a receipt for items removed from the work place;

8.5 Incident Classification

Incident classification will be reviewed by the relevant HSE&Q Managers as appropriate to ensure the classification is consistent with the actual incident classification and maximum credible incident potential.

The HSE&Q Managers must review the scope and detail of the investigation to ensure it is in line with the incident classification. This can be done via consultation with the Workplace Manager or relevant Operations HSE Support team.

8.6 Select your Investigation Team

For all Class 1A incidents the Group General Manager HSE will select the investigation team. The relevant Business Unit Executive General Manager must attend the workplace where the HSEQ incident occurred as soon as possible and take an active role in the investigation.

For Class 1P incidents, either the Business Unit Executive General Manager or delegate (e.g. Operations Manager) must attend the workplace and take an active role in the investigation

An investigation team will involve as a minimum, the Supervisor, relevant HSEQ Manager and/or HSE Advisors/Coordinators and an Elected Health and Safety Representative/Committee Member (where practicable) for all incidents classified as Class 1A & 2A. Class 3A or 3P incidents will be investigated by the Supervisor/HSE Advisors/Coordinators.

For Class 1 and 2 NCR investigations, refer to Non-conformance Corrective Action

For conducting investigations at least one investigation team member will have been trained in ICAM incident investigation techniques and John Holland incident management and investigation requirements. This person will take on the role of Investigation Team Leader/facilitator.

It is recognised that an incident may impact Safety, Environment and /or the Quality of the works. The investigation team will comprise HSE personnel dependant on the respective impacts of the incident/event. Quality Representatives are to be included if the quality of the works may have been a contributing factor to the incident or the incident occurred whilst undertaking rework.

8.7 Resources Required to Investigate

It is the responsibility of the Business Unit EGM to ensure adequate competent resources are available to conduct investigations within the required timeframes.

Resources and time allocated for the investigation will be agreed by the Workplace Manager but will not exceed the timings specified in the procedure without approval from the respective EGM.

Resources may include:

- People - for example: specialists, stakeholders, HSRs;
- Equipment - for example: environmental/equipment testing and analysis;
- Time - If reporting timelines cannot be met, timeframes shall be agreed in consultation with the Project/Workplace Manager and HSEQ Manager and Quality Representative (as appropriate) or Rail Safety Manager, and must not exceed the timings specified in the procedure without approval from the respective EGM.

8.8 Develop a Plan

Investigation plans will be developed in line with ICAM Investigation methodologies and include as a minimum:

• Actions required	• Resources required, including people to interview
• Agreed timelines	• Materials/equipment and or physical evidence to be collected
• Responsibilities of team members	• People required to review and sign off the report

It is the responsibility of the Investigation Team Leader, when conducting an incident investigation, to ensure that event sequence and Contributing Factors that led to the incident are identified and documented in a concise and factual manner.

The ICAM methodology is a practical framework for identifying incident causation. The ICAM model comprises of 7 core elements:

1. Immediate Actions	4. Data Organisation
2. Investigation Planning	5. Data Analysis
3. Data Collection	6. Recommendations
	7. Report the Findings

Note: Project SQE Management Plans, and relevant AMS's, TRA, SEP, ITP must be reviewed as part of, or as a result of the investigation. The review may also include recommendations for modifications to those plans, TRA's and AMS's etc.

8.9 Prioritise and Implement Corrective Actions

Corrective actions will be assigned Action Priority Levels to ensure that they are implemented in a timely manner and are based on the application of hazard controls and risk mitigation (See MPR-SQE-006 Managing SQE Risks & Project Risk and Opportunity Rating Matrix). The following Action Priority Levels will be used:

Extreme Risk = Actions must be completed immediately.

High Risk = Short-term action. Must be completed by end of shift

Medium Risk = Medium-term action. Must be completed within 7 days

Low Risk = Long-term action. Completed within 1 to 12 weeks.

The category for Risk as displayed above applies for all actions from 01/01/2018 and not retrospectively.

NOTE – actions arising from Class 1 investigations must be closed out within 14 days of the incident unless longer timeframes are approved.

An action category must also be assigned for each action when entered in Soteria.

Validation Rules for Actions (Note Report Only or N/A are optional)

	Environment	Near Miss	People Injury	Product NCR	System NCR	Property Damage	Rail Safety	Regulator Notice	Unsafe Act or Condition
Class 1									
Action Required	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Action Controller Required	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Investigation Required	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Class 2									
Action Required	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Action Controller Required	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
Investigation Required	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Class 3									
Action Required	Optional	Optional	Optional	Optional	Optional	Optional	Yes	Optional	Optional
Action Controller Required	Optional	Optional	Optional	Optional	Optional	Optional	Yes	Optional	Optional
Investigation Required	Optional	Optional	MTIs	Optional	Optional	Optional	Optional	Optional	Optional

Note: Where an Action Controller has been entered the 'Verification' section must also be completed

8.10 Accountable Culture Tool

In cases where the incident investigation has identified behaviour/s that contributed to, or lessened the severity of an incident, the Workplace Manager will apply the Accountable Culture Tool to identify potential consequences for an individual or team. The HSE&Q Manager and/or Human Resources representative will provide the Workplace Manager with advice and guidance on identifying the behaviour/s and the potential consequences.

8.11 Write and Communicate the Report

Use the Investigation functionality in the Soteria Incident module to document incident investigation findings and analysis.

Other reports, photos, statements, or records may be compiled and attached to this form as required. The investigation findings (causal factors) shall be based on facts.

Where opinion, hearsay, assumptions, or inferences cannot be verified in the investigation, this should be clearly identified as such, and not included in the main body of the incident report.

If the report template is too restrictive, attach additional documentation (appendices and attachments) as required.

Signed copies of all completed Investigation Reports and Injury Registers are kept on file on site and/or at the Business Unit office and uploaded to the Soteria database as an attachment.

All Investigation reports are entered electronically in Soteria. Soteria will produce a .PDF report. This report/register will be treated as a confidential document and as such will only be made available to authorised persons and not be made available to external sources without the approval from the Group General Manager HSE or BU HSE Manager/Rail Safety Manager.

8.12 Investigation Report Sign Off

The Incident Investigation and Approvals Matrix will outline the people required to review and sign off investigation reports. These names and positions will be added to the ICAM report sign off page.

The purpose of this is to confirm each of these people have had an opportunity to review the incident, understand the causes and contributing factors and confirm that the corrective actions, persons responsible and timeframes are appropriate. The investigation report may be signed off prior to the completion and verification of all corrective actions.

Soteria sign off to close event:

Following completion and verification of all corrective actions, the Workplace Manager and Business Unit Executive General Manager (or delegate) must sign off the incident in Soteria.

Prior to signing off, they must be satisfied that:

- All corrective actions have been completed as intended
- The corrective actions are working as intended, and are sustainable
- No further corrective actions are required.

Any further corrective actions which are identified shall be entered into Soteria against the incident.

8.13 Investigation Training and Competency

The Business Unit Executive General Manager will ensure that all necessary resources receive appropriate training to employ incident investigation techniques that deliver effective investigations, identify the causal factors and key organisational learnings. This is ICAM (or equivalent) training and must be arranged through the People Team.

Investigation leaders must successfully complete the ICAM Lead Investigator course before leading a Class 1A/1P or 2A event investigation.

8.14 Communicating SQE Events

The SQE communication process is designed to ensure that details of events that occur in one workplace are communicated to other workplaces so that similar circumstances are identified and actions are taken to prevent a recurrence of a similar event.

To ensure SQE events are communicated promptly and accurately, workplaces are to refer to Communicating SQE Events and the Incident Notification & Reporting Matrix

To distinguish if the communication (specifically alerts) relates to safety, environment or quality the following colour scheme will be used:

- Health and Safety Alerts will be formatted with a Red background

- Environmental Alerts will be formatted with a Green background
- Quality Alerts will be formatted with a Blue background
- All class 1 incident investigation learnings will be delivered via the Lessons Learned template within 28 days of the event date.

The Communicating SQE Event's outlines the requirements that must be used when evaluating and distributing an SQE event communication John Holland wide or within Operations.

9 ICAM Category Coding Reference List

Organisational Factors	Task / Environmental Conditions – Human Factors	Task / Environmental Conditions – Workplace	Individual / Team Actions	Absent / Failed Defences
HW - Hardware TR - Training OR - Organisation CO - CommunicationI G - Incompatible goals PR - Procedures MM - Maintenance Management DE - Design RM - Risk Management MC - Management of Change CM - Contractor Management OC - Organisational Culture RI - Regulatory Influence OL - Organisational Learning VM – Vehicle Management MS – Management Systems	HF1 – Complacency/Motivation / Desensitisation to hazard HF2 – Drugs/Alcohol Influence HF3 – Familiarity with Task HF4 – Fatigue HF5 – Situational Awareness HF6 – Time/Productivity Pressures HF7 – Peer Pressure/Supervisory Example HF8 – Physical Capabilities HF9 – Mental Capabilities HF10 – Physical Stress HF11 – Mental Stress HF12 – Confidence level HF13 – Secondary goals HF14 – Personal issues HF15 – Distraction/Pre-Occupation HF16 – Experience / Knowledge / Skill for task HF17 – Competency HF18 – Behaviour beliefs (gains > risk) HF19 – Personality/Attitude	TE 1 – Task Planning/Preparation/Manning TE 2 – Hazard Analysis/Task Risk Assessment/Start Card TE 3 – Work Procedures Availability and Suitability TE 4 – Permit to Work Availability and Suitability TE 5 – Abnormal Operational Situation/Condition TE 6 – Tools/Equipment Condition/Availability TE 7 – Materials Availability and Suitability TE 8 – Equipment Integrity TE 9 – Housekeeping TE 10 – Weather Conditions TE 11 – Congestion/Restriction/Access TE 12 –Routine / Non-routine Task TE 13 – Fire and/or Explosion Hazard TE 14 – Lighting TE 15 – Equipment/Material Temperature/Conditions TE 16 – Noise TE 17 – Ventilation TE 18 – Gas, Dust or Fumes TE 19 – Radiation TE 20 – Chemical TE 21 – Wildlife	IT 1 – Supervisory Error or Violation IT 2 – Operating Authority Error or Violation IT 3 – Operating Speed IT 4 – Equipment Use Error or Violation IT 5 – PPE Use Error or Violation IT 6 – Procedural Compliance IT 7 – Change Management Error IT 8 – Equipment/Material Handling Error or Violation IT 9 – Horseplay/Thrill seeking Error or Violation IT 10 – Hazard Recognition/Perception IT 11 – Hazard Management Error or Violation IT 12 – Work Method Error or Violation IT 13 – Occupational Hygiene Practices IT 14 - Other	DF1 – Awareness – Hazard Identification DF2 – Awareness – Communication DF3 – Awareness – Competence / Knowledge DF4 – Awareness – Supervision DF5 – Awareness – Work Instructions / Procedures DF6 – Detection – Visual Warning Systems DF7 – Detection – Aural Warning System DF8 – Detection – Speed / Movement Detectors DF9 – Detection – Vigilance/Fatigue DF10 – Detection – Gas / Substance DF11 – Control and Recovery – Procedures DF12 – Control and Recovery – Bypass Valves / Circuits DF13 – Control and Recovery – Emergency Shut Down DF14 – Protection and Containment – PPE

	HF20 – Poor communications HF21 – Poor shift patters and overtime working HF22 – Passive tolerance of violations HF23 – Perceived Licence to bend ules HF24 – Change of routine HF25 – Reliance on undocumented knowledge HF26 – Other	TE 22 – Surface Gradient/Conditions TE 23 – Reduced/restricted Visibility TE 24 – Other Factor		DF15 – Protection and Containment – Fire Fighting DF16 – Protection and Containment – Spill Response DF17 - Protection and Containment – Bunding / Barricading / Exclusion Zones DF18 – Escape and Rescue – Safe Access / Egress DF19 – Escape and Rescue – Emergency Planning/Response DF20 – Escape and Rescue – Emergency Communication DF21 - Other

10 Significant Event Communication Protocol

10.1 Introduction

One of the most important aspects of incident and crisis management is communications, both internally and externally. How communication is managed during incidents and other events can have a major bearing on the effectiveness of the response, perceptions about John Holland, and on how our employees, customers and the community act.

The purpose of the Significant Event Communication Protocol is to describe the internal communication process for all significant events (including incidents) that have the potential to result in:

- serious or actual threat to life, property or environment
- extended business or project disruption
- serious adverse reputation impacts.

Such events may escalate in severity over time or be sudden, high impact events. They may be attributed to operational and/or commercial causes, or to events beyond the control of John Holland. These protocols form an integral part of both the overall JH Incident Management Framework and the John Holland Crisis Management framework.

Internal Notification Flow for Actual or Potential Significant Events

Operational

Functional

Assessing the Significance of the Event

The severity of the incident should be assessed as soon as possible to determine whether to escalate coordination and action plan of the incident.

Upon notification of a significant event, the CEO or his delegate should arrange an urgent meeting/phone call (within 15 minutes) with the following invitees:

- CEO
- COO
- CFO
- Group GM HSE
- EGM Customer & Corporate Affairs
- GM Corporate Affairs

Depending on the nature of the event, the following participants will also be invited:

- Relevant EGM
- Chief People Officer
- General Counsel

Agenda

The purpose of the Skype call is to share the facts as known so everyone is on the same page, and to determine what action needs to be taken immediately. To this end, the Skype call should use the following Agenda, which mirrors the crisis declaration criteria as described in Crisis Declaration Checklist:

- People
  - Has there been death or serious injury to one or more persons?
  - Is there a serious threat of death or serious injury to one or more persons?
  - Is there (or the potential for) significant and prolonged disruption to the wider community?
- Environment
  - Is there (or the potential for) significant irreversible or ongoing harm to the natural environment?
- Reputation
  - Is this event likely to generate significant negative media attention?
  - Is this event likely to seriously impact our customer's perception of John Holland?
  - Is there a coordinated pro-longed campaign against the business?

- Operations/assets
  - Is there prolonged unavailability of business-critical systems or functions?

  - Is there prolonged unavailability of critical facilities or assets (JH/public/private)
  - Is there a prolonged inability to deliver on key operational obligations?
- Additional questions:
  - Is the incident currently under control? By who?
  - Have we contacted relevant authorities?

Using this Agenda, the participants will determine the following:

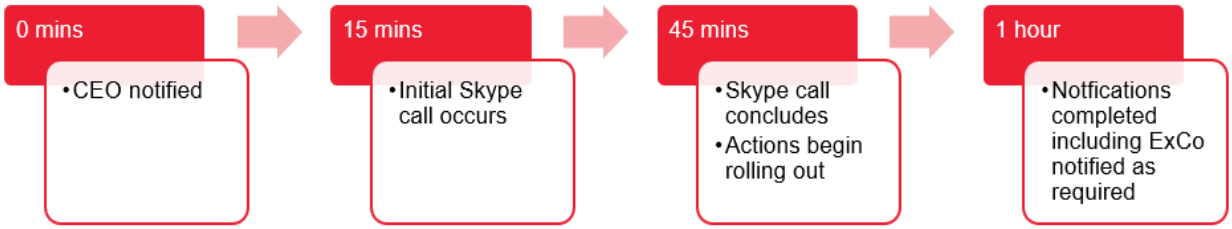
1. Whether the Significant Event is to be declared a crisis and the Crisis Management Framework activated (i.e. event established in EMQnet, and formal activation of the Executive Crisis Team)
2. Alternatively, whether the issue will be managed as a serious incident without the formal declaration of a crisis (i.e. event stablished in EMQnet for event communication and action tracking purposes, but without activation of the Executive Crisis Team).

In addition to determining how the event will be managed, the following actions should be determined in the meeting.

Action Checklist

Action	**Responsible**
Do ExCo/GLT/OLT need to be advised?	Determine who will advise them. If they are to be advised, CCA will draft communications.
Does a formal meeting of ExCo/GLT/OLT need to be called?	CEO EA
Do the Board need to be advised?	This decision will be discussed on the call and notified and made by the company's Information Disclosure Officers (CEO, COO, CFO). Determine who will advise them and by when. If they are to be advised, CCA will draft communications.
How often will comms updates be provided to these different groups?	CCA to prepare updates
Do we need to communicate to employees?	CCA to manage
Do we need to communicate to JV partners?	Determine who is responsible for making contact.
Do we need to communicate with key customers and stakeholders, and is CEO to CEO communication required?	Identify stakeholders and determine who is responsible for making contact.
Do we need to prepare a media strategy and media statement?	CCA to manage
Is there anything we need to postpone or cancel? ie other activities that were going to take place.	Identify anything that needs to move and who will advise the appropriate people.
Determine process and timeframe for incident updates.	Determine who is the point person on facts and updates
Determine if and when this group needs to reconvene and if anyone else needs to be included.	CEO EA

Protocol Implementation Timeline



11 Incident Investigation and Approvals Matrix

Classification	Investigation Type	Lead Investigator	Outputs	Timeframe		Determine Investigation Team Approve Investigation Report
Class 1 Actual	ICAM	Seek Advice from JH WHS Counsel (internal)	ICAM Report Lessons Learnt Industry Consultation	As required	Note: Investigation Reports to be reviewed and approved by JH WHS Legal Counsel and Group General Manger HSE before external distribution (E.g. Regulators)	General Manager HSE COO/CEO
1P (not including Unsafe Act/Condition) 1A/2A Environmental	ICAM, including 5 Whys	ICAM Certified Lead Investigator	Full ICAM Report Lessons Learnt Corrective Actions	21 Days post event 28 Days post event 28 Days post event		BU HSE GM BU EGM
1P (Unsafe Act/Condition))	5 Whys (Minimum) ICAM (Optional)	ICAM Certified Lead Investigator	5 Whys/ICAM Report Corrective actions Lessons Learnt* (Where ICAM used)	21 Days post event 28 Days post event 28 Days post event		BU HSE GM BU EGM
2A, 3A (MTI)	5 Whys (Minimum) ICAM (Optional)	ICAM Certified Basic Investigator	5 Whys Report	14 Days post event 28 Days post event		OSM/OEM Workplace Manager
2P, 3A (not MTI), 3P	5 Whys (Optional)	ICAM Certified Basic Investigator	Investigation Tab (Soteria) Corrective Actions	14 Days post event 28 Days post event		OSM/OEM Workplace Manager
People in the following roles should be considered for inclusion in the investigation team	OSM/OEM Workplace Manager Superintendent Supervisor Group and/or Business Unit HSE Manager Rail Safety SME or Manager Safety Advisor WH&S Representative External / Internal SME					For Actual or Potential Class 1 Events: If a nominated Manger is absent or unavailable, approval should be sought from their delegated 'second in charge'.

12 Accountable Culture Tool

12.1 SUPPORT

When determining a response for a person who has displayed a behaviour, Managers must also check and comply with all relevant policies, procedures, standards, legislation, contracts and/or industrial instruments. Supporting standards and procedures include:

Policies & standards

- All JHG Policies
- The Code of Business Conduct

- Global Mandatory Requirements
- Health Safety Environment Behaviour Framework Processes
- The Incident Management Process
- The individual's performance and goals platform in MyPlace,

Contact

- People and Culture Manager
- HR Representative
- HSEQS Manager
- NASER - 1300 062 737 or naser@jhg.com.au

The Accountable Culture Tool (ACT) is designed for Line Managers to help them to understand, categorise

and address the actions of their staff, workforce, and subcontractors in a fair and just way. The ACT is a step-by-step decision-making tool that provides Managers with a structured process to address an event and the people involved in a constructive way and not simply react to the outcome. It also encourages Managers to recognise people when they go the extra mile. People can, and will, make mistakes, and these can happen for a variety of reasons. We recognise that it is important to identify these reasons before the situation becomes critical and do everything, we can prevent re-occurrence.

Equally, when people do something extraordinary, we need to take the time to recognise these behaviours and talk about their positive impact on the business, project, task, or team, as it helps to build trust and motivates others. Applied correctly over time, the ACT will encourage greater accountability through:

Openness: We feel safe to raise our hand when we see a mistake, have made an error, made a poor choice or want to acknowledge our limitations because we know we will be treated fairly.

Fairness and transparency: We understand that different behaviours will yield different potential consequences. For example, mistakes are treated differently to intentional rule breaking. Behaviours that exceed expectations are recognised differently to those which meet expectations.

Preventing adverse outcomes: Our understanding of the factors that influence people's choices increases and we learn from our mistakes.

Clarity: By being clear about the rules, expectations and potential consequences for behaviour, we are more likely to stop and think before we act.

Consistency: Driving consistency around potential consequences for behaviour helps to make the workplace fair for all.\

ACCOUNTABLE CULTURE TOOL.pdf

Behaviour is an observable action. For the purpose of the ACT, a behaviour can be identified following a review, incident or workplace investigation or a simple everyday observation. Sometimes multiple behaviours, often demonstrated by more than one person, are found to contribute to any one event. Managers must evaluate and apply the ACT to each behaviour separately to ensure fair outcomes.

STEP 1

Identify the behaviour as positive or negative

Before applying this tool, make sure you can confidently answer the following questions:

- » What was the behaviour?
- » What normally happens?
- » What are the rules and/or what is expected?
- » Why did it happen?
- » What was the consequence?

NEGATIVE BEHAVIOUR

is behaviour that fell below expectations. The behaviour displayed could have been unintended or intended at the time.

STEP 2

What level of awareness did the person have about the rules or what was expected?

Awareness relates to the person's understanding and knowledge of the behaviour expected of them. Assessing awareness will usually require consideration of relevant policies and procedures; and whether the person has completed relevant training (e.g. induction) and understands the requirements of their role; as well as the skills, qualifications, experience and/or the knowledge that could be reasonably expected of a person in their position.

		SCORE
None	E.g. the person: • Did not know about and/or understand expected standards of behaviour • Did not attend relevant training • Could not reasonably have been expected to know or understand the rules or what was expected	0
Some	E.g. the person: • Did not have specific knowledge and/or understanding of expected standards of behaviour • Could reasonably be expected to know and understand, in a general way, what was expected	10
High	E.g. the person: • Knew and understood expected standards of behaviour, or could reasonably be expected to know and understand • Completed relevant training in a reasonable time frame relative to when the behaviour was displayed • Had previously been warned about this particular behaviour	15

STEP 3

Was the person's behaviour intended?

Assessing **intent** requires consideration of the person's responses when questioned about their behaviour as well as any other relevant information found in an investigation or review.

No	The person's behaviour was unintentional (e.g. a slip, lapse or unintentional error)	0
Yes	The person's behaviour was deliberate (e.g. knowingly speeding across a worksite)	10

STEP 4

How would you rate the impact of the behaviour?

Impact relates to the consequence of the person's behaviour for the business/project and requires an assessment of its actual or potential seriousness. This may relate to commercial, reputation, people, customers and/or the community.

Low	E.g. the person: • Has sometimes been late for work • Used inappropriate language in an open office	5
Medium	E.g. the person: • Committed a Class 3A/P safety breach • Has repeatedly failed to report and escalate project risks (although none of the risks have yet materialised) *Repeated incidences of Low Impact matters may be assessed as Medium Impact*	10
High	E.g. the person: • Committed a Class 1 or 2A/P safety or environmental breach • Took action that contributed towards an actual or potential significant commercial loss *Repeated incidences of Low or Medium Impact matters may be assessed as High Impact*	20

STEP 5

Add your scores

(Step 2 + Step 3 + Step 4)

Some awareness, behaviour unintentional and low impact (10+0+5)	e.g 15

Before arriving at a final score, NASER can assist you in assessing other relevant factors. These may include: system, procedure, organisational or cultural factors that may have contributed to the behaviour; consistency with other matters; provocation; the person's remorse, past behaviour and personal circumstances; and why an alternate outcome is not appropriate.

STEP 6

Act

RESPONSE GUIDELINES

• Ordinarily no disciplinary action or counselling is required for a single mistake • Check and address gaps in competency and procedure awareness and arrange for relevant coaching and/or training • Discuss the importance of workplace expectations with the individual	5-15
• Ordinarily counselling or a formal written warning is appropriate (contact NASER) • Check and address gaps in competency and procedure awareness and arrange for relevant coaching and/or training	20-30
• Ordinarily a final warning or termination of emplomentis appropriate (contact NASER) • Check and address gaps in competency and procedure awareness and arrange for relevant coaching and/or training	35+

OTHER CONSIDERATIONS

- Explore if other factors contributed to the behaviour like systemic, procedural or organisational issues and/or workplace conditions or personal circumstances
- Review and address the role of the Manager (or other persons) for their potential influence on the person's behaviour
- Consider cultural factors (e.g. is there a rule breaking culture? Is non-compliance generally tolerated? Do customer pressures win over safety?)
- Would the broader team benefit from coaching, training or reinforcement of expectations?
- Check that the relevant policies and procedures are right, accessible and clear
- Review and address contributing factors like job design, work schedules, mechanical failures or planning factors to prevent re-occurrence
- Explore improvements to existing processes and systems

POSITIVE BEHAVIOUR

is behaviour that either met or exceeded expectations.

STEP 2

Did the behaviour meet or exceed expectations?

		SCORE
Met	E.g. the person: • Followed procedure • Achieved their KPIs • Notified their Manager when something went wrong • Maintained tidy house keeping	0
Exceeded	E.g. the person: • Went out of their way to help someone • Exceeded their KPIs based on factors such as the quality of the outcome, budget, timing or level of consultation • Eliminated a high risk work practice	5

STEP 3

How would you rate the impact of the behaviour?

Impact means the nature and scope of influence that the person's behaviour had on the business, project or team relative to their role. Impact could relate to commercial, reputation, people, safety, environment, customers and/or community factors.

Low	E.g. the person observed an unsafe act, stopped it and mitigated the risk for the future	5
Medium	E.g. the person contributed to delivering a safer and more profitable result *Repeated incidences of Low Impact matters may be assessed as Medium Impact*	10
High	E.g. the person generated significant commercial savings (not to the detriment of any other aspects of the job) *Repeated incidences of Low or Medium Impact matters may be assessed as High Impact*	20

STEP 4

Add your scores

(Step 2 + Step 3)

Exceeded expectations but the impact of the behaviour was low (5 + 5)	e.g 10
Exceeded expectations and the impact of the behaviour was high (5 + 20)	e.g 25

STEP 5

Act

RESPONSE GUIDELINES

• Acknowledge and reinforce this behaviour • Confirm that this behaviour strengthens our culture of accountability	0-10
• Add a comment to the person's journal on their PMD • Arrange local recognition for a job well done	10-25
• Offer additional responsibilities • Add a comment to the person's journal on their PMD • Discuss career progression and develop appropriate pathways • Arrange organisation-wide acknowledgement • If a local reward and recognition program exists, nominate the person	25+

OTHER CONSIDERATIONS

- Take time to identify and acknowledge other contributing factors to the behaviour like systemic, procedural, organisational and/or workplace conditions
- Recognise and/or reward the relevant Manager where appropriate
- Share best practice and/or learnings across the team and/or business
- Ask the person about what they did, and will keep doing, to maintain this standard (this can provide guidance to other people not yet meeting the required standard)

13 Supporting Documents

Incident Investigation Training ICAM.pptx	JH-APP-SQE-010-07
Incident Investigation Training Handout.pptx	JH-APP-SQE-010-08
Incident Notification and Investigation Report (ICAM).docx	JH-FRM-SQE-010-01
Free Text Incident Cause Analysis Method (ICAM) Report Template.docx	JH-FRM-SQE-010-02
Written Statement Form.docx	JH-FRM-SQE-010-04
HSE Alert Template.docx	JH-FRM-SQE-010-05
Incident Notification Investigation Report (Example).docx	JH-FRM-SQE-010-06
Preliminary Event Notification Template.docx	JH-FRM-SQE-010-07
HSE Bulletin Template.docx	JH-FRM-SQE-010-08
Investigation Plan.docx	JH-FRM-SQE-010-09
Lessons Learned Template.docx	JH-FRM-SQE-010-10
Root Cause (5 Whys) Analysis Report Template.docx	JH-FRM-SQE-010-11
Quality Alert Template.docx	JH-FRM-SQE-010-12

Incident Management Procedure

1. Purpose

Sydney Water's strategic objectives are underpinned by the ability to continue to deliver services to customers while responding to and recovering from incidents.

An incident is an event that could lead to a loss of, or disruption to, services to customers or business operations. An incident is an event that can be managed at a local or site level for which established plans or incident procedures exist. If not managed well an incident can escalate into an emergency or a crisis.
Incident Management is the process of limiting the actual and potential disruption caused by an event. It is not just about responding to impacts. Sydney Water has adopted the comprehensive approach to Incident Management commonly referred to as PPRR, which includes:

1. Prevention
2. Preparedness
3. Response
4. Recovery

1.1 Objective

This procedure has been written to outline requirements for Sydney Water staff in managing Level 1 events (as defined in the table overleaf). It provides a consistent approach to Incident Management across Sydney Water and aligns with the resilience objectives outlined in the Business Resilience Policy.

2. Scope

This procedure applies to all Sydney Water staff, business partners, alliances and contractors. Effective Incident Management requires clear points of accountability at all levels of Sydney Water.

This procedure describes the requirements for managing Level 1 (L1) incidents (see the table below) and covers all requirements of the PPRR cycle. The requirements for Level 2 (L2) incidents are described in the Emergency Management Procedure and Level 3 (L3) incidents in the Crisis Management Procedure.

For the purposes of this document and the Business Resilience Framework, the term event is used as a generic word for something that has happened to disrupt normal operations/processes. Where the word Incident has been used it refers to L1 events.

Level	Category	Control Management Level	Procedure	Description
Level 3	**Crisis**	SW Executive	Crisis Management Procedure	Those incidents with the potential for impacts that are of such significance that they could threaten the organisation as a whole, or when there are multiple concurrent Level 2 incidents occurring
Level 2	**Emergency**	Heads of Business	Emergency Management Procedure	Those incidents that are complex in nature, often involving multiple Groups and external agencies, where there are no routine arrangements in place, or novel situations which require creative solutions and leadership by a General Manager
	Major	Area/Process Managers		Those incidents that have the potential to be of such magnitude that they require additional off site coordination, communication, logistics, planning and support, e.g. widespread impacts, large numbers of customers etc
Level 1	**Significant**	Team Managers	Incident Management Procedure	Those incidents that can be managed at a site level but require additional resources and the appointment of an Incident Controller to free up the Site Controller
	Incident	As outlined in local procedures		Those incidents that can be managed at a site level and can be effectively resourced by the local area work team by a Site Controller
Event	**Event**	As outlined in local procedures	Local procedures	An Event is an occurrence that has no known negative impacts but still requires some form of investigation.

Note: Incident investigation and lessons learnt procedure applies to all event levels.

3. Prevent

Before a disruptive event there are opportunities to implement contingencies and controls proactively that can reduce the frequency and impact of disruptive events. The items discussed in this phase relate to activities undertaken to better understand our criticalities, dependencies and interdependencies, and threat environment in order to assess our vulnerabilities and be used as an input in the business risk assessment process.

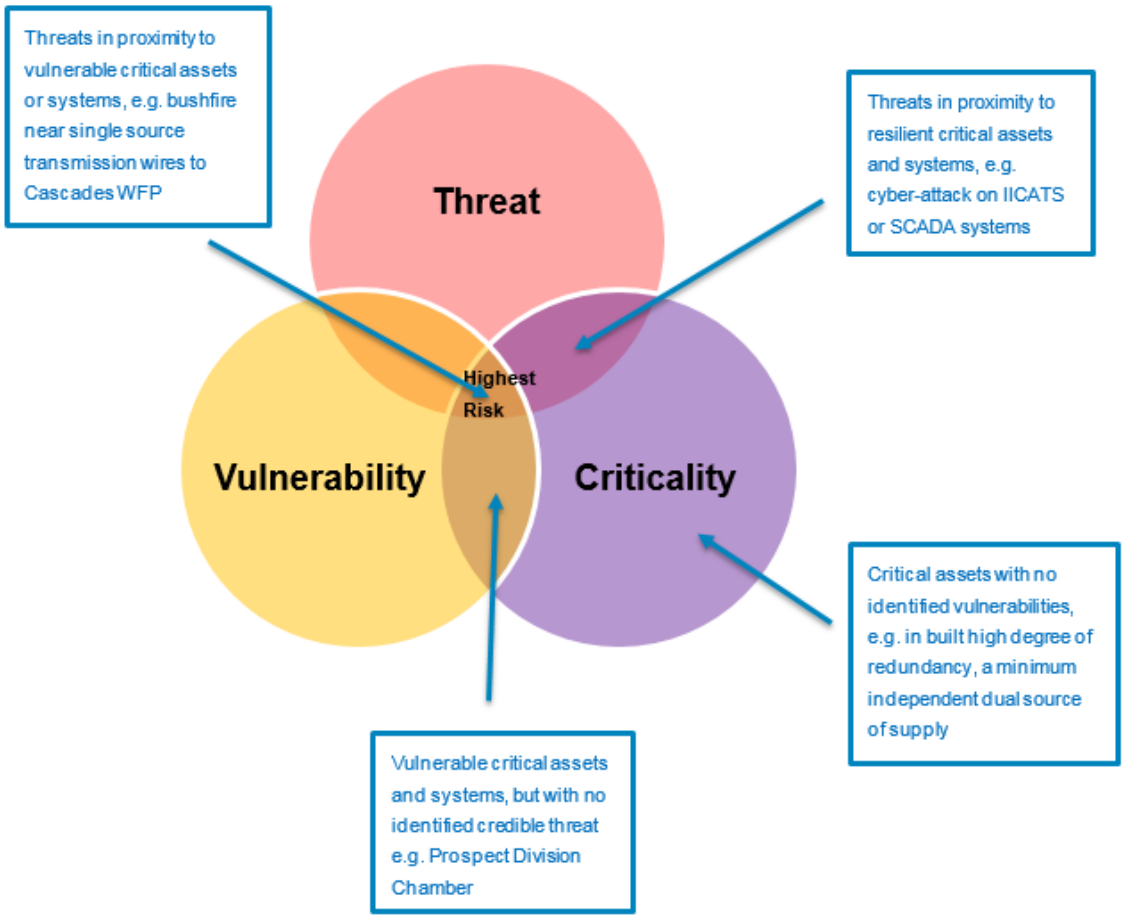
Criticalities can include such things as processes and business functions; physical assets (labs, treatment facilities, reservoirs etc), information technology (IT systems,

data centres etc), staff (incl. subject matter experts), supply chains, customers and key business partners.

3.1 Threat and Vulnerability Assessment (TVA)

Threats can be broadly categorised as natural e.g. storms, lightning, floods etc, or man-made e.g. terrorism etc. The combination of identified threat and vulnerability is used to make an assessment of system/process vulnerability by the business.

The highest risk presents where a threat exists in or around a vulnerable critical asset. As illustrated by the diagram below.



3.1.1 Threat Monitoring and detective controls

Detective controls are an important tool used in the monitoring and analysis of threats and the situations in which the threat is encountered. It should take into account the type and location of the threat (e.g. including distance from the asset) and the potential duration. It is also crucial in determining when the threat is no longer present, permitting a return to normal and resolution of the event.

Information gained from detection is used to determine an appropriate response, taking into consideration the particular combination of threat and situation. It is also crucial in determining when the threat is no longer present, permitting a return to normal and resolution of the event.

Types of detection controls may include:

- Weather monitoring

- TOBAN monitoring
- Alarm monitoring (assets and facilities)
- Physical security and visual inspections

Examples of assets, vulnerabilities and potential threats are listed in the table below.

Asset	Vulnerability	Threat	Threat detection	Vulnerability monitoring	Asset monitoring
Pumping station	Electricity	Floods and storms	• Weather monitoring	• Electricity company. twitter feeds	• IICATS Alarms
Reservoir	Telco	Bushfire	• RFS Bushfire monitoring • TOBAN monitoring	• Telco twitter feeds	• IICATS Alarms
Water treatment plant	Suppliers e.g. chemicals	Insolvency International shipping – weather, industrial action etc		• Contract meetings and audits	• Chemical stock monitoring and SCADA alarms
IT data centre	Internet	Cyber attack			• Virus monitoring
Workforce	Health	Bacteria and viruses e.g. Influenza virus	Dept. Health websites		

Vulnerability monitoring

Where a critical asset has a particular vulnerability, the status of that vulnerability shall be monitored and internal communication processes established. For example where a critical asset is vulnerable to power supply a second supply should be established or an alternate option from the contingency put in place. Where the relevant power authority supplies a ‘credible contingency’ through independent dual power supply, the status of that supply should be monitored and processes for notification established between the power authority and Sydney Water to communicate where supply has been compromised.

3.1.2 Seasonal monitoring

Resources and information are supplied by several government agencies such as the Bureau of Meteorology, Geoscience Australia, RFS and the SES, to predict likely seasonal trends and influences that may prove disruptive to services.

Natural threats often follow a seasonal pattern, this allows us to be proactive and prepare a seasonal preparedness action list, including training and exercising staff. Sydney Water has developed an action list which includes bushfire and storm threats; this is coordinated by the Business Resilience Team.

Mandatory requirements

Heads of Business must ensure the following mandatory requirements are completed annually

Mandatory Requirements
1. Identify potential threats and review with Subject Matter Experts (SMEs) on an annual basis prior to the risk review process 2. Determine vulnerability criteria and assess system/process vulnerabilities, including supply chain vulnerabilities 3. Determine, document and implement suitable threat monitoring protocols and notification and communication mechanisms and review on an annual basis 4. Determine, document and implement suitable vulnerability monitoring protocols and notification/ communication mechanisms and review on an annual basis 5. Complete actions identified in the seasonal action plan

3.2 Business Impact Assessment (BIA)

Conducting a Business Impact Analysis (BIA) allows us to understand our critical business processes/functions, dependencies and vulnerabilities, and prioritise recovery effort. It is conducted in order to develop Business Continuity Plans and enable the organisation to continue to deliver services to customers at acceptable levels during a business disruption.

Mandatory requirements

Each business is required to complete/review the following mandatory requirements annually and when conditions change, e.g. implementation or decommissioning of systems; contracts with new suppliers; business restructuring.

Mandatory Requirements
1. Identify critical business processes/functions 2. Identify critical suppliers, IT systems, staff and equipment 3. Identify critical hard copy information and reference material 4. Identify and document suitable workarounds and/or contingencies

3.3 Supplier criticality

Before we consider setting up a contract for goods or services we must first understand what vulnerability we are exposing the organisation to both individually and collectively. If a supplier is not able to provide those goods or services for whatever reason does that impact on our own provision of services to customers? Can those goods or

services be provided elsewhere? Who else will be competing for those goods or services?

If we determine that a supplier is critical to the provision of our services, the contractual arrangements must include Business Continuity clauses and the supplier's business continuity maturity must be assessed. All critical suppliers will be included in the Business Resilience assurance program.

*Refer to the **Continuity of Critical Suppliers procedure - D0000525** for more information, including Business Continuity contract clauses.*

Mandatory requirements

Staff involved with setting up contracts are required to comply with the Sydney Water Procurement framework and the mandatory requirements set out overleaf.

Mandatory Requirements
1. Conduct a risk assessment prior to developing contract and tender documents. Include the Business Resilience team in the risk assessment review where the goods and/or services are considered critical 2. Include Business Continuity clauses in the contract document and seek advice from the Business Resilience team with regard to any tender documentation supplied.

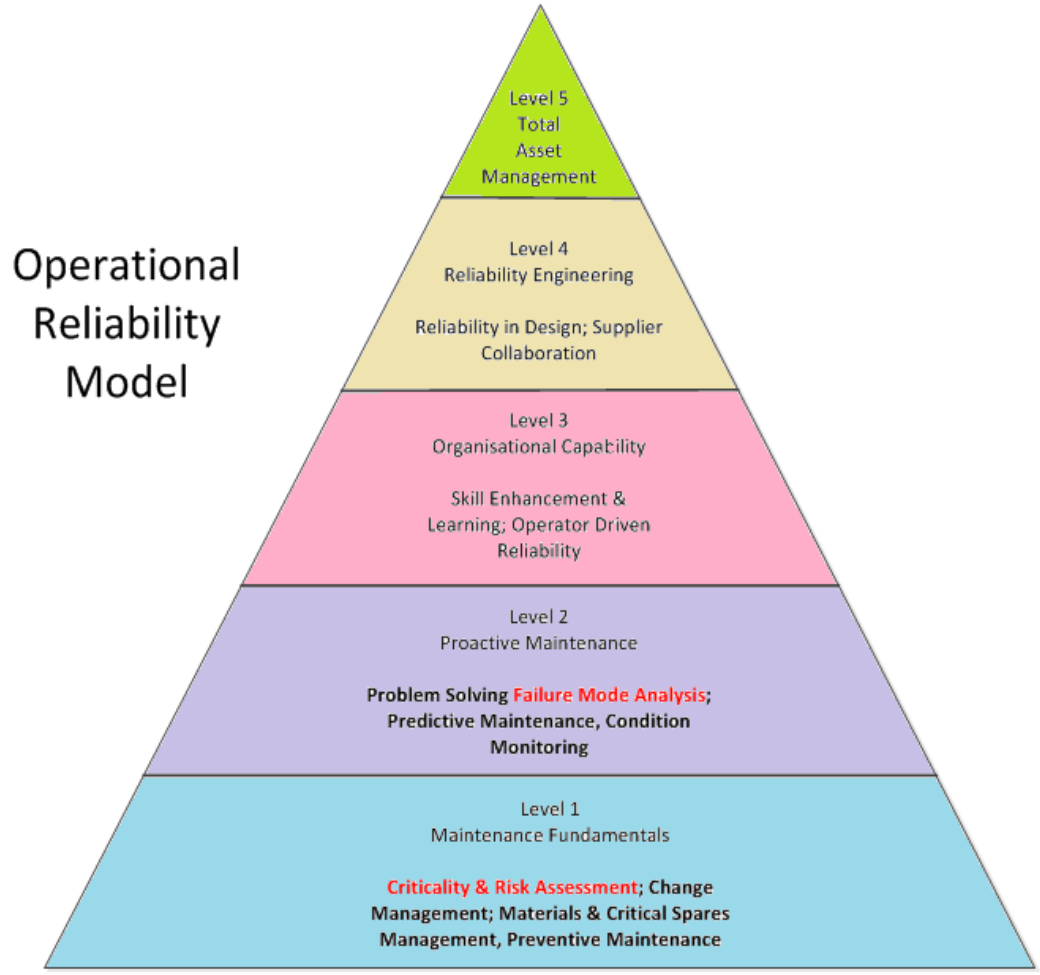
3.4 Asset criticality

It is essential that we understand the asset and facility criticalities that enable business functions. Asset criticality analyses can help to improve asset reliability and manage assets, as illustrated by the diagram below. It is also used to help prioritise maintenance and to identify where further failure mode analysis is required.

Asset criticality equally applies to IT hardware, such as servers, data centres etc.

Controls to consider for critical assets include:

- Reliability engineering and design
- Redundancy
- Standardised equipment
- Asset management plan – refurbish/replace
- Proactive maintenance
- Operational control
- Reactive works management – prioritisation
- Materials and critical spares management
- Contingency planning



*Refer to the **Consequence of Failure Standard (DOC0297)** on iConnect for more information.*

Mandatory requirements

Asset owners are required to complete the following mandatory requirements annually and when conditions change, e.g. when new or assets are commissioned, when there has been growth in the system, when interdependent assets are decommissioned, when assets are modified to become more integrated etc.

Mandatory Requirements
1. Determine, document and review asset criticality criteria 2. Apply criticality criteria and identify critical assets 3. Identify vulnerabilities for critical assets 4. Identify, document and review critical asset failure modes/scenarios 5. Determine appropriate controls, incl. capital solutions to limit the critical asset vulnerability 6. Determine, document and implement appropriate maintenance protocols for critical assets

3.5 Risk management

Risk is a function of the values of threat, vulnerability and criticality. The objective of risk management is to mitigate our vulnerability to threats and potential impacts, thereby reducing risk to an acceptable level. The output of the BIA, asset criticality, and threat and vulnerability assessment are all inputs to the risk assessment process.

Refer to the Risk Management Framework *for detailed information regarding risk management.*

The more the business can limit a vulnerability or mitigate the impacts of a threat, i.e. reduce the likelihood of impacts or limit its intensity, duration or spread, the less reliance we have on corrective controls. Preventive risk treatments should always be considered first when assessing risk.

The effectiveness and appropriateness of controls and contingencies, such as plans, should be assessed when determining residual risk levels. Monitoring controls must be put in place for critical assets, processes and systems to enable early detection and response to incidents in a planned fashion. Where processes, assets, suppliers or systems are critical, control redundancy should be considered to mitigate risks and deliver service continuity to customers.

Information gathered and lessons learned from incidents should feed back to the Prevent phase when considering controls to prevent recurrence. Lessons from other water agencies, utilities and business should also be reviewed wherever possible.

Mandatory requirements

Heads of Business must ensure that the following mandatory requirements are completed annually and when conditions change, e.g. implementation or decommissioning of processes, systems and assets; contracts with new suppliers; business restructuring.

Mandatory Requirements

1. Review incident lessons as a precursor to the risk review
2. Utilise the results of threat and vulnerability assessments as an input to the risk assessment process
3. Assessment of risks as per Risk Framework, using the *Risk Matrix*

3.6 Response plans

3.6.1 Identification of stakeholders

After completing the *Threat and Vulnerability Assessment; Business Impact Assessment* and *Risk Assessment* processes we should have a good understanding of our process, assets, systems and supplier criticalities. But in order to ensure that we're prepared for disruptive event(s) we also need to have a good understanding of our critical customers, stakeholders and business partners, and their constraints. By doing this we are able to minimise the impact of Sydney Water incidents and outages, and ensure appropriate notification and communication processes are in place.

Sydney Water defines a critical customer as one where water supply is critical to their operations and where disruption would cause substantial impacts to the customer, the

community, NSW State response arrangements and/or Sydney Water. It is important to be able to quickly identify where critical customers and stakeholders may be impacted during event(s) so that an appropriate response, notification, communication and recovery action(s) can be taken. Sydney Water have designated Business Customer Representatives who manage ongoing relationships with business customers.

Mandatory requirements

Heads of Business must ensure that the following mandatory requirements are completed annually.

Mandatory Requirements
1. Identify critical customers and review them on an annual basis 2. Identify stakeholders that need to be informed of Level 1 incidents in order for them to make decisions and inform their management teams, examples include NSW Fire & Rescue, Roads & Maritime Authority 3. Establish and implement stakeholder management arrangements with identified high consequence customers and key stakeholders 4. Review stakeholder management arrangements on an annual basis

3.6.2 Development plans

The primary purpose of developing a plan is to help staff effectively manage the disruption caused by an event with available resources; it does not prevent or eliminate the threat(s). You may not be able to predict every kind of threat but you can develop a plan that covers a range of impacts. This is commonly referred to as the 'All hazards' approach.

Plans must be developed for all identified criticalities to ensure continuity of supply to customers and include provisions to assess the severity of an event and any measures required to eliminate the problem and manage the impact(s). As such plans will fall into one of three types:

- location based plans
- process based plans
- hazard specific plans

Location based plans are used to respond to disruptions to assets, facilities and buildings whereas process based plans are used to recover business processes, supply system and IT applications. Hazard specific plans only need to be documented for hazards where the business requires a specific, specialised and/or regulated response.

3.6.2.1 Level 1 event plans

Level 1 (L1) incidents are generally predictable, follow similar patterns and have well understood impacts. The use of external resources are generally not required so a more routine approach may be adopted. The development of plans or incident procedures is appropriate.

As a minimum a plan should include:

- plan activation details, including a clear statement of the circumstances when the plan will be activated and who is authorised to do so
- escalation and de-escalation triggers

- Incident Response Team structure, including key roles and responsibilities and subject matter experts
- a notification process to alert management and stakeholders
- a communication plan, including key communication methods and timings needed to keep everyone safe, i.e. distribution of SITREP
- contact lists for all the people you will need to communicate with during a crisis, including staff and emergency services

Plan templates are available in the document ***BCP template – D0000533.01***

The diagram below illustrates the types of plans that exist for the various identified criticalities.

3.6.2.2 Updating Level 1 event plans

BCPs must be reviewed after the BIA is refreshed and if there are changes to the business unit or business processes, e.g. after restructures.

Location based plans e.g. Site Incident Response Plans/Procedures and Asset Contingency Plans etc, must be reviewed if the site is modified, e.g. new or decommissioned technology, site works, etc, or the neighbouring environment or supply system has changed, e.g. growth in the system, risk profile of neighbours etc.

3.6.2.3 Level 2 event plans

The L1 incident plan(s) may no longer be viable as events become more complicated, severe or widespread. In these instances non-routine/non-BAU resources are deployed in an Emergency Management Team, to prioritise and coordinate activities and restore controls to the point where plans are again effective. In these cases the Emergency Management Team may develop an Emergency Action Plan.

3.6.2.4 Level 3 events

By their very nature Level 3 events (Crisis events) are complex, novel (unknown and unknowable) and are managed by a Crisis Management Team.

A complex event may require Emergency Controllers to make important decisions outside of routine delegations or previous experience. In these situations, the Crisis Management Team is convened to provide strategic guidance on the management of the event or multiple events.

3.6.2.5 Building evacuation plans

Evacuation is the immediate and urgent movement of people away from and/or in response to a threat. Every facility shall develop and implement a Site Incident Response Plan (SIRP) for protecting staff, visitors, and contractors.

A SIRP is a written set of instructions that outlines what should be done in an emergency. It must provide for the following:

- evacuation procedures
- notifying emergency service organisations at the earliest appropriate opportunity
- medical treatment and assistance
- effective communication between the Chief Warden and all people at the workplace
- testing of the SIRP and associated procedures, including the frequency of testing
- information training and instruction to relevant staff in relation to implementing the SIRP

Mandatory requirements

Heads of Business must ensure that the following requirements are completed for critical assets, customers, processes

Mandatory Requirements
1. Prepare appropriate plans for assets/facilities/systems and establish an appropriate review frequency based on the level of risk determined 2. Using the Threat and Vulnerability Assessment determine whether specific hazard plans need to be developed, e.g. bushfire, flood, earthquake 3. Prepare Business Continuity Plans (BCPs) for critical business processes/functions based on acceptable outages agreed in the BIA process and review on an annual basis and when conditions change, e.g. restructure, technology changes etc. 4. Ensure workarounds are developed, documented and practiced for processes where recoveries cannot be achieved within acceptable outage periods as agreed in the BIA process 5. Prepare plans for high consequence customers 6. Prepare plans for building emergencies for all offices and depots 7. Prepare site incident plans for construction sites and temporary work sites 8. Review seasonal action list on an annual basis based on the lessons from the previous season as per section 3.1.4 9. All Groups to complete actions in the seasonal action plan by the identified date and update action status with the Business Resilience team on a weekly basis

3.7 Communications and notifications

Sydney Water must develop mechanisms to communicate both internally and externally with all stakeholders who could be potentially impacted by an event (see Section 3.1 Identification of Stakeholders). We have both a legislative responsibility for notifying stakeholders and customers and a moral obligation and duty of care, particularly where we have created a hazard or threat to public safety or the environment.

3.7.1 SMS Alert System

Sydney Water maintains an SMS alert system and event based email groups to effectively manage event notifications and threat warnings. Raise a Digital service request to modify/update add/remove contacts from the incident notification lists.

Some key external stakeholders are also included in the Duty Manager list to enable quick decision making and public messaging, this includes NSW Health and Beachwatch.

Threat warnings are communicated via the following groups

Warning type	Notification group	Pager Group
Severe weather and fire ratings	Duty Manager SMS + email (threatwarning email group)	407972
Terror threat	Duty Manager SMS + email (threatwarning email group)	407972
Health	Duty Manager SMS + email (threatwarning email group)	407972
TOBAN	Total fire ban SMS notification	407344

For L1 event notifications this is to operational Area based teams, Media and Social Media groups via the following pager groups:

Incident type	Area	Pager Group
Wastewater Network incidents	Illawarra	261642
	Northern	261627
	Southern	261641
	Western	261640
Water Network incidents	Northern	261810
	Southern	261811
	Western	261841
	Water Ops Reuse	261975
Treatment incidents	Northern	409005
	Southern	512761
	Western	513134

Incident type	Area	Pager Group
Civil Delivery – Reactive	Northern	249125
	Southern	249121
	Western	249123
Civil Delivery – Planning	Northern	250562
	Southern	249440
	Western	248498
Media group	Corporate Public Affairs Media team	38069
Social media monitoring	Corporate Public Affairs Media team	241866

For L2 level events this is to the Duty Managers, Media and Social Media groups.

Incident type	Area	Pager Group
Duty Manager	All	407972
Media group	Corporate Public Affairs Media team	38069
Social media monitoring	Corporate Public Affairs Media team	241866

3.7.2 Incident email groups

Sydney Water maintains event based email groups to notify and communicate with staff during events (AllUsers@sydneywater.com.au) and Duty Managers to share situation information including situation reports (DutyManagers.SWPO2.SWHODOM@sydneywater.com.au).

3.7.3 Business Continuity Hotline

Sydney Water has set up dedicated phone line to enable ‘listen only’ messaging to staff during events that are disruptive to business operations. Staff may ring the number at any time during a disruptive event to receive updates on the status of the recovery.

1800 010 061

3.7.4 Event communications

During an event the Controller must ensure that communication mechanisms, protocols and messaging are established to effectively notify and communicate with staff, identified high consequence customers and key stakeholders.

The information disseminated must be timely, appropriate and include a protocol for inquiries and feedback. The messaging must be consistent and targeted in order to be effective, in doing so external stakeholders and business partners are often consulted to develop the content, e.g. Water NSW and NSW Health work together during a Water Quality event to determine appropriate messaging.

To apply a standardised approach to event messaging the Corporate Public Affairs team have developed a standard suite of messages that can be modified to suit the particular event. These include boil water messaging, water conservation messaging during times of drought etc.

3.7.5 Contact Centre

The Sydney Water Contact Centre is the primary mechanism for identification of pipe failures, including leaks, breaks or sewage overflows. External stakeholders and customers are directed to our Contact Centre in the first instance, for information regarding events.

The Contact Centre uses line hunting (or hunt group) as the method of distributing phone calls from a single telephone number, i.e. 13 20 90 (fault line) or 13 20 92 (general enquiries) to a group of several phone lines. Specifically, it refers to the process or algorithm used to select which line will receive the call. The System automatically searches for an available directory number from a matching group of directory numbers until the call is answered or the hunt is stopped.

The Contact Centre is configured as illustrated overleaf:

Heads of Business must ensure that the following requirements are completed and reviewed when significant change occurs

Mandatory requirements

Mandatory Requirements
1. Develop and document stakeholder notification and communication arrangements 2. Establish and maintain incident notification systems 3. All Groups must review and update incident notification lists on an annual basis and when staffing changes occur in the business 4. The Business Resilience team to establish and test Duty Manager and TOBAN notification lists and review every 6 months

3.8 Resource planning and management

3.8.1 Warehousing and stores

Critical inventory is defined as the minimum level of spares required to ensure continuity of critical processes, assets or systems. The level of system redundancy, risk and other system factors impact on the classification of inventory as critical.

The Potts Hill warehouse and Depot warehouses are used to store plant and equipment used in the response and recovery to operational disruptions. This includes owned or leased plant and equipment as follows:

- generators and pumps for the Overflow Containment Program (OCP)
- generators to maintain water treatment and water pumping processes
- cages of associated equipment, such as hoses, fittings and cables
- vehicles, including trailers, used to transport plant and equipment

An inventory management system is used to track the location, specifications and availability of equipment and associated fittings.

To manage multiple events with competing priorities Sydney Water had developed contractual agreements with hire companies for additional equipment, and maintains relationships with energy providers to enable greater access to generators.

Similarly Digital Services maintains an inventory of critical spares and equipment to minimise business process disruptions.

Mandatory requirements

Mandatory Requirements
1. Undertake an annual review of critical equipment inventory 2. Ensure minimum stock levels are maintained at all times 3. Ensure matching fittings for equipment are clearly labelled and available 4. Ensure non-conforming equipment is labelled and isolated from other stocks 5. Maintain arrangements with hire companies to enable timely access to additional equipment 6. Establish protocols with energy providers to enable greater access to generators

3.8.2 Emergency Control Centres (ECCs)

Site Controllers will set up at a Site Control Point (SCP) convenient to the location of the impacted assets or functions.

For 'Significant' level events the Incident Controller will liaise with the Site Controller to obtain situational awareness and updates on tactical operations and taskings. It may be convenient to locate the Incident Control Point (ICP) in the immediate vicinity of the incident site to enable this to happen, however this is not always possible or desirable.

As incident planning and communications is also conducted at the ICP it is necessary for the ICP to be located at a site that has access to computer and telecommunication systems, such as depots, plants and office locations.

Sydney Water has established two permanent ECCs, at Potts Hill (primary) and Homebush (secondary). The ECCs may also be used as a convenient ICP for Significant level events. Activating an ECC ensures that the monitoring and management of the event is coordinated in a central location enabling the effective exchange and sharing of information.

3.8.3 Remote access

Sydney Water provides access to specific Digital Services (applications) when working away from a Sydney Water business premise. This service is provided to select staff that require access to specific business applications outside normal working hours or are required to work remotely from a Sydney Water business premise.

The use of Remote Access by staff is subject to the terms and conditions of the Acceptable Use of Information Technology Policy.

Operational Technology has a separate secure instance of Remote Access to provide control and monitoring of our treatment and network services.

The use of remote access during disruptive events will be prioritised according to process criticality as determined in the BIA process and documented in the Business Continuity Plans.

Where an event denies access to a particular site for potentially greater than the agreed Maximum Acceptable Outage (MAO), the critical business processes are relocated to pre-defined alternate sites as per their BCP. Other business processes, starting with the next most urgent according to the results of the BIA, may be able to work remotely from home. The number of concurrent Citrix users is 1150.

3.8.3.1 Mandatory requirements

GM Digital Services shall ensure the following regarding use of remote access during an event:

Mandatory Requirements

1. Use the results of the BIA as an input to the review of remote access prioritisation
2. Determine a prioritised list of processes and business units enabled to use remote access during an event
3. Document, test, communicate and maintain remote access procedure
4. Notify Duty Managers of remote access restrictions during disruptive events. Duty Managers communicate with their staff via agreed protocols in Business Continuity Plans
5. Monitor remote access usage during events

4. Prepare

The capability to respond to an event relies on the business having clear, easy to understand and updated plans and equipment that have been tested and evaluated. The capacity to respond to an event or manage disruption is based on the skills of the people, both in the management and response teams. The Training, Testing, Exercising and Debriefing (TTED) program is key to ensuring Sydney Water effectively transitions back to BAU in a planned and controlled manner.

4.1 Training and awareness

Training is aimed at developing people and teams. Effective response and recovery teams are able to manage uncertainty and deal with stress on an inclusive and sustainable basis.

It is important that all staff are provided with a general understanding and awareness of Sydney Water's Incident Management Procedure and protocols, including awareness of their team's Business Continuity Plan (BCP), and Site Incident Response Plans (SIRPs).

Staff who are part of an Emergency Control Organisation (ECO), i.e. Chief Warden, Floor Wardens, Stair Wardens must be trained and participate in an annual refresher. First Aiders must be trained and complete refresher training as per certification requirements.

Staff who are likely to be involved in an Incident Management Team (IMT) or role must be trained. These roles are:

- Site Controller
- Incident Controller
- Duty Manager
- Agency Liaison Officer

Specialist roles or subject matter expertise may also be required during the response to a disruption. Staff who are likely to be required are selected based on their role in BAU and the qualifications and skills that they already possess. These roles may be:

- Customer Liaison Officer
- Business Customer Representatives
- water quality scientists
- water and wastewater treatment engineers
- system operators (networks and treatment)
- laboratory technicians
- field samplers
- safety and environmental consultants
- IT application and infrastructure specialists e.g. HYDRA, Maximo
- data analysts and data miners
- social media analysts
- safety and environmental consultants
- contract support
- Communication specialists

In addition to subject matter experts the event management team relies on several other specialist roles to provide liaison with other agencies. Liaison Officers may be appointed by Sydney Water to be part of another agency's Emergency Management Team or Sydney Water may request another agency to provide a Liaison Officer to be part of the Sydney Water Emergency Management Team. Sydney Water's Liaison roles include:

- System Liaison Officers – deployed to local emergency operations centres
- Business Resilience Specialists – liaise with state agencies and regional operations centres
- Customer Liaison Officers – address customer complaints and enquiries and undertake notifications to stakeholders required by the EPLs
- Business Customer Representatives – manage relationships with business customers

*Refer to the **Training (TTED1) procedure - D0000509** for more details regarding incident management training.*

Mandatory requirements

Heads of Business must ensure the following:

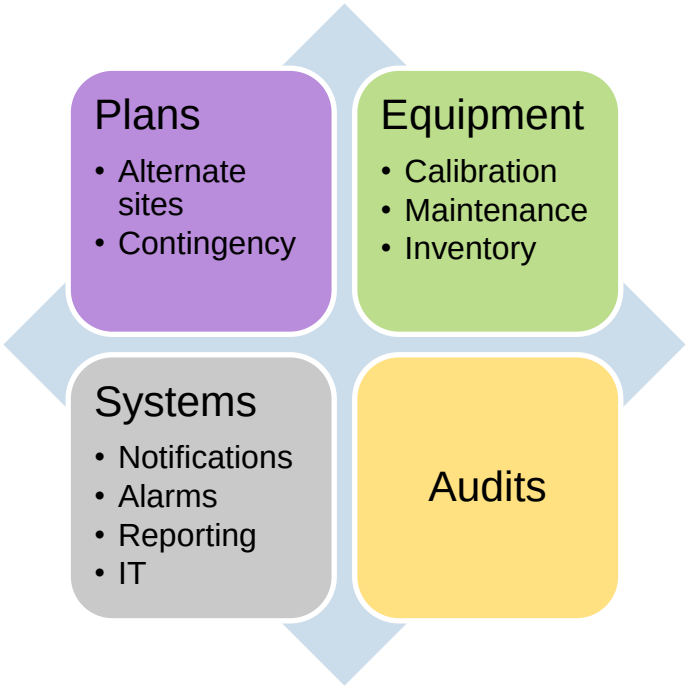
Mandatory Requirements
1. Communicate requirements of BCPs and SIRPs to affected staff on an annual basis, including agreed workarounds
2. Train staff who are part of an ECO for building evacuations on an annual basis
3. Ensure First Aiders have completed required certifications and are current
4. Identify staff who are likely to be involved in Incident Management and review Level 1 Incident Management capability and competencies at least once a year
5. Establish training program with suitable delivery methodology for staff involved in the management of Level 1 incidents
6. Provide Incident Management training for staff involved in Level 1 Incident Management processes
7. Identify and train Liaison Officers on an annual basis prior to bushfire season commences (1st October)
8. Record evidence of all training and awareness

4.2 Testing

We need to ensure the plans developed will actually do what they say (i.e. via assurance such as audits), but more importantly we need to ensure that they do what is needed (i.e. Testing). Similarly we need to test the equipment and systems that we rely on as controls, so they are available and effective when we need them in the manner they are intended.

Examples of Testing are:

- Can you physically restore a server or IT system in the defined time period?
- Can you physically switch operational activities to another location? And in the time period stated
- Will the asset contingency actually work? Can the tankers access the site? Do the connections work?
- Are there enough spares in the warehouse? Are they available and in good working order?



Testing will:

- Prove effectiveness and timeliness of recovery
- Identify improvements and/or missing items
- Highlight and question any assumptions upon which the plans are written
- Demonstrate the benefits of the investment
- Build operational resilience

*For more information refer to the **Testing (TTED2) procedure – D0000510**.*

4.2.1 Testing plans

The more critical the business process is to Sydney Water as a whole, the more robustly and extensively the plan should be tested. Acceptance criteria should be developed for each plan in order to assess the test results and determine effectiveness. Typical criteria for any test are generally around timeliness, completeness and accuracy. Criteria must be aligned to agreed objectives from the Business Impact Assessment.

All BCPs and SIRPs are to be tested on an annual basis. The BCP should be tested at the alternate site where the process would normally be recovered. This ensures that the alternate site is fit for purpose and the staff who will use the site are familiar with its location, operation and resources. Wherever possible integrated testing between the SIRP and BCP should be done to achieve a more realistic test. The SIRP would be activated first, followed by an activation of the relevant BCPs.

An example BCP test log is found in the ***Business Continuity Planning procedure – D0000533***. All test results must be recorded.

All other plans, such as asset contingency plans and disaster recovery plans should be tested on a risk based frequency determined by each business, in accordance with the residual risk. The frequency and scope of testing for each plan type must be documented in local procedures or the plan itself. Refer to the ***Testing (TTED2) procedure – D0000510***.

Things to consider including in a test program are:

- What is the process criticality?
- Have there been any changes or likely to be any changes in the short to medium term? e.g. has the delivery system seen any population growth
- Are the contingency and supporting controls robust or are there questions about its effectiveness and appropriateness?
- Has it been validated in the past? How long ago? How often? By whom? What was the previous scope?
- Are there any high consequence customers in the area? How many customers could potentially be affected?
- What is the detention time or storage capacity of the asset?
- Is this is single source of supply?
- Is there a history of incidents or outages?
- Are there any environmental sensitivities? e.g. waterways in the area

Mandatory requirements

Heads of Business must ensure the following:

Mandatory Requirements
1. Document acceptance criteria for testing of each plan prior to conducting the test
2. Assess the effectiveness of contingency plans including efficacy of high consequence customer plans.
3. Assess the effectiveness and appropriateness of Business Continuity Plan arrangements on an annual basis
4. Test Site Incident Response Plans at least annually
5. Evaluate the effectiveness of the test and update plans as required
6. Wherever possible integrated testing should be conducted, i.e. where plans need to work together such as an IT disaster recovery plan and a business continuity plan

4.2.2 Equipment calibration, testing and maintenance

Critical inventory is defined as the minimum level of spares required to ensure continuity of critical processes, assets or systems. The level of system redundancy, risk and other system factors impact on the classification of inventory as critical.

Effective inventory management is important for the implementation of contingency plans and recovery efforts. Critical inventory must be tested (calibrated if required), tagged, and maintained. Testing criteria, frequency and a maintenance plan/protocol must be established for critical inventory.

Similarly, minimum stock levels materials required for the effective management or recovery of incidents should be maintained at. Stock levels may be required to ramp up depending on threat warnings issued.

Mandatory requirements

Owners responsible for critical inventory, including response equipment, shall ensure the following:

Mandatory Requirements
1. Define critical process control points, equipment and materials, including minimum quantities 2. Define requirements for testing equipment, including frequency of testing and calibration, acceptance criteria, and handling of non-conforming or faulty equipment. 3. Define requirements for review of calibration and testing processes 4. Define storage requirements and inventory management processes

4.2.3 System testing

The more critical a system is to the effective implementation of a plan, the more robustly it should be tested. Critical systems are identified in the BIA and Risk Assessment processes.

Examples of critical systems include:

- Incident notification and paging system
- Telco systems
- Alarms and other warning/monitoring systems, e.g. IICATS, SCADA etc
- IT systems, e.g. MAXIMO, HYDRA, Billing etc
- Remote access and Internet access
- External reporting systems, e.g. used by NSW Health etc.

Acceptance criteria shall be developed for each system in order to assess the test results and determine effectiveness. All test results must be recorded.

4.2.3.1Mandatory requirements

Owners responsible for critical systems shall ensure the following:

Mandatory Requirements
1. Define requirements for system testing, including frequency of testing and acceptance criteria

4.2.4 Assurance

Audits are an excellent way to learn what's working and what needs to be improved. Under the 1st Line of Assurance the business is required to ensure they comply with Business Resilience requirements as set out in this document.

This may be in the form of local inspections, self-assessments or internal audits.

The Business Resilience team is accountable for implementing the 2nd Line of Assurance in regard to the application and effectiveness of Incident Management controls and plans in relation to critical assets, customers, people, technology, suppliers, and processes.

Audits will be conducted in accordance with the Corporate ***Audit procedure* – QMAF0013** and integrated into the Corporate QMS audit program wherever possible.

The Internal Audit Team is accountable for implementing the 3rd Line of Assurance to provide assurance to the Board that the Business Resilience procedures are effective and fit for purpose.

Mandatory requirements

Heads of Business must ensure the following:

Mandatory Requirements
1. Implement an assurance program for identified critical suppliers
2. Assess the effectiveness and appropriateness of risk controls for critical assets, facilities and processes

4.3 Exercising

Exercising is about enhancing the capacity of our staff, contractors and measuring the capability of plans and resources needed to respond effectively and confidently to incidents in real time situations. The idea being that you can become progressively better at something the more often you do it.

The following considerations are made when developing and conducting an exercise:

- It is important that scenarios chosen for the exercise are realistic as this ensures that the audience fully engages in the scenario
- An exercise must have measurable objectives so that it can be determined if the exercise was a success
- When developing a new exercise you should review past exercises to understand past objectives and how well these were achieved
- If normal incident response involves the use of resources from business partners, contractors and other agencies they should be included in the exercise

The owner of critical assets, systems and processes, as identified in Business Impact & Asset Criticality Assessments, must develop an annual exercise program and include relevant staff, stakeholders, suppliers and contractors. This is particularly important where there is a significant change in business resources (restructures, contracts etc), technology, or the external business environment.

The exercise program should outline the scope, frequency and exercise format to be undertaken. There are different types of exercise formats, such as Desktop; Hypothetical; Simulation; and Technical. To ensure staff fully engage in the exercise program, the exercise format needs to match their capacity level. As the capacity of staff and contractors increase the exercise program should become more sophisticated.

The exercise program forms part of the Group's Resilience Metrics and improvement plan scoring.

An exercise debrief shall be conducted and is done in the same way as an incident debrief, using the same methodology. Ideally it should be done immediately following the exercise or as soon as possible after. An exercise report must be written as a record of the agreed actions and lessons learnt.

*For more information refer to the **Exercise (TTED3) procedure – D0000511**.*

Mandatory requirements

Heads of Business must ensure the following:

Mandatory Requirements
1. Define, document and implement a Level 1 incident exercise program, including exercise frequency, methodology and evaluation criteria

4.4 Debrief and investigation

A debrief is a facilitated process that occurs after a disruptive event or exercise and focusses on the management of the response and recovery activities.

An incident investigation is a process by which the underlying causes of the incident are uncovered and steps taken to prevent a similar occurrence.

The Incident Owner is accountable for ensuring that an incident investigation is conducted for all incidents as per the Incident Investigation and Lessons Learned procedure, based on the highest potential consequence. In addition, a debrief shall be conducted for all 'Significant' level incidents to determine lessons regarding the management of the event.

For Significant level events the debrief and investigation may be combined. A checklist has been provided in the **Debrief (TTED4) procedure - D0000512** for facilitators of Significant level incidents.

It is important to involve all stakeholders in the debrief and investigation processes, including relevant external stakeholders, such as emergency services, suppliers, and business partners.

Debrief and incident investigation reports are required as an input into a debrief of L2 events (Major or Emergency). The Incident Owner must upload debrief reports into SWIRL along with agreed actions. The debrief and investigation must be completed and actions with due dates and accountabilities assigned within 45 days from the day of the incident.

Actions coming out of debriefs and investigations shall:

- eliminate or minimise the risk of recurrence of the root cause
- reflect the lessons learned and improvement required
- be allocated to a person within the affected business/Group who is responsible for completing the action
- be prioritised in SWIRL and have an agreed date for completion
- be followed up and checked for effective implementation

Incidents that result in or had the potential to result in a safety impact must be investigated, in accordance with the corporate WHS Incident Investigation procedure.

*For more information refer to the **Debrief (TTED4) procedure – D0000512** and **Investigations and Lessons Learned Procedure – D0000513**.*

Mandatory requirements

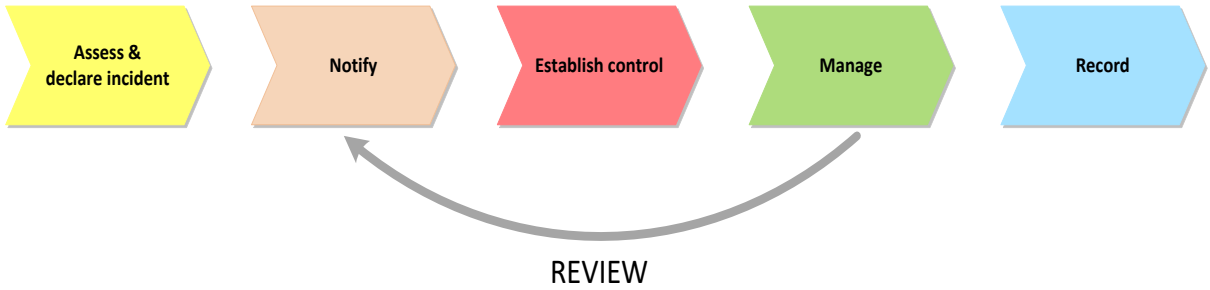
Incident Owners shall ensure the following:

Mandatory Requirements
1. Debrief of all Significant level events 2. All incidents must be analysed to determine the level and type of investigation required. 3. Completion of debrief, investigation and assigned actions (with due dates) within agreed reporting requirements

5. Respond

The focus of the response phase is the continuation of critical services to customers. It is important, that the Incident Management Team (IMT) is activated as early as possible.

The incident response process is illustrated below



5.1 Assess and declare incident

An Incident is an occurrence that results in, or has the potential to result in any of the following:

- threat to life and safety (injury or illness)
- interruption of services to our customers (water, wastewater, stormwater, business services or other services)
- serious customer complaint (quality, quantity, duration, damage, social inconvenience)
- interruption to products (quality, quantity, duration, damage, social inconvenience)
- threat to the environment
- threat to public or private property (damage to public buildings)
- threat to community infrastructure (electricity, gas, phone, rail, roads, footpaths)
- threat to Sydney Waters reputation (media scrutiny)
- theft, vandalism or threat to Sydney Water property and staff (security)
- threat of prosecution or fines
- threat of litigation

How do I know if a near miss has occurred?

A near miss is an occurrence that has no known negative impacts but still requires some form of investigation. An investigation may be required for regulatory purposes or to learn from it in order to prevent recurrence.

In the context of Sydney Water a near miss is not classified as an incident and is therefore outside the scope of this procedure insofar as response and recovery is concerned. However a near miss has the potential to escalate to an incident level as further information or investigation reveals that impacts are being felt.

5.1.1 Triggers for incident declaration

Detection and analysis of threats and the situations in which the threat is encountered allows us to rapidly and appropriately respond to events to ensure impacts are managed. Information gained from threat detection is also crucial in determining when the threat is no longer present, permitting de-escalation and a return to normal and resolution of the event.

L1 events are less complicated, more localised, and more frequent than L2 and L3 events, and as such are generally better understood i.e. 'Known'. This level of incident therefore allows us to develop more concrete and prescriptive triggers for detection, declaration and escalation, as well as implementation of pre-prepared and tested response plans and protocols.

Triggers for incident declaration are based on threat detection, failure of key controls, and/or escalated/emerging vulnerability. Examples are listed below. A full table of declaration and escalation triggers is available in **D0000506.04**.

Trigger type	Example triggers	
Threat detection	Storm	Severe thunderstorm
	Bushfire	Fire danger rating of Severe to Extreme
	Flood	'Minor' level flood warning
Failure of key controls	Product, process and receiving water quality controls	Positive product or receiving water test results above guideline levels
		# complaints received within a defined period
	System e.g. telemetry, IT	# faults within a defined period
	Security controls	Confirmed physical security alarms and positive visual inspections
Vulnerability	Staff/resource availability	30% reduction in staff numbers
	Supplier failures e.g. electricity	Predicted outage > MAO e.g. electricity outage > pumping station detention time

*For more information refer to the **Threat and Vulnerability Assessment (TVA) procedure – D0000528**.*

More information regarding incidents with environmental impacts can be found in ***SWEMS0009 - Management of incidents with an environmental impact procedure.***

Each business is required to complete/review the following mandatory requirements annually.

Mandatory requirements

Mandatory Requirements
1. Identify detective controls as part of operational risk assessments 2. Establish detection triggers for incident declaration 3. Implement detective controls and communicate warnings to staff and contractors where required

Building evacuations

Each manned site shall have a Site Incident Response Plan (SIRP) outlining what should be done in to evacuate a location. The Chief Warden manages the evacuation and determines whether the incident needs to be escalated to an Incident Controller after the occupants have been successfully evacuated.

When it has been determined that staff cannot re-enter the building the Chief Warden will escalate the event to an Incident Controller. For Corporate office locations the Incident Controller is generally from the Property team. The Incident Controller manages the relocation to predefined alternate sites where the outage is likely to exceed the maximum acceptable outage (MAO) for critical processes; arranges for damage assessment; and coordinates the corrective works etc.

For the purposes of incident management the Chief Warden is considered to be the Site Controller; where the site has no Chief Warden the site owner/manager is considered to be the Site Controller.

*Refer to the **Incident Controller Guide for Building Emergencies – D0000534** for more information.*

The Incident Management Team shall maintain a log of the incident, including all costs incurred. This information is important in the recovery phase and will allow the Insurance team to recover costs from insurance and initiate the claims process.

Facility managers shall ensure the following:

Mandatory Requirements
1. A Site Incident Response Plan (SIRP) has been developed and communicated to staff, contractors, suppliers and visitors 2. Assessment criteria are developed to assess the effectiveness of SIRPs 3. SIRPs are tested at least annually 4. ‘Emergency Control Organisation’ is established for building evacuations and staff are trained and appropriately equipped 5. Equipment is checked and tested according to statutory maintenance requirements and/or manufacturers specifications

5.1.2 Declaring an incident

All Sydney Water staff are responsible for declaring an incident at the first point of awareness by notifying their manager. Any Sydney Water staff member can declare a L1 incident. Only Incident Controllers and Duty Managers can declare a L2 event and only the Managing Director or a member of the CMT can declare a L3 event.

5.1.3 Assessing the situation

In order to assess the situation as much information as possible should be collected by the first responder and/or Site Coordinators/Owners.

In order to effectively manage an incident the Incident Controller must have access to information that provides sufficient situational awareness to determine an appropriate, relevant and achievable objectives. Creating and sharing a common operating picture supports the decision making process.

The situation should be assessed to determine:

- what happened, when and where it occurred
- actual and potential impacts
- the scale and issues to be managed
- how to manage the issues effectively
- who to notify

The following information should be gathered to assist in assessing the situation:

- Nature and number of customers affected?
- Community impacts/disruption?
- Is the threat moving, what direction?
- Site characteristics? Terrain? Flood plain? Built environment?
- Safety impacts?
- Environmental impacts?
- What assets are at risk?
- Weather forecast?
- Potential for media interest?
- What is the impact on Sydney Water operations and staff?

The following information should be gathered to assist the Incident Controller to manage the situation

- Who has been notified in Sydney Water?
- External agencies notified?
- What actions are other agencies taking?
- What action is Sydney Water taking?
- Who is site/incident controller? – incl. contact details
- How many staff/business units are working on the problem
- When will it be fixed?
- When will the cause be known?

Other things to consider:

- Legal involvement
- Political interest
- Potential insurance claims

5.1.4 Categorising an event

We categorise incidents so that:

- there is a common understanding of the scale and impact of the incident
- the appropriate level of response can be determined
- the appropriate resources can be allocated to the management of the incident
- the appropriate level of management is directing control of the incident

L1 events are split into incident and significant level events, and these are managed using routine resources, plans and procedures. Incident category definitions are found in Section 2.

5.1.5 Triggers for incident escalation

During an event conditions can change rapidly and get out of control if not managed effectively. The number of people or reporting groups that can be effectively supervised by one person is generally considered to be up to 5. This allows the controller to effectively task, monitor and evaluate the performance of the team. This concept is known as span of control.

As incidents become more complicated and resources are stretched, the Incident Controller must escalate the event to 'Significant' level, and engage additional resources to ensure that planning, operations, communication and logistics activities are undertaken.

Escalation triggers should be based on the notion of span of control. A full table of declaration and escalation triggers is available in **D0000506.04**.

Each business is required to complete/review the following mandatory requirements annually.

Mandatory Requirements

Mandatory Requirements
1. Establish and implement triggers for escalation, document in local procedures
2. Define and implement responsibilities for incident escalation
3. Communicate triggers and responsibilities for escalation to staff, contractors and where required suppliers

5.2 Notify incident

Internal and external stakeholders, regulators and authorities must be notified of the incident and the progress of its resolution. Early notification assists in establishing communication channels and ensuring all relevant parties are aware of the situation.

Staff involved in any type of event or incident must notify their manager as soon as is practicable. Contractors must notify the relevant Sydney Water Contract Manager. Internal stakeholders must then be notified by SMS within 30 minutes of the event being declared.

Call **1800 687 575** (quote name of group).

Stakeholders to be notified vary depending on the nature of the incident, specific business requirements and may change as a situation changes.

Stakeholders that may need to be notified may include:

Internal	External	
Managing Director	NSW Health	
General Managers	NSW EPA	
Duty Managers	NSW Fire & Rescue	
Civil Delivery Schedulers	SafeWork NSW	
Contact Centre	Local Councils	
System Operations Centre (SOC)	Beach Watch	
Telemetry Operations Group	National Parks & Wildlife Services (NP&WS)	
Media Manager and staff	Water NSW	
Workplace Health & Safety (WHS)	Roads and Maritime Services (RMS)	
Property Managers	RailCorp	
Field Services Team	Emergency Services	
Environmental Representative	Significant only	State Emergency Operations Centre
		Energy & Utilities Functional Area Coordinator
		Regional Emergency Management Officer (REMO)

Contact details for external stakeholders are included in the ***SITREP template – D0000506.01***.

The stakeholder and method for notification varies depending on the incident type and business specific requirements. Refer to local business procedures for specific notification requirements of incidents within your area of operations.

More information regarding incidents with environmental impacts can be found in ***SWEMS0009 - Management of incidents with an environmental impact procedure.***

5.2.1 SMS notification groups

The Business Resilience Team maintains the Duty Manger and TOBAN notification groups for SMS messaging and Threat Warning email groups. Other SMS incident groups are managed by the business.

Resource Coordinators in Customer Delivery have access to the SMS notification system. To activate any Incident Management SMS/pager group you can call **1800 687 575** and quote the name of the group(s) and provide a message when prompted.

The Incident Situational Awarenes email group is used for internal communication of SITREPs.

Mandatory Requirements

1. Identify external stakeholders who need to be notified of incidents
2. Document notification requirements for specific process/product types, taking into consideration stakeholder and legislative requirements
3. Ensure all notifications are recorded in SWIRL against the incident
4. Communicate notification requirements to staff involved in managing the incident
5. Ensure contractors notify their nominated Sydney Water representative or Contract Manager as soon as an incident is declared

5.3 Establishing control

Incident control refers to the overall direction and management of an incident.

For every incident a single Incident Controller is nominated, who is responsible and accountable for all activities necessary for the resolution of the incident, including:

- Identification and application of tasks required to resolve the incident
- Acquisition and provision of resources, services, materials etc
- Collection and analysis of information and assessment of impacts
- Provision of warnings, notifications and information to managers and stakeholders
- Coordination of activities across Sydney Water where required and liaison with external agencies

An **Incident Controller Checklist** is available in **D0000526.01**.

The size of the Incident Management Team will depend on the nature of the incident. As incidents grow in size or complexity the Incident Controller needs to consider delegation of responsibilities. In smaller incidents the Incident Controller may have the capacity to manage more than one role and still complete the tasks listed above.

Sydney Water uses a process of command and control for emergency management based on the Australasian Inter-service Incident Management System (AIIMS). This system enables the response to an event through the 5 functional roles of **Control, Planning, Operations, Logistics and Communications** to manage internal and external resources and stakeholders.

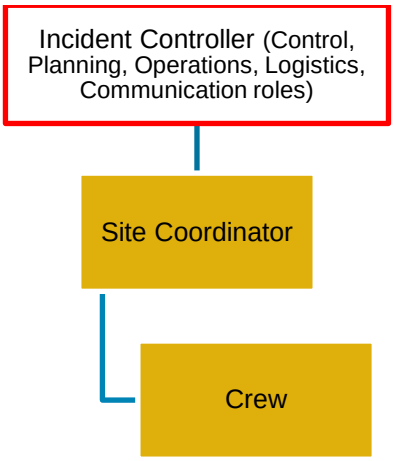
5.4 Managing the incident

This activity refers to the real time management tasks associated with response, control and handling of an incident at the operational level. The broad objectives for any IMT are to:

- Minimise the impacts on our customers and the community, and harm to the environment
- Ensure a safe working environment
- Effectively and efficiently manage the event using prepared, modified or novel contingencies
- Provide for the welfare of the Incident Management Team
- Maintain or enhance Sydney Water's reputation

5.4.1 'Incident' level team structure

Typical incident management structure of an 'Incident' category event is illustrated below.

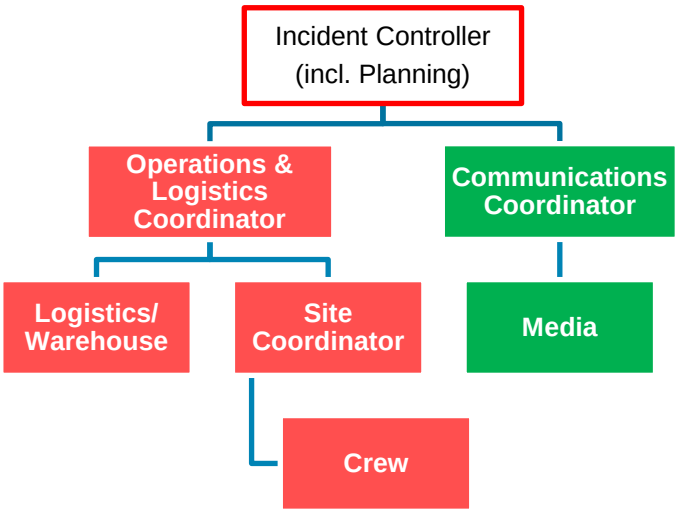


In this example, the Site Coordinator is freed up from managing the Planning, Operations, Communications, and Logistics functions by the Incident Controller. This is the case where Dispatchers/Resource Coordinators/Planners take on the role as Incident Controller and provide support to the Site Coordinator.

However, there may be situations where all 5 activities can be managed by the Site Coordinator, for example a routine main break or a Treatment process failure, in this case the Site Coordinator is the Incident Controller. This decision is generally pre-determined for L1 events and documented in local procedures.

5.4.2 'Significant level team structure

A typical incident management structure of a 'Significant' level event is illustrated below:



When an incident is escalated to a Significant level an enhanced Incident Management Team is assembled to provide leadership and support. The Incident Controller will take over control from the Site Coordinator at this point and enable them to manage tactical operations.

5.4.3 Incident Controller

The Incident Controller is responsible for identifying and implementing the incident objectives and developing strategies required to effectively resolve the incident.

To achieve incident objectives the Incident Controller must ensure that:

- an Incident Control Point (ICP) is established
- timely decisions are made

- everyone in the Incident Management Team are aware of the incident objectives and their responsibilities; regular briefings are held for the Incident Management Team so there is a continued shared understanding of the current situation
- risks are assessed and controlled
- adequate planning and forecasting is undertaken
- timely and appropriate communications are made to customers and stakeholders
- sufficient resources are included in the Incident Management Team, including where required Subject Matter Experts
- appropriate shift handovers are conducted and fatigue is managed
- incidents are escalated proactively (it may be too late when the incident grows or becomes too complicated)

5.4.3.1 Briefings

Regular briefings are required for the Incident Management Team and key stakeholders, these should include:

- Current situation
- Current actions – objectives, strategies and tasks
- Key actions and timings
- Agencies involved
- Key issues and concerns
- Time of next briefing

Internal & external stakeholder meetings may be required. Minutes of meetings with external parties must be taken and include agreed actions, responsibilities and timeframes. Meetings are held where decisions need to be agreed such as with the Expert Health Panel; State Emergency Operations Centre; Regulators, etc.

5.4.4 Demobilisation

At the conclusion of the incident, the Incident Controller is responsible for:

- ensuring that notifications have been made to Duty Managers, Incident groups and stakeholders
- ensuring that records are secured and archived
- ensuring that the Insurances and Claims team have received required documentation
- demobilisation activities
- arranging investigations and a review of lessons
- arranging debrief of Significant incidents

An **Incident Controller Checklist** is available in **D0000526.01** and a summary of incident response process with tools is included in Attachment 1.

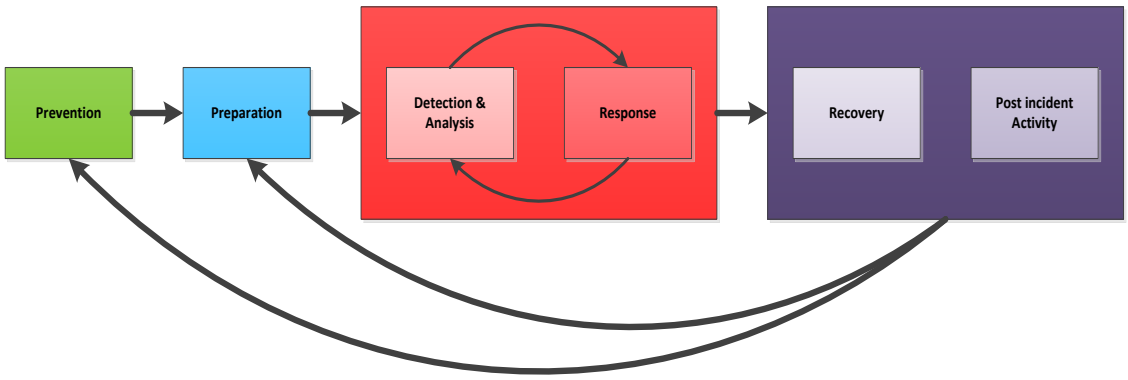
5.4.5 Record the incident

This activity refers to all the tasks associated with recording of incident related data in the Sydney Water Incident Recording and Learnings system (SWIRL). Managers are accountable for ensuring incident records in SWIRL are closed in a timely manner as per the metrics set out in the table below.

Requirement	Window (metric)	Target	Comments
Incident recorded in SWIRL	7 calendar days	100%	Window starts from the time of incident notification – day of incident is day 0.
	4 calendar days	80%	Stretch target
Incident closed in SWIRL	90 calendar days	100%	Investigation complete and actions with due dates and accountabilities assigned
	45 calendar days	80%	Stretch target

Incident data must be recorded in SWIRL in accordance with the SWIRL user guide and local business procedures. Incident records may be closed where long-term actions are still open, on condition that short term actions/controls have been put in place and recorded in SWIRL to prevent a recurrence. Any changes to accountabilities and /or due dates for actions must be approved by the Incident Owner, on the third change the Manager once Removed (MoR) must authorise the delay or change.

6. Recover



The objective of recovery operations is to restore Sydney Water's operations and/or the community to a functional level equal to, or better than that prior to the event, i.e. to the point where normal Business As Usual controls and plans are functioning effectively.

Recovery activities include, but are not limited to:

- return services to 'Business As Usual' operations
- consolidating event records and logs
- returning hired resources
- managing insurance claims and financial records
- demobilising the operation
- follow-up testing
- restoration
- restocking materials/ consumables
- damage assessment
- reconstruction
- identification and implementation of preventative control measures
- formal reporting
- debrief and investigation

Asset owners/managers are responsible for developing recovery procedures for resolution of specific incident types within their area of operations.

A **Recovery Controller Checklist** is included in **D0000517.01**.

Mandatory Requirements.

Mandatory Requirements
1. The Incident Controller must decide on the extent of recovery activities and arrange for follow up activities to be completed. This may include the appointment of a Recovery Controller.
2. Owners of critical assets and IT systems shall define and document recovery procedures

7. Context

7.1 Accountabilities

Position	Accountabilities
Resilience and Climate Change Adaptation Lead	• Maintain Sydney Water Emergency Management and Business Continuity Procedures
Heads of Business	• Ensure all staff have a general understanding in incident management procedures • Ensure business procedures relating to incident management are in place and staff trained as required • Ensure debriefs and investigations are conducted as required and actions completed • Ensure all near misses and L1 events are recorded in SWIRL • Provide training in Sydney Water's Incident Management Procedure
Incident Owners	• Ensure all incident data is recorded accurately in SWIRL as per agreed metrics • Ensure events are investigated and details updated in SWIRL • Ensure actions are completed and details updated in SWIRL • Ensure events are closed off in SWIRL as per agreed metrics
Site Coordinator	• Assess the situation • Manage the site response • Establish site command and communications • Request notification of internal and external stakeholders
Incident Controller	• Perform situational awareness • Coordinate management of the incident response • Establish command and control • Notify and communicate with internal and external stakeholders • Establish recovery operations and ensure debrief and investigations are undertaken
Liaison Officer	• Establish network with other agency liaison officers upon arrival at local Emergency Operations Centre • Brief SW Incident Controller and ECC and provide regular SITREPs • Participate in planning meetings • Provide SW SITREPs to relevant combat agency • Resolve issues between SW and other agencies and combat agency • Maintain clear communication between SW and assigned agency
All staff	• Declare all incidents immediately at the first point of awareness by notifying their immediate manager • Record all near misses and events in SWIRL • Participate in debrief and investigation of incidents as required • Complete assigned actions arising from incident investigations

7.2 References

Document type	Title
Compliance obligations	State Emergency & Rescue Management Act Protection of the Environment Operations Act Sydney Water Act Essential Services Act Rural Fires Act
Policies and procedures	D0000503 Sydney Water Resilience Policy D0000504 Sydney Water Business Resilience Manual QMAF0003 Risk Management Policy D0000397 Assurance Management Policy QMAF0011 Action Request procedure QMAF0013 Audit procedure QMAF0014 Monitoring and measurement procedure D0000509 Training procedure (TTED1) D0000510 Debrief procedure (TTED2) D0000511 Test Procedure (TTED3) D0000512 Exercise procedure (TTED4) D0000513 Incident Investigations and Lessons Learnt procedure DOC0158 Notification and Reporting of Material Harm to Regulators SWEMS0009 Management of incidents with an environmental impact procedure Health and Safety Incident Notification and Recording Statutory maintenance procedure
Other documents	D0000506.06 Information Gathering Checklist D0000525 Incident Controller Guide D0000516 Site Controller Guide D0000520 Liaison Officer Guide D0000518 Business Resilience Advisors Guide D0000506.01 Situation Report template D0000506.02 Incident Log template D0000506.03 Operational Resource List template D0000510.01 Test log template D0000512.03 Debrief Report Template D0000512.02 Debrief Facilitators Checklist

7.3 Attachments

Attachment	Title
1	Steps for effective real time incident management

8. Ownership

Role	Title
Group	Governance and Assurance
Owner	Shahan Rizwi, Resilience and Climate Change Adaptation Lead
Author	Paul Gamosh, Business Resilience Specialist

8.1 Change history

Version	Issue Date	Approved by	Brief description of change and consultation
3	31/08/2021	Shahan Rizwi, Resilience and Climate Change Adaptation Lead	Review and update to references to Resilience Policy and document references
2.3	31/08/2021	Paul Gamosh Business Resilience Specialist	Document Conversion/Formatting
2.2	1/07/2017	Rebecca Gonzalez Business Resilience Manager	Review
2.1	30/09/2016	Patrick Gallagher Head of Risk	Complete rewrite
2.0	20/06/2016	Dai Hockaday Business Resilience Manager	Update with revised incident recording metrics and moved to new corporate procedure template
1.2	11/05/2015	EM&S Manager	Amend to incorporate the introduction of SWIRL requirements.
1.1	28/02/2014	EM&S Manager	Amend to incorporate the introduction of SWIRL requirements.
1.0	03/11/2011	EM&S Manager	New document

Attachment 1: Steps for Effective real time incident management

Step		Key Tasks	Tools
1	**Assess and declare incident (incl. identify, assess and categorise incident)** Actions to determine initial incident level	Assess the incident based on the potential for it to escalate Initial assessment needs to look at impact on: • Customers & community • Environment • Public Health • Safety – illness and injury • Reputation and media interest • Other Sydney Water business processes Declare the incident and notify stakeholders	Section 5.1.3 Assessing the situation Section 5.1.4 Categorising an incident Section 5.1.2 Declaring an incident Forms, templates and checklists: • Incident information checklist • Situation Assessment checklist • Local Business Procedures
2	**Implement notifications** Actions to notify key stakeholders	Notify internal stakeholders and/or Duty Managers by SMS within 30 minutes	Section 5.2 Notify incident SMS service 1800 687 575 ask for specific incident group and/or 'Duty Managers' Message to include, Incident Controller name and contact details; level of incident; nature of incident; location of incident • SMS pager groups • Duty Manager SMS list
		Notify key external stakeholders as required, e.g. • NSW EPA - Pollution Line • NSW Health • SafeWork NSW • Local Councils • Fire & Rescue NSW • Roads & Maritime Services • Sydney Trains (RailCorp) • Beachwatch • National Parks & Wildlife Services	Section 5.2 Notify incident Corporate Public Affairs local councils contact list Business Customer Services – critical customers list
		For significant incidents notify the state emergency management structure: • State Emergency Operations Centre • Energy & Utilities Services Functional Area Coordinator • Regional Emergency Management Officers	
		Commence Incident Log	Incident log template
3	**Establish control** Actions to determine incident leadership and to exercise control over the event	Appoint Incident Controller and nominate Incident Control Point as defined in plans/ procedures or by the direction of a Duty Manager	Section 5.2 Establish control Activating the ECC procedure Incident Controller Guide Site Controller Guide Liaison Officer Guide Duty Manager Guide Forms and checklists: • Incident Controller checklist Incident log template
		Establish the Incident Management Team, including Liaison Officers where required	
		Commence Incident Log	

Step		Key Tasks	Tools
		Issue initial Situation Report within two hours of appointment of the Incident Controller	Forms, templates and checklists: SITREP template
4	**Manage the incident** Actions to contain the event and restore services	Identify objectives, strategies and key tasks	Section 5.3 Manage the incident Forms, templates and checklists: • Incident Controller checklist
		Gather information and perform ongoing situational awareness, including feedback from deployed Liaison Officers	
		Conduct regular briefings for the Incident Management Team and key stakeholders	
		Implement relevant plans and procedures	Section 3.6 Response Plans Continuity of Operations Plans Event Management Plans Standard Incident Procedures Asset Contingency Plans System Operation Manuals High Consequence Customer Plans Business Continuity Plans IT Disaster Recovery Plans
		Implement communications protocols	Section 3.7 Communication, warnings and notifications Local business procedures Corporate Public Affairs – incident toolbox
		Issue regular Situation Reports to Duty Managers and external stakeholders for Significant Incidents	Duty Manager email group and identified external stakeholders SITREP template
		Review situational analysis and reassess incident category, escalate if necessary. Review and monitor effectiveness of response	Section 5.1.5 Triggers for escalation Issue Duty Manager SMS, email Advise stakeholders
		Determine whether a Recovery Coordinator is required based on impacts. Early appointment	Section 6.0 Recover
		Maintain incident records	Forms, templates and checklists: Incident log template
		Conduct Incident Management Team handover briefings at shift changeover	Section 5.3 Manage the incident Forms, templates and checklists: Incident Controller checklist
		Implement demobilisation	Section 5.3 Manage the incident Issue Duty Manager SMS, email Notify stakeholders Forms, templates and checklists: Incident Controller checklist

Step		Key Tasks	Tools
5	**Record the incident** Actions to record event details	Enter the event into SWIRL within 4 calendar days after the event	Section 5.3.5 Record the incident

Appendix A8 Environmental Inspection Checklist

Date:	Inspection No:
Site / Area Inspected:	Weather Conditions:
Activities:	Inspected By:

Instructions:

A tick (□) should be placed in the Yes/No box. If an item is not applicable, write N/A.

If action is identified and fixed immediately, details are to be recorded in the Comments and Actions column.

If an item cannot be fixed immediately or by close of business the same day; or is recurring and/or not rectified by the next inspection, then it will be recorded as an **Action Item** in the ACTION PLAN section at the end of this checklist. Participants of inspections are free to use photographs, drawings and/or diagrams to assist with identifying and outlining requirements around environmental actions.

1. General	Yes	No	N/A	Comments / Actions
1.1 Is the site generally in a tidy condition and demonstrate good housekeeping				
1.2 Materials, equipment and infrastructure stored within designated compound areas				
1.3 Are construction-related activities/disturbance contained within the construction area(s)				
1.4 Access to private properties unobstructed				
1.5 Site and work areas kept secure and fences maintained				
1.6 No evidence of noisy activities being undertaken outside approved hours				
1.7 Site boundaries clearly demarcated				
2. Traffic Control	**Yes**	**No**	**N/A**	**Comments & Actions**
2.1 Traffic routes adjacent to site remain unobstructed				
2.2 Minimal traffic and access disruptions caused by construction				
2.3 Access maintained where vehicles enter and exit onto public paved roads				
3. Water Quality & Spill Response	**Yes**	**No**	**N/A**	**Comments & Actions**
3.1 Stormwater drainage lines free of debris and sediment build up				

3.2 No evidence of material spillage on public roads, public roadways maintained free of mud and dirt from construction site activities				
3.3 Are there no apparent illegal discharges to waterways or drains (cleaning of paint brushes, water displaced when concreting etc)				
3.4 Any activities with the potential for spillage? (e.g. refueling, maintenance of equipment, piling)				
3.5 Any activities of waterway crossings or tunneling works undertaken as per EWMS				
3.6 Dewatering being undertaken in accordance with permit				
3.7 Any works undertaken in close proximity to drainage lines or on flood prone land?				
3.8 Are appropriate ERSED controls in place and well maintained?				
4. Hazardous Materials	**Yes**	**No**	N/A	**Comments & Actions**
4.1 Chemicals and hazardous materials stored in bunded areas				
4.2 Hazardous materials suitably labelled, and sign posted				
4.3 SDS available & maintained				
4.4 Spill kits readily accessible and maintained				
4.5 Refueling of construction plant and equipment controlled				
4.6 No obvious signs of spills, leaks etc.				
5. Noise and Vibration	**Yes**	**No**	**N/A**	**Comments & Actions**
5.1 Equipment / Plant switched off when not in use				
5.2 No evidence of tonal or intrusive noise at nearby residences				
5.3 No evidence of vibration impacts at residences				
5.4 Are Out of Hours Works being carried out?				
3. Water Quality & Spill Response	**Yes**	**No**	**N/A**	**Comments & Actions**
3.1 Stormwater drainage lines free of debris and sediment build up				
3.2 No evidence of material spillage on public roads, public roadways maintained free of mud and dirt from construction site activities				
3.3 Are there no apparent illegal discharges to waterways or drains (cleaning of paint brushes, water displaced when concreting etc)				
3.4 Any activities with the potential for spillage? (e.g. refueling, maintenance of equipment, piling)				

3.5 Any activities of waterway crossings or tunneling works undertaken as per EWMS				
3.6 Dewatering being undertaken in accordance with permit				
3.7 Any works undertaken in close proximity to drainage lines or on flood prone land?				
3.8 Are appropriate ERSED controls in place and well maintained?				
4. Hazardous Materials	**Yes**	**No**	**N/A**	**Comments & Actions**
4.1 Chemicals and hazardous materials stored in bunded areas				
4.2 Hazardous materials suitably labelled, and sign posted				
4.3 SDS available & maintained				
4.4 Spill kits readily accessible and maintained				
4.5 Refuelling of construction plant and equipment controlled				
4.6 No obvious signs of spills, leaks etc.				
5. Noise and Vibration	**Yes**	**No**	**N/A**	**Comments & Actions**
5.1 Equipment / Plant switched off when not in use				
5.2 No evidence of tonal or intrusive noise at nearby residences				
5.3 No evidence of vibration impacts at residences				
5.4 Are Out of Hours Works being carried out?				
5.5 Are appropriate noise mitigation measures in place in accordance with the Noise & Vibration CEMP sub-plan				
5.6 Have the works generated any noise complaints or are the works likely to generate a complaint?				
5.7 Are any lighting towers positioned in a way which minimises light spill to nearby sensitive receivers?				
6. Air Quality	**Yes**	**No**	**N/A**	**Comments & Actions**
6.1 Are there visible dust emissions (inc wind-blown and traffic-generated dust) from site				
6.2 Are appropriate dust control measures in place? Specify.				
6.3 Evidence that daily weather reported provided to supervisors				

6.4 Construction vehicles, mobile plant and machinery maintained to minimise exhaust emissions.				
6.5 Have the works generated excessive odour?				
7. Waste and Resource Management	**Yes**	**No**	**N/A**	**Comments & Actions**
7.1 Waste receptacles accessible, clearly marked and in a designated area				
7.2 Recyclable material separated				
7.3 Waste bins adequately serviced and emptied				
7.4 Are the waste tracking dockets/register up to date?				
7.5 Is concrete management and washout being managed appropriately?				
7.6 Are measures in place which promote sustainability (reduction of waste or efficient use of materials)? Specify.				
7.7 Has appropriate waste classification been carried out?				
7.8 Has contaminated waste been identified? If so has contaminated waste been managed appropriately?				
8. Heritage	**Yes**	**No**	**N/A**	**Comments & Actions**
8.1 Required protection measures maintained? (i.e. physical demarcation / barriers / fencing in place?)				
8.2 No evidence of destruction, defacement or damage to any heritage objects or places? (including no plant, equipment, materials leaning against or stored in proximity/contact with heritage structures, items, etc.)				
9. Biodiversity	**Yes**	**No**	**N/A**	**Comments & Actions**
9.1 Exclusion zones maintained?				
9.2 Has any fauna been disturbed?				
9.3 Vegetation trimming or removal in accordance with Permit?				
10. Contamination and Stockpile Management	**Yes**	**No**	**N/A**	**Comments & Actions**
10.1 Are stockpiles managed and well maintained?				
10.2 Is a stockpile register in place and maintained?				

10.3 Has unexpected contaminated material been managed in accordance with the projects Unexpected Finds Procedure for Contamination?				
10.4 All excavation is visually monitored to identify potentially contaminated material?				
10.5 Has relevant monitoring equipment been installed (e.g., air monitoring equipment) to support activities involving the management of contaminated material?				
10.6 If required, is there a suitably qualified expert (e.g., hygienist) present on site during activities involving contaminated material?				
10.7 If required, has clearance of contaminated material been obtained prior to commencing subsequent construction activities?				

Action Plan

Item No.	Required Corrective Action	Person Responsible	Completed Date

Appendix A9 Stockpile Management Protocol

Upper South Creek

Advanced Water Recycling Centre and Pipelines

Appendix A9 – Stockpile Management Plan

Stage 1 Construction

Table of Contents

Glossary / abbreviations

Abbreviation	Expanded text
CPESC	Certified Professional in Erosion and Sediment Control (may also referred to as a Soil Conservationist)
DPE	Department of Planning and Environment
EEC	Ecological Endangered Community
EIS	Environmental Impact Statement
ESCP	Erosion and Sediment Control Plan
JH	John Holland
MCoA	Minister's Condition of Approval
Project, the	Upper South Creek Advanced Water Recycling Centre and Pipelines Project
Plan, this	Stockpile Management Plan
SWC	Sydney Water Corporation (the Client and the Proponent)
USC	Upper South Creek

1 Purpose

This Stockpile Management Plan has been prepared by John Holland to support compliance with the Minister's Conditions of Approval (CoA) and Updated Management Measures (UMMs) for the Project. The definition of Ancillary Facilities within the Infrastructure Approval includes the statement:

"*A temporary facility for construction of Stage 1 of the CSSI including, but not limited to, an office and amenities compound, construction compound, material crushing and screening plant, materials storage compound, maintenance workshop, testing laboratory, a fixed material stockpile area and car parking facilities*"

MCoA A16 requires that construction ancillary facilities (of which '*a fixed material stockpile area*' is one) that has not been identified by description and location in the documents listed in MCoA A1 can be established and used in each case if:

- They are located within or immediately to the construction boundary; and
- They are not located next to sensitive land use(s) (including where an access road is between the facility and the land use), unless the landowner and occupier have given written acceptance to the carrying out of the relevant facility in the proposed location; and
- They have no impact on heritage items (including areas of archaeological sensitivity), threatened species, populations or ecological communities beyond the impacts approved under the terms of the Infrastructure Approval; and
- The establishment and use of the facility can be carried out and managed within the outcomes set out in the terms of Infrastructure Approval, including in relation to environmental, social and economic impacts.

The Updated Management Measure (UMM) below is also relevant to the management of stockpiles:

- G06 - Develop and implement construction site layout plans as part of the project's CEMP. Development of the plans should consider the following as a minimum:
    - locating stockpiles and equipment storage areas away from drainage pathways, and where possible in elevated positions or at alternative sites.

This Plan will ensure that stockpiles are managed using appropriate mitigation measures and will be used to gain approval for all stockpile sites that are not already approved as ancillary facilities within the Construction Environmental Management Plan (CEMP).

2 Induction/Training

Personnel involved in planning or managing stockpiles will be provided with training and awareness material in the requirements of this plan. Training will include inductions, toolbox talks, pre-starts and targeted training as required.

3 Stockpile location criteria

Stockpiles sites on the Project shall be assessed against the following criteria:

- Located 5 metres away from areas of concentrated water flow (or as otherwise agreed with the project's Certified Professional in Erosion and Sediment Control (CPESC));
- Located at least 10m away from a watercourse
- Have ready access to project or road network
- Located on relatively level land
- Located to minimize the need for heavy vehicles to travel on local streets and / or through residential areas
- Located to avoid affecting the land use of adjacent properties
- Located so that the appropriate erosion and sediment control measures can be installed and will operate effectively
- Located on land above the AEP 10% flood level unless a contingency plan to manage flooding is prepared and implemented
- On land that does not require the removal of threatened species (beyond those already impacted by the project)
- On land that does not require the removal of Endangered Ecological Communities (EEC) (beyond those already impacted by the project) or within the tree protection zone (in accordance with AS 4970) of EEC
- On land that does not require the removal of roosting habitat for listed threatened fauna species (beyond those already impacted by the project)

- Provides sufficient area for the storage of raw materials to minimize, to the greatest extent practical, the number of deliveries required outside of construction hours
- Positioned in areas to minimise visual and light spill impacts at the nearest residence.
- Positioned in areas to minimise noise and vibration impacts at the nearest residence
- Located in areas that will not impact on heritage sites (beyond those already impacted by the project)
- Located within the approved Project boundary.

Prior to stockpiling onsite, the proposed stockpile location will be assessed under the Stockpile Location Permit (Appendix A). The Stockpile Location Permit determines who is to provide approval and considers if a Consistency Review is be undertaken.

Stockpiles that are within the construction footprint and are in place for less than 30 days do not require approval under the Stockpile Location Protocol and Permit.

Approved stockpile locations are to be marked-up on Erosion and Sediment Control Plans (ESCP) or relevant site plans and recorded in the project Stockpile Register (template included in Appendix B).

4 Protocol

Prior to the establishment of any stockpile on site as part of the project, ensure that:

1. The location of the stockpile is to be considered against the site selection criteria contained in Section 3 and approval has been sought via a Stockpile Location Permit (Appendix A). The Stockpile Location Permit determines who is to approve the stockpile and if a Minor Consistency Review is to be undertaken.
2. Site-specific mitigation measures, where they are necessary to further reduced impacts, are identified and detailed in the 'Stockpile Location Permit'.
3. Mitigation measures for each stockpile site are to include as a minimum:
    - Materials will not be stockpiled within the tree protection zone (in accordance with AS 4970) of trees or native vegetation to be retained, and never pushed up around the base/ trunk of trees. Trees are not to be flooded or soils caused to be waterlogged as a result of stockpile placement
    - An ESCP will be prepared and implemented in advance of stockpiling. ESCPs will be updated to reflect implemented controls
    - The ESCP will detail soil and water management measures consistent with Managing Urban Stormwater - Soils and Construction Vols 1 and 2, 4th Edition (Landcom, 2004) to minimise soil erosion and the discharge of sediment and other pollutants to land and/or waters. This may include:
        - Erosion and sedimentation controls will be erected between the stockpile and any drainage lines or down-slope areas
        - A diversion bund will be installed on the uphill side of the stockpile to divert water around the site, unless run on water is 'dirty' construction water. Where this occurs, 'dirty' run on water shall be diverted to erosion and sediment controls
        - Erosion and sediment control structures shall remain installed and maintained until the stockpile is removed and sufficient stabilisation is achieved as per the Blue Book
        - Separating 'clean' run-on water from 'dirty' construction area run-off
        - Maximising the diversion of turbid construction runoff into detention/sediment basins (if relevant).
        - Controlling run-off and erosion during the construction of stockpiles, including along access tracks to stockpile locations
        - Diverting stockpile run-off through sediment traps and into pits and the stormwater drainage system as soon as practical to reduce surface flow lengths and velocities.
    - In order to prevent wind and water erosion, controls will be installed around all stockpiles that are:
        - in place for more than 10 days
        - close to sensitive receivers or other high risk environments
        - when negative weather conditions are forecast
    - Stockpile areas will be monitored for odours on a regular basis during inspections. If nuisance odours are generated and are impacting sensitive receivers, odour control measures will be implemented, in accordance with the CEMP

- Weed management measure will be undertaken progressively including weed spraying or covering the stockpile to prevent growth as appropriate. Topsoil that is not contaminated by weeds will be located separately to other stockpiles.
- Dust management measures (including for vehicle movements associated with stockpiling activities) will be implemented in accordance with the requirements of the CEMP
- Where feasible, stockpile heights will be generally no greater than 2 meters with slopes no steeper than 2:1
- Mulch stockpiles must be monitored and turned over as required to avoid spontaneous combustion
- Mulch stockpiles in high tannin generating vegetation should be:
  - Located 50m from water ways for mulch stockpiles that will be in place for duration of more than 1 month
  - Located 20m from water ways for mulch stockpiles that will be in place for duration of less than 1 month
  - Located on elevated ground where possible
- Other relevant mitigation measures that are specified within the CEMP or sub-plan
- Other specific mitigations measures that are included by an approved Stockpile Location Permit.

4. Topsoil stockpiles must:
   - be free from subsoil, other excavated materials, contaminated materials, refuse, clay lumps and stones, timber or other rubbish
   - be trimmed to a regular shape to facilitate measuring and batter slopes not steeper than 2H:1V
   - have their batters stabilised
5. Following completion of work, carry out restoration of the stockpile sites as follows:
6. Stockpile that are within the construction footprint and are in place for less than 30 days do not require approval under the Stockpile Location Permit
7. The Stockpile Management Plan is not required for stockpile sites that are approved within the CEMP.
8. Stockpiles of potentially impacted material to be managed in accordance with the Soils and Contamination Management Sub-plan.
9. Stockpiles will be kept at a safe distance to prevent cross-contamination.
10. A stockpile register and/ or stockpile labels will be maintained to include information such as:
    - Identify where material was excavated from
    - When the stockpile was established
    - Information surrounding soil testing and classification
    - If the stockpile was taken out of site as waste

5 Compliance

Compliance with this Plan will be tracked through weekly environmental inspections.

Identified non-conformances will be reported to the John Holland Environment Manager and the appropriate management measures will be put in place to ensure ongoing compliance.

Appendix A – Stockpile location permit

Stockpile Location permit					
Date:		Location:			
#	Location based criteria	Yes	No	Permit approval requirement	Comments
1	Is the site located within the Approved Construction Footprint?			*Yes* = JH EM. *No* = Consistency Assessment to be first approved by SWC.	
2	Is the site on land that does not require the removal of threatened species (beyond those already impacted by the project)?			*Yes* = JH EM. *No* = Consistency Assessment to be first approved by SWC.	
3	Is the site on land that does not require the removal of EECs (beyond those already impacted by the project) or within the tree protection zone (in accordance with AS 4970) of EEC?			*Yes* = JH EM. *No* = Consistency Assessment to be first approved by SWC.	
4	Is the site on land that does not require the removal of roosting habitat for listed threatened fauna species (beyond those already impacted by the project);			*Yes* = JH EM. *No* = Consistency Assessment to be first approved by SWC.	
5	Are minimal noise and vibration impacts anticipated at the nearest residence?			*Yes* = JH EM. *No* = Amend proposal to facilitate controls.	
6	Are minimal visual and light spill impacts anticipated at the nearest residence?			*Yes* = JH EM. *No* = Amend proposal to facilitate controls.	
7	Is the site located in an area that does not impact on heritage sites beyond those already impacted by the project?			*Yes* = JH EM. *No* = Consistency Assessment to be first approved by SWC.	
8	Is the site located so that appropriate erosion and sediment control measures can be installed and will operate effectively?			*Yes* = JH EM *No* = Amend proposal to facilitate controls.	
9	Is the site located so it does not unreasonably affect the land use of adjacent properties?			*Yes* = JH EM. *No* = Amend proposal.	
10	Is the site located 5 metres away from areas of concentrated water flow? (or as otherwise agreed with the project's CPESC?)			*Yes* = JH EM *No* = JH EM to approve only if an approved ESCP is approved.	
11	Is the site located at least 10 metres from a watercourse?			*Yes* = JH EM *No* = JH EM to approve only if an approved ESCP is approved.	

Stockpile Location permit					
12	Does the site have ready access to project or road network?			*Yes* = JH EM *No* = Amend proposal	
13	Is the site located to minimize the need for heavy vehicles to travel on local streets and / or through residential areas?			*Yes* = JH EM *No* = Amend proposal	
14	Is the site located on relatively level land?			*Yes* = JH EM *No* = JH EM to approve only if an approved ESCP is approved.	
15	Is the site located on land above the 10% AEP flood level?			*Yes* = JH EM. *No* = JH EM to approve only if a contingency plan to manage flooding is prepared.	
16	Does the site provides sufficient area for the storage of raw materials to minimize, to the greatest extent practical, the number of deliveries required outside of construction hours?			*Yes* = JH EM. *No* = Amend approval	
Compliant Stockpile Locations: If the proposed stockpile site is deemed compliant with the location based criteria (or the relevant approval requirements have been obtained), this form is to be approved prior to establishment of the stockpile site.					
Once approved, the stockpile location must be recorded in the project stockpile register.					
Prepared by:			Date:		
JH Environment Manager approval:			Date:		
ER approval (if required):			Date:		

Appendix B – Template stockpile site register

Approved stockpile site register					
Stockpile Number					
Location					
Date Stockpile Approved					
Date of stockpile establishment					
Depth					
Location material was excavated from					
Classification/Testing					
Proposed use					
Final location of stockpile material (including if it was disposed of site as waste)					
Comment: additional mitigation measures etc.					

Appendix B1 Surface Water and Groundwater CEMP Sub-Plan

Refer to the Surface Water and Groundwater CEMP Sub-plan

Appendix B2 Flood Emergency Response CEMP Sub-Plan

Refer to the Flood Emergency Response CEMP Sub-Plan.

Appendix B3 Soils and Contamination CEMP Sub-Plan

Refer to the Soils and Contamination CEMP Sub-plan.

Appendix B4 Biodiversity CEMP Sub-plan

Refer to the Biodiversity CEMP Sub-plan.

Appendix B5 Noise and Vibration CEMP Sub-Plan

Refer to the Noise and Vibration CEMP Sub-Plan.

Note: The Noise and Vibration CEMP Sub-Plan also includes the Noise and Vibration Monitoring Program.

Appendix B6 Traffic and Transport CEMP Sub-Plan

Refer to the Traffic and Transport CEMP Sub-Plan.

Appendix B7 Heritage CEMP Sub-Plan

Refer to the Heritage CEMP Sub-Plan.

Appendix B8 Air Quality CEMP Sub-Plan

Refer to the Air Quality CEMP Sub-Plan.

Appendix B9 Waste and Resource Use CEMP Sub-plan