



Construction Environmental Management Plan

SMWSTCTP-AFJ-1NL-PE-PLN-000001 Revision 10

Sydney Metro West – Central Tunnelling Package





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20 August 2025

Director Sustainability, Environment
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REF: CEMP REV10

Dear [REDACTED]

RE: Sydney Metro Central Tunnelling Package: Construction Environmental Management Plan (Rev 10)

I refer to Sydney Metro's (SM) submission of the following document required by Condition C1 of the Sydney Metro West Infrastructure Approval (SSI 10038):

- Sydney Metro West, Central Tunnelling Package Construction Environmental Management Plan (CEMP Rev 10 dated 29 July 2025).

It is noted that:

- The CEMP (SMWSTCTP-AFJ-1NL-PE-PLN-000001) was originally prepared by Acciona Ferrovia Joint Venture (AFJV) to address the requirements of Condition C1 of the Infrastructure Approval.
- Rev 3 of the CEMP was approved by DPE (now DPHI) on 20 December 2021. This approval covered Phase B1: Civil Works as defined under the Sydney Metro West Phasing Report.
- Revision 5 of the CEMP addressed Phase B2: CTP Tunnelling Works as defined in the Phasing Report.
- Revision 10 of the CEMP includes changes made to reflect the reduced activities on the CTP sites during Transitional Handover Services (THS) period following substantial completion of the CTP scope of works. A new Section 1.3.4 defines the scope of works for THS. Site plans have been included to reflect where portions of sites have been handed over to Sydney Metro or other contractors.
- Sydney Metro and the Acoustic Advisor have reviewed the changes made as part of this revision and have no comments on Revision 10.

Following the above, the amendments to the CEMP (as presented in Rev 10) are considered to be appropriate for the Transitional Handover Services period. As the approved Environmental Representative for the Metro West and as required by Condition A30(j), on the basis of the above, the Construction Environmental Management Plan (Revision 10) is approved.

Yours sincerely

[REDACTED]
[REDACTED]

Environmental Representative – Sydney Metro West – Central Tunnelling Package
CC: John Ieroklis, Valerie Lebon

DOCUMENT APPROVAL

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REVISION HISTORY

Rev:	Date:	Pages:	By:	Description:
00	16/08/21	All	EW	For submission to Sydney Metro
01	27/09/21	All	EW	Revised following external review
02	18/10/2021	All	EW	Submitted for ER Endorsement
03	09/11/2021	All	EW	Submitted for Planning Secretary approval
04	17/6/2022	All	GW	Revised to include Phase B2 for ER endorsement
05	8/8/2022	All	GW	Revised to address stakeholder comments
06	20/12/2022	50, 84, 117	MK	Revised to include ancillary facility
07	18/12/2023	1, 2, 9, 11, 12, 13, 26, 31, 37, 42, 73	SG	Annual review
08	11/09/2024	All	CM	Annual Review
09	11/10/2024	All	JL	Updated with ER, AA and Sydney Metro comments
10	29/07/2025	All	AA	Updated to include new section 1.3.4 detailing Transitional Handover Services (THS). Updates to Section 3.5 and 3.9.3 for THS. Updates to Site Layouts in App G.

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GLOSSARY / ABBREVIATIONS

Abbreviation	Description / Definition
AA	Acoustics Advisor appointed in accordance with CoA A33
AFJV	Acciona Ferrovia Joint Venture (the Contractor)
AS/NZS	Australia/New Zealand Standards
Amendment Report	Sydney Metro West Westmead to The Bays and Sydney CBD Amendment Report Concept and Stage 1 (2020)
CEMP	Construction Environmental Management Plan
Construction	Includes all work required to construct Stage 1 of the CSSI as described in the documents listed in Condition A1 of Schedule 3, including commissioning trials of equipment and temporary use of any part of the CSSI, but excluding Low Impact Work. <i>Note: As defined in Table 1 of SSI 10038 Infrastructure approval for the Project.</i>
CoA	Minister's Conditions of Approval (as relevant to Sydney Metro West Concept and Stage 1)
CTP	Central Tunnelling Package
DECC	Former Department of Environment and Climate Change (NSW) now NSW Office of Environment and Heritage.
DPHI	NSW Department of Planning and Environment (former NSW Department of Planning, Infrastructure and Environment)
DPI (Water)	NSW Department of Primary Industries (Water) (Former Office of Water)
EIS	Sydney Metro West Concept and Stage 1 Environmental Impact Statement (April 2020)
EMS	Environmental Management System
Environmental Harm	Includes any direct or indirect alteration of the environment that has the effect of degrading the environment and, without limiting the generality of above, includes any act or omission that results in pollution.
Environment Policy	Statement by an organisation of its intention and principles for environmental performance
EPA	NSW Environment Protection Authority
EP&A Act	<i>NSW Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act, 1999</i>
EPL	NSW Environment Protection Licence under the <i>Protection of the Environment Operations Act 1997</i> .
ER	Independent Environmental Representative appointed in accordance with CoA A27
ESCP	Erosion and Sediment Control Plan
EWMS	Environmental Work Method Statements
Hold point	Is a verification point that prevents work from commencing prior to release.

Abbreviation	Description / Definition
Incident	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 with the conditions of this approval. <i>Note: 'material harm' is defined in this approval.</i>
Low Impact Work	Includes: (a) survey work including survey work including carrying out general alignment survey, installing survey controls (including installation of global positioning systems (GPS)), installing repeater stations, carrying out surveys of existing and future utilities and building and road dilapidation surveys; (b) investigations including investigative drilling, contamination investigations and excavation; (c) site establishment work approved under a Site Establishment Management Plan; (d) operation of ancillary facilities if the ER has determined the operational activities will have minimal impact on the environment and community; (e) minor clearing and relocation of native vegetation, as identified in the documents listed in Condition A1 of Schedule 3; (f) installation of mitigation measures including erosion and sediment controls, temporary exclusion fencing for sensitive areas and acoustic treatments; (g) property acquisition adjustment work including installation of property fencing, and relocation and adjustments of utilities to property including water supply and electricity; (h) relocation and connection of utilities where the relocation or connection has a minor impact to the environment as determined by the ER; (i) archaeological testing under the <i>Code of practice for archaeological investigation of Aboriginal objects in NSW (DECCW, 2010)</i> or archaeological monitoring undertaken in association with (a)-(h) above to ensure that there is no impact on Heritage items; (j) archaeological testing for historical archaeological resources to identify and seek to reduce impact on state significant archaeology where it is proposed, ahead of construction or in association with (a)-(h) above; (k) maintenance of existing buildings and structures required to facilitate the carrying out of the CSSI; and (l) other activities determined by the ER to have minimal environmental impact which may include but not limited to construction of minor access roads, temporary relocation of pedestrian and cycle paths and the provision of property access. However, where Heritage items on the State heritage register, areas of known or expected archaeological potential, or threatened species or threatened ecological communities (within the meaning of the BC Act) are affected by any Low Impact Work, that work is construction, unless otherwise determined by the Planning Secretary in consultation with Heritage NSW, DPIE EES or DPI Fisheries (in the case of impact upon fish, aquatic invertebrates or marine vegetation). The low impact work described in this definition becomes Construction with the approval or endorsement of a CEMP. Where Low Impact Work has already commenced, this is considered to remain as Low Impact Work and is managed in accordance with the framework under which it commenced.

Abbreviation	Description / Definition
Material harm	This is harm that: (a) involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial or (b) results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment).
Minister, the	NSW Minister for Planning and Public Spaces
Non-compliance	An occurrence, set of circumstances or development that is a breach of this approval but is not an incident.
OCCS	Overarching Community Communication Strategy
Planning Secretary	The Planning Secretary of the Department of Planning, Industry and Environment
POEO Act	<i>NSW Protection of the Environment Operations Act 1997</i>
Project	Sydney Metro West Concept and Stage 1
Relevant Councils	Any or all local government councils as relevant, Inner West Council, Strathfield Municipal Council, Burwood Council, City of Canada Bay, City of Parramatta
REMM	Revised Environmental Mitigation Measure
Submissions Report	Sydney Metro West Westmead to The Bays and Sydney CBD Submissions Report Concept and Stage 1 (2020)
SEARs	Secretary's environmental assessment requirements

1. OVERVIEW

1.1 BACKGROUND

Sydney Metro is Australia's biggest public transport program. Services on the North West Metro Line between Rouse Hill and Chatswood started in May 2019. The Sydney Metro network also includes Sydney Metro City & Southwest, Sydney Metro West and Sydney Metro Western Sydney Airport.

Sydney Metro West is a new 24 kilometre metro line between Westmead and the Sydney CBD (the Project) (illustrated in Figure 1). This infrastructure investment will double the rail capacity of the Greater Parramatta to Sydney CBD corridor with a travel time target between the two centres of about 20 minutes.

The planning approvals and environmental impact assessment for Sydney Metro West has been split into a number of stages recognising the size of the project. This includes:

- Stage 1 – Concept and all major civil construction works including station excavation and tunnelling between Westmead and The Bays. Planning approval for this stage was granted in March 2021.
- Stage 2 – All major civil construction works including station excavation and tunnelling from The Bays to Sydney CBD
- Stage 3 – Tunnel fit-out, construction of stations, ancillary facilities and station precincts, and operation and maintenance of the Sydney Metro West line

Due to the Project's importance, the Project was declared to be Critical State Significant Infrastructure by the Minister for Planning and Public Spaces. An Environmental Impact Statement (EIS) (Jacobs/Arcadis, 2020) for the Concept and Stage 1 (herein referred to as the Project) was placed on public exhibition from 30 April 2020 to 26 June 2020. Submissions were received from government, agencies, organisations and the public in response to the project. A Submissions Report was prepared by Sydney Metro in response to submissions received during the exhibition period and an Amendment Report was prepared by Sydney Metro in 2020 as a result of continued design development and refinement. The Project was approved on 11 March 2021 (SSI 10038).

1.1.1 SYDNEY METRO WEST STAGE 1 DELIVERY STRATEGY

Stage 1 of the Project is being delivered under a number of packages in accordance with the Sydney Metro West Phasing Report. The packages include:

- Phase A - Power Enabling Works
- Phase B1 – Central Tunnelling Early Works (also referred to as Civil Works)
- Phase B2 – Central Tunnelling Main Works
- Phase C – Parramatta, Westmead and Clyde Demolition Works
- Phase D – Greater Sydney Road Works
- Phase E – Existing Rail Corridor Enabling Works
- Phase F – Western Tunnelling.

The Central Tunnelling Package (CTP) involves the design and construction of 11km of twin tunnels and underground station excavations from The Bays to Sydney Olympic Park. The Project is Phase B, which was staged into sub Phases B1 and B2 as described above. Tunnelling is taken as the commencement of operation of the Tunnel Boring Machine.

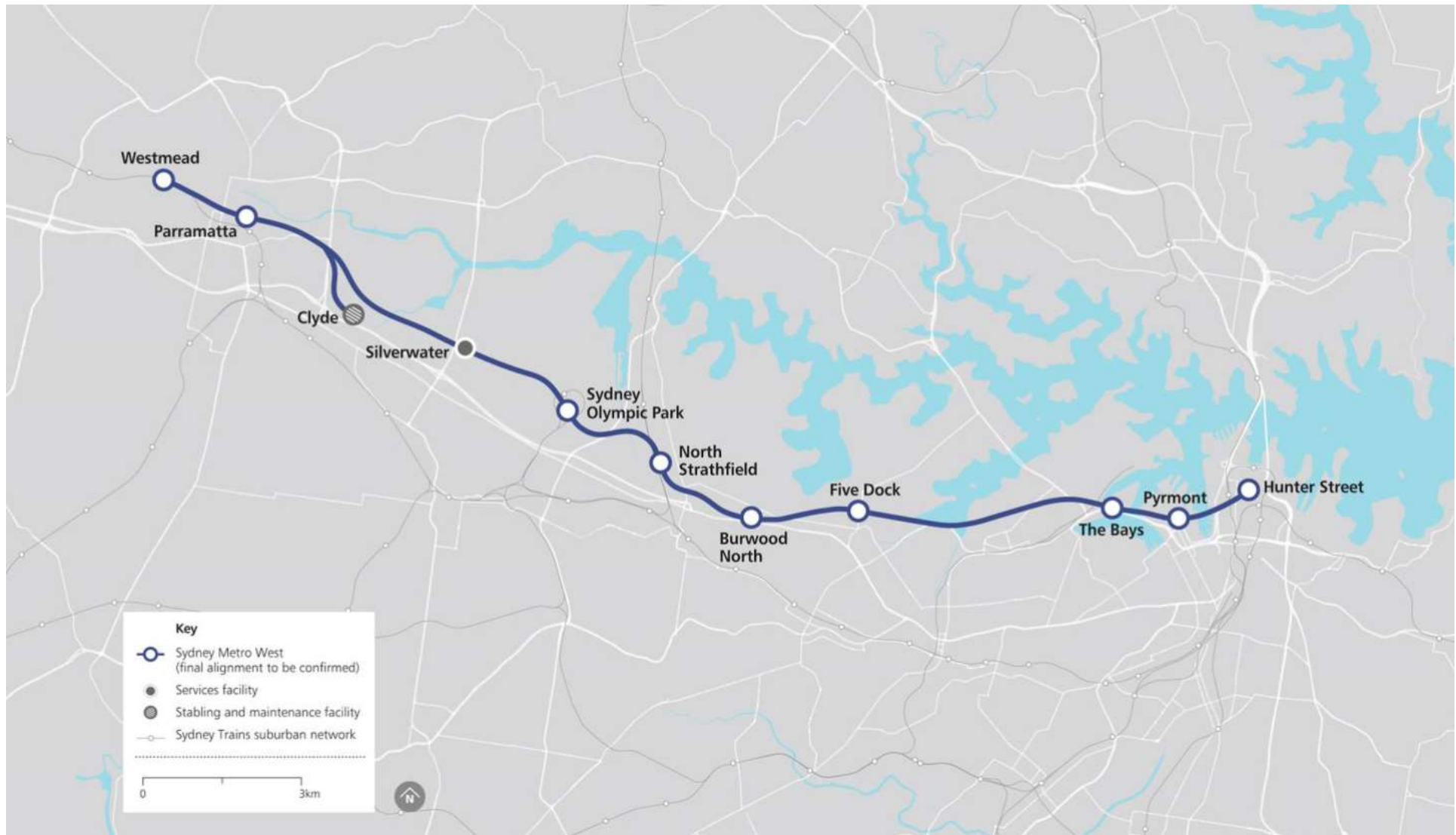


Figure 1: Sydney Metro West Overview

1.2 PURPOSE AND SCOPE

The purpose of this Plan is to describe the approach the Acciona Ferrovial Joint Venture (AFJV) will take to manage environmental risks for the Project.

Adherence to this document will ensure that the Sydney Metro West – CTP is delivered in accordance with the contract requirements and the project specific environmental management system (AFJV EMS) and policies. Section 3.1 provides an overview of the AFJV EMS. The AFJV's EMS meets the requirements of ISO 14001 Environmental Management Systems.

This Plan has been prepared in accordance with:

- The CoA (Critical State Significant Infrastructure Sydney Metro West Concept and Stage 1 Infrastructure Approval dated 11 March 2021 (Application no. SSI 10038)
- The CEMF
- AS/NZS ISO 14001 – EMS
- Acciona's corporate EMS certified to ISO14001:2015.

The CEMP identifies the methodologies, processes and resources required to plan, deliver, monitor and continuously improve the environmental management performance for the CTP works in accordance with the relevant CoAs and all applicable legislation, guidelines and standards.

The scope of the Plan applies to the design and construction of the CTP (refer to Section 1.5 for a description of the scope of this Plan) and applies to all AFJV personnel, subcontractors, consultants and representatives.

The purpose of this CEMP is to provide an integrated framework for the management of environmental risks on the CTP. This is an essential tool in achieving the Project's environmental objectives. It describes how AFJV proposes to manage and control environmental aspects and potential impacts through both project wide and element specific approaches.

The CEMP defines environmental aspects and impacts associated with the CTP works and management strategies to manage those aspects and potential impacts to achieve best practice environmental management during construction. The CEMP prescribes all applicable procedures, processes and practices to be undertaken by AFJV personnel and subcontractors in order to manage environmental risk, effectively minimising impacts on the surrounding environment, and to ensure compliance with regulatory and other obligations through delivery.

This Plan outlines how AFJV will comply with and implement the applicable elements from the following documents, collectively referred to herein as the 'project requirements' for the CTP:

- The CoA
- Revised Environmental Mitigation Measures (REMMs)
- The CEMF.

This Plan, and the CEMP sub-plans listed in Condition C5, will be lodged with the Planning Secretary of the Department of Planning and Environment (DPHI) for approval and/or endorsement no later than one month before the commencement of construction. Construction will not commence until the CEMP and CEMP sub-plans listed in Condition C5 and construction monitoring programs listed in Condition C14 have been approved and/or endorsed by the Planning Secretary.

The project requirements relevant to the preparation and approval of this Plan are shown in Table 1. Other environmental requirements relevant to the CEMP are included in **Appendix B**.

TABLE 1: COMPLIANCE TABLE – ENVIRONMENTAL REQUIREMENTS FOR PREPARATION OF THIS CEMP

SSI 10038 Infrastructure Approval (dated 11 March 2021)		
C1	Construction Environmental Management Plans (CEMPs) and CEMP Sub-plans must be prepared in accordance with the Construction Environmental Management Framework (CEMF) included in the documents listed in Condition A1 of this schedule to detail how the performance outcomes, commitments and mitigation measures specified in the documents listed in Condition A1 of this schedule will be implemented and achieved during construction.	This Plan
C2	With the exception of any CEMPs expressly nominated by the Planning Secretary to be endorsed by the ER , all CEMPs must be submitted to the Planning Secretary for approval.	Section 2.2
C3	The CEMP(s) not requiring the Planning Secretary's approval must be submitted to the ER for endorsement no later than one (1) month before the commencement of construction or where construction is phased no later than one (1) month before the commencement of that phase. That CEMP must obtain the endorsement of the ER as being consistent with the conditions of this approval and all undertakings made in the documents listed in Condition A1 of this schedule.	Section 2.2
C4	Any CEMP to be approved by the Planning Secretary must be endorsed by the ER and then submitted to the Planning Secretary for approval no later than one (1) month before the commencement of construction or where construction is phased no later than one (1) month before the commencement of that phase.	Section 2.2
Construction Environmental Management Framework		
3.4(a)	Principal Contractors are required to prepare and implement a Construction Environmental Management Plan (CEMP) relevant to the scale and nature of their scope of works. The CEMP shall comprise of a main CEMP document, issue specific sub plans, activity specific procedures and site based control maps. The CEMP shall illustrate the relationship between other plans required by the contract, in particular those that relate to design management.	This Plan and Section 3.1
3.4(b)	Depending on the scope and scale of the works, Sydney Metro may decide to streamline the CEMP and sub-plan requirements. For example, depending on the risk associated with particular environmental issues it may be appropriate to remove the need for a sub plan, or replace with a procedure as part of the CEMP.	Section 3.1
3.4c	The CEMP will cover the requirements of the relevant planning approval documentation, the conditions of all other permits and licences, the Principal Contractor's corporate EMS, the environmental provisions of the contract documentation and this Construction Environmental Management Framework.	Section 1.2
3.4(d)	As a minimum the CEMP will:	
i.	Include a contract specific environmental policy;	Appendix A
ii.	Include a description of activities to be undertaken during construction;	Section 1.5

SSI 10038 Infrastructure Approval (dated 11 March 2021)

iii.	For each plan under the CEMP include a matrix of the relevant Conditions of Approval or Consentreferencing where each requirement is addressed;	Section 1.2 and Appendix B
iv.	For each plan under the CEMP, set objectives and targets, and identify measurable key performance indicators in relation to these;	Section 3.3
v.	For each role that has environmental accountabilities or responsibilities, including key personnel,provide a tabulated description of the authority and roles of key personnel, lines of responsibility and communication, minimum skill level requirements and their interface with the overall project organisation structure;	Section 3.5
vi.	Assign the responsibility for the implementation of the CEMP to the Environment Manager, who willhave appropriate experience. The Principal Contractor's Project Director will be accountable for the implementation of the CEMP;	Section 3.5
vii.	Identify communication requirements, including liaison with stakeholders and the community;	Section 3.7
viii.	Include induction and training requirements and a summary of the Training Needs Analysis requiredin Section 3.10 (b);	Section 3.6
ix.	Management strategies for environmental compliance and review of the performance ofenvironmental controls;	Section 3.9
x.	Procedures for environmental inspections and monitoring, auditing and review, and reporting onenvironmental performance including environmental compliance tracking;	Section 3.9
xi.	Include an annual schedule for auditing the CEMP and Sub-Plans that is updated at least monthly;	Section 3.9
xii.	Include procedures for emergency and incident management, non-compliance management, andcorrective and preventative action; and	Section 3.8
xiii.	Include procedures for the control of environmental records.	Section 3.10
3.4e	The CEMP and associated sub-plans will be reviewed by Sydney Metro and/or an independent environmental representative (see Section 3.12) prior to any construction works commencing. Dependingon the Conditions of Approval, the CEMP and certain sub-plans may also require the approval of the Department of Planning, Industry and Environment (DPIE).	Section 2
3.4f	Where a corresponding systems document exists within the Sydney Metro Integrated Management System,the Principal Contractor's procedures will be required to be consistent with any requirements in those documents.	Section 1.2

1.3 PROJECT DESCRIPTION

1.3.2 PROJECT KEY FEATURES

As identified in Section 1.1, the Project involves all major civil construction works between Westmead and The Bays including station excavation and tunnelling. The key features of the Project include:

- Enabling works such as demolition, utility supply to construction sites, utility adjustments and modifications to the existing transport network

- Tunnel excavation including tunnel support activities
- Station excavation for new metro stations at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock and The Bays
- Shaft excavation for services facilities at Rosehill (within the Clyde stabling and maintenance facility construction site), at a location between the Five Dock Station and The Bays Station construction sites (to be determined), and at Silverwater
- Civil work for the stabling and maintenance facility at Clyde including earthworks and structures for crossings at A'Becketts Creek and Duck Creek
- A concrete segment facility for use during construction located at the Clyde stabling and maintenance facility construction site
- Excavation of a tunnel dive structure and associated tunnels at Rosehill to support a connection between the Clyde stabling and maintenance facility and the mainline metro tunnels.

A detailed description of the Project is provided in Chapter 9 (Stage 1 description) of the EIS.

In addition, the Project includes the construction and operation of the Eastern Creek Precast Facility which was approved separately under Division 5.1 of the Environmental Planning and Assessment Act 1979 (EP&A Act) by Sydney Metro.

1.3.3 CTP OVERVIEW

The CTP involves:

- Tunnelling approximately 11km of twin Tunnel Boring Machine tunnels between The Bays and Sydney Olympic Park
- Demolition and site clearance works at all construction sites
- Excavation at The Bays, including the Tunnel Boring Machine launch shaft, in a former industrial area
- Two shafts with cavern excavations and permanent support at Five Dock
- A station box and shaft excavation including temporary support, underground connection, cavern excavations and permanent support at Burwood North
- Station box excavation including temporary support at North Strathfield
- Station box excavation, including temporary support and Tunnel Boring Machine retrieval shaft at Sydney Olympic Park
- The establishment and operation of a temporary concrete segment manufacturing facility at Eastern Creek.

1.3.4 TRANSITIONAL HANDOVER SERVICES

Following Substantial Completion of the CTP Works, Sydney Metro has directed AFJV to undertake Transitional Handover Services (THS) for all CTP worksites (excluding the Precast Facility). This primarily involves conducted care-taker activities in accordance with the Operation and Maintenance Manuals to confirm that the Project Works, Temporary Works and Handover Works remain fit for purpose and suitable for handover to an Interface Contractor when directed by Sydney Metro. The works that may be completed during this period include minor defect rectification works (eg crack repair, leak repair noting these are works without any environmental impact) and any work directed under a Change Order by Sydney Metro.

For the purposes of environmental management, AFJV and Sydney Metro agree that AFJV will continue to ensure any works to be completed during THS are completed in accordance with the Planning Approval and its CEMP/Sub Plans to the extent relevant to the THS works. As all Construction works are complete, AFJV will not be continuing to implement Construction Monitoring Programs (including noise and vibration, groundwater and surface water).

AFJV will continue to ensure any works during THS are carried out in accordance with approved work hours under the Planning Approval and will implement mitigation measures in accordance with the Planning Approval and relevant DNVIS in the event that out of hours works are required. The EPL (#20610) will continue to apply to the sites under THS and therefore noise and vibration requirements

as well as surface water management and WTP discharge requirements in accordance with the EPL will continue to be implemented.

As agreed under the THS arrangements between AFJV and Sydney Metro, ongoing inspections will be limited to fortnightly site inspections (unless otherwise directed by Sydney Metro) with Sydney Metro and the Environmental Representative and fortnightly meetings which include discussion on environment and planning requirements. AFJV environmental inspections will be conducted on a fortnightly basis (ie each site will be inspected once per fortnight) and post rainfall inspections will no longer be required noting that all sites are hardstand and clean. Ongoing WTP inspections continue in accordance with the requirements of the Operation and Maintenance Manual.

The various CEMP Sub-Plans will not be updated to address the THS scope. AFJV will continue to ensure any works to be completed during THS are completed in accordance with the Planning Approval and its CEMP/Sub Plans to the extent relevant to the THS works.

Key personnel with ongoing responsibility for environmental management during THS will continue to be the Project Director, the THS Project Manager and the Environment Manager.

1.4 CONSTRUCTION METHODOLOGY

The construction methodology for the CTP civil works (Phase B1) will generally involve:

- Demolition of existing non-heritage structures and buildings on the site at Sydney Olympic Park, Burwood North, Five Dock and The Bays undertaken as Low Impact Works
- Design investigations / ground treatment works including archaeological testing and heritage salvage works, investigation / treatment of contamination at construction sites undertaken as Low Impact Works and in accordance with the CoAs
- Demolition of buried heritage structures at The Bays
- Establishment of the CTP precast facility at Eastern Creek to provide segments for the permanent tunnel lining
- Establishment of construction sites at The Bays, Five Dock, Burwood North, North Strathfield and Sydney Olympic Park (the location of these construction sites are illustrated in Figure 1) including utilities relocation and protection, vegetation clearing, erection of site fencing / hoarding, earthworks (refer to **Appendix G** for indicative construction site layouts)
- Local area road works including removal of on-street parking and road diversions at Sydney Olympic Park, North Strathfield, Burwood North and Five Dock
- Public transport modifications at North Strathfield and Burwood North
- Pedestrian and cyclist facility modifications at Sydney Olympic Park and North Strathfield
- Property adjustments
- Acoustic shed at The Bays, Five Dock and Burwood North
- Water Treatment Plant installation and commission at The Bays, Five Dock, Burwood North and Sydney Olympic Park.

The station box excavations at Sydney Olympic Park, North Strathfield, Burwood North will be excavated using excavator and rock hammer. The vertical shafts at Burwood North construction sites will be excavated to the tunnel level and will be undertaken using roadheaders.

The construction methodology for the CTP tunnelling works (Phase B2) will generally involve:

- The launch of two TBMs (one for each tunnel) from The Bays
- TBMs to excavate twin tunnels for 11km between The Bays and Sydney Olympic Park
- The tunnels will be lined with precast concrete segments
 - Transverse and relaunch of two TBMs at the Five Dock, Burwood North and North Strathfield construction sites.
- Cross passages will be excavated using roadheaders and rock hammers at about 240m intervals
- The TBMs will be retrieved from the Sydney Olympic Park construction site
- The construction sites will be demobilised prior to handover to the follow-on contractors.

The CTP construction methodology is unlikely to involve blasting.

A CEMP for the Eastern Creek Precast Facility will be prepared separately by AFJV.

The CTP scope does not include any surface works as described in the EIS for Westmead, Parramatta, Clyde Stabling and Maintenance Facility and Silverwater Services Facility; these activities will be undertaken as part of the Western Tunnelling Package, undertaken by another contractor.

An initial environmental risk assessment and detail of the Phase B1 scope was undertaken prior to the commencement of construction. A second environmental risk assessment was completed for the purpose of updating the CEMP and sub plans for Phase B2 works. The risk register was updated in November 2023 to reflect current status of construction and include opportunities. The most recent risk assessment is provided in Appendix C and discussed in Section 3.4.1.

1.5 SCOPE OF WORKS

The role of the CEMP, associated sub-plans and other management plans is to act as the overarching environmental management documentation and provides the overall framework for the system and procedures to ensure environmental impacts are minimised and legislative and relevant environmental requirements are fulfilled for the construction activities associated with CTP.

Construction is defined in the SSI 10038 Infrastructure Approval for the Project as including all work required to construct Stage 1 of the CSSI as described in the documents listed in Condition A1 of Schedule 3, including commissioning trials of equipment and temporary use of any part of the CSSI, but excluding Low Impact Work defined in the Project Approval.

Sydney Metro has determined to stage construction of the CTP and the scope of this Plan addresses the civils component of the CTP, Phase B1 – Civil Works, in addition to Phase B2 Tunnelling Works – in accordance with Sydney Metro Phasing Report summarised in Section 1.1.1. The scope of this Plan currently includes Phase B1 and Phase B2. As such, this CEMP, the CEMP sub-plans and other management plans address all construction activities that are not Low Impact Works (refer to Table 2).

Some activities will be undertaken prior to approval of the CEMP as Low Impact Works as permitted by the CoA, which includes:

- Utilities works
- Design investigations
- Minor vegetation clearing
- Installation of mitigation measures including erosion and sediment controls, exclusion fencing and acoustic treatments
- Archaeological testing
- Maintenance of existing buildings and structures, and
- Other activities determined to have minimal environmental impact by the Environmental Representative (ER).

Low Impact Works will be managed in accordance with the CTP Low Impact Works Application process, which includes review and, where required, determination by the ER and Sydney Metro or the Planning Secretary prior to the commencement of the proposed Low Impact activities. Where Low Impact Work has commenced prior to the approval of this Plan, it will remain Low Impact Work. Table 2 provides an overview of the delivery approach of the CTP.

An initial environmental risk assessment was undertaken to address the scope of this CEMP, sub-plans and other management plans and identify management strategies or mitigation measures additional to those included in the environmental requirements. Further detail on the risk assessment process can be found in Section 3.4.1.

TABLE 2: CTP DELIVERY APPROACH

CTP Phase	Activities	Approval Pathway
Low Impact Works	Design investigations including geotechnical and contamination Building surveys including hazardous and structural Preliminary works for demolition of buildings and structures Heritage investigation / salvage works Low Impact Works as described in the Conditions of Approval SS1 10038 and in the Definitions within this document.	Low Impact Works Application (determination from ER or the Planning Secretary as appropriate)
Construction (Phase B1)	Any remaining works under LIW that have not been completed Heritage investigation, excavation and salvage works Establishment of construction sites, including remaining activities described as Low Impact Works that have not yet been commenced Demolition of underground heritage structures Demolition of buildings and structures Station Box, and shaft excavation Excavations required for construction, and installation of tunnelling facilities, such as acoustic sheds, crane pads, conveyors etc Excavation of caverns at Burwood North and Five Dock Piling and retaining walls Excavation and lining of nozzles Grouting	Approval of CEMP and CEMP sub-plans by the Planning Secretary Approval of other management plans by Sydney Metro EPL for scheduled activities issued by the EPA
Construction (Phase B2)	TBMs launched at The Bays in 2nd QTR 2023 Excavation of caverns at Burwood North and Five Dock Cross passages excavated every 240m Demobilisation	Approval to commence following update of the CEMP (and sub plans) to include Phase B2 scope.

1.5.1 CONSTRUCTION PROGRAM

Construction activities at construction sites are described in Section 1.4. The list is not exhaustive and as mentioned may include some activities that will be undertaken prior to approval of the CEMP as Low Impact Works via the CTP Low Impact Works Application approval process.

Construction of the CTP is expected to commence December 2021 for a duration of approximately three years, with the commencement of the tunnelling phase expected to commence around the second quarter of 2023.

1.6 CHANGES TO THE APPROVED PROJECT

Sydney Metro has undertaken changes to the approved Project since the Project was approved on 11 March 2021. The Project modifications approved are described in Table 3.

During delivery of the CTP, where the AFJV instigates design and/or construction methodologies not addressed in the approval documents, an assessment of the consistency of that change against the Infrastructure Approval will be undertaken in accordance with Section 5.25 of the EP&A Act. The AFJV may need to undertake additional environmental assessments including traffic, noise and vibration, air quality, soil and water, ecology and/or heritage assessments to assist in the conclusion of whether the change is consistent or not. Consistency Assessments will be prepared in accordance with Sydney Metro Planning Approval Consistency Assessment template. The assessment would be prepared in consultation with Sydney Metro and the ER. Sydney Metro would be the determining authority of the Consistency Assessment in accordance with Section 5.25 of the EP&A Act. If necessary, this Plan or other relevant environmental documents will be revised to incorporate additional commitments made or mitigation measures and the ER will review and endorse changes in accordance with CoA A30(j).

If the proposed change is inconsistent with the approved Project, the AFJV may be required to complete further environmental assessment and submit this assessment to Sydney Metro as a Project modification. Sydney Metro would then submit the proposed modification to DPHI for assessment. In the case of an administrative modification, a Consistency Assessment may not be required. To date, only two changes have been determined, as shown in Table 3.

TABLE 3: CHANGES TO THE APPROVED PROJECT (AT THE TIME OF THIS DOCUMENT PREPARATION)

Description of change	Approval Pathway
Administrative amendments to Conditions A11, C10 and D25	This modification was approved by the Planning Secretary on 27 July 2021
Consistency Assessment for Tunnel realignments	This Consistency Assessment was approved by Sydney Metro on 13 August 2021
Consistency Assessment for Five Dock Station Cavern	This Consistency Assessment was approved by Sydney Metro on 25 August 2021
Consistency Assessment for The Bays site boundary (part 1)	This Consistency Assessment was approved by Sydney Metro on 27 August 2021
Consistency Assessment for Second Avenue one-way alteration	This Consistency Assessment was approved by Sydney Metro on 12 January 2022
Consistency Assessment for The Bays site boundary (part 2)	This Consistency Assessment was approved by Sydney Metro on 20 January 2022
Consistency Assessment for White Bay Power Station ground improvements	This Consistency Assessment was approved by Sydney Metro on 21 February 2022
Consistency Assessment for Five Dock tree removal	This Consistency Assessment was approved by Sydney Metro on 18 March 2022

Description of change	Approval Pathway
Consistency Assessment for Northern Penstock CCTV investigation	This Consistency Assessment was approved by Sydney Metro on 24 March 2022
Consistency Assessment for North Strathfield site boundary	This Consistency Assessment was approved by Sydney Metro on 24 March 2022
Consistency Assessment for Fred Kelly Place temporary / partial closure	This Consistency Assessment was approved by Sydney Metro on 24 March 2022
Sydney Metro West – Westmead to The Bays and Sydney CBD Modification 3	This Modification was approved by Sydney Metro on 12 May 2022
Consistency Assessment for Geotechnical Boreholes	This Consistency Assessment was approved by Sydney Metro on 7 July 2022
Consistency Assessment for Callan Park Geotechnical investigation	This Consistency Assessment was approved by Sydney Metro on 19 July 2022
Consistency Assessment for The Bays TBM Water Supply	This Consistency Assessment was approved by Sydney Metro on 15 October 2022
Sydney Metro West – Westmead to The Bays and Sydney CBD Modification 4	This Modification was approved by Sydney Metro on 11 November 2022
Consistency Assessment for Five Dock western construction site noise mitigation	This Consistency Assessment was approved by Sydney Metro on 20 June 2023
Consistency Assessment for Sydney Olympic Park and Burwood North noise mitigation	This Consistency Assessment was approved by Sydney Metro on 22 August 2023
Sydney Metro West – Westmead to The Bays and Sydney CBD Modification 5	This Modification was approved by Sydney Metro on 20 September 2023

2. CEMP ENDORSEMENT AND APPROVAL

Following internal AFJV reviews and external stakeholder consultation, documents are provided to the ER and Sydney Metro for relevant endorsement and/or approval. The CEMP and CEMP sub-plans will be subject to management review (refer to Section 3.11.1) and updates refer to Section 3.11 as required.

2.1 EXTERNAL CONSULTATION

Prior to submission to the ER for endorsement, external consultation during the preparation of the CEMP sub-plans and construction monitoring programs was undertaken with relevant government agencies as prescribed by the CoA. Refer to Table 4 for a summary of the consultation undertaken in accordance with the relevant CoAs.

In accordance with Condition C5, details of issues raised by stakeholders during consultation are recorded and included with the relevant CEMP sub-plan in the manner described in Condition A6.

Refer to Section 3.7 for more information regarding ongoing consultation during delivery of the CTP.

2.2 ENDORSEMENT AND APPROVAL

In accordance with Condition C4, with the exception of any CEMP expressly nominated by the Planning Secretary to be endorsed by the ER (under CoA C3), the CEMP must be endorsed by the ER and then lodged with the Planning Secretary for approval no later than one month prior to the commencement of the construction. In accordance with CoA C3 if the CEMP does not require the Planning Secretary's approval it must be lodged with the ER for endorsement no later than one month before the commencement of construction.

In accordance with Condition C7, with the exception of any CEMP sub-plans expressly nominated by the Planning Secretary to be endorsed by the ER, all CEMP sub-plans must be lodged with the Planning Secretary for approval. In accordance with Condition C8, the CEMP sub-plans not requiring the Planning Secretary's approval must obtain the endorsement of the ER.

In accordance with Condition A20, C10 and C21, construction of the relevant phase must not commence until the CEMP and all sub-plans and Monitoring Programs have been approved by the Planning Secretary and/or endorsed by the ER. The CEMP, Sub-plans and Monitoring Programs, as approved by the Planning Secretary, including any minor amendments approved by the ER, must be implemented for the duration of the CTP.

In accordance with the Sydney Metro West Phasing Report, the approval of this Plan will be under Condition C2 and as such ER endorsement and the Planning Secretary approval has been obtained.

TABLE 4: ENVIRONMENTAL REQUIREMENTS FOR AGENCY CONSULTATION

Plan / Program (relevant CoA)	DPHI	ER	AA	SOPA ¹	PM ²	Relevant Councils	DPIE EES	Heritage NSW	Sydney Water	DPI Fisheries	EPA	DPIE Water
Noise and Vibration Management Plan (C5) – Phase B1	A	E	E	C	C	C						
Noise and Vibration Management Plan (C5) – Phase B2	A	E	E	C	C	C						
Noise and Vibration Monitoring Program (C14) – Phase B1	A	E	E	C	C	C					C	
Noise and Vibration Monitoring Program (C14) – Phase B2	A	E	E	C	C	C					C	
Flora and Fauna Management Plan (C7) – Phase B1		E		C		C	C			C		
Flora and Fauna Management Plan (C7) – Phase B2		E		C		C	C			C		
Soil and Water Management Plan (C7) and Surface Water Quality Monitoring Program (C14) – Phase B1	A	E		C		C	C		C			C
Soil and Water Management Plan (C7) and Surface Water Quality Monitoring Program (C14) – Phase B2		E		C		C	C		C			C
Groundwater Monitoring Program (C14) – Phase B1		E		C								C
Groundwater Monitoring Program (C14) – Phase B2		E		C								C
Heritage Management Plan (C7) – Phase B1	A	E		C	C	C		C				

¹ Sydney Olympic Park Authority (SOPA) – only in respect of Sydney Olympic Park

² Placement Management New South Wales (PM) – only in respect of The Bays

Plan / Program (relevant CoA)	DPHI	ER	AA	SOPA ¹	PM ²	Relevant Councils	DPIE EES	Heritage NSW	Sydney Water	DPI Fisheries	EPA	DPIE Water
Heritage Management Plan (C7) – Phase B2	A	E		C	C	C		C				
Spoil Management Plan (C7) – Phase B1	A	E		C		C						
Spoil Management Plan (C7) – Phase B2	A	E		C		C						
Blasting Construction Monitoring Program (if required) (C14)	TBC	E		C	C	C						
Archaeological Research Design and Excavation Methodology(s) (D25)	A				C			C				
Unexpected Heritage Finds and Human Remains Procedure (D32)	I							C				
Out of Hours Work Protocol (D38) For works not requiring an EPL	A	C	C								C	
Detailed Site Investigation Report (Sydney Olympic Park (D71)				C								
Water Pollution Impact Assessment (D119)											C	

A – Approval, E – Endorsement, I – Information, C – Consultation

3. ENVIRONMENTAL MANAGEMENT PLAN

3.1 EMS OVERVIEW

The EMS for the CTP is based on the Acciona Corporate EMS and comprises a suite of documentation including this Plan which is supported by CEMP sub-plans, other management plans required by the CEMF, and other cascading environmental documentation including procedures and protocols as relevant to the activity or associated environmental risk.

The EMS provides a governance framework to support management of the CTP environmental requirements and defines how the AFJV will minimise environmental risk and meet the environmental outcomes through the design and construction of the CTP.

The CTP EMS includes:

- The AFJV Environment and Sustainability Policy
- This Plan (CEMP)
- CEMP sub-plans
- Other management plans (as required by the CEMF)
- Procedures / Permits

The EMS contains site specific documentation including procedures and other processes that enable the management of the CTP and support the core governance framework, including:

- Environmental Work Methods Statements
- Site Specific Environmental Control Map/s
- Progressive Erosion and Sediment Controls Plans
- Detailed Construction Noise and Vibration Impact Statements
- Hold points

Section 3.4 provides detail of the planning and governance processes.

3.1.1 RELATIONSHIP BETWEEN THIS CEMP AND OTHER EMS DOCUMENTATION

Table 5 provides an overview of the CEMP sub-plans and other management plans that most closely relate to the CEMP and form the CEMP framework. This suite of documents identifies the controls that will be implemented during construction. These documents have been prepared in response to CTP environmental requirements and have been prepared in accordance with CoAs, REMMs, CEMF and Sydney Metro plans, procedures, specification and requirements where required.

Other plans that will interface with the CEMP to ensure the CTP environmental requirements are implemented include safety, project management, construction plans and design reports.

TABLE 5: CEMP SUB-PLAN FRAMEWORK

CEMP sub plans	Associated Plan or Procedure	Relevant documents outside the CEMP
Noise and Vibration Management Plan (C5)	Out of Hours Work Protocol (including Out of Hours Permit) (D38) (for works not requiring an EPL) Noise and Vibration Monitoring Program (C14) Blasting Monitoring Program (if required) (C14)	Blast Management Strategy (if required) (D54) Detailed Construction Noise and Vibration Impact Statements (D43) Condition Survey Reports (CoA D60)

CEMP sub plans	Associated Plan or Procedure	Relevant documents outside the CEMP
	Land Use Survey (D34)	Community Communications Plan/s
Flora and Fauna Management Plan (C5)	AFJV Pre-clearance inspection / Permit Fauna Handling and Relocation Procedure Tree Register (CoA D9)	n/a
Soil and Water Management Plan (C5)	Soil and Water Monitoring Program (C14) Erosion and Sediment Control Plans (refer to Section 3.4.6) AFJV Dewatering Permit Unexpected Contaminated Land and Asbestos Finds Procedure (D77)	Detailed Site Investigation Report/s (D71) Remedial Action Plan/s (D72) Validation Report/s (D74) Site Audit Statement/s (D75) Water Pollution Impact Assessment (D119)
Heritage Management Plan (C5)	Unexpected Finds and Human Remains Procedure (D31)	Aboriginal Archaeological Test Excavation Methodology (D22) Final Aboriginal Cultural Heritage Excavation Report (D23) Revised Archaeological Research Design and Excavation Methodology (D25) Final Excavation Report (D28) Archival Report (REMM NAH1 / NAH10)
Spoil Management Plan (C5)	Waste Tracking Register AFJV Waste Disposal Permit Waste Disposal Site Register	Sustainability Management Plan (CEMF)
Groundwater Management Plan (CEMF)	Groundwater Monitoring Program (C14) AFJV Dewatering Permit	Groundwater Modelling Report (D122) Geotechnical and Hydrogeological Model (REMM GW5) Water Reuse Strategy (D79)
Visual Amenity Management Plan (CEMF)	n/a	Visual Amenity, Solar Access and Overshadowing Report (D107)
Air Quality Management Plan (CEMF)	n/a	n/a
Waste Management Plan (CEMF)	Waste Tracking Register AFJV Waste Disposal Permit Waste Disposal Site Register	Sustainability Management Plan (CEMF)

3.1.2 HOLD POINT

The internal hold points applied to the CTP are identified in Table 6. The internal verification process will require the approval of the relevant functional manager (or delegate) to proceed.

TABLE 6 INDICATIVE HOLD POINTS

Hold Point	Approval Required	Where addressed	Approver (or delegate)
Prior to native vegetation clearing/ Prior to ground disturbance at new area	Pre-clearing inspection Erosion and sediment control plan	Flora and Fauna Management Plan	Environment Manager
Discharge or reuse of water	Dewatering Permit	Soil and Water Management Plan	Environment Manager
Out of hours works	Out of Hours Work Permit	Out of Hours Work Protocol (Noise and Vibration Management Plan)	Environment Manager
Use of Local Roads by heavy vehicles	Road Dilapidation Report	CEMP (Section 4.1)	Traffic Manager
Construction identified as affecting buildings	Building Condition Survey	CEMP (Section 4.1)	Traffic Manager

3.2 ENVIRONMENT AND SUSTAINABILITY POLICY

The AFJV Environment and Sustainability Policy is provided in **Appendix A** and has been developed in accordance with Section 5.2 of ISO 14001:2015 to demonstrate our unwavering commitment to environmental protection and consideration in our service provision.

The policy is consistent with the Sydney Metro Environment and Sustainability Policy and Sydney Metro Environment and Sustainability Management System.

3.3 OBJECTIVES AND TARGETS

The key objective of this Plan is to ensure that the CTP is delivered in accordance with the contract requirements and the AFJV EMS which addresses all relevant environmental and planning requirements. Key environmental targets for the CTP have been established (refer to Section 3.4.1) and are:

- Compliance with all legal requirements including the CoAs and all permits and licences
- No regulatory infringements (Penalty Infringement Notices or prosecutions)
- Inspection checklist on time and close out rate within agreed timeframes
- Implement, and continually improve, an EMS that meets the requirements of AS/NZS ISO 14001
- Regularly identify opportunities for improvement
- Provide training that communicates key environmental issues and management controls

The performance against the objectives and targets of the CTP will be monitored (refer to Section 3.9) and performance monitoring will be documented in compliance reporting required under the Sydney Metro Compliance Tracking Program, and at least on an annual basis as part of auditing requirements (refer to Section 3.9.4). Environmental objectives and targets based on the project performance outcomes outlined in Chapter 27 of the EIS are incorporated into the relevant CEMP sub-plan and are detailed in Table 7.

TABLE 7: EIS ENVIRONMENTAL PERFORMANCE OUTCOMES

Desired performance outcome from SEARs	Sydney Metro West Performance Outcomes	Where the relevant Performance Outcome is Addressed
Spoil, waste management and resource use		

Desired performance outcome from SEARs	Sydney Metro West Performance Outcomes	Where the relevant Performance Outcome is Addressed
Spoil generated during the construction is effectively stored, handled, treated (if necessary), reused, and/or disposed of lawfully and in a manner that protects environmental values	100 per cent of usable spoil is reused in accordance with the spoil reuse hierarchy A minimum 95 per cent recycling target is achieved for construction and demolition waste Products made from recycled content are prioritised The use of potable water for non-potable purposes is avoided if non-potable water is available The reuse of water is maximised, either on site or off site.	Spoil Management Plan Sustainability Management Plan Waste Management Plan
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 use activities, dwellings and infrastructure. The project minimises impacts on and achieves appropriate integration with adjoining land uses.	Minimise impacts to community and business (including traffic, amenity, noise and vibration, water management and air quality) during construction. Affected communities and businesses are communicated with in a clear and timely manner to reduce disruption and address community concerns.	Noise and Vibration Management Plan Construction Traffic Management Plan/s Soil and Water Management Plan Air Quality Management Plan Visual Amenity Management Plan Community Communications Strategy and Small Business Owners Engagement Plan(s) Community Benefit Plan
Noise and vibration		
The project minimises adverse impacts on acoustic amenity of the surrounding community by effectively managing construction noise and vibration (including airborne noise, ground-borne noise and blasting).	Minimise increases in road traffic noise, where possible Include effective management of construction noise and vibration in accordance with relevant guidelines Minimise surface activity and associated noise at tunnelling sites	Noise and Vibration Management Plan Heritage Management Plan

Desired performance outcome from SEARs	Sydney Metro West Performance Outcomes	Where the relevant Performance Outcome is Addressed
Construction noise and vibration (including airborne noise, ground-borne noise and blasting) are effectively managed to minimise adverse impacts on the structural integrity of buildings and items including Aboriginal places and environmental heritage.	Minimise impacts to the local community by: Controlling noise and vibration at the source Controlling noise and vibration on the source to receiver transmission path Controlling noise and vibration at the receiver Implementing practicable and reasonable measures to minimise the noise and vibration impacts of construction activities on local sensitive receivers	
Aboriginal heritage		
The long-term protection, conservation and management of the heritage significance of items of environmental heritage	Minimise impacts on heritage items during construction Minimise impacts to areas of archaeological potential during construction	Heritage Management Plan
Non-Aboriginal heritage		
The long-term protection, conservation and management of the heritage significance of items of environmental heritage.	Minimise impacts on heritage items during construction	Heritage Management Plan Noise and Vibration Management Plan
Contamination and 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 and site contamination	Erosion and sediment controls are implemented and comply with <i>Managing Urban Stormwater – Soils and Construction, Volume 1</i> (Landcom 2004) and Volume 2D (DECC 2008) Acid sulfate soils are managed in accordance with good practice measures Contamination is managed to protect environmental values and human health	Soil and Water Management Plan
Water – flooding and hydrology		
Long term impacts on surface water and groundwater hydrology (including drawdown, flow rates and volumes) are minimised.	Construction is carried out in a manner that minimises the potential for adverse flooding impacts, through staging of works and the implementation of	Groundwater Management Plan Soil and Water Management Plan

Desired performance outcome from SEARs	Sydney Metro West Performance Outcomes	Where the relevant Performance Outcome is Addressed
Minimise adverse impacts on existing flooding characteristics.	environmental management measures The site layout at construction sites is such that flows are not significantly impeded	
Water – quality		
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).	Environmental values of receiving water sources are maintained Water discharged from construction sites meets the discharge criteria as set in the EPL.	Soil and Water Management Plan
Biodiversity		
The avoidance and minimisation of impacts on terrestrial and aquatic biodiversity	Impacts on biodiversity are minimised during construction Environmental values of receiving water sources are maintained	Flora and Fauna Management Plan Soil and Water Management Plan

3.4 PLANNING AND GOVERNANCE

This CEMP sits within the framework of the Acciona corporate EMS certified to ISO14001:2015, and as discussed in Section 3.1 is supported by a series of environmental sub-plans, procedures and internal permits to maintain a high level of governance with CTP environmental requirements. Where appropriate, the CTP environmental requirements will be integrated into site-specific documentation as discussed in the following sections.

The EMS includes subscription to an environmental legislation monitoring service (Enviro Matters Environmental News Alerts), to ensure the CTP works remain up to date with changing environmental legislation or other requirements. The Environment Manager is responsible for reviewing the updates to determine the relevance of the change. When necessary, this CEMP, sub-plans and monitoring programs, and other management plans (required under the CEMF) will be amended to ensure compliance. Regulatory approvals will be obtained or amended as necessary and work practices altered to ensure compliance. All relevant AFJV personnel will be advised of the change (refer to Section 3.6).

The EMS is supported by project risk assessments, regulatory and the CTP environmental requirements and site-specific CTP documentation.

3.4.1 ENVIRONMENTAL RISK ASSESSMENT

An initial environmental risk assessment workshop was held on 6 August 2021 to ensure potential risks associated with the construction activities (phase B1) have been properly considered and that appropriate and adequate controls have been identified. A subsequent risk assessment to consider

the potential risk associated with tunnelling activities (phase B2) was held on 30 May 2022. A further review was then conducted on the 20th of November 2023.

Each activity was assessed to identify associated environmental hazards, initial risk levels, mitigation measures and how to avoid, manage and/or minimise risks and the residual risk following the implementation of the identified measures.

The risk workshop was attended by senior representatives of the AFJV environmental and sustainability team, the Stakeholder and Community Engagement Manager and various representatives from the construction team. In addition to representatives from Sydney Metro, the ER, the Acoustic Advisor, and relevant subject matter experts. All attendees had the opportunity to discuss the activity and provide feedback on potential management and subsequent residual risk. Please refer to Appendix C for the Environmental Risk Registers.

For those activities with residual environmental risks identified as 'high', the justification for accepting the residual risk was discussed with all attendees. For all activities in this category, an Environmental Work Method Statement (EWMS) will be developed for that activity (refer to Section 3.4.4) where other risk assessment strategies are not already in place.

This register is reviewed and updated as part of periodic review the CEMP, or when significant new works are due to commence. More information about CEMP review is provided in Section 3.11.

3.4.2 ONGOING ENVIRONMENTAL RISK IDENTIFICATION AND MANAGEMENT

Ongoing environmental risk and opportunity identification is undertaken throughout project development and construction via the following risk assessment processes, which manages all environmental risks and elevates higher category risks as appropriate. The stages of this risk management is as follows:

- Transfer of environmental risks identified during tender to the Environmental Risk Register
- Project wide risk assessment undertaken and a Project Wide Risk Register maintained incorporating high level environmental risks from the Environmental Risk Register
- Monthly review of the Environmental Risk Register to address construction changes or new risks identified – any new high level environmental risks to be included in the Project Wide Risk Register
- Project Wide Risk Register review process will be undertaken in accordance with the AFJV Risk Management Plan
- Environmental Work Method Statements (refer to Section 3.4.4)
- Risk assessment undertaken on site at pre-start meetings (refer to Section 3.6.4)

The Project Wide Risk Register is tabled with the Senior Leadership Team to ensure an executive approach to high level risks is maintained throughout the CTP project.

The Environment Manager has authority to approve all risk assessment types (with the exception of EWMS and pre-start assessment given these require sign off on site) to ensure that all environmental risks and opportunities are adequately raised and addressed.

Each CEMP sub-plan and other management plan has a section that address key aspects and potential impacts, which has also been utilised to inform the development of specific management strategies to be applied across the CTP works. Environmental risks, controls and accountabilities identified will be communicated to all relevant personnel through the preparation and communication of the Environmental Control Maps (refer to Section 3.4.5), Environmental Work Method Statements, toolbox talks and pre-start meetings.

3.4.3 RELEVANT LEGISLATION AND APPROVALS

The relevant legislation to the CTP is listed in Table 8. The approvals and licencing requirements of the CTP are listed in Table 9.

TABLE 8: RELEVANT LEGISLATION

Legislation	Applicability
Environment Protection and Biodiversity Conservation Act 1999	The Project EIS assessed the impacts upon matters of national environmental significance. No significant impact was identified and the Project was not referred.
National Greenhouse and Energy Reporting Act 2007	Acciona will undertake the reporting for the CTP on behalf of the AFJV.
Biosecurity Act 2015	Noxious weeds will be managed in accordance with the Flora and Fauna Management Plan and the Waste Management Plan
Biodiversity Conservation Act 2016	Areas of biodiversity will be managed in accordance with the Flora and Fauna Management Plan
Contaminated Land Management Act 1997	Contaminated land will be managed in accordance with the Soil and Water Management Plan
Environmental Planning and Assessment Act 1979	Modifications to the SSI 10038 Infrastructure approval would be assessed under the EP&A Act.
Fisheries Management Act 1994	Permits not required for an approved CSSI.
Heritage Act 1977	Permits not required for an approved CSSI. Potential impacts to heritage items during construction will be managed in accordance with the Heritage Management Plan
National Parks and Wildlife Act 1974	Permits not required for an approved CSSI. Potential impacts to heritage items during construction will be managed in accordance with the Heritage Management Plan
Protection of the Environment Operations Act 1997	An Environment Protection Licence (EPL) will be sought for scheduled activities.
Roads Act 1993	Where required, consent under Section 138 will be sought
Waste Avoidance and Resource Recovery Act 2001	Procedures for waste avoidance and resource recovery are identified in the Sustainability Management Plan and the Waste Management Plan
Water Management Act 2000	Permits not required for an approved CSSI under Section 89, 90 and 91 of the Water Management Act.
Water Act 1912	The Water Act is being progressively repealed by the Water Management Act and does not apply where water sharing plans are in place. Groundwater and surface water within and near the CTP works area are covered by the <i>Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources</i> (2011). Permit not required.

TABLE 9: ENVIRONMENTAL APPROVALS AND PERMITS

Regulatory Authority	CTP Requirement
DPHI	SSI 10038 Infrastructure Approval Modifications to the Infrastructure Approval require the approval of DPHI Approval of management plans, reports, procedures as required by CoA (as identified in the Phasing Report)
EPA	Acciona has obtained an Environment Protection Licence (EPL 21620) for <i>Railway activities – railway infrastructure construction and Concrete works</i> under Schedule 1 of the POEO Act. Under Part 5.7A the licence holder has a duty to prepare and implement a Pollution Incident Response Management Plan.
Sydney Water	Connection to sewer (if required)

3.4.4 ENVIRONMENTAL WORK METHOD STATEMENTS

AFJV will prepare EWMS for high-risk activities identified in the CTP Environmental Risk Register (refer to Section 3.4.1).

The EWMS will incorporate relevant mitigation measures and controls, including those from relevant CEMP sub-plans and key procedures to be used concurrently with the EWMS. EWMS are specifically designed to communicate requirements, actions, processes and controls to construction personnel using plans, diagrams and simply written instructions and form part of the Construction Method Statement of the applicable works/activity.

EWMS will be prepared progressively throughout construction, in consultation with the relevant site management personnel. All construction personnel and sub-contractors 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.

Each EWMS will include at least:

- A breakdown of the work tasks relevant to the specific activity and indicate responsibility for each task
- Potential environmental impacts associated with each task
- A risk rating for each of the identified potential impacts
- Mitigation measures relevant to each of the work tasks
- Responsibility to ensure the implementation of the mitigation measures.

Monitoring, inspections and auditing of compliance with the EWMS will be undertaken regularly by relevant site management personnel and/or environmental coordinators.

3.4.5 ENVIRONMENTAL CONTROL MAPS

To assist with design and construction planning and management, identified site constraints are consolidated on a series of map-based sheets for each CTP construction site/work site called Environmental Control Maps (ECMs). Each ECM will delineate site boundaries and identify environmental controls, procedures and relevant environmental requirements to that location or specific activity. In addition, the ECM will include the training and competency requirements. As per the CEMF Section 3.6(c) ECMs will:

- Depict the current representation of the site;
- Indicate which environmental procedures, environmental approvals, or licences are applicable;
- Illustrate the site, showing significant structures, work areas and boundaries;
- Illustrate the environmental control measures and environmentally sensitive receivers;

- Be endorsed by the AFJV Environment Manager or delegate;
- Include all the training and competency requirements for relevant workers; and
- Be communicated to relevant workers, including sign-off for the appropriate procedures prior to commencing works on the specific site and / or activity.

ECMs will be used in conjunction with EWMSs to help identify key risk areas and provide a forum for ongoing communication with construction personnel throughout the delivery of the CTP.

ECMs will be progressively updated throughout construction areas as works progress to communicate mitigation and management measures. 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, based on the ECM.

ECMs will be available to the ER during ER inspections and audits where requested.

3.4.6 EROSION AND SEDIMENT CONTROL PLANS

Erosion and Sediment Control Plans (ESCPs) are planning documents that identify the site layout and the approximate location of erosion and sediment control structures onsite. They cover all construction stages from initial vegetation clearing through to rehabilitation when erosion and sediment control are no longer required and are removed. ESCPs may be produced in conjunction with EWMS and ECMs to provide detailed site-specific environmental mitigation measures.

3.4.7 ENVIRONMENTAL PROCEDURES

The CTP EMS includes procedures, permits, registers and forms that provide instructions related to environmental management and monitoring of environmental performance. An indicative list of the procedures, permits, registers and forms relevant to the CTP is provided in Table 10. Additional procedures, permits, registers and/or forms will be developed on an as needs basis.

TABLE 10: INDICATIVE ENVIRONMENTAL PROCEDURES, PERMITS, REGISTERS AND FORMS

Record	Function
Pre-Clearing Procedure / Permit	Used prior to clearing / trimming of vegetation. Refer to the Flora and Fauna Management Plan
Fauna Handling and Relocation Procedure	Used in associated with the pre-clearing inspection permit prior to the handling and relocation of fauna. Refer to the Flora and Fauna Management Plan.
Tree Register	Used to record vegetation removal for the purpose of informing revegetation requirements. Refer to the Flora and Fauna Management Plan.
Out of Hours Work Permit	Used in conjunction with the Out of Hours Work Protocol. Refer to the Noise and Vibration Management Plan.
Dewatering Permit	Used prior to discharge of water collected in water treatment plants, sediment basins, excavations and holding tanks. Refer to the Soil and Water Management Plan and the Groundwater Management Plan.
Waste Tracking Register	Used to track the disposal of waste materials. Refer to the Waste Management Plan and the Spoil Management Plan.
Waste Disposal Site Register	Used to track active waste and spoil disposal sites. The register includes the site or project name, location, capacity, site owner and which tier the site is classified as under the spoil reuse hierarchy. Refer to the Waste Management Plan and the Spoil Management Plan.

Record	Function
Environmental Incident Register	Used on an as needs basis in response to an environmental incident or non-compliance. Refer to Section 3.8
Environmental Non-Conformance Register	Used on an as needs basis in response to an identified non-conformance. Refer to Section 3.8
Environmental Inspection Checklist	To be used to undertake environmental inspections. Refer to Section 3.9.3.
Environmental Actions List / Register	To be used in conjunction with the Environmental Inspection Checklist to identify actions that arise during inspection and identify responsibility and timeframe for rectification.

In a manner consistent with the preparation of EWMS, where a procedure is identified in Table 10, this will include:

- A breakdown of the work tasks relevant to the specific activity and indicate responsibility for each task;
- Potential impacts associated with each task;
- Mitigation measures relevant to each of the work tasks; and
- Responsibility to ensure the implementation of the mitigation measures

3.5 PEOPLE, RESPONSIBILITIES AND COMMUNICATION

AFJV is implementing separate roles for environment and sustainability in recognition of the broader scope of sustainability and our commitment to community, people and environmental outcomes. The environmental team will work closely with sustainability and other workforce, safety and community teams in the one People and Social Capital stream. This will enable our environmental delivery team to be structured to deliver specialised knowledge and skill in this important area, while still being integrated with related teams.

The general environmental team relationship is indicated in Figure 2.



FIGURE 2: THE AFJV ENVIRONMENT ORGANISATION CHART

Environmental compliance and care is the responsibility of the whole project team. Table 11 details the key environmental resources allocated to the CTP, and other roles that have environmental responsibilities.

TABLE 11: AUTHORITY AND KEY ENVIRONMENTAL RESPONSIBILITY

Position	Authority and Key Environmental Responsibilities
Project Director	- Accountable for delivery of the design and construction of the CTP and ultimately accountable for the implementation of the CEMP - Responsible for providing adequate resources to address the requirements of environmental compliance - Responsible for environmental management and compliance for the design and construction of the CTP - Managing any necessary adjustments for budgetary commitments to enable environmental obligations to be fulfilled - Reviewing the results of notifiable environmental incident investigations and major non-conformances - Establishing and maintaining communication channels between management and the workforce including those who have a shared duty of care - Ensure that the project team understand the environmental requirements to ensure environmental impacts are minimised, obligations are met, and targets achieved.

Position	Authority and Key Environmental Responsibilities
	▪ Establish process to minimise risk of unacceptable impacts on the environment ▪ Stop works immediately if an unacceptable impact on the environment is likely to occur. Skills: ▪ Be experienced in the design, construction and project management of large projects similar to the CTP
Environment Manager	▪ Project leadership on all aspects of environmental management across the AFJV project team, with Sydney Metro, EPA, DPHI, the ER, the AA and other regulatory authorities and with key stakeholders ▪ Overall responsibility for the implementation of environmental matters on the Project. ▪ Development, implementation, monitoring and updating of the CEMP and associated environmental plans in accordance with ISO14001. ▪ Report to Project Director and other senior managers on the performance and implementation of the CEMP. ▪ Manage compliance with project approvals and site environmental performance, in conjunction with our design, construction, commercial, quality, traffic, safety and community teams ▪ 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. ▪ Approve / reject Low Impact Works and Out of Hours Works activities. These works shall be conducted in accordance with the Out of Hours Works Protocol (OOHW Protocol) ▪ Obtain and update all environmental licences, approvals and permits as required. ▪ Attend Sydney Metro's environment and approvals meetings ▪ Respond to EPA and DPHI compliance queries ▪ Manage environmental reporting within the Project team and to Sydney Metro and regulatory authorities. ▪ 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/alerts. ▪ Review and approve EWMS, ESCPs & ECMs. ▪ Develop and facilitate induction, toolbox talks and other training programs regarding environmental requirements for all site personnel. ▪ Notify Sydney Metro and relevant authorities in the event of an environmental incident and manage close-out of these. ▪ Stop activities where there is an actual or immediate risk of harm to the environment, or to prevent environmental non-conformities, and advise the Project Director, Construction Director and Superintendent. ▪ Respond to, report and investigate environmental incidents ▪ Manage the project accountability for reporting of environment related complaints to the EPA with support from the Community team ▪ Manage all aspects of the requirements of the Environment Protection Licence

Position	Authority and Key Environmental Responsibilities
	Skills: Recognised tertiary level environmental qualifications and at least fifteen years of experience in the preparation and implementation of environmental management systems and plans in infrastructure projects
Design Manager	- Lead and manage the design team to ensure the design deliverables support the construction program and maintain a strong focus on driving positive outcomes across environment, sustainability, stakeholder and community, time and wider Project outcomes - Ensure design environment risks are closed or mitigated, and that any residual risk is recorded and transferred to the construction team. - Responsible for ensuring that the detailed design is consistent with the Planning Approval Skills: - Engineering qualification and at least fifteen years of experience in the overall management and coordination of multi-disciplinary design teams on large projects similar to the CTP
Stakeholder and Community Engagement Manager	- Reports directly to the Project Director and has primary responsibility for liaison with community and business stakeholders associated with CTP - Keep relevant community stakeholders informed and provide input where appropriate on CTP - Liaise with local councils and relevant community stakeholders and ensure that all team members are aware of the community consultation requirements and complaints arrangement systems Skills: - Recognised qualifications and at least ten years of communications and community relations experience with extensive experience in the management of community liaison, consultation and communications
Construction Director, Construction Manager, Project Managers and Project Engineers	- Responsible for ensuring that environmental considerations are integral to the decision making for all construction activities - Reporting the CTP Environmental performance to the Project Director in accordance with the CEMP - Ensuring the compliance by monitoring onsite environmental management - Ensuring relevant environmental procedures are implemented onsite - Ensuring that the environment is always considered in forward planning and scheduling - Construction Work Method Statements incorporate planning for and management of environmental risks associated with the works - Liaise with the environment team to ensure that environmental controls and procedures contained in the CEMP are integrated into the construction works - Ensuring sub-contractor compliance with the requirements set out in this plan and other relevant documentation - Ensuring information concerning the environment is communicated to the relevant personnel (including subcontractors) and any matters raised by employees concerning the environment is taken up, investigated and any action necessary completed - Ensuring processes are in place for ensuring environmental controls are implemented and effective - Ensuring enquiries and/or investigations of hazards, incidents and near misses are reviewed and the outcomes are incorporated into better management practices and relevant documentation

Position	Authority and Key Environmental Responsibilities
Superintendent & Site Supervisor	- Stop work immediately if an unacceptable impact on the environment is likely to occur. - Ensuring relevant plans, procedures, objectives and targets, EWMS are explained to personnel and a record of understating is obtained prior to personnel starting the activity work - Conducting works to minimise environmental impacts and achieve sustainability objectives - Taking preventative action to eliminate or minimise all environmental hazards as advised by the Environment Manager - Provide resources for the implementation of corrective actions for non-conformances resulting from investigations, incidents, hazards, injuries and near misses - Complying with any responsibilities as assigned in project environmental documentation and associated procedures - Disseminating environmental risk management and emergency procedures during site induction and pre-start meetings - Responsible for checking that environmental controls remain effective, through maintenance, and that field personnel are provided with appropriate environmental training - Stop work immediately if an unacceptable impact on the environment is likely to occur.
Environment personnel	- Report directly to the Environment Manager - Responsible for performing regular on-site liaison and inspections, and to provide environmental advice and assistance to construction personnel - Manage implementation of environmental management sub-plans - Coordinate compliance tracking and/or perform environmental monitoring activities - Ensuring relevant plans, procedures, objectives and targets, EWMS are explained to personnel and a record of understating is obtained prior to personnel starting the activity work - Assist with training and induction of personnel - Raising any environmental impacts, issues or concerns immediately with the relevant supervisor and escalate as required through Project Manager to Environment Manager. - Risks that pertain to regulatory or notifiable events or non-compliances to be raised with Project Manager and Environmental Manager immediately.
Construction personnel	- All staff and subcontractors are responsible for their own environmental performance of the project - Attending environmental training and adhering to and remaining familiar with the principles covered in training session(s) - Undertaking works whilst ensuring that environmental controls and procedures contained in the CEMP are integrated - Raising any environmental impacts, issues or concerns immediately to the relevant supervisor.

Note that key personnel during the THS period will be as described in Section 1.3.4 above.

3.5.1 SUBCONTRACTORS

Subcontractors working on the CTP are required to work in accordance with the approved CEMP. We will monitor environmental performance of subcontractors and their compliance over the length of the contract. An environment and sustainability checklist will be issued with contract documentation and reviewed throughout the delivery of their contract to ensure performance in accordance with the CEMP

and Sustainability Management Plan. The environmental requirements of the CTP will be summarised in contract documentation and all subcontractors will be required to undergo a CTP Induction prior to commencement of works. All subcontractors are required to work under the AFJV EMS.

3.5.2 SPECIALIST CONSULTANTS

The AFJV will use specialist environmental consultants/subcontractors to support the AFJV environment and approvals team. Table 12 provides a list of likely specialist environment, sustainability and planning consultants, and their proposed scope of work on CTP – this list is not intended to be exhaustive and additional resources and subject matter experts may be utilised as required.

TABLE 12: SPECIALIST CONSULTANTS/SUBCONTRACTORS

Discipline / Specialist	Scope of Work
Noise and Vibration	Noise and vibration modelling, prepare DNVIS, and undertake noise and vibration monitoring; and Land Use Survey
Contamination / waste classification	Soil and groundwater contamination and its management, remediation action plans and their validation
Planning consultants	Preparation of consistency assessments, modification documentation, or any other planning submission documentation
Site Auditor	An EPA Accredited site auditor will be engaged to review the contamination management processes and preparation of site audit statements
Heritage specialist	Heritage advice, archaeology management, heritage documentation and reporting
Excavation Director	Oversee and advise on matters associated with historical archaeology
Energy	Project energy efficiency, carbon abatement program
Sustainability advice	Sustainability advice, mentoring and technical IS Council support
Soil Conservationist	Site-based practical advice on sediment and erosion control. Review of erosion and sediment control plans
Water Treatment Plant Management	Specialist operators of the Water Treatment Plants ensuring the machinery is operating effectively and water quality criteria are being achieved.

3.5.3 SYDNEY METRO

Sydney Metro is the Proponent under the EP&A Act. Sydney Metro has prepared a Phasing Report for the Project that acknowledges the phasing of construction of the Project.

Refer to **Appendix B** for environmental requirements relevant to the delivery of the CTP that will be met by the AFJV.

3.5.4 ENVIRONMENTAL REPRESENTATIVE

The role of the Independent ER is to provide oversight of the environmental and planning performance of the Project and communicate this to the DPHI, assist the AFJV in achieving compliance in a proactive and coordinated manner and facilitate proactive management of environmental issues. The ER is engaged by Sydney Metro and has been approved by the Planning Secretary under CoA A27. The function of the ER is described in detail in CoA A30 and includes:

- Receive and respond to communication from the Planning Secretary in relation to the environmental performance of Stage 1 of the CSSI
- Consider and inform the Planning Secretary on matters specified in the conditions of the Infrastructure Approval
- Determine Low Impact Works Applications (where applicable)

- Assess the establishment and use of minor ancillary facilities
- Review / endorse CEMP, sub-plans and monitoring programs required under CoA C1, C5 and C14
- Regularly monitor the implementation of CEMP, sub-plans and monitoring programs required under CoA C1, C5 and C14
- Liaise and work in conjunction with the AA (refer to Noise and Vibration Management Plan)
- Consider and approve any minor amendments made to the CEMP, sub-plans and monitoring programs required under CoA C1, C5 and C14 (this does not include modifications to the conditions of the approval)
- As may be requested by the Planning Secretary, help plan or attend audits of the development commissioned by the DPHI, including scoping audits, programming audits, briefings and site visits
- As may be requested by the Planning Secretary, assist in the resolution of complaints

In accordance with CoA A31, the AFJV would provide the ER with all documentation requested by the ER in order for the ER to perform their functions as specified in CoA A30 including the preparation of the ER monthly report) as well as:

- The complaints register on a weekly basis or as requested
- A copy of any consistency assessments (refer to Section 1.6).

3.5.5 ACOUSTICS ADVISOR

The Acoustics Advisor (AA) is engaged by Sydney Metro and acts on behalf of the DPHI. The role of the AA is described in detail in the CoA A36 and includes:

- Review proposed night-time works (except for low risk activities) associated with CoA D38 to determine if sleep disturbance would occur and recommend management measures
- Review all noise and vibration documents required by a CoA and regularly monitor the implementation of the documents
- Review incident notifications (CoA A43)
- If requested by the ER to review relevant minor amendments made to the CEMP, relevant sub-plan and relevant monitoring program, and if necessary, endorse the amendment, review the noise impacts of minor ancillary facilities and in conjunction with the ER, resolve conflicts in accordance with the OCCS.

In accordance with CoA A34, the AFJV will cooperate with the AA by:

- Providing access to noise and vibration monitoring activities as they take place
- Providing access to the Complaints Register if requested by the AA
- Providing for review of noise and vibration documents required to be prepared under the CoAs, and
- Considering any recommendations to improve practices and demonstrating, to the satisfaction of the AA, why any recommendation is not adopted.

3.5.6 INDEPENDENT CERTIFIER

The Independent Certifier role is detailed in the D&C Deed and is responsible for checking that all the contractual requirements (detailed in the D&C Deed) in relation to environmental management has been met.

3.5.7 KEY STAKEHOLDERS

3.5.7.1 DPHI

Sydney Metro will be responsible for the communication with the DPHI, the AFJV will assist Sydney Metro with required information to undertake communications and submissions to the Planning Secretary.

3.5.7.2 EPA

The EPA is the responsible government agency for issuing the EPL, and any variations required throughout the delivery of the CTP. The EPA will monitor compliance with the EPL. Communication will be direct between the AFJV and the EPA.

3.5.8 UTILITIES COORDINATION

A Utility Coordination Manager will be appointed to manage and coordinate the utility work for the duration of the CTP delivery, in accordance with CoA D102. The Utility Coordination Manager will interact with the Environment and Sustainability Team, and Communications Team as required.

3.6 TRAINING, AWARENESS AND COMPETENCY

Training and upskilling of the workforce is an important part of raising awareness to environmental issues and ensuring workforce competence and Project compliance. Training provided on site will include:

- Project induction, including roles and responsibilities,
- Environmental awareness training,
- Toolbox training on a range of environment issues,
- EWMS toolbox training,
- Daily pre-start meetings, and
- Targeted Environmental training

An initial training needs matrix is provided in Table 13. Records of project induction, environmental awareness training and environmental training will be kept & maintained electronically and include the topic of the training carried out, dates, names and trainer details by AFJV Workforce Development & Industry Participation portfolio. Records of environment toolbox training, including EWMS toolbox training will be retained by the Environment team. Daily pre-start meeting records are retained by the AFJV broader construction team. Another way to inform construction personnel will be through the development and distribution of awareness notes. These will typically take the form of a poster, booklet, or similar and will be distributed to engineers, leading hands, foreman and others with a responsibility for managing specific work locations or activities. This documentation will be used to inform the broader workforce through either daily pre-starts meeting or provision in worker crib sheds / break facilities /noticeboards distributed throughout the project worksites.

3.6.1 PROJECT INDUCTION

All personnel, including subcontractors, are required to attend a compulsory project induction that includes specific environmental components, prior to commencement onsite. The project induction will include an overview of:

- AFJV CTP Environment & Sustainability Policy
- Relevant details of the CEMP including purpose and objectives
- Key environmental issues
- Conditions of environmental licences permits and approvals
- Specific environmental management requirements and responsibilities
- Mitigation measures for the control of environmental issues
- Incident response and reporting requirements
- Information relating to the location of environmental constraints

The Environment Manager (or delegate) will develop the environmental components of the project induction in collaboration with the wider AFJV team including safety, traffic and community engagement. Where possible, components of the project induction will be mapped to accredited training units in accordance with the Australian Qualification Framework and Acciona National Training Matrix, as managed by the AFJV Workforce Development & Industry Participation portfolio. The AFJV Environment Manager is responsible for the content and delivery of environmental management components of the project induction collaboratively with the AFJV Workforce Development & Industry Participation Manager.

3.6.2 ENVIRONMENTAL AWARENESS TRAINING

Targeted environmental awareness training will be provided to project individuals or groups of workers with a specific authority or responsibility for environmental management or those undertaking an activity with a high risk of environmental impact. Training is generally delivered by the Environment and Sustainability team (or their delegate). Environmental awareness training is typically of duration greater than 15mins and is delivered in a specific training context. Environmental awareness training may be accredited or non-accredited with topic examples including:

- CEMP on-boarding
- Project Approvals, Licences, obligations and requirements
- Out of hours works approvals and permits processes and requirements
- Dewatering of sediment control basins / water treatment plants
- Environmental incident identification, response and management
- Erosion & Sediment Control techniques & practices
- Environmental noise & vibration monitoring
- Water treatment plant monitoring, alarms and response

Where possible, environmental awareness training will be mapped to accredited training units in accordance with the Australian Qualification Framework and Acciona National Training Matrix, as managed by the AFJV Workforce Development & Industry Participation portfolio. The AFJV Environment Manager is responsible for the content and delivery of environmental awareness training collaboratively with the AFJV Workforce Development & Industry Participation Manager. Where practicable environmental awareness training will be delivered by subject matter specialists.

3.6.3 TOOLBOX & EWMS TRAINING

Toolbox training will be prepared and delivered by the Project Engineers/Site Foreman/Safety and/or Environment Manager (or delegate). Toolbox training is typically non-accredited of short duration training that is risk and/or aspect focussed, delivered in the field and topics may include:

- Environmental Incident identification, response & reporting
- Erosion and sedimentation control
- Noise, vibration, light spill minimisation and hours of work
- Spills and leaks (including the application of remediation products)
- Aboriginal and non-Aboriginal heritage
- Concrete washout procedures
- Management of contaminated soil
- Vegetation clearing controls and protection
- Waste management, minimisation and recycling
- Dust control.

All construction personnel and sub-contractors undertaking a task governed by an EWMS must participate in the relevant EWMS training and acknowledge that they understand their obligations by signing an attendance record prior to commencing work.

3.6.4 DAILY PRE-START MEETINGS

The pre-start meeting is a tool for informing the workforce of the day's activities, safe work practices, environmental protection practices, work area restrictions, activities that may affect the works, coordination issues with other trades, hazards and other information that may be relevant to the day's work.

The Site Supervisor 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. Daily pre-start meetings are generally succinct in nature and take approximately 10-15 minutes. 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 by, or impact on, the day's activities. All attendees will be required to sign on to the pre-start and acknowledge their understanding of the issues explained. Pre-start topics, dates delivered and a register of attendees will be recorded using AFJV Pre-start meeting record.

3.6.5 TARGETED ENVIRONMENTAL TRAINING

Targeted environmental training will be provided to individuals or groups with a specific authority or responsibility for environmental management, those undertaking an activity with a high risk of environmental impact or to ensure the competency of the relevant project team members is appropriate for their responsibilities. Where practicable environmental training will be accredited training and recognition of prior learning will be considered via the AFJV Workforce Development framework. Training will generally be delivered by external providers organised by the AFJV Workforce Development team and will require prior concurrence of the AFJV Workforce Development & Industry Participation Manager. Environmental training may include topics as summarised in Table 13.

3.6.6 TRAINING NEEDS MATRIX

The initial training needs matrix has identified the required knowledge and competence in relation to environmental management for the project as well as project specific environmental knowledge and awareness. The training identified in Table 13 is not exhaustive and will be reviewed as part of CEMP review process.

TABLE 13: INITIAL TRAINING NEEDS MATRIX

Topic / Course	Project Director	Senior Managers	Superintendents	Engineers	Safety	Traffic Engineers	Quality, Systems and Digital	Environmental	Sustainability	Community Engagement and Stakeholder	Foreman / Supervisor	Leading Hands	Labourers	Subcontractors	Design	Administration
Project induction	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
CEMP on-boarding	x	x	x	x	x	x	x	x	x	x	x				x	
Project approvals, licences, obligations and requirements	x	x		x		x		x	x	x						
Out of hours works approvals and permit processes and requirements		x	x	x	x	x		x		x	x			x		
Dewatering of sediment control basins / water treatment plants			x	x				x			x	x	x			
Environmental incident identification, response and management		x	x	x	x	x		x		x	x	x	x	x	x	
Erosion and sediment control techniques and practices				x	x	x		x			x	x	x	x		
Environmental noise and vibration monitoring				x	x			x		x	x	x		x		
Water treatment plant monitoring, alarms and response					x			x			x	x	x	x		
Environmental management obligations and due diligence	x	x	x					x		x						
Erosion and Sediment Control – Blue Book								x								
Practical erosion and sediment control for the workforce				x				x			x	x				

Topic / Course	Project Director	Senior Managers	Superintendents	Engineers	Safety	Traffic Engineers	Quality, Systems and Digital	Environmental	Sustainability	Community Engagement and Stakeholder	Foreman / Supervisor	Leading Hands	Labourers	Subcontractors	Design	Administration
Selecting and installing erosion and sediment control measures				x				x			x	x				
Acid sulfate soils management for construction sites				x				x			x	x				
Noise and vibration monitoring for construction				x				x								
Environmental sampling techniques								x				x				
Unexpected finds procedure and asbestos awareness			x	x	x		x	x		x	x	x	x	x		
Developing environmental monitoring programs								x								
Report writing skills				x	x			x		x						x
ICAM or similar incident investigation training		x	x	x	x			x		x						
Environmental Management Systems							x	x								
Environmental Management Systems Internal Auditor							x	x								
Lead Environmental Auditor								x								
ISAP – Infrastructure Sustainability Assessment Practitioner – ISCA		x						x	x						x	
Rail Safety Worker		x	x	x	x	x	x	x		x	x	x	x	x		
Unreasonable Complaint Management								x		x						

3.7 COMMUNICATION

3.7.1 SYDNEY METRO

The Environment Manager is responsible for reporting on the environmental performance of the CTP to Sydney Metro. The Environment Manager will attend Environment & Approvals Meeting chaired by Sydney Metro to identify and discuss key environmental matters and participants will include AFJV, the ER and the AA. The AFJV will work with Sydney Metro to establish and host forums or meetings for the CTP with environmental content or focus.

Additionally, in accordance with the Deed, a monthly CTP-wide progress report will be provided to Sydney Metro, this will include an environmental management component.

3.7.2 GOVERNMENT AGENCIES

The Environment Manager will liaise with government agencies and relevant stakeholders and attend relevant forums to maintain successful working relationships throughout construction of the CTP. This includes reporting to the EPA through Annual Returns for the EPL and any other information as reasonably requested. This process will also be managed by the AFJV Community and Stakeholder Manager and where applicable in compliance with the Community Communication Strategy.

3.7.3 PROJECT TEAM COMMUNICATIONS

The Environment Manager will attend project senior leadership meetings. These meetings will discuss design development and upcoming work programs and construction methodologies and provide a forum for discussion and management of environmental issues. The senior leadership meetings will enable communications with other AFJV team members including the Community and Stakeholder Manager.

For further detail regarding internal communications refer to Sections 3.6.2 and 3.6.3.

The senior leadership meetings provide a forum for advance notification of upcoming works. The Environment Manager will assess design and construction methodology changes for consistency against the Planning Approvals.

3.7.4 COMMUNITY COMMUNICATION

A Community Communications Strategy has been developed for the CTP in accordance with the Sydney Metro OCCS. The Community Communications Strategy identifies internal and external communication processes, communication tools and are specific to areas within the CTP work site.

The following information will be available to facilitate community enquiries (in accordance with CoA B3) throughout the delivery of the CTP:

- A 24-hour telephone line
- A postal address
- An email address
- A community complaints mediation system

Details of this information will be available on the Sydney Metro webpage required in accordance with CoA B11 as well as on site hoarding at construction sites, in accordance with CoA A48.

AFJV will also host a website, which will provide public access to approval documents prepared by AFJV, in accordance with CoA B11. A link will be available between the Sydney Metro website and the AFJV website.

3.7.5 COMPLAINTS MANAGEMENT

During construction, all complaints will be addressed via the Complaints Management System which will be established and maintained by Sydney Metro, including a Complaints Register (developed in accordance with CoA B4). The Complaints Register will be provided to the Planning Secretary by Sydney Metro upon request in accordance with CoA B6.

Refer to the Community Communications Strategy for further detail on the complaints management procedure.

3.8 INCIDENT NOTIFICATION MANAGEMENT

The key to effective incident prevention onsite is ongoing monitoring, surveillance and training. During construction, the following onsite preventative strategies are implemented to reduce the likelihood and severity of incidents/ emergencies:

- Weekly inspections of active work sites
- Completion of Environmental Inspection Checklists
- Issue and quick close-out of non-compliance notices (as required)
- Prompt maintenance and repairs of environmental controls
- Ongoing environmental training
- Emergency drills may be undertaken in areas of high environmental sensitivity,
- Environmental audits of worksites, subcontractors and general compliance, and
- Environmental and safety information on hazardous substances (e.g. SDS) will be available at the main site office together with information as to where such substances are to be stored.

Incident classification and notification will be undertaken in accordance with the Sydney Metro Environmental Incident and Non-compliance Reporting Procedure (Appendix E) which describes specific requirements based on the incident classification. Classification categories and notifications are summarised in Table 14.

TABLE 14: INCIDENT CLASSIFICATION AND NOTIFICATION MATRIX

Classification		Notification
Report only	Class 3	C6 - No appreciable changes to environment and/or highly localised event
		C5 - Change from normal conditions within environmental regulatory limits and environmental effects are within site boundaries
		C4 - Short-term and/or well-contained Environmental effects. Minor remedial actions probably required
Notifiable	Class 2	C3 - Impacts external ecosystem and considerable remediation is required
		C2 - Long-term environmental impairment in neighbouring or valued ecosystems Extensive remediation required
	Class 1	Irreversible largescale environmental impact with loss of valued ecosystems

The management of incidents will be in accordance with Part 5.7A of the POEO Act and the Sydney Metro Environmental Incident and Non-compliance Reporting Procedure, as captured in the AFJV Environmental Incident Management Procedure. In summary this includes:

Actions for all incidents

- An immediate response to make the area safe, stop the source/spread of the incident and minimise environmental damage as quickly as possible:
 - Notify the Environment Manager and the Construction Manager, who will: determine appropriate management response to the incident to prevent or minimise environmental harm.
 - identify any non-compliances associated with the incident
 - Classify the incident in accordance with the classification system detailed in Table 14.

Notification of Incidents

- The Environment Manager will notify the Project Director immediately of a 'notifiable event' classification (being a Class 1 or 2 incident) in accordance with classification matrix in Table 14
- The Project Director or the Environment Manager would notify the Sydney Metro Environmental Manager and the ER of incidents (and the AA with regards to any noise or vibration related incidents) as soon as practicable in the event of a notifiable incident, to enable Sydney Metro to make immediate notification to the Planning Secretary under CoA A43. The AFJV Environment Manager would notify the EPA, and other relevant regulatory authorities.
- The Environment Manager would provide written notification to Sydney Metro within 24 hours of the initial incident notification.
- Sydney Metro would notify the Planning Secretary in accordance with CoA A43, which requires notification to the Planning Secretary in writing within 24 hours of the initial phone call.

Investigation of Incidents

- All incidents will be investigated to the level required to address the incident classification. Incident investigation reports for Class 1 and 2 incidents will address the requirements of CoA A44 (including the requirements detailed in Appendix A of the Infrastructure Approval) and will be provided to Sydney Metro within a timeframe that enables Sydney Metro to provide the incident report to the Planning Secretary in accordance with CoA A44.

Preventative and Corrective Actions

The Environment Manager will maintain an Environmental Incident Register for the duration of the CTP works.

All AFJV personnel and subcontractors are required to report environment incidents, non-compliances, near misses to their supervisor and assist in the completion of an Environment Incident Report as directed or required. Subcontractors may be asked to initially prepare an incident report in accordance with their company procedures.

The Environmental Incident Report will identify the corrective and preventative actions required in order to avoid a repeat occurrence of the incident. Actions, responsibilities and timeframes for rectification will be managed within the Environmental Incident Register.

The AFJV EMS is applied to internally report on HSEQ performance and track HSEQ compliance. All incidents are to be notified to the Acciona Environment & Sustainability Manager, Central Region within two hours of identification. The AIMS Lucidity software platform will be used to record all environmental incidents. This includes:

- Reporting incidents, hazards and near misses, which must be reviewed and closed out by senior management,
- Conducting and recording of audits and inspections, and generation of reports,
- Tracking non-conformances and corrective actions, and

- Assigning actions to responsible parties as a result of audits, incidents and inspections.

Non-Compliances

An environmental non-compliance is a breach of environmental requirements identified in the CoAs, EPL or other project requirements documented in the CEMP, sub-plans and other management plans. To avoid doubt, where a requirement of the CEMP, Sub-Plan or other Plan required of the Approval is not complied with, it is a Non-Compliance under Condition C10 (or the respective Plan condition) and would not be classified as a non-conformance.

Non-compliances can be identified during incident investigation, audits or through a complaint investigation. They can also be raised by the ER as part of the Six Monthly Compliance Assessment process as described in the Sydney Metro Compliance Tracking Program (Stage 1).

A record of non-compliances identified by any means, including the immediate and ongoing actions to minimise impact and prevent recurrence, will be managed within the Environmental Incident Register.

In the case of a non-compliance, the Environment Manager would notify Sydney Metro and the ER within 48 hours of the non-compliance being confirmed. The non-compliance notification would address the information requirements of CoA A46. From here, notification of the non-compliance will be made to the Planning Secretary by Sydney Metro in accordance with CoA A45 and A46. However, it is noted that a non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

All non-compliances will be assessed with the purpose to minimise recurrence and if necessary, implementing preventative measures. Any changes to Plans and Procedures recommended as a result of an investigation will be recorded and updated during the planned review processes.

The AFJV EMS is applied to internally report on HSEQ performance and track HSEQ compliance. All non-compliances reportable to regulatory authorities are to be notified to the Acciona Environment & Sustainability Manager, Central Region within two hours of identification. The AIMS Lucidity software platform will be used to record all environmental non-compliances.

Environmental Issues Register

An Environmental Issues Register (SMWSTCTP-AFJ-1NL-EN-REG-000024) has been implemented to capture events that do not constitute an incident or NCR. The register allows for the issues to be raised and tracked.

3.9 MONITORING, INSPECTIONS, AUDITING

3.9.1 COMPLIANCE MONITORING AND REPORTING

The Environment Manager will arrange for inspections, reviews and audits of the EMS and report performance in accordance with the Sydney Metro overarching Compliance Tracking Program (document SM-21-00004067) including:

- Provisions for the notification to the Planning Secretary prior to the commencement of construction of the CTP
- Provisions for periodic reporting of compliance status against environmental requirements in accordance with the Sydney Metro West Compliance Tracking Program (Stage 1)
- A program for environmental auditing as detailed in Section 3.9.4
- Provisions to confirm all pre-commencement conditions are satisfied prior to commencement of construction.

The AFJV will provide the ER with compliance evidence in accordance with the Sydney Metro Compliance Tracking Program to enable the ER to perform their functions as described in Section 3.5.4.

The Construction Compliance Reviews Register (SMWSTCTP-AFJ-1NL-EN-REG-000021) will be reviewed and submitted to Sydney Metro on a six-monthly basis.

3.9.2 ENVIRONMENTAL MONITORING

Issue-specific environmental monitoring will be undertaken by the Environment Manager, or delegate, as required by CoA, permit or licence condition. Aspect specific procedures for environmental monitoring are detailed in the relevant CEMP sub-plan (refer to Section 3.1) for monitoring undertaken in accordance with the relevant monitoring programs required under CoA C14.

Each monitoring program will address the requirements of CoA C15 and aspect specific requirements of CoA C16 (noise and vibration) and C17 (groundwater). The monitoring programs required under CoA C14 must be, reviewed by the AA (where relevant), endorsed by the ER and approved by the Planning Secretary prior to the commencement of construction.

A summary of the construction environmental monitoring is presented in Table 15.

Refer to Section 3.9.5 for the process should an incident or non-compliance be identified upon a monitoring event.

TABLE 15: CONSTRUCTION ENVIRONMENTAL MONITORING

Source	Description	Relevant Sub plan
C14	Noise and vibration monitoring program	Noise and Vibration Management Plan
C14	Blasting monitoring program (if required)	n/a
C14, REMM SSWQ6	Surface water quality monitoring program	Soil and Water Management Plan
C14, REMM GW4	Groundwater monitoring program	Groundwater Management Plan

3.9.3 ENVIRONMENTAL INSPECTIONS

The Environment Manager will ensure that the CTP is compliant with the environmental requirements, with site-based environmental inspections confirming that mitigations measures are implemented in the field. Weekly site environmental inspections will be undertaken by our environmental team using a project-specific checklist to assess the ongoing effectiveness and suitability of the project's environmental controls. The inspections will cover:

- Specific environmental aspects as described in the relevant sub plans
- High risk activities and processes
- Work undertaken in environmentally sensitive areas
- Site preparedness for adverse weather conditions, including adequacy of environmental controls and availability of emergency equipment
- A record of the condition of the environmental controls and mitigations being implemented
- Pre -rainfall inspections will be undertaken where approximately 20mm of rain is predicted or occurs in a 24-hour period – these may be undertaken as part of routine weekly inspections or ER/Sydney Metro inspections.

Copies of all Environmental Inspection Checklists will be kept with the use of 'Lucidity' Software and Project records. The environmental action list will then be issued to the relevant field supervisor for actioning. Actions will be assigned an implementation priority by our Environmental Coordinator based on environmental risk. Evidence of close out (usually a photograph) is supplied back to the Environmental Coordinator and saved as a record.

Note that inspections during the THS period will be as described in Section 1.3.4 above.

Table 16 provides an indicative list of environmental inspections that may be undertaken during the delivery of the CTP.

TABLE 16: INDICATIVE INSPECTIONS

Inspection	Frequency	Source	Reporting	Who
Site environmental inspections including (but not limited to) ERSER controls, air quality and environmental controls	Weekly		Project specific checklist	Environment Coordinators
ER Inspections	Weekly	A30	ER inspection reports / response to ER inspection reports ER Monthly Reporting	ER AFJV
Sydney Metro inspections	As determined by Sydney Metro	Deed	Inspection checklist	Sydney Metro personnel
Pre/post rainfall events (may be undertaken as part of other routine inspections)	As determined by weather monitoring	Soil and Water management Plan	Inspection checklist	Environment Coordinators
AA site inspections	As determined by AA	A36	As part of Monthly Noise and Vibration Report	AA
Demolition / asbestos	Prior to demolition	WR2	Hazardous Material Survey Reporting – Refer to Waste Management Plan	Qualified subcontractor / WHS personnel
Condition Surveys – pre and post construction surveys	Prior to and following construction	D60	As part of Condition Survey Reports	Project Engineer
Visual environmental inspections	During construction		Inspection checklist / notes	Site Supervisor
Heritage – unexpected finds	During construction	D31	Unexpected heritage finds protocol - Refer to Heritage Management Plan	Environment Manager / Excavations Director
Land use survey	Prior to works	D34	Refer to Noise and Vibration Management Plan	Noise and vibration specialist consultant

Inspection	Frequency	Source	Reporting	Who
Pre-clearance of vegetation	Prior to native vegetation clearing	CEMF 10.2	Pre-Clearing Inspection - Refer to Flora and Fauna Management Plan	Environment Manager

3.9.4 AUDITING, REVIEW AND IMPROVEMENT

In accordance with CoA A39, independent environmental audits will be conducted according to the audit schedule prepared by Sydney Metro. AFJV will fully support and participate in these audits, review audit reports, action any findings as applicable and provide appropriate responses to any of the audit findings. Independent audits will be undertaken in accordance with *Independent Audit Post Approval Requirements*, May 2020.

Additionally, AFJV will undertake internal environmental auditing, including audits of works performed by subcontractors. These audits will be undertaken in accordance with the terms of the AS/NZS ISO 19011:2014 and will commence within six months of the commencement of construction (being approval of this Plan and all associated CEMP sub-plans) and approximately every six months thereafter. Audit scope will include high risk activities or at-risk environmental aspects based on the construction program at the time of the audit. Generally, audits will address:

- Compliance with relevant approval, permit or licence conditions
- Compliance with the relevant aspects of the CTP EMS, this Plan and CEMP sub-plans, the Sustainability Management Plan and procedures;
- Community consultation and complaint response;
- Environmental training records; and
- Environmental monitoring and inspection results.

In accordance with the Deed, a Compliance Working Group will be established. The monthly Compliance Working Group meeting is the forum in which the overall audit program for the CTP is coordinated and managed.

Refer to Table 17 for an indicative audit schedule. An annual schedule for auditing the CEMP, sub-plans and other management plans will be maintained in the CTP integrated audit program and will be reviewed on a monthly basis at the monthly Compliance Working Group, and updated when necessary. Audit teams will generally comprise representatives from Sydney Metro, AFJV and the ER, and the Independent Certifier and the AA, as appropriate.

Refer to the Sustainability Management Plan for an indicative sustainability audit schedule.

TABLE 17: INDICATIVE AUDIT SCHEDULE

Audit	Scope	Timing	Responsibility	Recipient of Audit Report
External Audits				
External Independent environmental audit	Verify compliance with approval and legal requirements, project specifications and construction documentation.	According to the audit schedule prepared by Sydney Metro.	Audit in accordance with CoA A39	AFJV Sydney Metro DPHI

Audit	Scope	Timing	Responsibility	Recipient of Audit Report
External audit	Environmental compliance	As requested by the Planning Secretary	ER audit in accordance with A30(g)	AFJV Sydney Metro DPHI
External audit	Verify compliance with noise and vibration management	As requested by the Planning Secretary or the Community Complaints Mediator	AA audit in accordance with A36(e)	AFJV Sydney Metro DPHI
Internal Audits				
Internal AFJV audit	Audit scope will be selected on a risk-based approach but will include verifying compliance with approval requirements and the effectiveness of site specific environmental management controls such as EWMs.	Within 6 months of commencement of construction and then every 6 months thereafter.	AFJV Environment Manager	Sydney Metro AFJV ER Independent Certifier and AA (where necessary)
Corporate Management System Audit	Verify compliance with Acciona Integrated Management System and ISO14001	Annually	Acciona Environment and Sustainability Manager	AFJV Acciona and Ferrovial
Acciona Independent ISO14001 Certification Audit	Verify compliance with ISO14001	Annually	Acciona Environment and Sustainability Manager	AFJV Acciona and Ferrovial

3.9.5 NON-CONFORMANCE

A non-conformance is a breach of the CTP EMS which requires a system improvement action. The AFJV Environment Manager will record any that are identified during observations, inspection or audits or a result of a complaint or environmental incident in an Environmental Non-Conformance Register. Where there is rectification works to occur, an appropriate person will be identified by the Environment Manager who will be issued a corrective or preventative action to implement, and a timeframe by when this should be completed. The action will remain open until the Environment Manager has reviewed the supplied evidence and confirmed the non-conformance has been adequately addressed.

3.10 RECORDS OF ENVIRONMENTAL ACTIVITIES

The AFJV Environment Manager is responsible for maintaining all environmental management documents and records and ensuring they are current. These include:

- All environmental monitoring, inspection and compliance reports/records
- Environmental monitoring data
- Reports on environmental incidents, other environmental non-conformances and follow-up actions

- Results of internal and external audits
- Remedial actions
- Minutes of environmental management system review meetings and evidence of any actions taken
- Induction and training records
- Procedures and protocols
- Checklists, forms and templates
- Correspondence with public authorities
- Complaints and enquiries received, and follow-up actions
- Notifications received by regulators
- Community engagement information
- The CEMP and sub-plans
- EWMS.

AFJV will publish relevant documents pertaining to the environmental requirements of the CTP to the Project Website in accordance with CoA B11(d), (e) and (f) which is a copy of each statutory approval, licence or permit obtained by AFJV, a current copy of each document required under the CoAs and a copy of audit reports.

AFJV will retain compliance evidence detailing the outcomes of environmental inspections, internal AFJV audits and external Sydney Metro audits. These records will be reviewed by the Environment Manager in accordance with the Sydney Metro Compliance Tracking Program, and will be utilised in the preparation of Compliance Reports detailing the outcome of any surveillance activities. These reports will be submitted to Sydney Metro.

The following indicative environmental schedules will be used to support the EMS and are provided in **Appendix F**:

- Environmental Inspection Checklist

Aspect specific procedures and checklists (as summarised in Section 3.4.7) are included in the relevant CEMP subplan. It is noted that the included schedules are separate documents that are controlled independently of the CEMP and subplans and will change over time. The schedules included in the CEMP and subplans are indicative and the CEMP and subplans will not be updated as schedules are modified.

Acciona's document control management system, Lucidity (Location of Integrated Management System Documents), will be used for recording and tracking actions related to incident investigations, inspections and audits. Lucidity will control the flow of documents related to these activities within AFJV and with Sydney Metro, and CTP subcontractors. This web-based system incorporates AFJV's Health, Safety, Environmental, Quality and Sustainability (HSEQS) Management Systems.

Lucidity provides comprehensive support to our staff. By using the database, authorised personnel have instant access to logically filed data. It is easy to use and accessible on any computer, phone or tablet.

Procedures related to the system will ensure that all compliance and environmental 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.

Using Lucidity records will accessible onsite for the duration of works and will be retained for a period of no less than 7 years. Records will be made available in a timely manner to Sydney Metro (or their representative) upon request.

3.11 CEMP REVISION

Continual improvement is achieved through regular measurement, evaluation, audit and review, and AFJV will update the CEMP annually with a specific focus on identifying improvements. The CEMP, sub-plans and monitoring programs will be updated:

- 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
- In response to internal or external audits that identify matters that require attention
- Following reportable environmental incidents
- Upon identification of new risks, including risks identified during risk register updates
- When non-compliances are identified
- In response to a project change that changes the scope of the CTP works (including modifications).

The Environment Manager authorises reviews of the CEMP. Within this Plan, Section 2 provides information on the process for endorsement and approval of the CEMP. The ER can approve necessary minor changes in accordance with A30(j). Minor changes would generally comprise updating or are of an administrative or minor nature, and are consistent with the terms of the Infrastructure Approval and the documents listed in Conditions C1, C5 and C14 or other documents 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 the Infrastructure Approval, and assess the impacts of any minor ancillary facilities as required by CoA A21 and involve minor ancillary facilities that have been approved by the ER. Where the ER deems it necessary (ie. where the change is not considered to be minor), the amended CEMP will be provided to the Planning Secretary for approval.

3.11.1 MANAGEMENT REVIEW

Management reviews of the EMS will be undertaken as part of our rigorous continual improvement process. The purpose is to periodically examine the effectiveness and proper implementation of the CEMP and sub-plans to ensure that the system is meeting the requirements of the standards, policies and objectives and, if not, to amend the CEMP to ensure compliance.

The AFJV Environment Manager will review the CEMP and subplans and its implementation within 12 months following the commencement of construction (being the approval of the CEMP and all associated sub plans) and every 12 months thereafter, or within two months of an incident triggering notification under CoA A43. Between the scheduled reviews, a register of issues will be maintained to ensure that any actions raised by internal and external personnel is recorded and addressed.

On an annual basis, the senior management team contribute to this performance review of the EMS. This annual review will consider:

- Opportunities to improve environmental management documentation, processes and practices
- Key environmental risks
- Sydney Metro and agency feedback
- Non-conformances including those identified in environment inspections and audits
- An analysis and verification of the effectiveness of corrective and preventative actions
- Complaints
- Effectiveness of environmental management documentation implementation

- Environmental objectives and targets including sustainability performance
- Compliance with legal and other requirements
- Organisation changes
- Effectiveness of training and inductions.

The outcomes of the reviews may result in the amendment of this CEMP or related documents. Refer to 2 for the process should a change to this Plan and/or CEMP sub-plans be required, and Section 3.10 for the document control process.

4. CONSTRUCTION CONTROL

The CTP EMS has been prepared in accordance with the environmental requirements relevant to the CTP. In accordance with CoA C5, CEMP sub-plans have been prepared to manage environmental impacts and achieve the environmental performance outcomes as identified in the project EIS through the implementation of CoAs and REMMs. In addition to this Plan and CEMP sub-plans, other management plans have been prepared to address the requirements of the CEMF. These documents will be used to support the CEMP and provide further detail regarding the management of environmental aspects during construction. The relevant EMS documentation required to manage each environmental aspect is summarised in Section 3.1.1 (

Table 5). Other environmental management documents relevant to this CEMP are outlined in the sections below.

4.1 CONDITION SURVEYS

Prior to the commencement of construction AFJV will offer Pre-construction Building Condition Surveys, in writing, to the owners of buildings where there is a potential for construction activities to cause damage regardless of severity as identified in the Project EIS. If accepted, AFJV will produce a comprehensive written and photographic condition report produced by an appropriate professional prior to works commencing that may cause vibration or settlement. Condition Survey Reports will be produced and provided to the relevant owners of the items surveyed in accordance with CoA D60 one month prior to the commencement of the work that could impact the subject surface / subsurface structure.

In addition, prior to the use of a local road by a heavy vehicle related to the CTP, AFJV will prepare a Road Dilapidation Report. Dilapidation reports are to include other road infrastructure such as signs, curbs, applicable driveways and pedestrian paths and will be prepared in accordance with CoA D88.

4.2 CONSTRUCTION SITES

Any remaining site establishment activities as well as the operation of construction sites will be managed under this CEMP, CEMP sub-plans and other management plans (Section 3.1.1 (

Table 5)). CoAs that are relevant to site establishment are identified in **Appendix B**. Refer to the relevant CEMP sub-plan for aspect specific management controls that will be implemented during construction. Specifically, the Visual Amenity Management Plan addresses conditions regarding boundary screening and signage as described in CoA A22, A23 and A48.

Indicative site based control maps are provided in **Appendix D** and have been developed in consideration of relevant environmental requirements.

4.2.1 ANCILLARY FACILITY APPROVALS

The assessment of minor ancillary facilities is included in the functions of the ER as described in CoA A21 (refer to Section 3.5.4).

The establishment and use of ancillary facility that has not been identified in the Project EIS (excluding exempt or complying development, ancillary facilities established prior to the approval of this Plan or minor ancillary facilities) would be subject to the following conditions in accordance with CoA A16:

- (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 conditions 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 conditions of this approval, including in relation to environmental, social and

economic impacts.

Any updates to this Plan would be undertaken in accordance with Section 2.

4.2.2 GLEBE ISLAND ANCILLARY FACILITY

Additional land has been approved for use under an Environmental Review (04) as an ancillary facility on Glebe Island as per **Appendix D & G**. The area is located in Lot 203 DP 1274455, the same as The Bays construction site. The area is owned by Port Authority NSW (PANSW), with a lease agreement in place for the duration of the works.

4.3 SITE RESTORATION

AFJV will reinstate and restore all work areas, not required by a subsequent phase, disturbed by construction activities upon completion of works. Areas will be returned to a condition similar to its pre disturbance condition and in accordance with CEMP sub-plans and other management plans (refer to Section 3.1.1).

The reinstatement of any work areas / construction sites that are required for a subsequent phase will be determined by Sydney Metro.

4.4 WORKING HOURS

Standard working hours for the CTP are in accordance with CoA D35:

- Monday to Friday 7am to 6pm
- Saturday 8am to 6pm
- At no time on Sundays or NSW public holidays.

In accordance with CoA D36 and except as permitted by an EPL, highly noise intensive work that results in an exceedance of the applicable NML at the same receiver must only be undertaken

- between the hours of 8:00 am to 6:00 pm Monday to Friday,
- between the hours of 8:00 am to 1:00 pm Saturday; and
- if continuously, then not exceeding three (3) hours, with a minimum cessation of work of not less than one (1) hour.

For the purposes of this condition, 'continuously' includes any period during which there is less than one (1) hour between ceasing and recommencing any of the work.

Any works outside of standard working hours would be permitted in accordance with CoA D37, an EPL or upon an approved Out of Hours Work Protocol under CoA D38 (refer to the Noise and Vibration Management Plan).

APPENDIX A ENVIRONMENT AND SUSTAINABILITY POLICY

ENVIRONMENT AND SUSTAINABILITY POLICY



This policy statement applies to activities undertaken by the Acciona Ferrovia Joint Venture (AFJV) including its subcontractors on the Sydney Metro West Central Tunnelling Package.

AFJV is committed to integrating environmental and sustainability values from project design through to construction and production of assets that create an enduring, positive impact on society.

AFJV aims to generate a culture which promotes environmental protection, is energy and materials efficient, restorative in nature and acts as a good neighbour to the communities in which we work. AFJV will provide the resources and support to ensure these aims are achieved.

It is our Policy to:

- Conduct our operations in compliance with all relevant Acts, Regulations and Approval requirements
- Comply with the environment and sustainability requirements of the Design and Construction (D&C) Deed, the General and Particular Specifications in relation to design life, durability and maintainability
- Implement a management system compliant with ISO14001, with measurable objectives and targets, and seek to continually improve our performance
- Implement a risk based approach to environment and sustainability management, to address risks and opportunities and associated improvements;
- Facilitate economic prosperity and development and provide a resilient local workforce
- Encourage the pioneering of innovation in sustainable design, process or advocacy that seeks continuous improvement to promote new ideas and thinking
- Ensure the application of sustainability-considerate procurement practices
- Engage with our suppliers and subcontractors to procure materials and use them responsibly
- We will work with our team and supply chain to increase awareness of sustainable development outcomes and manage continual improvement to leave a positive project legacy
- Openly communicate with employees, contractors, clients, key stakeholders and the community to optimise their involvement and positively influence environmental and sustainability outcomes
- Support and enhance social, cultural and community wellbeing
- Minimise or eliminate potential risks to, or impacts on our workforce, the community and transport network users from a sustainability perspective
- Educate and train our team to improve their environmental and sustainability awareness, skills and knowledge
- Monitor and audit our processes and activities and use the outcomes to enhance our environmental processes and performance
- Demonstrate leadership, embrace innovation and encourage teamwork.

This Policy statement is communicated to all levels of the organisation, both directly and via internal publications including on the AFJV Intranet, displayed in the Project Office foyer and training room. This policy and associated procedures is made available to all interested parties and will be periodically reviewed to ensure it remains relevant and appropriate to the business operational scope.

Approval

David Packer, Project Director

Effective Date

09 September 2024

Next Review Date

09 September 2026

APPENDIX B COMPLIANCE TABLE - OTHER RELEVANT COA AND CEMF REQUIREMENTS

Note that where relevant, aspect-specific CoA are addressed in the relevant CEMP sub-plan and have not been repeated in the table below. Other CoAs relevant to the preparation and approval of the CEMP are addressed in Table 1 of this Plan.

Minister's Conditions of Approval (11 March 2021) (SSI 10038)		
Ref	Requirement	Where addressed
A1	The Proponent must carry out Stage 1 of the CSSI in accordance with the conditions of this approval and generally in accordance with the: (a) Sydney Metro West – Westmead to The Bays and Sydney CBD Environmental Impact Statement dated 15 April 2020; (b) Sydney Metro West – Westmead to The Bays and Sydney CBD Submissions Report dated 20 November 2020; and (c) Sydney Metro West – Westmead to The Bays and Sydney CBD Amendment Report dated 20 November 2020.; and (d) Sydney Metro West – Westmead to The Bays and Sydney CBD Modification Request Letter dated 21 June 2021. (e) Sydney Metro West – Westmead to The Bays and Sydney CBD Modification 3 dated 12 May 2022 (f) Sydney Metro West – Westmead to The Bays and Sydney CBD Modification 4 dated 11 November 2022 (g) Sydney Metro West – Westmead to The Bays and Sydney CBD Modification 5 dated 20 September 2023	This Plan and CEMP sub-plans and procedures detail how construction of the CTP will be undertaken in accordance with the CoA and the documents listed in A1 (a) to (g)
A16	Ancillary facilities that are not identified by description and location in the documents listed in Condition A1 of this schedule 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 conditions 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 conditions of this approval, including in	Section 4.2.1

Minister's Conditions of Approval (11 March 2021) (SSI 10038)

	relation to environmental, social and economic impacts. <i>Note: This condition does not apply to any ancillary facilities or work that are exempt or complying development, established before the commencement of construction under this approval or minor ancillary facilities established under Condition A21 of this schedule.</i>	
A20	The use of an ancillary facility for construction must not commence until the CEMP required by Condition C1 of this schedule, relevant CEMP Sub-plans required by Condition C5 of this schedule and relevant Construction Monitoring Programs required by Condition C14 of this schedule have been approved by the Planning Secretary or endorsed by the ER (whichever is applicable). <i>Note: This condition does not apply to Condition A21 of this schedule or where the use of an ancillary facility is Low Impact Work or for Low Impact Work.</i>	Section 2.2
A21	Lunch sheds, office sheds, portable toilet facilities, and the like, can be established and used where they have been assessed in the documents listed in Condition A1 of this schedule or satisfy the following criteria: (a) are located within or 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 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 conditions of this approval.	Section 3.5.4 and Section 4.2
A27	Work must not commence until an Environmental Representative (ER) has been nominated by the Proponent and approved by the Planning Secretary.	Section 3.5.4
A30	For the duration of the work 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 conditions 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, A19, C1, C5 and C14 of this schedule and any other documents that are identified by the Planning	Section 3.5.4

Minister's Conditions of Approval (11 March 2021) (SSI 10038)

- Secretary, to ensure they are consistent with requirements in or under this approval and if so:
- i. endorse the documents before submission of such documents to the Planning Secretary (if those documents are required to be approved by the Planning Secretary); or
 - ii. endorse the documents before the implementation of such documents (if those documents are only required to be submitted to the Planning Secretary / Department for information or are not required to be submitted to the Planning Secretary / Department);
- (e) for documents that are required to be submitted to the Planning Secretary / Department for information under (d)(ii) above, the documents must be submitted as soon as practicable to the Planning Secretary / Department after endorsement by the ER, unless otherwise agreed by the Planning Secretary;
- (f) regularly monitor the implementation of the documents listed in Conditions A10, A17, A19, C1, C5 and C14 of this schedule to ensure implementation is being carried out in accordance with the document and the conditions of this approval;
- (g) 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 A39 of this schedule;
- (h) as may be requested by the Planning Secretary, assist in the resolution of community complaints received directly by the Department;
- (i) consider or assess the impacts of minor ancillary facilities comprising lunch sheds, office sheds and portable toilet facilities as required by Condition A21 of this schedule; and
- (j) consider any minor amendments to be made to the Site Establishment Management Plan, CEMP, CEMP Sub-plans and construction monitoring programs without increasing impacts to nearby sensitive receivers, and are consistent with the conditions of this approval and the Site Establishment Management Plan, CEMP, CEMP Sub-plans and construction 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 conditions of this approval;
- (k) 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

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	heading "Environmental Representative Monthly Reports". The Environmental Representative Monthly Report must be submitted within seven (7) 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; (l) and assess the impacts of activities as required by the Low Impact Work definition. With respect to (d) above, the ER is not required to endorse the specialist content in documents requiring specialist review and / or endorsement.	
A33	Work must not commence until an AA has been nominated by the Proponent and approved by the Planning Secretary.	Section 3.5.5
A36	The approved AA 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 conditions 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 all proposed night-time works (with the exception of low risk activities) to determine if sleep disturbance would occur and recommend measures to avoid sleep disturbance or appropriate additional alternative mitigation measures; (e) review all noise and vibration documents required to be prepared under the conditions of this approval and, should they be consistent with the conditions 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 conditions of this approval to ensure implementation is in accordance with what is stated in the document and the conditions of this approval; (g) review the Proponent's notification of incidents in accordance with Condition A43 of this schedule; (h) in conjunction with the ER (where required), the AA must: i. as may be requested by the Planning Secretary or Community Complaints Mediator (required by Condition B8 of this schedule), help plan, attend or undertake audits of noise and vibration management of Stage 1 of the CSSI including briefings, and site visits,	Section 3.5.5

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	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 Overarching Community Communication Strategy referenced in Condition B1 of this schedule to attempt to resolve the conflict, and if it cannot be resolved, notify the Planning Secretary, iii. if requested by the ER, 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 conditions 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 conditions of this approval), iv. if requested by the ER, review the noise impacts of minor ancillary facilities, and 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 Monthly Noise and Vibration Report must be submitted within seven (7) 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.	
A39	Independent Audits of Stage 1 of the CSSI must be conducted and carried out in accordance with the <i>Independent Audit Post Approval Requirements</i> (DPIE, 2020).	Section 3.9.4
A43	The Planning Secretary must be notified via phone or in writing via the Major Projects website immediately after the Proponent becomes aware of an incident. Any notification via phone must be followed up by a notification in writing via the Major Projects website within 24 hours of the initial phone call. The written 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 general nature of the incident.	Section 3.8
A44	Subsequent notification must be given and reports submitted in accordance with the requirements set out in Appendix A.	Section 3.8
A45	The Planning Secretary must be notified in writing via the Major Projects website within seven (7) days after the	Section 3.8

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	Proponent becomes aware of any non-compliance with the conditions of this approval.	
A46	A non-compliance notification must identify the CSSI (including the application number for it), set out the condition of approval that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be undertaken to address the non-compliance.	Section 3.8
A48	The CSSI name, application number, telephone number, postal address and email address required under Condition B3 of this schedule must be 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 Condition B11 of this schedule.	Section 3.7.4 and Section 4.2 Refer to Visual Amenity Management Plan
C5	Of the CEMP Sub-plans required under Condition C1 of this schedule, the following CEMP Sub-plans must be prepared in consultation with the relevant government agencies identified for each CEMP Sub-plan. Details of issues raised by a government agency during consultation must be included in the relevant CEMP Sub-plan, including copies of all correspondence from those government agencies as required by Condition A6 of this schedule. Where a government agency (ies) request(s) is not included, the Proponent must provide the Planning Secretary / ER (whichever is applicable) justification as to why: (a) Noise and vibration – SOPA (in respect of Sydney Olympic Park), Place Management NSW (in respect of The Bays) and Relevant Council(s). (b) Flora and fauna – DPIE EES, DPI Fisheries, SOPA (in respect of Sydney Olympic Park), Relevant Council(s) (c) Soil and water – DPIE EES, Relevant Council(s), SOPA (in respect of Sydney Olympic Park) and Sydney Water (if Sydney Water's assets are affected) (d) Heritage (Non-Aboriginal and Aboriginal) – Heritage NSW, SOPA (in respect of Sydney Olympic Park), Place Management NSW (in respect of The Bays) and Relevant Council(s) (e) Spoil – Relevant Council(s) and SOPA (in respect of Sydney Olympic Park)	Section 3.1.1
C10	Construction must not commence until the CEMP and all CEMP Sub-plans have been approved by the Planning Secretary or endorsed by the ER (whichever is applicable), unless otherwise agreed by the Planning Secretary. The CEMP and CEMP Sub-plans, as approved	Section 2.2

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	by the Planning Secretary or endorsed by the ER (whichever is applicable), including any minor amendments approved by the ER, must be implemented for the duration of construction. Where construction of Stage 1 of the CSSI is phased, construction of a phase must not commence until the CEMP and CEMP Sub-plans for that phase have been approved by the Planning Secretary or endorsed by the ER upon nomination by the Planning Secretary (whichever is applicable).	
C14	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 Condition A1 of this schedule or in the CEMP: (a) Noise and vibration – EPA, SOPA (in respect of Sydney Olympic Park), Place Management NSW (in respect of The Bays) and Relevant Council(s) (b) Blasting - SOPA (in respect of Sydney Olympic Park), Place Management NSW (in respect of The Bays) and Relevant Council(s) (c) Surface water quality – DPIE Water, Relevant Council(s) and Sydney Water (if any Sydney Water assets are impacted) (d) Groundwater – DPIE Water and SOPA (in respect of Sydney Olympic Park) <i>Note: The Blasting Construction Monitoring Program is only required to be prepared if blasting is proposed to be conducted during construction.</i>	Section 3.1.1
C21	Unless otherwise agreed with the Planning Secretary, construction must not commence until the Planning Secretary has approved, or the ER has endorsed (whichever is applicable), all of the required Construction Monitoring Programs and all relevant baseline data for the specific construction activity has been collected.	Section 2.2
D35	Work must only be undertaken during the following hours: (a) 7:00am to 6:00pm Mondays to Fridays, inclusive; (b) 8:00am to 6:00pm Saturdays; and (c) at no time on Sundays or public holidays.	Section 4.4
D60	A suitably qualified and experienced person must undertake condition surveys of all buildings, structures, utilities and the like identified in the documents listed in Condition A1 of this schedule as being at risk of damage before commencement of any work that could impact on the subject surface / subsurface structure. The results of the surveys must be documented in a Pre- construction Condition Survey Report for each item surveyed. Copies of Pre-construction Condition Survey Reports must be	Section 3.1.1 and Section 3.9.3

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	provided to the relevant owners of the items surveyed in the vicinity of the proposed work, and no later than one (1) month before the commencement of the work that could impact on the subject surface / subsurface structure.	
D60	Condition surveys of all items for which condition surveys were undertaken in accordance with Condition D60 of this schedule must be undertaken by a suitably qualified and experienced person after completion of the work identified in Condition D60 of this schedule. The results of the surveys must be documented in a Post-construction Condition Survey Report for each item surveyed. Copies of Post-construction Condition Survey Reports must be provided to the landowners of the items surveyed, and no later than three (3) months following the completion of the work that could impact on the subject surface / subsurface structure unless otherwise agreed by the Planning Secretary	Section 3.1.1 and Section 3.9.3
D79	A Water Reuse Strategy must be prepared, which sets out options for the reuse of collected stormwater and groundwater during Stage 1 of the CSSI. 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 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 recycled water as potable water; (d) consideration of the public health risks from water recycling; and (e) 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. Justification must be provided to the Planning Secretary if it is concluded that no reuse options prevail. A copy of the Water Reuse Strategy must be made publicly available. Nothing in this condition prevents the Proponent from preparing separate Water Reuse Strategies for the construction phases of Stage 1 of the CSSI.	Section 3.1.1
D102	A Utility Coordination Manager must be appointed for the duration of work associated with Stage 1 of the CSSI. The role of the Utility Coordination Manager must include, but not be limited to: (a) the management and coordination of all utility work	Section 3.5.8

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	associated with the delivery of Stage 1 of the CSSI, to ensure respite is provided to the community; (b) providing advice to the Sydney Metro Place Manager regarding upcoming utility work, including the scope of the work and the responsibility for the work; and (c) investigating complaints received from the Community Complaints Mediator or the Project communication team relating to utility work and providing a response as required.	
D106	The acoustic shed at the Five Dock metro station eastern construction site must be designed and constructed in a manner that minimises visual amenity, solar access and overshadowing impacts to the residential apartments at 110 Great North Road, Five Dock facing the acoustic shed. The potential visual amenity, solar access and overshadowing impacts of the acoustic shed on the affected residential apartments must be assessed in a Visual Amenity, Solar Access and Overshadowing Report prepared by the Proponent.	Section 3.1.1 and Section 4.2
D107	The Visual Amenity, Solar Access and Overshadowing Report must include: (a) visual amenity impact assessments from the relevant residential apartments to the acoustic shed at the Five Dock metro station eastern construction site; (b) solar access assessments of the relevant residential apartments, with consideration for the relevant development controls in the City of Canada Bay Development Control Plan (Version 4, 21 October 2020) and the Apartment Design Guide; and (c) a consultation plan to detail how potential impacts and mitigation measures will be discussed and negotiated with potentially affected property owners. The Visual Amenity, Solar Access and Overshadowing Report must be provided to the Planning Secretary for approval within (1) month prior to the installation of the acoustic shed at the Five Dock metro station eastern construction site.	Section 3.1.1

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Ref	Requirement	Where addressed
1.3	Sydney Metro has developed an Environment and Sustainability Policy (Appendix A) which applies to Sydney Metro projects. Principal Contractors are required to undertake their works in accordance with this policy. The policy reflects a commitment in the delivery of the project to: • Optimise sustainability outcomes, transport service quality, and cost effectiveness. • Develop effective and appropriate responses to the challenges of climate change, carbon management,	Section 3.2 and Appendix A

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	resource and waste management, land use integration, customer and community expectation, and heritage and biodiversity conservation. • Be environmentally responsible, by avoiding pollution, enhancing the natural environment and reducing the project ecological footprint, while complying with all applicable environmental laws, regulations and statutory obligations. • Be socially responsible by delivering a workforce legacy which benefits individuals, communities, the project and industry, and is achieved through collaboration and partnerships.	
2	The below table (Table 2) identifies key NSW environmental legislative requirements and their application to SM construction works, current as at the date of this document. Sydney Metro and its Contractors must regularly review their legislative and other requirements. Table 2: NSW Legislative Requirements Key Commonwealth environmental legislative requirements and their application to SM construction works are identified in Table 3, current as at the date of this document. Sydney Metro and its Contractors should regularly review their legislative requirements. Table 3: Commonwealth Legislative Requirements	Section 3.4.3
2.1	All Sydney Metro projects require a planning approval under the <i>Environmental Planning and Assessment Act 1979</i>. For infrastructure components, this may take the form of: • State significant infrastructure or critical State significant infrastructure under Part 5, Division 5.2 of the Act, with Department of Planning, Industry and Environment as the determining authority. • An approval under Part 5 of the Act, with Sydney Metro as the determining authority. • Exempt development under Section 1.6 of the Act and in accordance with a relevant State Environmental Planning Policy. For development components, this may take the form of: • State significant development under Part 4, Division 4.7 of the Act. • A local development application under Part 4 of the Act. The requirements of the relevant approval are required to be complied with by Sydney Metro. Responsibility for implementing mitigation measures and conditions of approval will be allocated between Sydney Metro and Principal Contractors as appropriate. Typically where there are multiple packages of works, Sydney Metro will produce a Staging Report which sets out the applicability and allocation of approval requirements within the project's program of works.	Section 1.1

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2.2	Sydney Metro projects can meet the definition of a number of scheduled activities under Schedule 1 of the <i>Protection of the Environment Operation Act 1997</i> (POEO Act). Contractors need to review the applicability of Scheduled Activities and assess the need to obtain an Environment Protection Licence (EPL). In other circumstances work may be undertaken using the existing EPL held by Sydney Trains. Where required, Sydney Metro Principal Contractors will: • Apply for and be granted an EPL from the EPA. • Hold an EPL which covers their scope of works as necessary under the POEO Act. • Undertake their scope of works in accordance with the conditions of the applicable EPLs as issued by the EPA. • Work under the existing Sydney Trains EPL.	Section 3.4.3
2.3	Numerous environmental publications, standards, codes of practice and guidelines are relevant to Sydney Metro construction and are referenced throughout this Construction Environmental Management Framework. A summary of key applicable standards and guidelines is provided in Table 4. Table 4: Environmental Standards and Guidelines	Section 3.4.3
3.1a	Principal Contractors are required to have a corporate Environmental Management System certified under AS/NZS ISO 14001:2015.	Section 1.2
3.1b	Principal Contractors are required to develop a project based Environment and Sustainability Management System (E&SMS). The E&SMS will:	Section 3.1
	i. Be consistent with the Principal Contractors corporate Environmental Management System and AS/NZS ISO 14001:2015; ii. Be supported by a process for identifying and responding to changing legislative or other requirements; iii. Include processes for assessing design or construction methodology changes for consistency against the planning approvals; iv. Include processes for tracking and reporting performance against sustainability and compliance targets; v. Include a procedure for the identification and management of project specific environmental risks and appropriate control measures; and vi. Be consistent with the SM C&SW Sustainability Strategy and Sydney Metro Environment and Sustainability Policy.	Section 3.1, Section 3.4.1 and Section 3.9
3.1c	All sub-contractors engaged by the Principal Contractor will be required to work under the Principal Contractor's Environment and Sustainability Management System.	Section 3.5.1
3.1d	The relationship between the Sydney Metro Environment and Sustainability Management System and the Principal Contractor's Environment and Sustainability Management System is shown in Figure 1.	Noted

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3.5a	Subject to Section 3.4 (b) the Principal Contractor will prepare issue-specific environmental sub plans to the CEMP which address each of the relevant environmental impacts at a particular site or stage of the project. Issue specific sub plans will include: i. Spoil management ii. Groundwater management iii. Noise and vibration management iv. Heritage management v. Flora and fauna management vi. Visual amenity management vii. Soil and water management viii. Air quality management; and ix. Waste management.	Section 3.1.1
3.5b	Additional detail on the minimum requirements for these sub plans is provided in Sections 6-14 of this CEMP.	Section 3.1.1
3.6a	The Principal Contractor will prepare and implement activity specific environmental procedures. These procedures should supplement environmental management sub plans, but may substitute for sub plans in agreement with Sydney Metro if a reasonable risk based justification can be made and the sub plan is not a requirement of any approval.	Section 3.1.1
3.6b	The procedures will include: i. a breakdown of the work tasks relevant to the specific activity and indicate responsibility for each task, ii. potential impacts associated with each task, iii. a risk rating for each of the identified potential impacts, iv. mitigation measures relevant to each of the work tasks, and v. responsibility to ensure the implementation of the mitigation measures.	Section 3.1.1
3.6c	The Principal Contractor will prepare and implement site based progressive Environmental Control Maps (ECM's) which as a minimum: i. Depicts the current representation of the site; ii. Indicate which environmental procedures, environmental approvals, or licences are applicable iii. Illustrate the site, showing significant structures, work areas and boundaries; iv. Illustrate the environmental control measures and environmentally sensitive receivers; v. Is endorsed by the Principal Contractors Environmental Manager or delegate; vi. Include all the training and competency requirements for relevant workers; and vii. Be communicated to relevant workers, including sign-off for the appropriate procedures prior to commencing works on the specific site and / or activity.	Section 3.4.5

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3.7a	Where the requirement for an additional environmental assessment is identified, this will be undertaken prior to undertaking any construction activities. The environmental assessment will include: i. A description of the existing surrounding environment; ii. Details of the ancillary works and construction activities required to be carried out including the hours of works; iii. An assessment of the environmental impacts of the works, including, but not necessarily limited to, traffic, noise and vibration, air quality, soil and water, ecology and heritage; iv. Details of mitigation measures and monitoring specific to the works that would be implemented to minimise environmental impacts; and v. Identification of the timing for completion of the construction works, and how the sites would be reinstated (including any necessary rehabilitation).	Section 1.6 and Section 3.11
3.8a	Prior to the commencement of construction the Principal Contractors are to offer Pre-construction Building Condition Surveys, in writing, to the owners of buildings where there is a potential for construction activities to cause damage regardless of severity. If accepted, the Principal Contractor will produce a comprehensive written and photographic condition report produced by an appropriate professional prior to relevant works commencing.	Section 4.1
3.8b	Prior to the commencement of construction the Principal Contractor will prepare a Road Dilapidation Report for all local public roads proposed to be used by heavy vehicles. Dilapidation reports are to include other road infrastructure such as signs, curbs, applicable driveways and pedestrian paths.	Section 3.9.3
3.9a	Principal Contractors will identify hold points, beyond which approval is required to proceed with a certain activity. These hold points will be documented in the CEMP or relevant sub-plans. Example activities include vegetation removal and water discharge.	Section 3.1.2
3.9b	Table 6 provides the structure for these hold points to be included in the CEMP as well as an initial list of hold points which will be implemented. Table 6: Initial list of Hold Points	Section 3.1.2
3.10a	Principal Contractors are responsible for determining the training needs of their personnel. As a minimum this will include site induction, regular toolbox talks and topic specific environmental training as follows: i. The site induction will be provided to all site personnel and will include, as a minimum: • Training purpose, objectives and key issues, • Contractor's environmental and sustainability policy(s) and key performance indicators, • Due diligence, duty of care and responsibilities,	Section 3.6

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	• Relevant conditions of any environmental licence and/or relevant conditions of approval, • Site specific issues and controls including those described in the environmental procedures, • Reporting procedure(s) for environmental hazards and incidents, and • Communication and protocols for interactions with community and stakeholders ii. Toolbox talks will be held on a regular basis in order to provide a project or site wide update, including any key or recurring environmental issues; and iii. Topic specific environmental training should be based upon, but is not limited to, Issue specific sub-plans required under Section 3.5 (a) (i-xi).	
3.10b	Principal Contractors will conduct a Training Needs Analysis which: i. Identifies that all staff are to receive environmental training; ii. Identifies the competency requirements of staff that hold environmental roles and responsibilities documented within the Construction Environmental Management Plan and sub-plans; iii. Identifies appropriate training courses/events and the frequency of training to achieve and/or maintain these competency requirements; and iv. Implements and documents as part of the CEMP a training schedule that plans attendance at environmental training events, provides mechanisms to notify staff of their training requirements, and identifies staff who do not attend scheduled training events or who have overdue training requirements.	Section 3.6
3.11a	Principal Contractors undertaking work in accordance with an EPL must develop and implement a Pollution Incident Response Management Plan, in accordance with the requirements of the POEO Act. Contractors' emergency and incident response procedures will also be consistent with any relevant Sydney Metro procedures and will include: i. Categories for environmental emergencies and incidents; ii. Notification protocols for each category of environmental emergency or incident, including notification to Sydney Metro and notification to owners / occupiers in the vicinity of the incident. This is to include relevant contact details; iii. Identification of personnel who have the authority to take immediate action to shut down any activity, or to affect any environmental control measure (including as directed by an authorised officer of any regulator or government department); iv. A process for undertaking appropriate levels of investigation for all incidents and the identification, implementation and assessment of corrective and preventative actions; and	Section 3.8

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	v. Notification protocols of incidents to relevant regulators and stakeholders including (but not limited to) the EPA or DPIE that are made by the Contractor or Sydney Metro.	
3.11b	The Contractor will make all personnel aware of the plan and their responsibilities.	Section 3.6.6
3.12a	Sydney Metro will engage Independent Environmental Representatives (ERs) as required under the CSSI approval to undertake the following, along with any additional roles as required: i. Review, provide comment on and endorse (where required) any relevant environmental documentation to verify it is prepared in accordance with relevant environmental legislation, planning approval conditions, Environment Protection Licences, relevant standards and this CEMF; ii. Monitor and report on the implementation and performance of the above mentioned documentation and other relevant documentation; iii. Provide independent guidance and advice to Sydney Metro and the Contractors in relation to environmental compliance issues and the interpretation of planning approval conditions; iv. Be the principal point of advice for the DP&E in relation to all questions and complaints concerning the environmental performance of the project; v. Ensure that environmental auditing is undertaken in accordance with all relevant project requirements; and vi. Recommend reasonable steps, including 'stop works', to be taken to avoid or minimise adverse environmental impacts.	Section 3.5.4
3.13a	In relation to Roles and Responsibilities the CEMP will: i. Describe the relationship between the Principal Contractor, Sydney Metro, key regulatory stakeholders, the independent environmental representative and the independent certifier; ii. For each role that has environmental accountabilities or responsibilities, including key personnel, provide a tabulated description of the authority and roles of key personnel, lines of responsibility and communication, minimum skill level requirements and their interface with the overall project organisation structure; iii. Provide details of each specialist environment, sustainability or planning consultant who is employed by the Principal Contractor including the scope of their work; and iv. Provide an overview of the role and responsibilities of the Independent Environmental Representative, the Independent Certifier and other regulatory stakeholders.	Section 3.5
3.13b	All sub-contractors engaged by the Principal Contractor will be required to operate within the EMS documentation of that Principal Contractor.	Section 3.5.1
3.14a	Issue specific environmental monitoring will be undertaken as required or as additionally required by any approval, permit or licence conditions.	Section 3.9.2
3.14b	The results of any monitoring undertaken as a requirement of a licence or permit that is required to be published will be	Section 3.10

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	published on the Principal Contractor's, or a project specific, website within 14 days of obtaining the results.	
3.14c	Environmental inspections will include: i. Surveillance of environmental mitigation measures by the Site Foreman; and ii. Periodic inspections by the Principal Contractor's Environmental Manager (or delegate) to verify the adequacy of all environmental mitigation measures. This will be documented in a formal inspection record.	Section 3.9.3
3.14d	Regular site inspections by the ERs and Sydney Metro representatives at a frequency to be agreed with the Principal Contractor.	Section 3.9.3
3.14e	Principal Contractors must undertake internal environmental audits. The scope will include: i. Compliance with any approval, permit or licence conditions; ii. Compliance with the E&SMS, CEMP, SMP, sub-plans and procedures; iii. Community consultation and complaint response; iv. Environmental training records; and v. Environmental monitoring and inspection results.	Section 3.9.4
3.14f	Sydney Metro (or an independent environmental auditor) will also undertake periodic audits of the Principal Contractor's E&SMS, including this Construction Environmental Management Framework.	Section 3.9.4
3.15a	Principal Contractors will document and detail any non-compliances with the requirements of any legislative or other requirements. Sydney Metro will be made aware of all non-compliances in a timely manner.	Section 3.9.1
3.15b	Principal Contractors will develop and implement corrective actions to rectify the non-compliances in order to prevent a re-occurrence of the non-compliance. Contractors will also maintain a register of non-compliances and associated corrective actions.	Section 3.9.5
3.15c	Sydney Metro or the Environmental Representative may raise non-compliances against environmental requirements. In these circumstances the Principal Contractor must abide by any requirements of Sydney Metro's procedure for managing non-compliances.	Section 3.9.5
3.16a	Principal Contractors will maintain appropriate records of the following: i. Site inspections, audits, monitoring, reviews or remedial actions; ii. Documentation as required by performance conditions, approvals, licences and legislation; iii. Modifications to site environmental documentation (eg CEMP, sub-plans and procedures); and iv. Other records as required by this Construction Environmental Management Framework.	Section 3.10
3.16b	Records must be accessible onsite for the duration of works.	Section 3.10

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3.16c	Additionally, records will be retained by the Principal Contractor for a period of no less than 7 years. Records will be made available in a timely manner to Sydney Metro (or their representative) upon request.	Section 3.10		
3.16d	Compliance reports detailing the outcome of any environmental surveillance activity including internal and external audits (refer to Section 3.14) will be produced by the Principal Contractors Environmental Manager or delegate. These reports will be submitted to Sydney Metro at an agreed frequency.	Section 3.10		
3.17a	Principal Contractors will ensure the continual review and improvement of the management systems. This will generally occur in response to: i. Issues raised during environmental surveillance and monitoring; ii. Expanded scope of works; iii. Environmental incidents; and iv. Environmental non-conformances.	Section 3.11		
3.17b	A formal review of the management systems by the Principal Contractor's Senior Management Team will also occur on an annual basis, as a minimum. This review shall generate actions for the continual improvement of the systems and supporting management plans.	Section 3.11		
5.3a	Principal Contractors will consider the following in the layout of construction sites: i. The location of noise intensive works and 24 hour activities in relation to noise sensitive receivers; ii. The location of site access and egress points in relation to noise and light sensitive receivers, especially for sites proposed to be utilised 24 hours per day; iii. The use of site buildings to shield noisy activities from receivers; iv. The use of noise barriers and / or acoustic sheds where feasible and reasonable for sites proposed to be regularly used outside of daytime hours; v. Aim to minimise the requirement for reversing, especially of heavy vehicles; and vi. Any applicable requirements of the Construction Traffic Management Framework (CTMF).	Section 4.2 and Appendix D		
5.4a	Mitigation measures required for reinstatement will be incorporated into the CEMP and will include as a minimum: i. Principal Contractors will clear and clean all working areas and accesses at project completion; ii. At the completion of construction all plant, temporary buildings or vehicles not required for the subsequent stage of construction will be removed from the site; iii. All land, including roadways, footpaths, loading facilities or other land having been occupied temporarily will be returned to their pre-existing condition or better; and	Section 4.3		

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iv. Reinstatement of community spaces, infrastructure and services will occur as soon as possible after completion of construction.

**APPENDIX C ASPECTS AND IMPACTS REGISTER/ENVIRONMENTAL
RISK REGISTER**

acciona					Project Risk and							
				Project Name : Sydney Metro West - Central Tunnelling Package				Project Manager:	David Packer	Revision Number:	Rev005	Date of issue: 20/11/2023
Risk Workshop Date: 20/11/23 Revision Number: Rev04 Date of issue: 20/11/23			Initial Risk / Impact Assessment (Prior to any controls are in place)			Existing / Implemented Controls			Residual Risk / Impact Assessment (Risk / Impact Assessed after all possible controls are in place, if			
Activity	Hazard Description Environmental Aspect	Risk Identified Impact / Potential Impact Identified	Likelihood	Consequence	Initial Risk / Impact	Risk / Impact Control Measures:	Monitoring of Controls	Likelihood2	Consequence2	Residual Risk	Justification for Residual Risk (required for 'High' or above)	
General Construction Activities	Legal / Compliance	Access prior to approvals	Possible	Moderate	High 13	All personnel entering site must be inducted Site access arrangements made and communicated prior to entering site. fencing and signage at boundary Environmental Approvals Manger Low Impact Works Application process	Site security set up, supervisors checking induction status of workers.	Unlikely	Moderate	Medium 9		
General Construction Activities	Legal / Compliance	Entering sensitive areas post-approval	Possible	Moderate	High 13	All personnel entering site must be inducted, including regarding ECMS. Site specific toolbox talks Delineation of sensitive areas on site signage.	Preparation of ECMs to show approved site boundaries	Unlikely	Moderate	Medium 9		
General Construction Activities	Legal / Compliance	Breach of PA or EPL conditions, legal or client requirements leading to PINs, fines, prosecution, loss of reputation, strained relationships, contractual implications	Possible	Major	Extreme 18	Development and implementation of CEMP and sub-plans, training of staff, monitoring, inspection and audit schedules, project induction.	CEMP audits, regular inspections, internal and external audits	Unlikely	Moderate	Medium 9		
Civils Construction Activities	Air quality	Generation of dust during site establishment, including demolition, leading to amenity and/or community nuisance	Likely	Moderate	High 17	Construction activities with the potential to generate dust will be modified or ceased during unfavourable weather conditions. Access roads within Project sites will be maintained and managed to reduce dust generation.	Regular site inspections, controls implemented as per ESCP, air quality monitoring.	Possible	Minor	Medium 8		
Civils Construction Activities	Air quality	Generation of dust during demolition	Likely	Moderate	High 17	As per controls above Review and consider environmental performance during sub-contractor selection Develop and implement EWMS where required.	As above Subcontractor reviews	Possible	Minor	Medium 8		
Civils Construction Activities	Flora and Fauna	Clearing outside an approved area, unnecessary clearing within approved area	Unlikely	Moderate	Low 5	Pre-clearance inspection by project ecologist. Toolbox talks regarding clearing limits, physical delineation of clearing limits prior to clearing, develop and implement ECMs, design review to reduce clearing	Pre-clearance checklist, site inspections No further clearing required at the time of this review.	Unlikely	Minor	Low 5		
Civils Construction Activities	Flora and Fauna	Impacts on threatened species	Unlikely	Moderate	Low 5	As per controls above Toolboxing work force on potential for unexpected threatened species (where appropriate), develop and implement ECM to include sensitive veg	Pre-clearance checklist, site inspections No further clearing required at the time of this review.	Rare	Minor	Low 3		
Civils Construction Activities	Flora and Fauna	Spreading of noxious weeds via personnel, plant / equipment, topsoil / mulch	Unlikely	Minor	Low 5	Pre-clearance inspection by project ecologist. Toolboxing work force on location of noxious weeds (where appropriate) develop and implement ECM to include known locations of noxious weeds	Pre-clearance checklist, site inspections No topsoil on site or exposed sufaces. Also there are no	Unlikely	Minor	Low 5		
Civils Construction Activities	Heritage	Failure to identify, or damage of unexpected heritage items	Unlikely	Major	High 14	Site assessment (ARDEM) completed by suitably qualified archaeology consultants. Unexpected finds procedure to be developed and ensure heritage is part of the procedure. Implement processes from ARDEM. Development and implementation of EWMS. Enviro review design of ancillary facilities and temporary compounds.	Development of sensitive area plans, heritage supervision Heritage works completed	Unlikely	Moderate	Medium 9	Construction site located in sensitive heritage location, this is the approved project design. Undertaking works in accordance with COAs allows work to proceed in this location. EWMS proposed.	
Civils Construction Activities	Heritage	Unapproved heritage imacts at The Bays	Unlikely	Major	High 14	Project program reviewed by Enviro Approvals manager, Low Impact Works Application process, including review and approval (where required) by either Sydney Metro, ER or DPIE. environmental consultation as part of identifying early works, develop and implement Heritage management plan and ARDEM, consultation with heritage NSW, consideration of White Bay Power Station Conservation Management Plan in preparation of the above documents	Compliance reviews with Sydney Metro, heritage supervision Heritage works completed	Unlikely	Major	High 14	Construction site located in sensitive heritage location, this is the approved project design. Undertaking works in accordance with COAs allows work to proceed in this location. EWMS is proposed.	

Civils Construction Activities	Noise and vibration	Noise and vibration impacts on surrounding communities	Likely	Moderate	High 17	Early installation of acoustic barriers where possible. Maximise works within standard construction hours. Adherence to safe working distance Building condition surveys Ancillary facilities and compound design reviewed to minimise noise and vib impacts. Early identification of sensitive receivers through the Land Use Survey Early notification to the community/implementation of the CCS. Implementation of respite measures and other controls as identified in the CEMP, CNVMP, DNVIS, Monitoring Program, OOHV Protocol, OOHV Permit. GBN and Vibration impacts on the surrounding community Use of a noise prediction tool to inform impact	Noise predictions and monitoring	Possible	Moderate	High 13	Impacts of noise and vibration are likely to be felt by the receivers surrounding the construction sites. This is possible even in the case that all noise and vibration criteria are achieved, and as such it not considered possible to completely eliminate. As such, the Project will use the control measures described and the risk categories provided in the DNVIS and OOHV Protocol to ensure noise and vibration criteria are achieved, in compliance with the Project Approval. No EWMS is proposed.
Civils Construction Activities	Noise and vibration	Cumulative noise and vibration impacts including construction fatigue	Possible	Moderate	High 13	As per controls above Interface forums with adjacent projects OOHV applications to consider adjacent works including underground activities of other Projects Respite and/or relocation to provide respite in areas of cumulative impact	Awareness of community feedback and response	Possible	Minor	Medium 8	Coordination of surface works across multiple projects will be managed as described herein. Note, tunnelling activities are not considered within this Risk Assessment.
Civils Construction Activities	Soil and water	Erosion and sedimentation impacting downstream waterways due to exposed land, inadequate controls or control failure	Likely	Moderate	High 17	Erosion and Sediment Control Plans (ESCPs) will be prepared for all work and implemented in advance of site disturbance. All on site personnel will undergo a site induction and ongoing toolbox talks that will detail erosion and sediment control management measures. A soil conservation specialist will be engaged if relevant to provide advice regarding erosion and sediment control. Hardstand areas and surrounding public roads will be cleaned as required using methods such as brooms, bobcat attachments or street sweepers. Environmental review of proposed site layout, design consideration for run off capture at spoil handling areas	Site inspections, controls implemented as per ESCP.	Unlikely	Moderate	Medium 9	Use of ESCP as a risk assessment and risk control process through all phases of site establishment. No EWMS is proposed.
Civils Construction Activities	Soil and water	Tracking of mud at ancillary facilities access points	Likely	Moderate	High 17	Stabilised access / egress points. Cleaning down of hardstand areas, design review of site layout, early installation of wheel wash where appropriate, street sweepers available, ERSED controls in place	Regular site inspections, including with soil conservationist, controls implemented as per ESCP, gate surveillance	Possible	Minor	Medium 8	Mud tracking is still a risk during spoil excavation.
Civils Construction Activities	Soil and water	Serious incidents, e.g. uncontrolled release of concrete washout water, water treatment plant, major fuel spill, that cause or threaten material harm to the environment	Possible	Major	Extreme 18	Concrete washout areas will be adequately sized, regularly maintained, and located in designated covered areas. The use of any hazardous substance that could result in a spill will be undertaken away from drainage or stormwater lines and, wherever possible, within defined bunds Any refuelling undertaken on site shall be undertaken in designated areas only, outside of riparian areas and well away from stormwater system inlets Spill kits will be placed at locations where there is direct discharge of stormwater to receiving waterways	Regular site inspections, ECM, ESCP,	Rare	Major	High 10	Use of ESCP as a risk assessment and risk control process through all phases of site establishment. No EWMS is proposed.
Civils Construction Activities	Soil and water	Uncontrolled (beyond design) runoff from disturbed areas resulting in uncontrolled discharge to soils or water	Likely	Moderate	High 17	Erosion and Sediment Control Plans (ESCPs) will be prepared for all work and implemented in advance of site disturbance. All on site personnel will undergo a site induction and ongoing toolbox talks that will detail erosion and sediment control management measures Environmental Work Method Statements (EWMS) will be prepared for high risk activities. A soil conservation specialist will be engaged if relevant to provide advice regarding erosion and sediment control. Hardstand areas and surrounding public roads will be cleaned as required.	Regular site inspections, including with soil conservationist, controls implemented as per ESCP.	Unlikely	Moderate	Medium 9	
Civils Construction Activities	Soil and water	Discharge of water that does not meet discharge criteria	Likely	Moderate	High 17	Dewatering and discharge permit system developed and implemented. All project staff provided information on permit system at project induction, dewatering EWMS developed, training on EWMS provided to authorised personnel who will supervise discharge. Plant failure automated alarm, WTP with pre-set discharge criteria, WTP maintenance, WTP operator training. Workshop on WTP operation, lessons learnt on past WTP failures. WTP operation procedure and training. Inclusion of WTP failure in emergency preparedness and response plan.	Dewatering and discharge permits.	Unlikely	Moderate	Medium 9	

Civils Construction Activities	Spills & response	Contamination of soil or water from spill or leak	Possible	Major	Extreme 18	The use of any hazardous substance that could result in a spill will be undertaken away from drainage or stormwater lines and, wherever possible, within defined bunds Any refuelling / maintenance undertaken on site shall be undertaken in designated areas only, outside of riparian areas and well away from stormwater system inlets Spill containment kits will be available on all sites, training and education of staff on spill response. Plant register and plant inspections, design review of site layout by enviro team. Clearly identified "clean" water drains, clean water drains identified on ESCPs. Water reuse maximised on site. All chemicals stored with appropriate bunding capacity Enviro review of site layout design.	Regular site inspections, plant pre-start checklists and regular plant inspections	Unlikely	Moderate	Medium 9	
Civils Construction Activities	Contamination	Incorrect / inappropriate management of contamination or acid sulfate soils	Unlikely	Major	High 14	In the event of unexpected contamination or acid sulfate soils, the unexpected contaminated lands and asbestos finds procedure will be followed Waste classification in accordance with Environment Protection Authority (EPA) guidelines Waste tracking register Unexpected finds protocol communicated to all staff at project induction. In-situ classification completed and communicated to staff via ECMs, SAQP, DSI, RAP. Dedicated project wide spoil management team	Audits of waste tracking register, appointment of site auditor, site auditor monthly reports	Unlikely	Moderate	Medium 9	
General Construction Activities	Waste and Resources	Missed opportunities to maximise the beneficial re-use of wastes	Likely	Insignificant	Medium 7	Resource recovery will be applied to the management of construction waste and will include the recovery of resources for reuse-reusable materials generated by the Project will be segregated for reuse on site, or off site where possible. Recovery of recyclable resources generated during construction and demolition. Recovery of resources for reprocessing, such as the onsite mulching of cleared vegetation for use in landscaping use, in the absence of a higher beneficial use being identified. Selection of appropriate waste management contractor, procurement of waste service providers, consideration of waste segregation during site and compound design, training and education of staff Tunnel spoil to be disposed of at an EPA licenced facility or a receiving site approved under s.143 of POEO Act.	Site inspections and audits, monthly monitoring of waste streams, waste classification	Unlikely	Insignificant	Low 2	
General Construction Activities	Waste and Resources	Inappropriate disposal of waste (including demolition, vegetation and hazardous / special waste, office waste, tunnel spoil) or disposal at an unlicensed waste facility	Unlikely	Moderate	Medium 9	Suitably licensed waste contractors will be used for the collection and transport of all non-domestic, retail and commercial wastes for either offsite processing and/or disposal to an appropriately licensed facility. Resource recovery will be applied to the management of construction waste and will include the recovery of resources for reuse-reusable materials generated by the Project will be segregated for reuse on site, or off site where possible. Waste to be disposed of in accordance with resource recovery orders Recovery of recyclable resources generated during construction and demolition. Recovery of resources for reprocessing, such as the onsite mulching of cleared vegetation for use in landscaping use, in the absence of a higher beneficial use being identified. Selection of appropriate waste management contractor, procurement of waste service providers, consideration of waste segregation during site and compound design, training and education of staff. Selection of waste receival sites and facilities, S143 completed and signed off	Receipts for waste transfer and disposal will be checked to ensure all details are correct and retained for audit purposes	Rare	Moderate	Medium 6	
Civils Construction Activities	Community and stakeholder	Amenity and visual impacts on nearby receivers due to compounds, including light spill and overshadowing	Likely	Minor	High 12	Where there is no noise wall or hoarding in place, boundary fencing will be installed to minimise visual, noise and air quality impacts on adjacent sensitive receivers Minimise light spill from the project by directing construction lighting into the construction areas and ensuring the site is not over-lit. Consult with adjacent residents regarding Five Dock acoustic shed. Review design of site layout to consider amenity and visual impacts. Adhere to COAs (REVIEW D108 - D110). Consideration of council feedback re hoarding design	Site inspections and audits	Possible	Minor	Medium 8	
Civils Construction Activities	Odour	Potential odour impact on nearby sensitive receivers during disturbance of contaminated land	Possible	Moderate	High 13	Minimise disturbance of contaminated soil, use coverings or suppression agents on exposed areas as required, odour monitoring where required. Development of SAQP, DSI, RAP (COPY INFO FROM CONTAM CONTROLS).	Site inspections, odour monitoring	Unlikely	Moderate	Medium 9	

General Construction Activities	Traffic and access	Impacts on local roads not the result of direct construction on the road itself; includes parking impacts, unsafe or unapproved traffic movements, traffic delays or queuing.	Likely	Moderate	High 17	Designated heavy vehicle routes developed, haul routes communicated to all drivers prior to visiting site, development, consultation and implementation of CPAS including measures to reduce worker parking. workforce and staff education, environment review of site and compound layouts, preparation and appropriate approval of CTMPs. Coordination of trucks to stagger start times and redirect trucks if required to reduce queuing or exceeding allowable truck numbers. GPS tracking on spoil trucks. Disciplinary action for drivers who do not comply with project requirements	Site inspections and audits	Possible	Minor	Medium 8	
Tunnelling Activities	Vibration	Vibration leading to building or cosmetic damage, or to human (dis)comfort complaints	Almost Certain	Minor	High 16	Vibration monitoring will be carried out in accordance with the Project's Construction Noise and Vibration Monitoring Program • Addressed via design criteria • Land use survey • DNVIS • Alternative equipment • Notification of residents prior to vibration impacting activities (CoA D84) • Other measures • Tunnelling n+v modelling tool	Ongoing monitoring as per Noise and Vibration Monitoring Program.	Almost Certain	Insignificant	High 11	
Tunnelling Activities	Ground-borne noise	Ground-borne noise impacts on nearby receivers, including out of hours impacts, resulting in sleep disturbance or community complaints	Almost Certain	Minor	High 16	Vibration monitoring will be carried out in accordance with the Project's Construction Noise and Vibration Monitoring Program • Land use survey • DNVIS • Alternative equipment • Notification of residents prior to vibration impacting activities • Other measures • Tunnelling n+v modelling tool	Ongoing monitoring as per Noise and Vibration Monitoring Program.	Almost Certain	Insignificant	High 11	
Tunnelling Activities	Heritage	Vibration leading to damage to heritage items	Unlikely	Minor	Low 5	• DNVIS • Vibration monitoring will be carried out in accordance with the Project's Construction Noise and Vibration Monitoring Program • Alternative equipment • Tunnelling n+v modelling tool • Building Condition Inspection report • Safe working distances to be applied	Ongoing monitoring as per Noise and Vibration Monitoring Program., compliance reviews	Rare	Minor	Low 3	
Tunnelling Activities	Groundwater	Changes in groundwater levels leading to reductions in yield for groundwater users	Unlikely	Minor	Low 5	Groundwater inflow and levels in and within the vicinity of the tunnels will be monitored during construction and compared to model predictions and groundwater performance criteria applied to the Project If long term change is verified as a result of the Project, make good provisions to be negotiated with impacted parties with consideration of the level of impact	As per Groundwater Monitoring Program	Unlikely	Minor	Low 5	
Tunnelling Activities	Groundwater	Changes in groundwater quality leading to impacts for groundwater users	Unlikely	Minor	Low 5	Groundwater inflow and levels in and within the vicinity of the tunnels will be monitored during construction and compared to model predictions and groundwater performance criteria applied to the Project If long term change is verified as a result of the Project, make good provisions to be negotiated with impacted parties with consideration of the level of impact	As per Groundwater Monitoring Program	Unlikely	Minor	Low 5	
Tunnelling Activities	Biodiversity	Changes in groundwater levels and/or quality leading to impacts to groundwater dependant ecosystems	Unlikely	Minor	Low 5	Groundwater inflow and levels in and within the vicinity of the tunnels will be monitored during construction and compared to model predictions and groundwater performance criteria applied to the Project	As per Groundwater Monitoring Program	Unlikely	Minor	Low 5	
Tunnelling Activities	Settlement	Potential for settlement to impact structures, including heritage structures.	Possible	Major	Extreme 18	Four stage process including; 1. Preliminary ground movement assessment, 2. Identification and impact assessment, 3. Impact minimisation (ie through design and/or the implementation of ground improvement works) and 4. Instrumentation and monitoring program.	Implementation of instrumentation and monitoring program	Rare	Minor	Low 3	
Demobilisation	Noise and vibration	Noise and vibration impacts on surrounding communities during demobilisation of site (both within and outside standard hours)	Likely	Moderate	High 17	Maximise works within standard construction hours. Adherence to safe working distance Building condition surveys Early identification of sensitive receivers through the Land Use Survey Early notification to the community/implementation of the CCS. Implementation of respite measures and other controls as identified in the CEMP, CNVMP, DNVIS, Monitoring Program, OOHV Protocol, OOHV Permit.	Noise predictions and monitoring Community notifications	Possible	Moderate	High 13	Impacts of noise and vibration are likely to be felt by the receivers surrounding the construction sites. This is possible even in the case that all noise and vibration criteria are achieved, and as such it not considered possible to completely eliminate. As such, the Project will use the control measures described and the risk categories provided in the DNVIS and OOHV Protocol to ensure noise and vibration criteria are achieved, in compliance with the Project Approval. No EWMS is proposed.

Tunnelling Activities	Waste and Resources	Opportunity: Beneficial reuse of excavated materials	Unlikely	Minor	Low 5	Resource recovery order/exemption will be obtained for the management of excavated tunnel spoil. The material segregated for reuse.	Monthly laboratory testing of the spoil as per the requirements of the RRO. Waste tracking	Likely	Major	Extreme 21	This is an Opportunity so the risk level is positive, ie. Extreme opportunity for positive outcome
Demobilisation	Waste and Resources	Opportunity: Reduction of wasted resources from project de-mobilisation.	Unlikely	Minor	Low 5	Temporary materials such as accoustic shed and hardstands. To be discussed with SM	Discuss opportunities with SM	Possible	Moderate	High 13	This is an Opportunity so the risk level is positive, ie. High opportunity for positive outcome
General Construction Activities	Soil and water	Opportunity: On-site reuse of water	Unlikely	Minor	Low 5	Water Reuse Strategy and Water Balance Study undertaken during planning phase, and communicated to Project Managers. Water re-use tanks installed with water treatment plants	Monitor reuse of water. Water quality testing	Possible	Moderate	High 13	This is an Opportunity so the risk level is positive, ie. High opportunity for positive outcome
Tunnelling Activities	Waste and Resources	Opportunity: Establish alternative grout plant and segment delivery and storage location at Burwood North site to reduce travel distance between Pre-cast Yard and tunnel and reduce energy required to pump grout to tunnel face (original TBM support location is The Bays)	Unlikely	Minor	Low 5	Consistency Assessment prepared and sent to Sydney Metro for approval to allow the change to be implemented. Grout plant and deliveries to be within Burwood North acoustic shed	Approval by Sydney Metro Noise monitoring to be updated.	Likely	Moderate	High 17	This is an Opportunity so the risk level is positive, ie. High opportunity for positive outcome

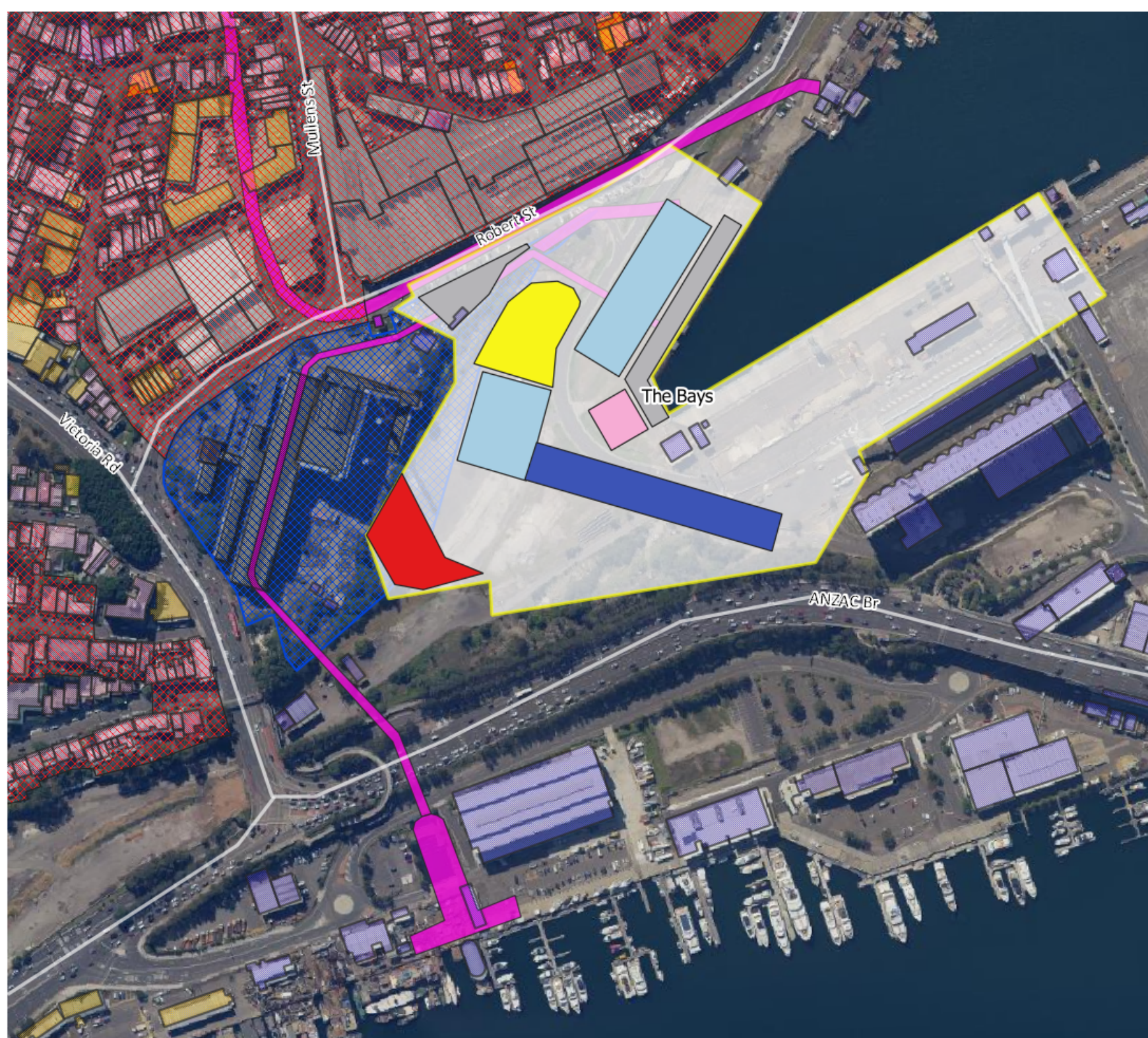
APPENDIX D PRELIMINARY ENVIRONMENTAL CONTROL MAPS

Note: It is noted that the ECMs included in this Plan are separate documents that are edited independently of this Plan and will progressively change. The ECMs included in this Plan will not be updated as ECMs are updated.

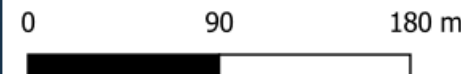
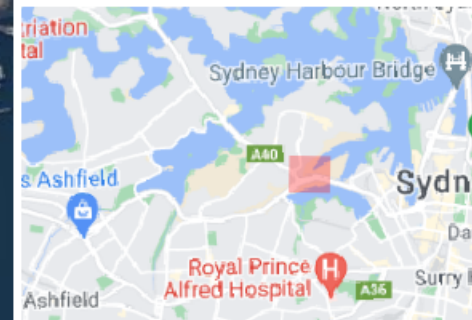
Preliminary Site Control Map- The Bays

Legend

- CTP Sites
- Heritage Item Type
- Heritage Conservation Area
- Item - Archaeological
- Item - Landscape
- Local Heritage - General
- State Heritage
- Aboriginal Archaeological Potential
- Section 170 item
- Site layout
- Acoustic Shed
- Parking
- Site office
- Station Box Excavation
- Storage and Facilities
- Building_FULL LUS_SEP 21
- Business/Residential
- Childcare
- Commercial/Business
- Commercial/Residential
- Community Use
- Education
- Garage
- Hotel
- Industrial/Utilities
- Medical
- None
- Place of Worship
- Residential
- Transport/Infrastructure



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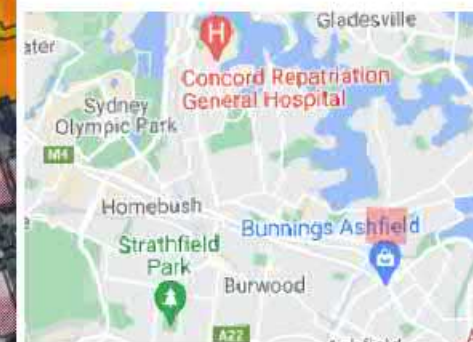
Preliminary Site Control Map- Five Dock

Legend

- CTP Sites
- Heritage Item Type
 - Heritage Conservation Area
 - Item - Archaeological
 - Item - Landscape
 - Local Heritage - General
 - State Heritage
 - Aboriginal Archaeological Potential
 - Section 170 item
- Site layout
 - Acoustic Shed
 - Cribs and Site office
- Land Use Type
 - Business/Residential
 - Childcare
 - Commercial/Business
 - Commercial/Residential
 - Community Use
 - Education
 - Garage
 - Hotel
 - Industrial/Utilities
 - Medical
 - None
 - Place of Worship
 - Residential
 - Transport/Infrastructure



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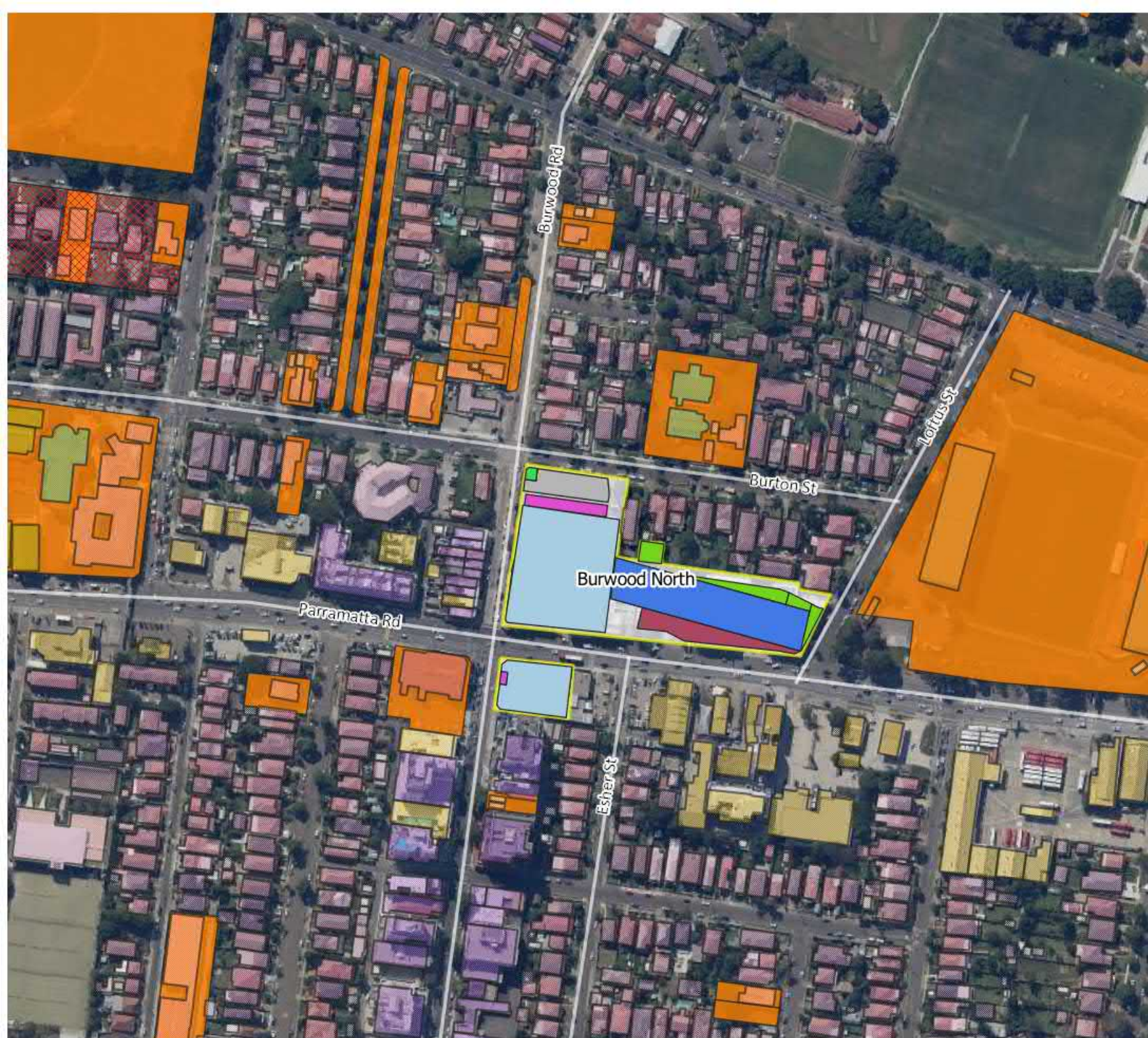
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Preliminary Site Control Map- Burwood North

Legend

- CTP Sites
- Heritage Item Type
 - Heritage Conservation Area
 - Item - Archaeological
 - Item - Landscape
 - Local Heritage - General
 - State Heritage
 - Aboriginal Archaeological Potential
 - Section 170 Item
- Site layout
 - Acoustic Shed
 - Parking
 - Site office
 - Storage
 - Cribs and Site office
 - Substation
 - Water Treatment Plant
 - Roof over Excavation
 - Storage and Facilities
- Land Use Type
 - Business/Residential
 - Childcare
 - Commercial/Business
 - Commercial/Residential
 - Community Use
 - Education
 - Garage
 - Hotel
 - Industrial/Utilities
 - Medical
 - None
 - Place of Worship
 - Residential
 - Transport/Infrastructure



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Preliminary Site Control Map- North Strathfield

Legend

- CTP Sites
- Heritage Item Type
- Heritage Conservation Area
- Item - Archaeological
- Item - Landscape
- Local Heritage - General
- State Heritage
- Aboriginal Archaeological Potential
- Section 170 item
- Site layout
- Parking
- Cribbs and Site office
- Station Box Excavation
- Land Use Type
- Business/Residential
- Childcare
- Commercial/Business
- Commercial/Residential
- Community Use
- Education
- Garage
- Hotel
- Industrial/Utilities
- Medical
- None
- Place of Worship
- Residential
- Transport/Infrastructure



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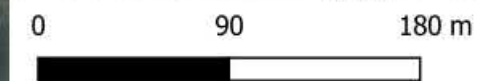
Preliminary Site Control Map- Sydney Olympic Park

Legend

- CTP Sites
- Heritage Item Type
 - Heritage Conservation Area
 - Item - Archaeological
 - Item - Landscape
 - Local Heritage - General
 - State Heritage
 - Aboriginal Archaeological Potential
 - Section 170 item
- Site layout
 - Crib
 - Parking
 - Site office
 - Storage
 - Workshop
 - Spoil Storage and Laydown
 - Station Box Excavation
- Land Use Type
 - Business/Residential
 - Childcare
 - Commercial/Business
 - Commercial/Residential
 - Community Use
 - Education
 - Garage
 - Hotel
 - Industrial/Utilities
 - Medical
 - None
 - Place of Worship
 - Residential
 - Transport/Infrastructure



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APPENDIX E SYDNEY METRO ENVIRONMENTAL INCIDENT AND NON-COMPLIANCE REPORTING PROCEDURE



Environmental Incident and Non-compliance Reporting Procedure

SM-17-00000096

Sydney Metro Integrated Management System (IMS)

Applicable to:	Sydney Metro
Document Owner:	Manager, Environment
System Owner:	Executive Director, Safety, Sustainability & Environment
Status:	FINAL
Version:	5.1
Date of issue:	18 February 2019
Review date:	11 February 2020
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1. Purpose and scope

This procedure documents the process to be used when classifying and reporting Environmental Events.

This procedure applies to Sydney Metro and any contractor Sydney Metro engages to carry out works. Principal Contractors must ensure their processes for managing Environmental Events is consistent with this document. The requirement for consistency is documented in the Construction Environmental Management Framework (Section 3.3(f)) and shall be allocated as a contractual requirement to each delivery partner.

2. Introduction

Sydney Metro is committed to minimising risks to the environment, the rapid identification and rectification of breaches to Environmental Requirements and efficient and effective responses to Environmental Incidents that grows our ability to minimise harm and prevent future re-occurrences.

This procedure defines an approach to classifying Environmental Issues, Incidents and Non-compliances and establishes the immediate, interim and long term actions that are taken in response to Environmental Events.

3. Definitions

All terminology in this Procedure is taken to mean the generally accepted or dictionary definition with the following exceptions:

Term	Definition
Environment	means components of the earth, including: a) land, air and water, and b) any layer of the atmosphere, and c) any organic or inorganic matter and any living organism, and d) human-made or modified structures and areas, and includes interacting natural ecosystems that include components referred to in (a)-(c).
Environmental Event	An occurrence that identifies actual or potential environmental impacts or non-compliances. Events can include conversations, inspections, incidents, or failures of process.
Environmental Harm	Includes any direct or indirect alteration of the environment that has the effect of degrading the environment and, without limiting the generality of the above, includes any act or omission that results in pollution.
Environmental Incident	An occurrence or set of circumstances, as a consequence of which pollution (air, water, noise, and land) or an adverse environmental impact has occurred or is likely to have occurred.
Environmental Issue	An occurrence or set of circumstances where Environmental Harm or Non-compliance could occur if not rectified.
Environmental Non-compliance	A breach of an Environmental Requirement originating from Planning Approvals, Environment Protection Licenses, lease agreements, and other requirements documented in environmental management plans.

Term	Definition
Material Harm to the Environment	harm to the environment is material if: a) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or b) 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), and c) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment. It does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.

Terms and jargon specific to this procedure are defined within the [Sydney Metro Glossary](#).

4. Accountabilities

The Executive Director, Safety, Sustainability & Environment is accountable for this Procedure. Accountability includes authorising the document, monitoring its effectiveness and performing a formal document review.

Direct Reports to the Chief Executive are accountable for ensuring the requirements of this document are implemented within their area of responsibility.

The Direct Reports to the Chief Executive who are accountable for specific projects/programs are accountable for ensuring associated contractors comply with the requirements of this document if specified in the relevant contracts.

5. Environmental Events

Environmental surveillance data is relied upon to inform Sydney Metro of performance trends, to provide assurance that legislative requirements are being met and indicate where surveillance activities should be directed. In order to rely upon environmental data for this purpose there needs to be a high degree of consistency in the manner by which it is collected and interpreted. Due to the need for consistency, any incident/Non-compliance procedure produced by a delivery partner to Sydney Metro is required to be consistent with the requirements of this document.

The concept of Environmental Events forms a common starting point for understanding what types of occurrences should be managed and reported as Incidents and what should be reported as Non-compliances or Issues. When an Environmental Event occurs a series of questions can be asked to consistently determine what type of event it is. Commonly, Environmental Events lead to three different processes:

1. Reporting of an Environmental Incident;
2. Reporting of an Environmental Non-compliance; or
3. Reporting of an Environmental Issue.

Incidents and Non-compliances are recorded using the Environmental Incident and Non-compliance Report Form (SM ES-FT-403) and Environmental Issues are recorded through environmental inspection reports using the Environmental Inspection Information & Summary Form (SM ES-FT-406). These paper based records are subsequently entered into the Sydney Metro Compliance Register (Section 6.7) which is used to disseminate the data and facilities reporting internally and externally. Note where a Principal Contractor has submitted alternative processes and these have been approved by Sydney Metro they may also be used.

The figure below shows the process by which Environmental Events are classified (Figure 1).

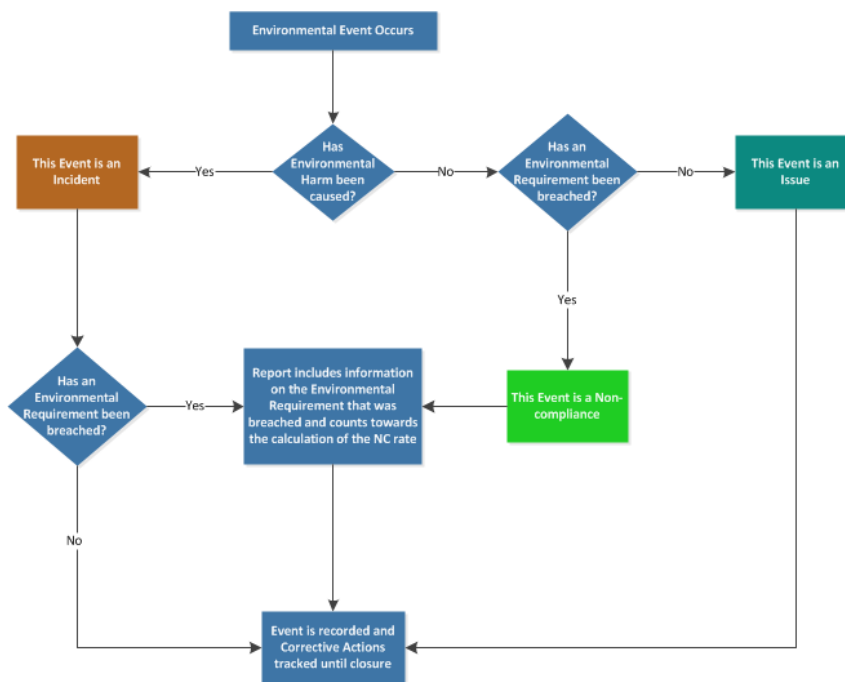


Figure 1: Environmental Event Classification Process

Where Environmental Harm has been caused the event will always be classified as an Environmental Incident regardless of whether one or more Environmental Requirements have been breached. Only when an event occurs without harm being caused to the environment will it be classified as a Non-compliance or Issue. It should be noted that the Incident management process still captures any breaches of Environmental Requirements and these incidents contribute towards the calculation of the NC Rate (Section 7.1).

This flowchart above is intended to be a guide and there may be situations where it is unclear exactly how an Environmental Event should be classified. In these situations a judgement call should be made in consultation with your Manager.

5.1. Worked Example – Classifying Environmental Events

This Section provides a fictitious example of Environmental Events which fall into each of the three different categories. The situations outlined below are provided to explain how event classifications are made. The background for these worked examples is as follows:

Sydney Metro is carrying out works in a newly established site and substantial earthworks are occurring to construct piers for an elevated viaduct. A nearby creek contains a variety of important fish species and the local community are known to use this creek for recreational fishing. The Environmental Impact Statement identified the creek as being at risk of increased sedimentation from dirty water run-off and the Conditions of Approval include a requirement to have a Progressive Erosion and Sediment Control Plan in place. This plan has been produced and indicates that sediment fences must be in place at specific locations to capture dirty water run-off. Regular daily inspections of the sediment controls are carried out by the contractor's Environment Manager and an Independent Environmental Representative has commenced a monthly inspection on this site at 7 am on Thursday morning.

5.1.1. Soil and Water Issue

The Environmental Representative notices a sediment fence has been knocked over in one of the areas indicated as requiring fencing on the ERSED plan. It appears to have occurred recently and there is no record of rainfall in the last few days. During the course of the inspection all other ERSED controls appeared to be in good condition and erected in accordance with the requirements of the Blue Book. In this example no harm has yet been caused and no environmental requirement has been breached so the event is classified as an Environmental Issue which is raised on the inspection report with an action to reinstall the fence.

5.1.2. Soil and Water Non-compliance

Alternatively, the Environmental Representative might have noticed many sediment fences had been knocked down and in some areas an absence of sediment fences where the plan indicates they are required. Despite there being no rain in recent days the Environmental Representative concludes that the requirements of the plan are not being followed and have been breached. The event is raised as non-compliance and actions are set in place to re-enforce the requirements of the ERSED plan for that sites workforce as well as the immediate reinstatement of controls.

5.1.3. Soil and Water Incident

Finally, in a third scenario the Environmental Representative notices many sediment fences are down and some are absent where required by the plan. However, significant rainfall has occurred in recent days and the Environmental Representative determines that it is likely dirty water has escaped through the area into the nearby creek potentially causing harm to the fish population. This event is classified as an Incident by the inspector and immediate notification is undertaken. Similar controls are implemented as described above.

5.2. Notifiable Events

There are a number of Acts and regulations that include a specific requirement to notify a Regulatory Authority. When an Environmental Event triggers one of these notification requirements we then also refer to that event as a Notifiable Event (Table 1).

The Principal Contractor's Environment Manager must determine whether an event is notifiable, and may rely upon advice from Sydney Metro if it is provided.

Table 1: Examples of Notifiable Events

Event type	Legislation		Trigger for Notification
Pollution Incident ¹	POEO Act 1997	Part 5.7	Where Material Harm has occurred contact the EPA Pollution Line as soon as practicable
	POEO (General) Regulation 2009	Section 101	
Land contamination	Contaminated Land Management Act 1997	Section 60(1)	As soon as practicable, after becoming aware of contamination that exceeds the relevant investigation levels in the National Environment Protection Measure, where a person has or will be exposed to the contamination
Discovery of an Aboriginal relic	National Parks & Wildlife Act 1974	Section 89A	Director General of EPA in writing within a reasonable time after becoming aware. Note this is not required for Projects approved under Part 5.2 of the Environmental Planning and Assessment Act (see section 115ZG). Notification and reporting is addressed in the relevant Infrastructure Approval
Discover Aboriginal Remains	Commonwealth Aboriginal & Torres Strait Islanders Heritage Protection Act 1984	Section 20	Commonwealth Minister of the Environment in writing as soon as practicable after becoming aware
Discovery of a relic	Heritage Act 1977	Section 146	Heritage Council in writing within a reasonable time after becoming aware Note -this is not required for Projects approved under Part 5.2 of the Environmental Planning and Assessment Act (see section 115ZG). Notification and reporting is addressed in Infrastructure Approvals

5.3. Event Types

Each Environmental Event is assigned a secondary classification of an Event Type for the purpose of data analysis and general environmental management. They are grouped by areas of environmental management so that targeted auditing, training or awareness initiatives can be initiated in response to emergent trends. Each Event Type is explained in Table 2.

¹ Further information on reporting pollution incidents to EPA is provided in Section 6.6 Environmental Incident/Non-compliance Report

Table 2: Environmental Event Types and their descriptions

Event Type	Applies To:			Description
	Issue	Incident	Non-compliance	
Soil and Water	●	●	●	Covers the physical location, chemical composition and ecology of soils and waterways. Any event which changes these compositions is a Soil and Water event. Within this event type all instances of contamination, erosion and sedimentation of waterways is covered.
Flora and Fauna	●	●	●	Covers vegetation and vegetation communities as well as animals and animal habitat. Any event where vegetation is felled or damaged, animals are killed or injured, or habitat is harmed or destroyed is covered.
Waste and Spoil	●	●	●	Covers the management of Excavated Natural Material (ENM) and Virgin Excavated Natural Material (VENM) including on-site management, and disposal and also the classification and management of Waste materials. Note: that the transportation of spoil is covered under Traffic, Transport and Access.
Heritage	●	●	●	Covers the management of known heritage artefacts or sites, and the treatment of unexpected finds, archaeological investigations and other impacts.
Air Quality	●	●	●	Covers the management of emissions of particulate matter, odours, and gasses used as air quality parameters from worksites.
Noise and Vibration	●	●	●	Covers the management of airborne and ground borne noise and vibration and includes hold points on the commencement of any work where Out of Hours Works permits or Construction Noise Impact Statements are required.
Community Stakeholder and Business	●	●	●	Covers the management of Community and Stakeholder requirements and includes complaint response procedure, community management protocols, and the maintenance of information on websites.
Traffic Transport and Access	●	●	●	Covers the management of traffic inside and outside of sites including access points and parking requirements. This event type also covers any requirements in relation to vehicles and vehicle maintenance or the transportation of waste and spoil.
Spills and Leaks	●	●	●	Covers all instances where environmentally sensitive substances are held within a container which has the potential to leak or spill and covers pipes, hoses, fuel tanks, storage tanks and plastic containers. Note: Spills and Leaks specifically exclude anything in relation to the transport and deposition of sedimentation.
Management Systems	●	●	●	Covers procedural or administrative processes that are common across all areas. It specifically does not cover procedural or administrative processes which are unique to any of the other event types. For example, not completing a vegetation removal form prior to vegetation clearing is still a Flora and Fauna event. Note: A good example of a Management Systems NC would be not reporting an Environmental Incident within required timeframes.

6. Environmental Incident Classification and Management

Sydney Metro has defined an Environmental Incident as:

An occurrence or set of circumstances, as a consequence of which pollution (air, water, noise, and land) or an adverse environmental impact has occurred or is likely to have occurred.

Adverse environmental impact includes contamination, harm to flora and fauna (either individual species or communities), damage to heritage items, or adverse community impacts.

Planning Approvals and Environment Protection Licences permit some environmental impacts and these are not intended to be captured as Environmental Incidents.

Table 3: Examples of Environmental Incidents

Type	Example Incident
Air Quality	Odour that travels beyond the site boundary
Air Quality	Dust exceeding reasonable levels without active management measures in place
Air Quality	Operation or maintenance of plant in a manner that causes or has likely caused excessive air pollution
Soil and Water	Discharge of water on or off site in a manner that causes or has likely caused water pollution without required approvals.
Noise and Vibration	Noise that travels beyond the site boundary as a result of poorly maintained plant or operation of plant in an inefficient manner
Noise and Vibration	Failure to comply with the approved hours of work
Soil and Water	Where the chemical composition of soil or water has been detrimentally modified by a contaminant leading to potential or actual environmental harm. For example, rainfall causes a flow of water across a site that erodes soil and enters a waterway increasing the total suspended solids of that water body.
Spills and Leaks	Where a substance has leaked from, or spilt from a container that is designed to prevent that substance from escaping into the environment (including bunds, fuels tanks, chemical bottles and other containers). Spills and Leaks specifically exclude anything in relation to the transport and deposition of sedimentation.
Soil and Water	Dispose of waste in a manner that harms or is likely to harm the environment
Flora and Fauna	Harm or “pick” a threatened species, endangered population or endangered ecological community without required approvals
Flora and Fauna	Damage to vegetation, fauna or habitat including watercourses without required approvals
Heritage	Damage, disturbance, destruction or works to heritage items/relics without required approvals
Heritage	Damage, disturbance, or destruction of Aboriginal objects or places without required approvals

6.1. Incident Classification

Environmental Incidents are classified into one of three Classes that are based upon the consequence descriptors for environmental risks in the Sydney Metro Risk Matrix (refer to [Sydney Metro Risk Management Standard](#)). Each of these classifications trigger a variety of management actions and/or legislative requirements depending on the severity of the consequence described where Class 3 represents minor consequences and Class 1 represents major consequences.

This matrix is further sub-divided into consequence ratings ranging from C6 (low impact) to C1 (high impact). An incident transitions between a Class 3 to a Class 2 incident once material harm has been caused, and transitions into a Class 1 incident once it is determined that the Environmental Harm caused is large-scale and cannot be remediated (Table 4).

Table 4: Classification System for Environmental Incidents

Class 3			Class 2		Class 1
C6	C5	C4	C3	C2	C1
No appreciable changes to environment and/or highly localised event	Change from normal conditions within environmental regulatory limits and environmental effects are within site boundaries	Short-term and/or well-contained environmental effects. Minor remedial actions probably required	Impacts external ecosystem and considerable remediation is required	Long-term environmental impairment in neighbouring or valued ecosystems Extensive remediation required	Irreversible large-scale environmental impact with loss of valued ecosystems

6.1.1. Class 3 Incidents

These Incidents are events which cause Environmental Harm, but do not cause Material Harm to the environment. Normally Class 3 Incidents are not Notifiable Events and therefore a simple notification protocol is adopted whereby Sydney Metro must be notified within 48 hours verbally, and in writing.

In some cases it will be unclear whether Material Harm has been caused in the early stages of Incident Management. If this is the case then the process for Class 2 Incidents is followed (see Section [Class 2 Incidents](#)) until it is clear that Material Harm has not been caused.

A formal Incident Investigation report is not required for Class 3 Incidents, however, it is expected that the person responsible for completing the Incident Notification Report makes appropriate enquiries to determine the likely causal factors involved and assigns effective corrective actions.

6.1.2. Class 2 Incidents

These Incidents are events which cause Material Harm to the environment and they always trigger notification of Regulatory Authorities. These Incidents represent events that are far more serious than Class 3 Incidents and therefore strict communication protocols are required to ensure that effective and informed decisions are made (Figure 2).

The Environmental Lead, contract Environment Manager and the Independent Environmental Representative must be notified verbally as soon as possible after the observer becomes aware of a Class 2 Incident.

Class 2 Incidents must be investigated and the investigation must produce an investigation report containing corrective or preventative actions. This investigation report must be provided to Sydney Metro within 7 days of the event unless another timeframe is agreed with the EL.

Despite any arrangements for the submission of investigation reports, an Incident Notification Report must be provided with all available information and submitted to Sydney Metro within 48 hours. It is not expected that initial Incident Notification Reports for Incidents under investigation initially include actions as these will be informed by the findings of the investigation. The report should be updated with actions resulting from the investigation when available.

6.1.3. Class 1 Incidents

Class 1 Environmental Incidents are managed in the same manner as Class 2 Incidents except where a determination is made by the Chief Executive (or delegate) that a Crisis Management Team should be activated. In this situation the [Sydney Metro Crisis Management Implementation Plan](#) is followed.

6.2. Incident Notification

When an Environmental Event occurs which causes Environmental Harm in all cases both verbal and written communication of the incident must be carried out immediately and within 48 hours respectively. For Class 1 and 2 Incidents the notification process shown in Figure 2 must be followed. Written communication of Environmental Incidents is via an Incident Notification Report (Section 6.3).

This process includes specific roles and responsibilities within Sydney Metro and our delivery Partners who are required to take notification actions in response to Incidents.

This notification process has been developed to ensure that crucial information about Incidents is captured early and communicated to specific individuals who can ensure the Environmental Impacts are minimised and efficient and effective responses to the event are implemented.

In particular the Principals Representative and the Environmental Lead for Sydney Metro play a crucial role in the communication of Incidents within Sydney Metro and these roles are explained in more detail below.

6.2.1. Principal's Representative (PR)

Each works package establishes a contractual interface for communication between the contracted party and Sydney Metro. Generally this interface is between the Principal Contractors Project Director and an appointed representative of Sydney Metro called the Principals Representative.

All formal written communications must pass between these two individuals electronically using TeamBinder. The Principals Representative holds certain responsibilities in the Incident management Process outlined in Figure 2.

6.2.2. Environmental Lead (EL)

Where this procedure is applied to a works package an Environmental Lead (EL) will be selected for the relevant works package. The Environmental Lead must possess environmental experience and competency in managing Incidents and be a representative of Sydney Metro for those works. This representative holds specific responsibilities outlined in Figure 2.

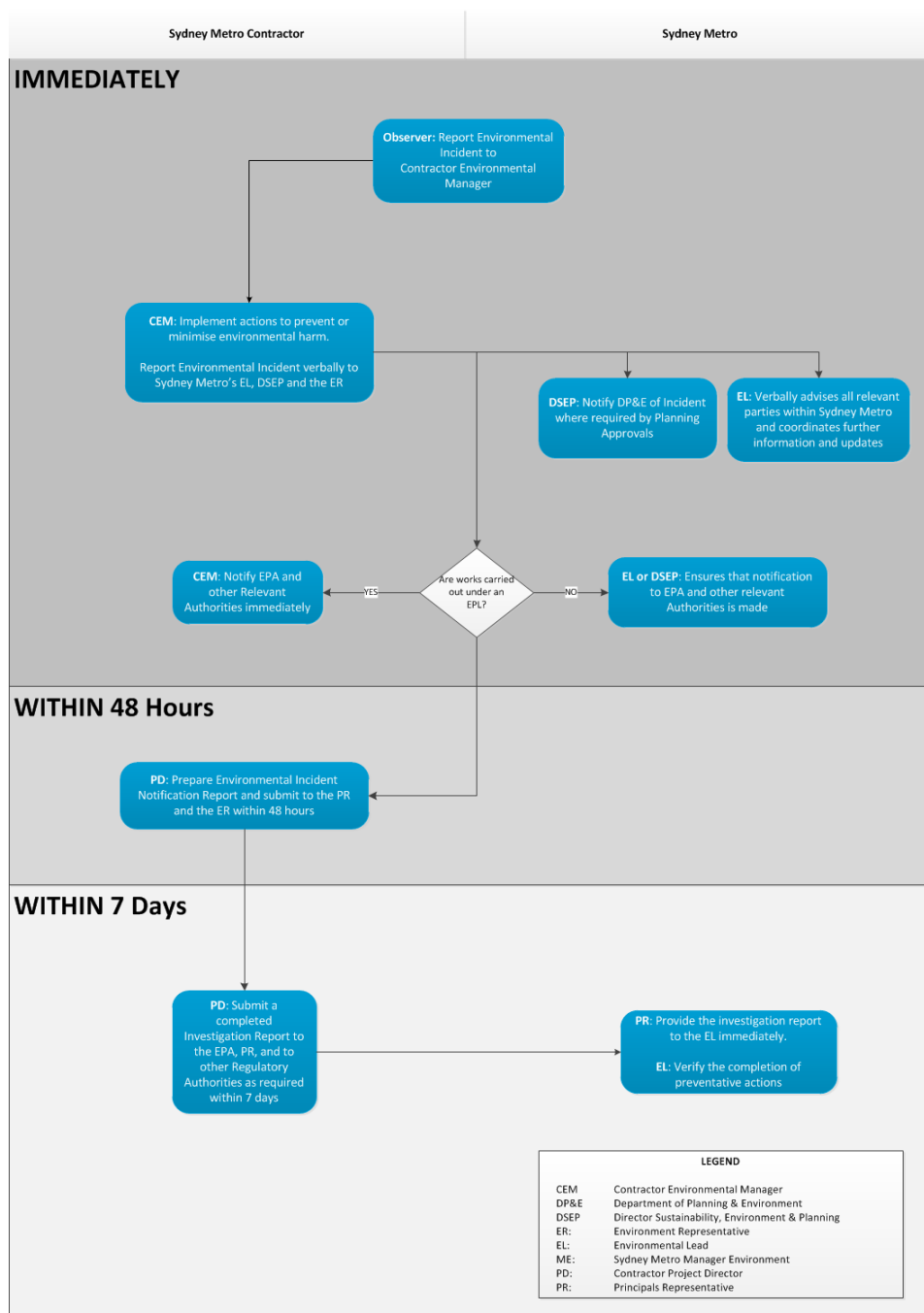


Figure 2: Environment Incident notification process for Class 1 and 2 Incidents

6.3. Incident Notification Reports

For all Incidents an Incident Notification Report must be completed and submitted to Sydney Metro within 48 hours. These reports satisfy the requirement for written communication to Sydney Metro and are completed using the Environmental Incident and Non-compliance Notification Report (SM ES-FT-403) or a similar and consistent form approved by Sydney Metro.

6.4. Incident Investigations

Environmental Incident Investigations must be carried out for all Class 1 and Class 2 Incidents. Investigations may also be requested for any other Environmental Event at the discretion of Sydney Metro. This discretion is likely to be exercised where incidents of a similar nature are occurring repetitively.

When conducting an Environmental Incident investigation, they must:

- Be led by a lead investigator who is suitably independent investigator capable of arriving at objective findings and is experienced in conducting environmental incident investigations;
- Consider the need for legal privilege during the investigation process in consultation with legal counsel;
- Be informed by all available information that is relevant to the investigation;
- Analyse the timeline of events which led up to and followed the occurrence of Environmental Harm including the immediate incident response;
- Be conducted in a manner that is consistent with recognised investigation techniques such as ICAMS;
- Gather and record evidence;
- Seek the input of key stakeholders; and
- Identify Preventative and Corrective actions and document these in the Incident Notification Report.

6.5. Environmental Incidents with Health and Safety Impacts

It is possible that where an Event occurs that causes Environmental Harm, harm is also caused to the health, safety or wellbeing of people. In these situations there will also be a Health and Safety Incident process undertaken which is separate to the process outlined in this document.

While the definition of the Environment covers people under the POEO Act, the management of impacts upon them are carried out using the Health and Safety Incident Management protocols. This is because Health, Safety and Wellbeing requirements are governed by a range of legislation other than the POEO Act and this procedure is not comprehensive in that regard. Sydney Metro has well established processes to manage impacts on people without the need for the Environmental Incident Process to intervene.

Furthermore, where Environmental Events cause harm to both the 'environment' and people it is possible that the root causes for the respective impacts are different. It is also possible that differences in the severity of the impacts trigger inconsistent notification requirements and investigation levels. It is prudent to identify appropriate and effective corrective actions that reduce the risk of impacts to both people and the environment, therefore separate Incident Management Processes are undertaken in these situations.

For more detail on the management of Health and Safety Incidents please refer to the [Health & Safety Incident Reporting & Investigation Standard \(SM-17-00000040\)](#).

6.6. Reporting Pollution Incidents to Relevant Authorities

If an Incident or Non-compliance is a Notifiable Event, then a report must be provided to the relevant Regulatory Authority within the timeframe(s) specified by the relevant legislation. Pollution Incidents which are causing or threatening Material Harm to the environment must be reported to each of the following authorities immediately after project personnel become aware of the Incident, as required by Section 148 of the POEO Act 1997. The contact numbers for these authorities are listed in Table 5.

Table 5: Contact details for Relevant Authorities

Type	Example incident
EPA Environment Line	131 555
Local Authority	Local Council (specific to area)
Ministry of Health	Public Health Unit (refer to http://www.health.nsw.gov.au/Pages/default.aspx to confirm local area contact details)
SafeWork NSW	131 050 or contact@safework.nsw.gov.au
Fire and Rescue NSW	000

Relevant information required to be given to EPA when making a notification is specified in Section 150 of the POEO Act 1997 as follows:

- Time, date, nature, duration and location of the incident;
- Location of the place where pollution is occurring or is likely to occur;
- Nature, the estimated quantity or volume and the concentration of any pollutants involved;
- Circumstances in which the Incident occurred (including the cause of the Incident, if known);
- Action taken or proposed to be taken to deal with the Incident and any resulting pollution or threatened pollution; and
- Other information prescribed by the regulations.

All relevant information known at the time of making the notification must be reported. If the information required by (c), (d) or (e) above is not known at the time of initial notification but becomes known afterwards, it must be reported to each authority immediately after it

becomes known. Verbal notification must be followed by notification in writing within seven days of the date on which the Incident occurred.

Pollution Incidents are not required to be reported if the Incident has already come to the attention of the EPA or the Incident involves only the emission of an odour.

Failure to report a pollution Incident as required by the POEO Act 1997 is an offence.

Where any work or activity is regulated by an Environment Protection License (EPL), notification of a pollution Incident to the EPA should be made by the licensee. Thus, where the contractor holds the EPL for the project, notification to EPA shall be made by the contractor.

For any work or activity that is not regulated by an EPL, notification of pollution Incidents to EPA shall be made by Sydney Metro, unless the contractor is instructed otherwise by Sydney Metro. This includes pollution Incidents that occur as a result of pre-construction activities which may be undertaken prior to an EPL being required for a project. Pre-construction activities are determined by the Planning Approval and may include, for example, geotechnical investigations or surveys.

Where the Environmental Representative determines there to have been a significant off-site impact on people or the biophysical environment, the program Director Sustainability Environment and Planning will notify the Secretary of the Department of Environment and Planning within 48 hours in accordance with Project Infrastructure Approval Conditions. This notification will be followed by a full written report within seven days of the date on which the incident occurred.

6.6.1. Maritime Related Incident Notification and Reporting

Marine Incidents involving vessels and personnel on board vessels must be reported to the Australian Maritime Safety Authority in accordance with the guidance published on their website at:

- [Australian Maritime Safety Authority Incident Reporting](#); and
- [Reporting obligations of owners and masters of domestic commercial vessels](#).

6.7. Environmental Compliance Register

The Environmental Compliance Register is used to manage the information associated with reporting of Environmental Events. This register is maintained by the Manager Environment and may be used by a variety of individuals to input data. For access to the register or information on its use contact the Manager Environment.

This register analyses the data it contains and produces environmental compliance statistics that are used to meet a range of reporting and environmental management requirements.

7. Environmental Non-compliance

An Environmental Non-compliance is a breach of an Environmental Requirement originating from Planning Approvals, Environment Protection Licenses, lease agreements, and other requirements documented in environmental management plans. It is important to note that regardless of whether an event is classified as a Non-compliance or an Incident the process behind managing the event remains the same, with the following exceptions:

- Non-compliances are not notifiable to Regulatory Authorities under the POEO Act;
- Non-compliances are reported to have occurred on the day the breach was raised as opposed to the date when the requirement was breached (this is to preserve historical reporting and analysis – see Section 7.1);
- Non-compliances are not divided into severity classes (Section 5.2);
- Non-compliances do not have the potential to trigger crisis or emergency management processes; and
- There is an informal notification process in the immediate timeframe following a Non-compliance being raised.

When an Environmental Event occurs that causes Environmental Harm and also breaches one or more Environmental Requirements, then an Incident Notification Report will be created which records what requirements were breached.

If a Non-compliance is identified then it must be raised using the Environmental Incident and Non-compliance Report Form within 48 hours by the party responsible for the breach.

7.1. Non-compliance Rate

A key environmental performance statistic used by Sydney Metro is the Non-compliance Rate. This statistic provides a standardised way of comparing the performance of different projects or contractors. The NC Rate is calculated using the following formula:

$$= \left(\frac{NCs + Incidents\ with\ breaches\ raised\ in\ month + (Open\ NCs + Open\ Incidents\ with\ breaches\ from\ previous\ months)}{Total\ Number\ of\ Ongoing\ Requirements} \right) \times 100$$

Each month a count of the number of NCs raised, and Incident raised where Environmental Requirements have also been breached is counted. Added to this number is the number of these events which were raised in previous months that still held an Open status in the current reporting period. Non-compliance and incident Events are considered Open if any of the associated Actions are Open. The total is divided by the number of Environmental Requirements which are actively being complied with (Ongoing Requirements) and a multiplying factor of 100 is applied.

8. Corrective and Preventative Actions

Whenever an Environmental Event is raised actions will be assigned to the event irrespective of whether it is an Issue, Incident or Non-compliance. These actions will generally be Corrective Actions which are implemented to eliminate the cause of the Incident, Non-compliance or Issue and can be thought of as reactive measures in response to the Environmental Event.

Preventative Actions may also be assigned to prevent the occurrence of an Incident, Non-compliance or Issue and can be considered pro-active measures which may be recommended following a detailed investigation of the event.

Actions must:

- Limit impacts as far as is reasonably practicable;
- eliminate risk where practicable;
- where it is not practicable to eliminate the risk, follow the hierarchy of controls;
- address root causes and contributing factors; and
- be prioritised based on risk.

The Executive Director, Safety Sustainability & Environment must ensure there are systems in place to:

- monitor corrective action status;
- escalate issues to the executive where progress on a corrective action is inadequate; and
- retain all corrective action responses for recording purposes.

8.1. Action Status

Actions are allocated to a person who will take accountability for ensuring it is carried out within a timely manner and completed by the due date.

Actions are either closed immediately if the Action has already been carried out and verified by Sydney Metro, or are created with an open status. The Action will remain in an open state until such a time as Sydney Metro verifies that the responsible person has completed the Action in a satisfactory manner. Until all actions associated with an Incident, Non-compliance or Issue are closed the original Environmental Event is considered to be open as well. This is relevant when calculating the NC Rate as open Non-compliances and Incidents contribute toward the calculation of this statistic.

Verification is determined by the Environmental Lead by sighting evidence of the Actions implementation.

9. Related Documents and References

Related Documents and References

- [Environmental & Sustainability Management Manual](#)
- [Risk Management Standard](#)
- [Health & Safety Incident Reporting & Investigation Standard \(SM-17-00000040\)](#)
- [Crisis Management Implementation Plan](#)
- [Environmental Incident and Non-compliance Notification Report](#)
- [Environmental Inspection Information & Summary](#)
- [Sydney Metro Glossary](#)

10. Superseded Documents

Superseded Documents

There are no documents superseded as a result of this document.

11. Document History

Version	Date of approval	Notes
1.0	31 March 2015	New document
2.0	7 July 2016	IMS Review
3.0	7 April 2017	IMS Review
4.0	23 November 2018	IMS Review
5.0	11 February 2019	IMS Review
5.1	18 February 2019	Minor correction to formula

**APPENDIX F INDICATIVE ENVIRONMENTAL SCHEDULES –
ENVIRONMENTAL INSPECTION CHECKLIST**

Note: It is noted that the indicative environmental schedules included in this CEMP and subplans are separate documents that are edited independently of this Plan and relevant subplans and will progressively change.

AFJV Environment Inspection Checklist



Details

Created at	12/09/2024 by Aaheli Chattopadhyay
Completed at	
Last modified	by Aaheli Chattopadhyay
Status	Not Started
Respondent	Aaheli Chattopadhyay
Business Unit	Acciona Construction Australia
Division	ACA - Construction - NSW
Project	C1045 - Sydney Metro West - Central Tunnelling Package
Site Location	
Contractor Company	
Identifier	
Inspection Details	

Date	Time	Area Supervisor	Site Location	Geo Location
Activity taking place during inspection				
Weather Conditions				
Person involved with the inspection				
Name (Person employed by Acciona)			Name (Contractors, Clients, Visitors)	

1. General

- 1.1 Are no go zones well delineated and is the area well protected?
- 1.2 All permits in place (ie. pre-clearing, water discharge, OOHW)?

2. Soil and Water

- 2.1 Sediment basins in good working order? ERSed controls installed as per the approved ESCP?
- 2.2 Holding tanks, ponds, sumps etc are functional and managed to ensure no risk of overtopping?
- 2.3 Stockpiles properly segregated?
- 2.4 Public roads clean (ie. tracked dirt), loads covered, and haul roads are maintained?

2.5 Hazardous storage and refuelling areas are properly managed and maintained (appropriate storage, bunds empty etc)? Storage area away from watercourse and drainage lines?

2.6 Spill kits readily available and suitable for the work area/activity?

2.7 Stabilised exit point/cattle grids/wheel wash working effectively with no dirt and mud on roads

3. Noise and Vibration

3.1 Non-tonal reversing system installed?

3.2 Is high noise generating activities being undertaken on site?

3.3 Plant and machinery turned off when not in use?

3.4 Screens/hoarding in place? Monitoring being undertaken as required?

4. Air Quality and Controls

4.1 Is visible dust being generated by site work activities, stockpiles, internal roads or exposed surfaces?

4.3 Is a water cart available to wet down areas?

4.4 Is non potable water being used for dust suppression via an approved reuse permit?

4.5 Are trucks carrying loose material entering or leaving the site covered?

4.6 Is plant and machinery on site producing visible emissions?

4.7 Is odour present in proximity of site boundary?

4.8 Are areas being revegetated or re-stabilised when not in use?

4.9 Have daily inspections been conducted for dust?

5. Heritage

5.1 Are Heritage items in the immediate vicinity well protected and delineated?

5.2 Have any heritage items been identified/salvaged since the last inspection?

5.3 Has damage occurred to any heritage items or site delineation since the last inspection?

6. Flora and Fauna

6.1 Tree protection zones of retained vegetation have been established? Protection fencing/ signage is visible and in good condition.

7. Visual Amenity

7.1 Is the project site clean and tidy, equipment and materials secured?

7.2 Lighting is orientated away from adjacent sensitive land user/s?

7.3 Hoardings and noise barriers are clean and free of dust build up and graffiti?

7.4 Signage (wayfinding and project information) is maintained and visible?

8. Waste Management

8.1 Is the site clean and waste bins available?

8.2 Are truckloads covered when removing dry waste from the construction sites to prevent waste dispersing?

8.3 Any visual evidence of litter on-site?

AFJV Environment Inspection Checklist



8.4 Are waste materials segregated, classified and disposed of correctly into the "right bin"?
No cross contamination of segregated wastes and recycle bins.

9. Groundwater and Water Discharge

9.1 Has groundwater been intercepted during works?

9.2 Is there a plan/procedure for dewatering?

9.3 If dewatering - is dewatering permit in place, has it been approved by authorised Alliance personnel and is dewatering occurring in accordance with this permit?

10. Social / Business

10.1 Are business entries clear?

10.2 Is signage being utilised and is it effective?

10.3 Are the works causing a disruption to planned social events?

11. Hazardous Material and Dangerous Goods

11.1 Are all hazardous materials or dangerous goods stored in bunded areas or hazardous goods containers? Are SDS's available and current?

11.2 Bunded area for on-site storage of fuel and liquid chemicals is able to hold 110% of total volume stored.

11.3 Is refuelling of plant and equipment occurring in refuelling area and in a safe manner (e.g. use of tunnel, nozzle, spills kit)?

11.4 Are spill kits and fire extinguishers readily accessible on site and adequately stocked?

11.5 Are there any obvious signs of spills/ leaks on site? If so, where?

12. Concreting

12.1 Plant and equipment involved in concrete works are being washed out in designated concrete washout areas and being maintained in good condition.

12.2 The designated area is routinely inspected to ensure there is adequate capacity (especially prior to and during rain events) and is bunded to prevent clean storm water flowing into area.

12.3 Concrete wash from drilling, grout and waste from chemicals utilised is being contained for appropriate disposal

13. Stockpiles

13.1 Are all stockpiles located in approved, designated locations and being maintained to ensure no sediment runoff i.e. controls in place?

13.2 Have long-term stockpiles been stabilised and/or covered (>30days)?

Summary

ID	Actionee	Actionee	Due date	Action description	Status
----	----------	----------	----------	--------------------	--------

Additional

Photos

- Attachments
- No file attachments

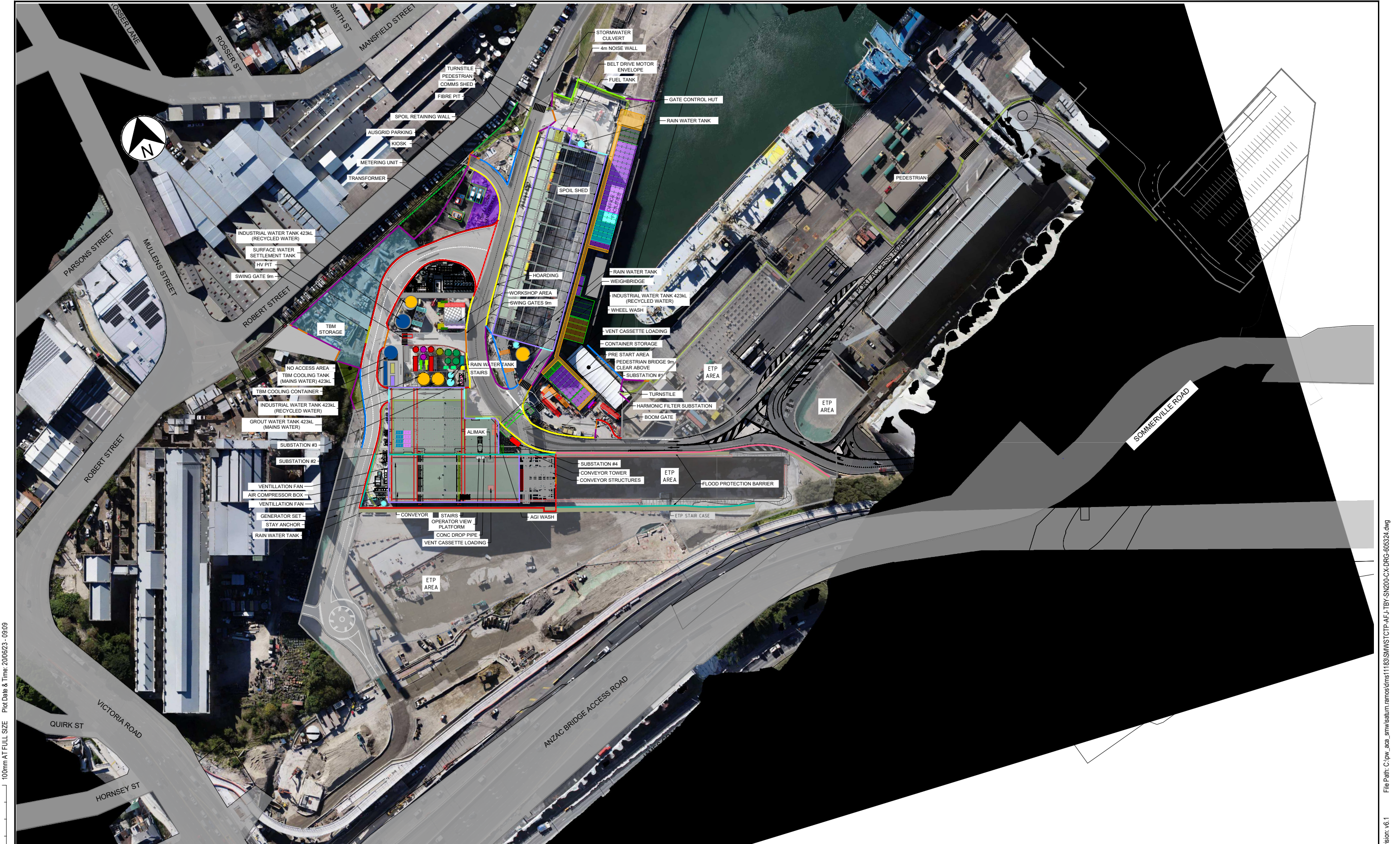
Actions

ID	First name	Last name	Due date	Date closed	Action description	Status	Last Comment
----	------------	-----------	----------	-------------	--------------------	--------	--------------

APPENDIX G CONSTRUCTION SITE LAYOUTS

Note: The indicative construction site layouts included in this Appendix G have been applicable for the CTP construction works. With Substantial Completion of the CTP Works now achieved, several site areas have been handed back to Sydney Metro whilst others remain under control of AFJV for Transitional Handover Services (THS) as described in Section 1.3.4 of this Plan. In this regard, the indicative areas under THS are as described in the THS Layout Plans included at the end of Appendix G (provided for information only). These may change from time to time and it is noted that these layouts will not be updated in future.

100mm AT FULL SIZE Plot Date & Time: 20/06/23 - 09:09

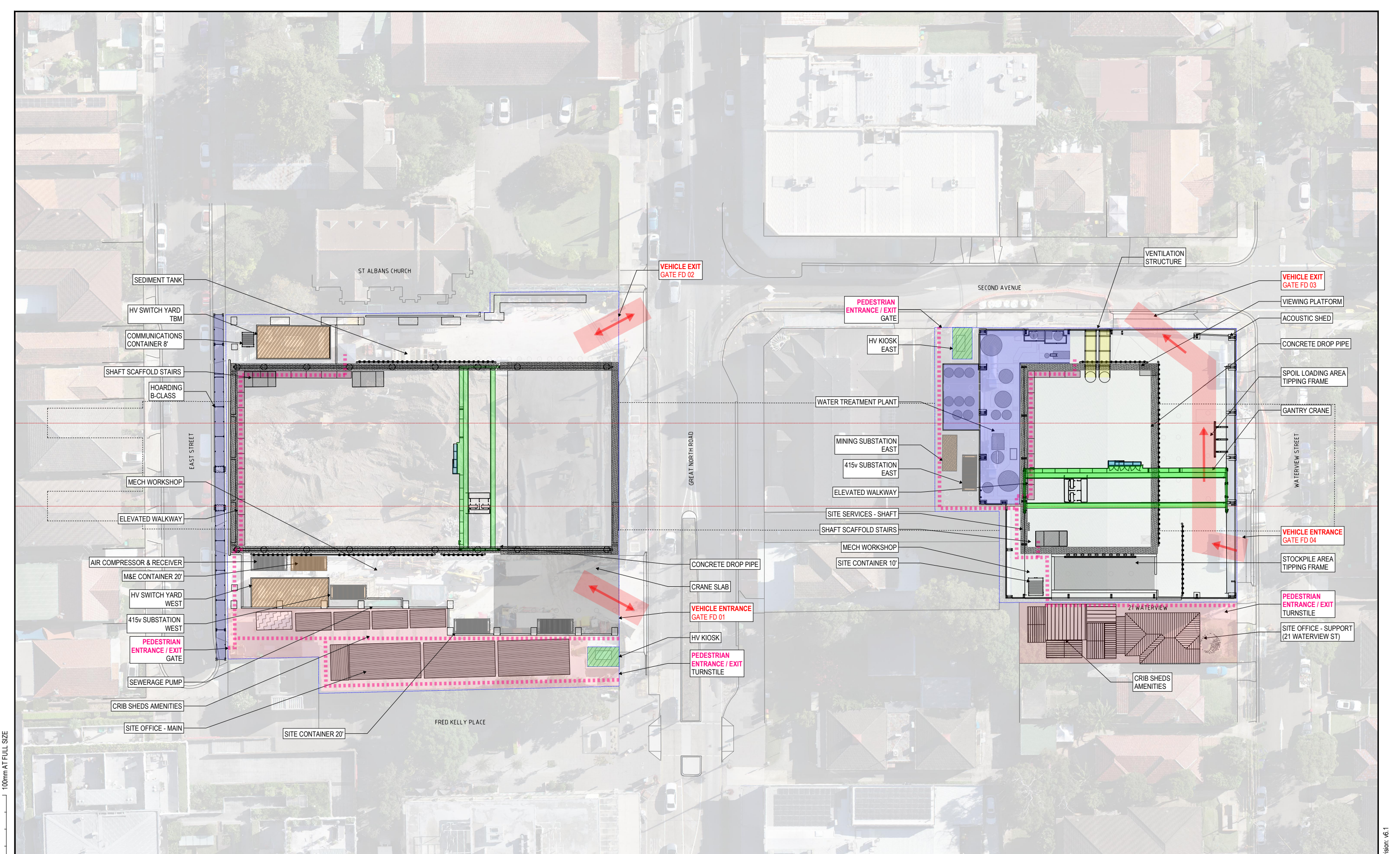


Note: Some elements in this site layout will vary as site conditions change, construction progresses or the project transitions to a different phase.

APPROVED FOR CONSTRUCTION

						SCALE:				CLIENT:		The information shown on this drawing is for the purposes of the Sydney Metro Project only. No warranty is given or implied as to its suitability for any other purpose. The Service Providers accept no liability arising from the use of this drawing and the information shown thereon for any purpose other than the Sydney Metro Project.   AEO Company Name Design company Name AEO Discipline Description		The information shown on this drawing is for the purposes of the Sydney Metro Project only. No warranty is given or implied as to its suitability for any other purpose. The Service Providers accept no liability arising from the use of this drawing and the information shown thereon for any purpose other than the Sydney Metro Project. DRAWN DESIGNED DRG CHECK DESIGN CHECK APPROVED S RAMOS - S YESHI - - 16/12/2021 - 16/12/2021 - -		SYDNEY METRO WEST SITE LAYOUT THE BAYS OPERATIONAL THE BAYS SITE LAYOUT- JUNE 2023 ISSUE FILE No: - STATUS: - DRG No: SMWSTCTP-AFJ-TBY-SN200-CX-DRG-605324 SHEET: 01 OF 01 EDMS No: - REV P VER		
P	20 JUNE 2023-SEGMENT RINGS ARRANGEMENT MODIFIED AND AERIAL PHOTO UPDATE	20/06/2023	100 0 10 20 30 40m 1 : 1000 FULL SIZE A1															
P	17 MAY 2023-TBM STORAGE, PEDESTRIAN ADDED AND PEDESTRIAN BRIDGE MODIFIED	17/05/2023																
P	17 APRIL 2023-FLOOD CONTROL BARRIER MODIFIED, SUBSTATIONS AND RAMP ADDED	17/04/2023																
P	15MARCH 2023-FENCE&HOARDING MODIFIED, HARMONIC FILTER SUBSTATION ADDED	15/03/2023																
P	15 FEB 2023-FENCE&HOARDING, WEIGHBRIDGE MODIFIED, FLOOD PROTECTION ADDED	15/02/2023																
REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date													
A1	Original	Co-ordinate System:	Height Datum:	This sheet may be prepared using colour and may be incomplete if copied		NOTE: Do not scale from this drawing.												

100mm AT FULL SIZE



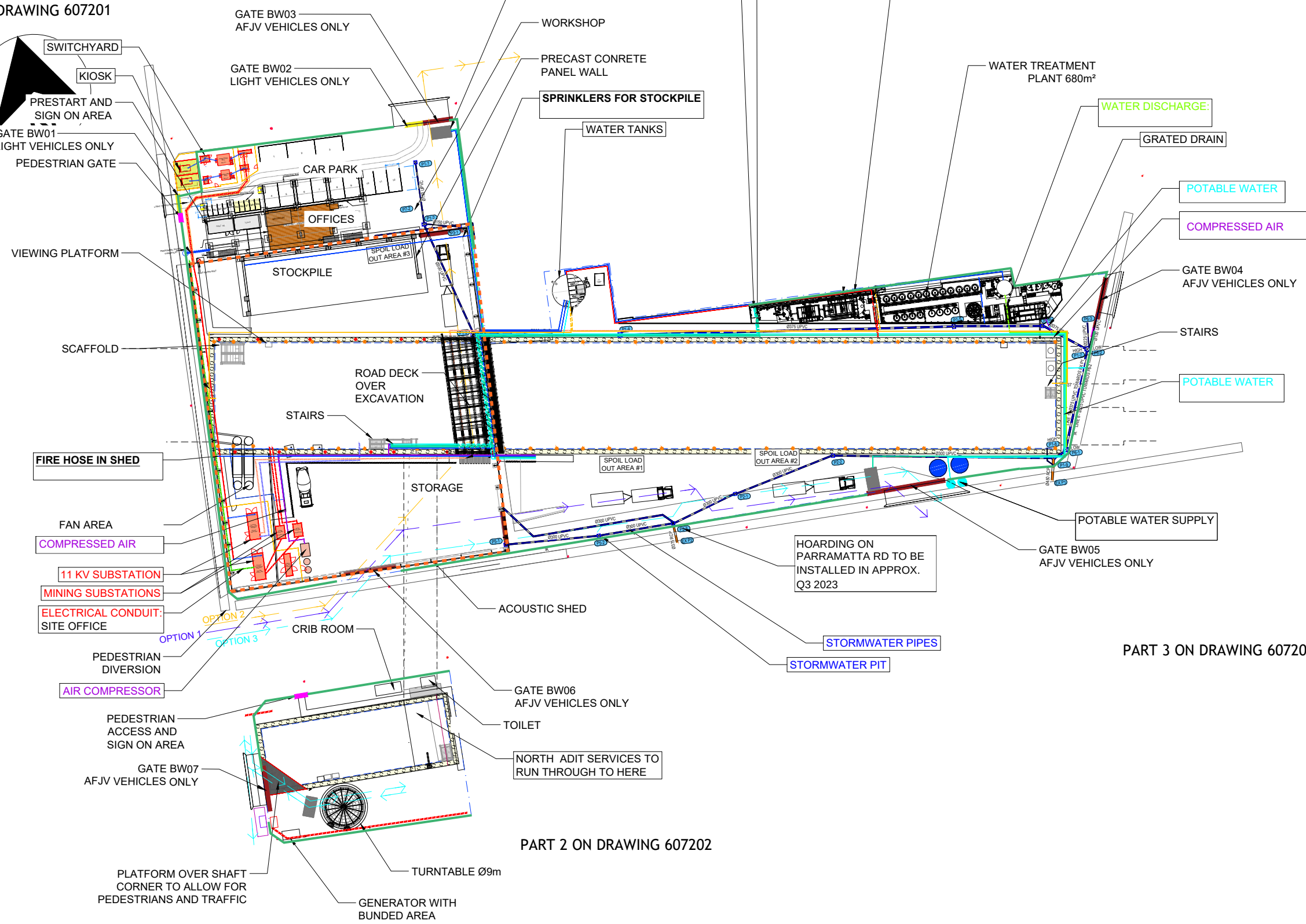
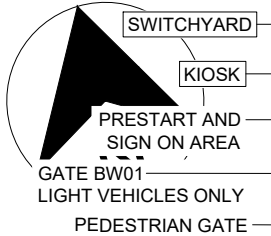
Note: Some elements in this site layout will vary as site conditions change, construction progresses or the project transitions to a different phase.

		SCALE: 2 0 2 4 6 8m FULL SIZE A3		CLIENT: 		The information shown on this drawing is for the purposes of the Sydney Metro Project only. No warranty is given or implied as to its suitability for any other purpose. The Service Providers accept no liability arising from the use of this drawing and the information shown thereon for any purpose other than the Sydney Metro Project.		SYDNEY METRO WEST FIVE DOCK - EAST / WEST SITES OVERALL SITE PLAN	
1 Issued for information		Design by		CW		DRAWN CW		SHEET: 01 OF 03	
REV. AMENDMENT DESCRIPTION		Verified by		Approved by		DESIGNED		FILE No: SITE LAYOUT	
A3 Original Co-ordinate System: GDA2020/MGAZONE 56		Height Datum: AHD		Date: 09/03/23		DRG CHECK		STATUS: FOR INFORMATION ONLY	
This sheet may be prepared using colour and may be incomplete if copied		NOTE: Do not scale from this drawing.				DESIGN CHECK		EDMS No:	
						APPROVED		REV A VER 1.1	
								DRG No: FDK-SU010	

Title block Revision: v6.1



PART 1 ON DRAWING 607201



PART 3 ON DRAWING 607203

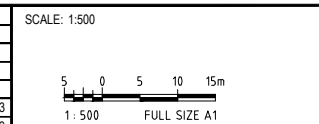
PART 2 ON DRAWING 607202

Note: Some elements in this site layout will vary as site conditions change, construction progresses or the project transitions to a different phase.

AND COMMENT

UTILITIES LEGEND	
	Stormwater pipe
	Stormwater pit
	Grated drain
	Dewater OG Ø150 mm
	Dewater UG Ø150 mm
	Potable water OG Ø50 mm
	Potable water UG Ø50 mm
	Potable water OG Ø100 mm
	Potable water UG Ø100 mm
	Industrial water OG Ø100 mm
	Industrial water UG Ø100 mm
	WTP discharge Ø150 mm
	Electrical OG line
	Electrical UG line
	DB (Distribution Board)
	Lights
	Hoarding
	Acoustic Shed

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date
A1	Original				
A1.7	UPDATED LAYOUT INCLUDE STAIRS AND FAN	JM	AP		27/06/23
A1.8	UPDATED LAYOUT INCLUDE STAIRS AND FAN	JM	AP		07/06/23



NOTE: Do not scale from this drawing.

CLIENT:

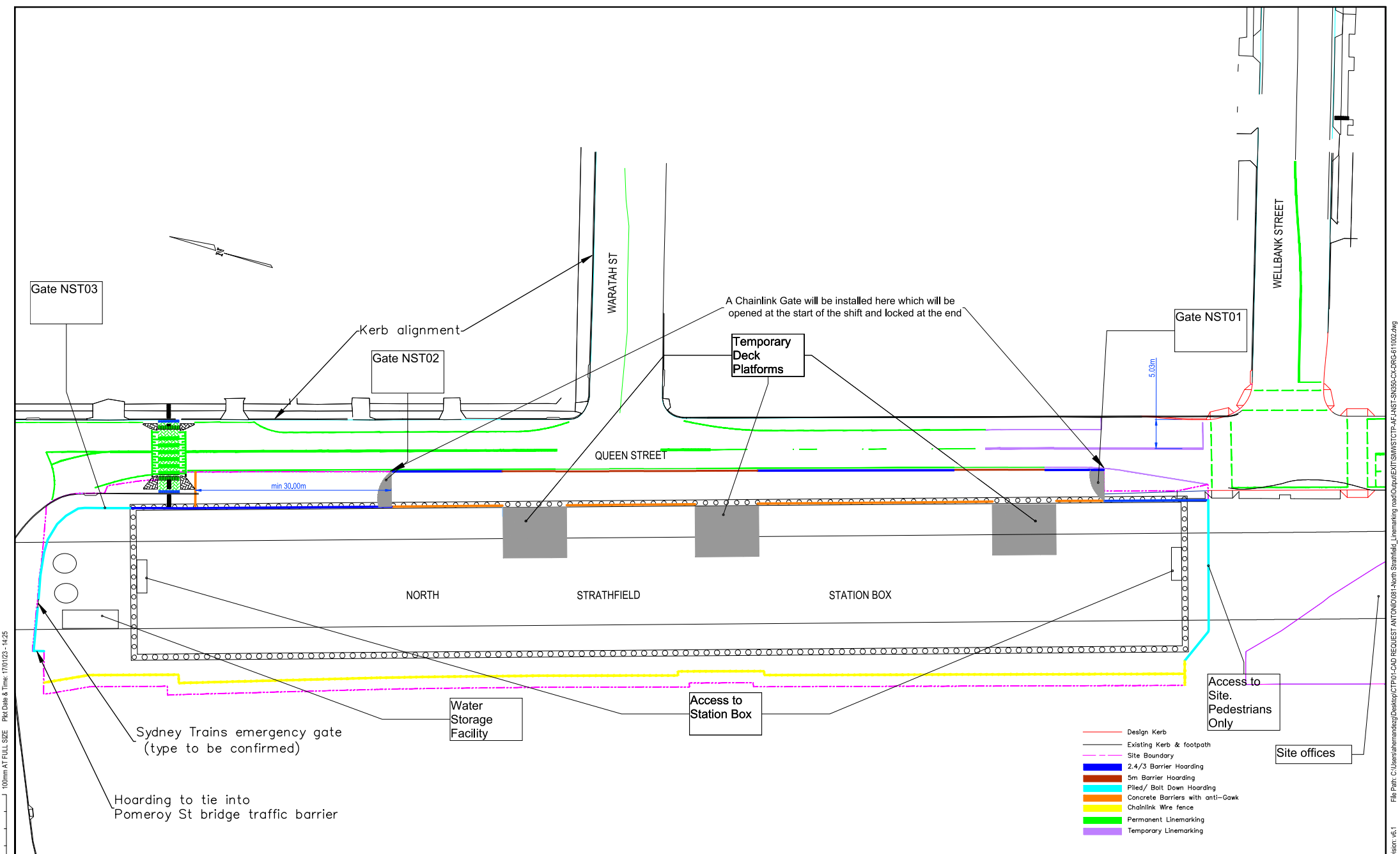
DESIGNED	JOSE MARTINEZ	27/06/2023
DRG CHECK	ADRIAN PORCU	27/06/2023
DESIGN CHECK		
APPROVED		

SYDNEY METRO WEST	
BURWOOD NORTH	
SITE LAYOUT	
UTILITIES	
ALL PROPOSED UTILITIES COMBINED	
FILE No:	SHEET: 1 OF 1
STATUS:	EDMS No:
DRG No: SMWSTCTP-AFJ-BWT-SN300-CX-DRG-607200	REV A VER 1.7

100mm AT FULL SIZE Plot Date & Time: 28/06/23 - 09:50

File Path: C:\pww_area_smn\jose.martinez\dms\10014\SMWSTCTP-AFJ-BWT-SN300-CX-DRG-607200.dwg Title block Revision: v6.1

100mm AT FULL SIZE Plot Date & Time: 17/01/2023 - 14:25



Note: Some elements in this site layout will vary as site conditions change, construction progresses or the project transitions to a different phase.

NOTE: Site fencing and hoarding design is not final

FOR INFORMATION

A1 Original		Co-ordinate System: GDA2020/MGAZONE 56	Height Datum: AHD	This sheet may be prepared using colour and may be incomplete if copied		NOTE: Do not scale from this drawing.	
A		LINE MARKING	MCB	JM	17/01/23		
A		LINE MARKING	MCB	JM	10/12/22		
REV	AMENDMENT DESCRIPTION		Design by	Verify by	Approved by	Date	
A1	Original	Co-ordinate System: GDA2020/MGAZONE 56	Height Datum: AHD	This sheet may be prepared using colour and may be incomplete if copied		NOTE: Do not scale from this drawing.	

SCALE:

0 0.75 1.5 Meters

CLIENT:

NSW GOVERNMENT

sydney METRO

af JV

ACCIONA FERROVIAL JOINT VENTURE

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DRAWN: MARTA CASTILLO 17.01.2023

DESIGNED: _____

DRG CHECK: _____

DESIGN CHECK: _____

APPROVED: JOAQUIN MAS 17.01.2023

SYDNEY METRO WEST

NORTH STRATHFIELD

LOCAL AREA WORKS DESIGN

LINE MARKING DRAWING OPTION - 1

FILE No: _____

STATUS: DETAILED DESIGN - STAGE 3 DETAILED DESIGN (AFC)

DRG No: SMWSTCTP-AFJ-NST-SN350-CX-DRG-611002

SHEET: 1 OF 1

EDMS No: _____

REV A VER 1.1

File Path: C:\Users\ahernandez\Desktop\CTP04-CAD REQUEST ANTONIO081-North Strathfield_Linemarking road\Output\EXT\SMWSTCTP-AFJ-NST-SN350-CX-DRG-611002.dwg

Office



Note: Some elements in this site layout will vary as site conditions change, construction progresses or the project transitions to a different phase.



APPROVED FOR CONSTRUCTION

SYDNEY METRO WEST			
SYDNEY OLYMPIC PARK			
SITE LAYOUT			
HANDOVER PORTION 3B			
HOARDING & FENCING			
FILE NO:	SHEET: 1 OF 1	©	
STATUS: DETAILED DESIGN - STAGE 3 DETAILED DESIGN (AFC)	EDMS No:		
DRG NO: SMWSTCTP-AF-J-OLP-SN400-CX-DRG-609300	REV 00	VER	



All Areas in Portion 1B and Portion 1C under AFJV control for THS except as follows:
Area L2A handed over to Sydney Metro and under control of ETP (JCG)
Area L13, L14, and L9 handed over to Sydney Metro and under control of ETP (JCG). Ongoing shared access to Western Access Road must be maintained for all parties.
Area L4 and L6 which are under control of Port Authority.

Portion 1A handed over to Sydney Metro and under control of ETP (JCG).
Portion 1D handed over to Sydney Metro - land returned to NSW Port Authority.

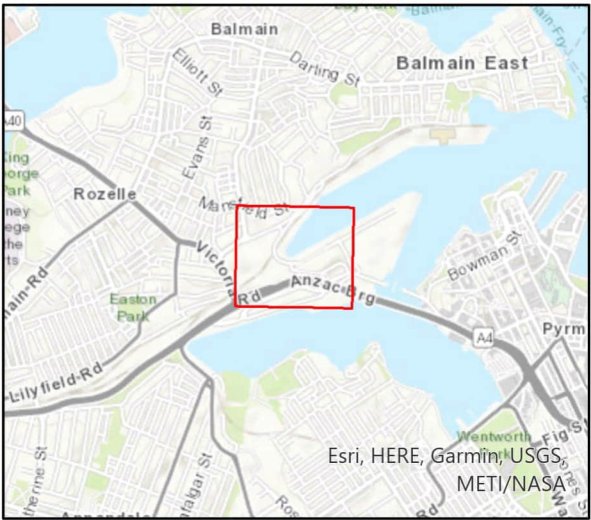
The Bays

Station Box in the Bays: All Project Works and Handover Works (including Western shaft and Western site in the Bays)

Portion 1 TUNNELS-TBY to FDK

Portion 1A.2 Complete

Portion 1D Complete



Map Creation Date: 4/09/2024

This map is shown for reference purposes only. AFJV provides this information "as is" with the understanding that it is not guaranteed to be accurate, correct or complete and conclusions drawn from such information are the responsibility of the user. While every effort is made to ensure the information displayed is as accurate and current as possible, AFJV will not be held responsible for any loss, damage or inconvenience caused as a result of reliance on such information or data.

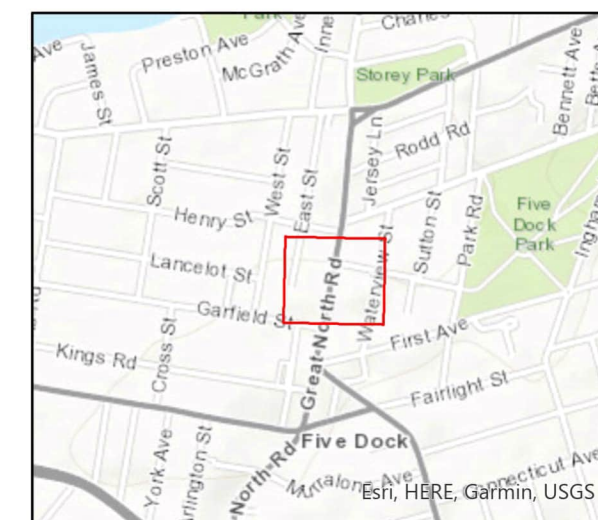




Five Dock Portion 2A/2A.1

Five Dock western and eastern shafts and site areas

- Portion 2A (Shafts)
- Portion 2A.1 (Five Dock Caverns)
- Portion 1 Tunnels TBY to FDK
- Portion 2 Tunnels FDK to SOP



Map Creation Date: 13/09/2024

This map is shown for reference purposes only. AFJV provides this information "as is" with the understanding that it is not guaranteed to be accurate, correct or complete and conclusions drawn from such information are the responsibility of the user. While every effort is made to ensure the information displayed is as accurate and current as possible, AFJV will not be held responsible for any loss, damage or inconvenience caused as a result of reliance on such information or data.



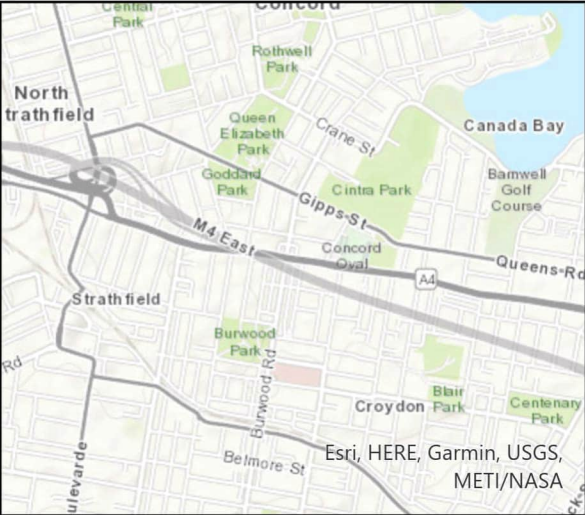


Burwood North Surface Works

Burwood North Sites: All Project Works and Handover Works (including Crossover Cavern, Pedestrian Adit and Southern Entry Shaft)

Portion 2B Burwood North Sites
All Project Works and Handover Works (including Crossover Cavern, Pedestrian Adit, Station Box and Southern Entry Shaft).
Excludes Burwood North Construction Access site which is within Portion 2C.

Portion 2C Burwood North Construction
Access Site
All Project Works and Handover Works within the Burwood North Construction Access Site.



Map Creation Date: 12/09/2024

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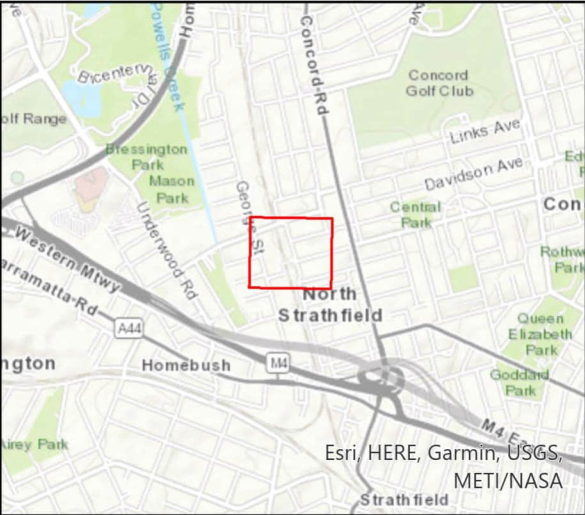




North Strathfield Surface Works

Portion 2D Areas

North Strathfield: All Project Works and Handover Works



Map Creation Date: 18/09/2024

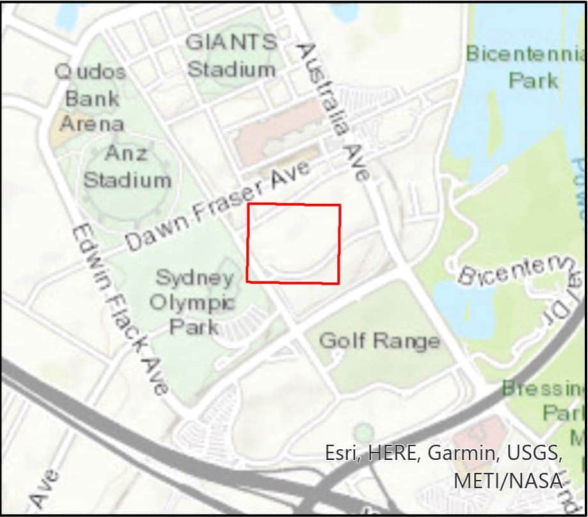
This map is shown for reference purposes only. AFJV provides this information "as is" with the understanding that it is not guaranteed to be accurate, correct or complete and conclusions drawn from such information are the responsibility of the user. While every effort is made to ensure the information displayed is as accurate and current as possible, AFJV will not be held responsible for any loss, damage or inconvenience caused as a result of reliance on such information or data.





All Areas under AFJV control for THS. Portion 3B (grey shaded areas) handed over to Sydney Metro and under control of WTP (GLC). Main PDO office (in Portion 3C) handed over to Sydney Metro.

- Portion 3C PDO Office & Carpark
- Portion 2 Tunnels FDK to SOP



Map Creation Date: 20/09/2024

This map is shown for reference purposes only. AFJV provides this information "as is" with the understanding that it is not guaranteed to be accurate, correct or complete and conclusions drawn from such information are the responsibility of the user. While every effort is made to ensure the information displayed is as accurate and current as possible, AFJV will not be held responsible for any loss, damage or inconvenience caused as a result of reliance on such information or data.

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

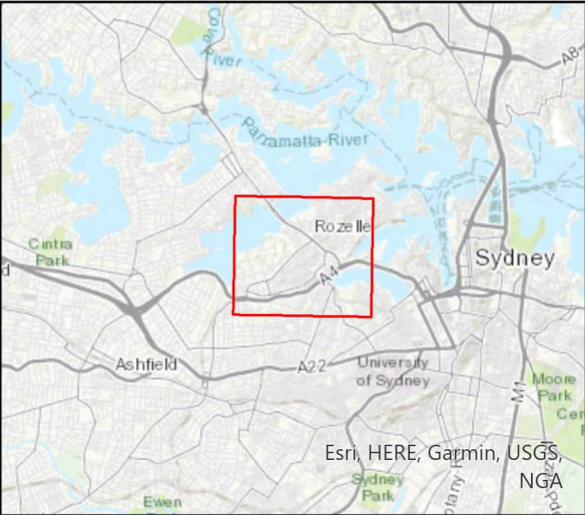




Portion 1

The Bays to Five Dock excluding Five Dock Station from the Western site in The Bays: All Project Works and Handover Works

 Portion 1 Running Tunnels



Map Creation Date: 20/09/2024

This map is shown for reference purposes only. AFJV provides this information "as is" with the understanding that it is not guaranteed to be accurate, correct or complete and conclusions drawn from such information are the responsibility of the user. While every effort is made to ensure the information displayed is as accurate and current as possible, AFJV will not be held responsible for any loss, damage or inconvenience caused as a result of reliance on such information or data.

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

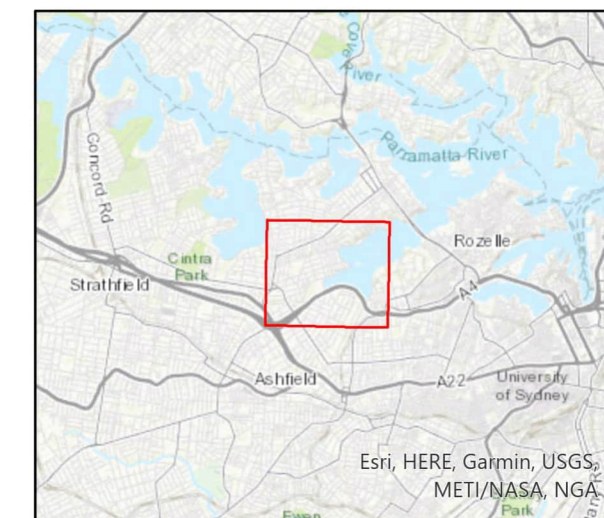




Portion 1

The Bays to Five Dock excluding Five Dock Station from the Western site in The Bays: All Project Works and Handover Works

-  Portion 1 Running Tunnels
-  Portion 2 Running Tunnels



Map Creation Date: 20/09/2024

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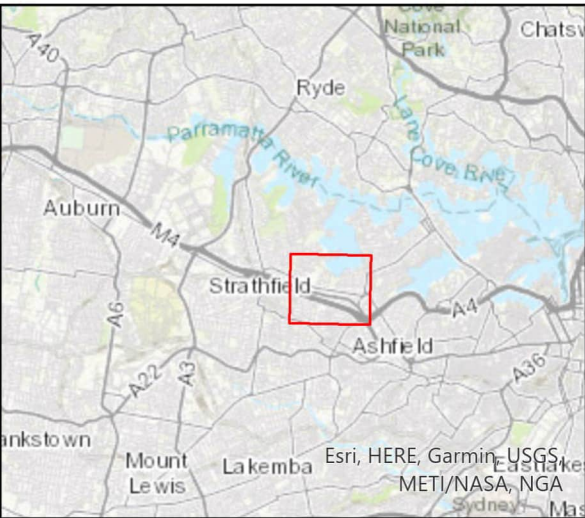




Portion 2

Five Dock (excluding Five Dock Station Cavern) to Sydney Olympic Park excluding station box in Sydney Olympic Park: All Project Works and Handover Works

-  Portion 1 Running Tunnels
-  Portion 2 Running Tunnels



Map Creation Date: 20/09/2024

This map is shown for reference purposes only. AFJV provides this information "as is" with the understanding that it is not guaranteed to be accurate, correct or complete and conclusions drawn from such information are the responsibility of the user. While every effort is made to ensure the information displayed is as accurate and current as possible, AFJV will not be held responsible for any loss, damage or inconvenience caused as a result of reliance on such information or data.

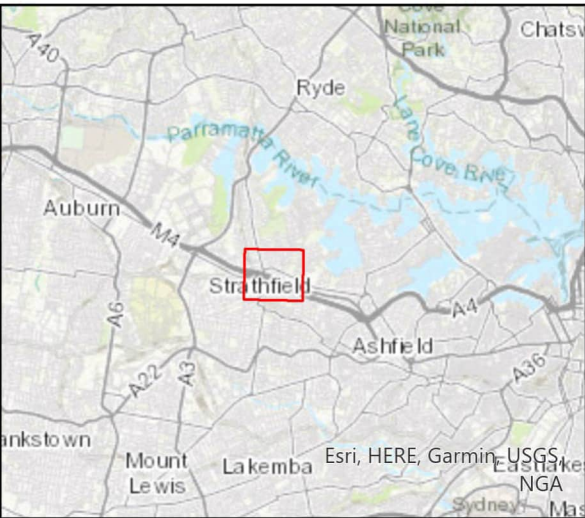




Portion 2

Five Dock (excluding Five Dock Station Cavern) to Sydney Olympic Park excluding station box in Sydney Olympic Park: All Project Works and Handover Works

 Portion 2 Running Tunnels



Map Creation Date: 20/09/2024

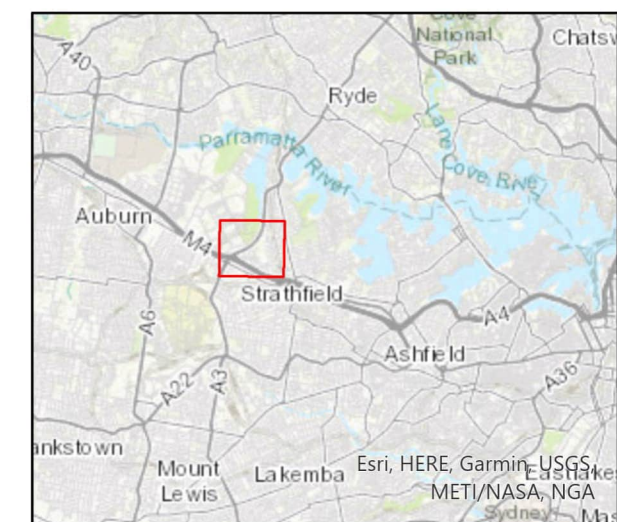
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Portion 2

Five Dock (excluding Five Dock Station Cavern) to Sydney Olympic Park excluding station box in Sydney Olympic Park: All Project Works and Handover Works



Map Creation Date: 13/09/2024

This map is shown for reference purposes only. AFJV provides this information "as is" with the understanding that it is not guaranteed to be accurate, correct or complete and conclusions drawn from such information are the responsibility of the user. While every effort is made to ensure the information displayed is as accurate and current as possible, AFJV will not be held responsible for any loss, damage or inconvenience caused as a result of reliance on such information or data.

