

Non-Aboriginal Heritage Management Sub-plan

Western Sydney Airport – Surface and Civil Alignment Works

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Signature					

Distribution and Authorisation

Document Control

The CPBUI JV Project Director is responsible for ensuring this plan is reviewed and approved. The Project Director is responsible for updating this plan to reflect changes to the project, legal and other requirements, as required.

The controlled master version will be maintained on TeamBinder. All circulated hard copies are deemed to be uncontrolled.

Amendments

The implementation of this Plan is under the authority of the CPBUI Delegated Authority Matrix. All Contract personnel will perform their duties in accordance with this Plan, supporting plans, and related procedures.

Revision Details

Rev.	Details
A	First Draft
B	Second Draft review by Heritage Consultant
C	In response to Stakeholder, Sydney Metro, Independent Certifier and ER comments
D	In response to final ER comments prior to endorsement
01	Issued for Construction (All Sydney Metro review comments closed)

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Abbreviations and definitions

Refer to Definitions, Abbreviations and Acronyms, Sydney Metro – Western Sydney Airport Surface Civil and Alignment Works Package, Schedule C1 General Specification.

Table 1 – Abbreviations and definitions

Abbreviation	Description
ACHMP	Aboriginal Cultural Heritage Management Plan
Airports Act	Airports Act 1996
ARR	Archival Recording Report
CAP	Construction Area Plan
CEMF	Sydney Metro Construction Environmental Management Framework
CEMP	Construction Environmental Management Plan
Condition	Planning Minister's Conditions of Approval
CPB	CPB Contractors Pty Ltd
CPBUI JV	CPB Contractors Pty Limited and United Infrastructure Pty Limited Joint Venture
CSSI	Critical State Significant Infrastructure
DAWE	Department of Agriculture, Water and the Environment
DPE	Department of Planning and Environment
ECM	Environmental Control Maps
EIS	Environmental Impact Statement
EMS	Environmental Management System
EP&A Act	Environmental Planning and Assessment Act 1979 (NSW)
EPA	NSW Environment Protection Authority
ER	Environmental Representative
FAR	Final Archaeological Report
Heritage Act	Heritage Act 1977 (NSW)
CoA	Ministers Condition of Approval
Minister	Minister of the NSW Department for Planning and Public Spaces
NAAER	Non-Aboriginal Archaeological Excavation Report
PMS	Project Management System
Principal, the	Sydney Metro
Project, the	Sydney Metro Western Sydney Airport
REMM	Revised Environmental Mitigation Measure
SBT	Station Boxes and Tunnelling
SCAW	Western Sydney Airport Surface and Civil Alignment Works
SM WSA	Sydney Metro Western Sydney Airport
SSI	State Significant Infrastructure
SWMS	Safe Work Method Statement
UI	United Infrastructure Pty Limited
WSI	Western Sydney International

Part A Overview

1. Introduction

1.1. Purpose and application

This Non-Aboriginal Heritage Management Sub-plan (this Sub-plan) forms part of the Construction Environmental Management Plan (CEMP) within the NSW state jurisdiction for the Sydney Metro - Western Sydney Airport Surface Civil and Alignment Works (SCAW). CPB Contractors and United Infrastructure Joint Venture (herein referred to as CPBUI JV) were awarded the design and construction of the SCAW project by Sydney Metro in March 2022.

This Sub-plan describes how CPBUI JV will minimise and manage impacts to Non-Aboriginal Heritage items and Aboriginal Cultural Heritage throughout the delivery of SCAW off-airport project. These potential impacts will require management and mitigation in accordance with relevant legislation and government policies.

This Sub-plan is to be endorsed by the project Environmental Representative (ER) before the commencement of construction. Construction is not to commence until the CEMP and all required Sub-plans and Monitoring Programs have been endorsed by the ER and/or approved by DPE.

This Sub-plan has been prepared to address the requirements of the:

- Critical State Significant Infrastructure (CSSI) 10051 Planning Approval (dated 23 July 2021)
- Sydney Metro Western Sydney Airport – CSSI Staging Report (Revision 6.0) (Staging Report)
- *AS/NZS ISO 14001:2016 Environmental Management Systems – Requirements with guidance for use*
- Sydney Metro Construction Environmental Management Framework (CEMF)
- Environmental Impact Statement (EIS) and Revised Environmental Mitigation Measures (REMMs) from Section 7 of the Submissions Report
- Contractual requirements, including the SCAW Design and Construction Deed and General and Particular Specifications
- Applicable legislation.

1.2. Background

The Sydney Metro Western Sydney Airport will become the transport spine for Greater Western Sydney, connecting communities and travellers with the new Western Sydney International (Nancy-Bird Walton) Airport (referred to as Western Sydney International) and the growing region.

The Sydney Metro Western Sydney Airport EIS was prepared in October 2020 to assess the impacts of construction and operation of the Project and was placed on public exhibition between 21 October 2020 and 2 December 2020. The Project was declared a Critical State Significant Infrastructure (CSSI) Project and is listed in Schedule 5 of *State Environmental Planning Policy (State and Regional Development) 2011*.

The Sydney Metro Western Sydney Airport was approved by the Minister for Planning and Public Spaces on 23 July 2021 (SSI 10051) under section 5.19 of the *NSW Environmental Planning and Assessment Act 1979* (EP&A Act).

1.3. Project description

The Project will be undertaken on Darug Country and will form part of the future Western Parkland City. The Project involves the construction and operation of a new 23km metro rail line that extends from the existing Sydney Trains suburban T1 western line (at St Marys) in the north to the Aerotropolis (at Bringelly) in the south. The alignment includes a combination of tunnels and civil structures, including viaducts, bridges, and surface and open-cut troughs between the two tunnel sections. The Project also includes six new metro stations, and a stabling and maintenance facility and operational control centre at Orchard Hills. The SCAW package is the second major contract package to be procured for the Project.

The successful and timely completion of the SCAW package is critical to the subsequent construction activities and ultimate completion of the entire Project.

1.3.1. SCAW scope of works

The scope for the SCAW package includes approximately 10.6km of alignment up to the underside of track formation from Orchard Hills to the Western Sydney International (WSI) airport. This includes approximately:

- 3.6 kilometre of viaduct
 - 400 metres of viaduct over Blaxland Creek
 - 660 metres of viaduct over the Patons Lane area and un-named creek
 - 2.5km of viaduct in the Luddenham Road area including across the Warragamba pipeline, at Luddenham Station, across Luddenham Road and across Cosgrove Creek
- 209 metres of bridges
 - A bridge, approximately 187m long, over the proposed M12 Motorway
 - A bridge, approximately 22m long, over the drainage swale on the WSI airport site
- 6.9km of at-grade alignment
 - 600m at Orchard Hills, south of Lansdowne Road
 - 1.6km alongside the stabling maintenance facility in Orchard Hills
 - 900m to the north of the Warragamba pipelines
 - 1.1km north of the proposed M12 motorway
 - 1.4km south of the proposed M12 Motorway on Elizabeth Drive
 - 1.3km within the Airport site from the northern boundary to the Airport Business Park Station
- Temporary and permanent access roads.

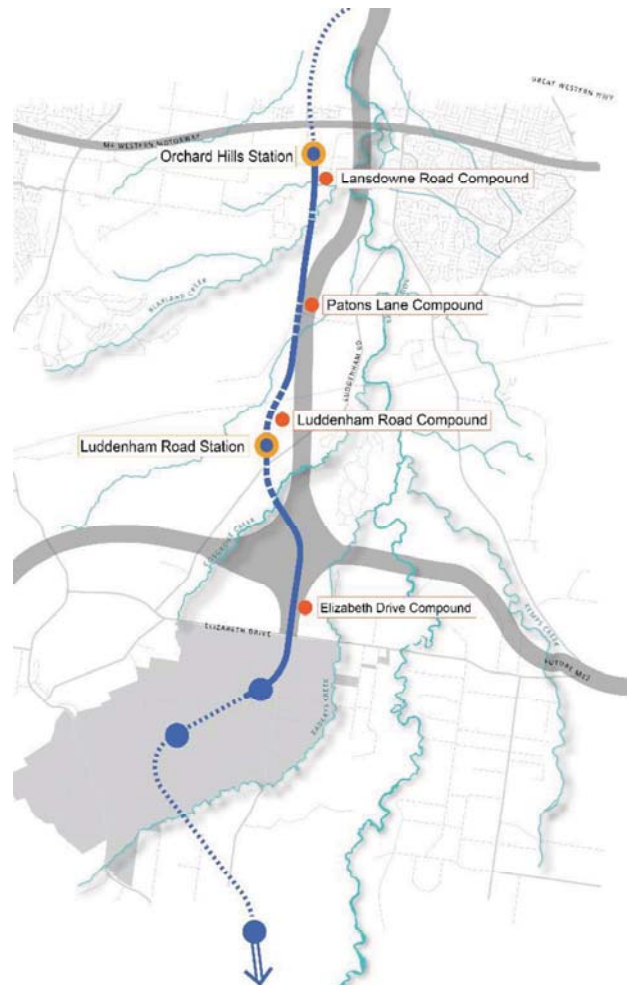


Figure 1 – SCAW Project scope

1.3.2. SCAW construction methodology

Activities that will be undertaken during construction are summarised in Table 2.

Table 2 – Activities during construction

Works	Activities
Early works	<ul style="list-style-type: none"> ■ Investigation works – survey, geotechnical, contamination and utilities ■ Establishment of temporary ancillary facilities, construction site fencing, signage and lighting ■ Pre-clearing vegetation surveys and setting up environmental ‘no-go’ zones ■ Stockpiling of imported spoil for the stabling and maintenance facility

Works	Activities
Earth works	<ul style="list-style-type: none"> ▪ Installation of environmental controls ▪ Vegetation clearing ▪ Stripping, stockpiling and management of topsoil and unsuitable material ▪ Embankment and cutting construction, including the improvement layers/treatments, general fill, structural fill zone and capping layers ▪ Importation and reuse of fill materials ▪ Placing, compacting and finishing of rail alignment sub-base and base layers ▪ Dewatering and backfilling farm dams ▪ Preparation of piling pads.
Bridge works	<ul style="list-style-type: none"> ▪ Installation of environmental controls ▪ Substructure construction from cast in-situ construction with the general sequence of: <ul style="list-style-type: none"> - Bored pile construction (mono pile) - Pile cap (four) construction with localised excavation at Luddenham Station - Pier and headstock construction ▪ Construction of the viaduct structures through the placement of precast concrete segments using a crawler crane ▪ Construction of two bridges using precast Super T
Drainage works	<ul style="list-style-type: none"> ▪ Construction of table drains ▪ Installation of culverts and other drainage structures ▪ Construction of temporary diversion channels ▪ Construction of temporary watercourse crossings such as causeways ▪ Installation of scour protection measures.

2. Structure of this Plan

2.1. Plan Purpose and Objectives

This CEMP Sub-plan forms part of the Project Management System (PMS). It is part of a suite of plans that together outline how the SCAW package will manage Non-Aboriginal Heritage during construction to ensure an integrated approach to meeting contract requirements.

In addition to the Project Management Plan, other Project Plans that interface with this Sub-plan include:

- CEMP
- Noise and Vibration Management Sub-plan
- Quality Management Plan
- Community Communication Strategy

This plan has the following structure:

Part A: Overview	<p>This section clearly defines:</p> <ul style="list-style-type: none"> ▪ Section 1: Purpose, Background/Context, Objectives and Targets, Agency Consultation, Compliance Record Generation and Management, and Related Documents ▪ Section 2: Structure of this Plan ▪ Section 3: Legal and Other Requirements ▪ Section 4: Existing Environment ▪ Section 5: Aspects and Impacts ▪ Section 6: Non-Aboriginal Heritage Management
Part B: Implementation Plan	<p>This section outlines in detail the key processes and systems to support implementation of environmental management outcomes for the project:</p> <ul style="list-style-type: none"> ▪ Element 1: Training ▪ Element 2: Monitoring and Reporting ▪ Element 3: Auditing, Review and Improvement ▪ Element 4: Project Specific Requirements
Part C: Appendices	<p>This section includes appendices and annexures providing additional detail that support this Sub-plan.</p>

2.1.1. Related Documents

Table 3 shows the interrelationships with other plans and documents.

Table 3 – Interaction with other project documents

Document	Description
Community Consultation Strategy	Details the community and stakeholder consultation including enquiry and complaints management requirements for the project based on the Sydney Metro Overarching Community Consultation Strategy developed to address CoA B1.
Noise and Vibration Management Sub-plan	The Noise and Vibration sub-plan details the potential impacts of noise and vibration from the construction. It also outlines noise and vibration management measures, including the vibration monitoring of heritage items.
Aboriginal Cultural Heritage Management Plan (ACHMP)	Prepared by Sydney Metro in accordance with CoA E30, the ACHMP details the requirements for the management of Aboriginal Cultural Heritage during SCAW.
On Airport CEMP and Sub-plans	Details requirements for environmental management on the Western Sydney Airport. This is a Sydney Metro document produced for the works being undertaken on Commonwealth Land.

2.1.2. Objectives and Targets

CPBUI JV's objectives for management of non-Aboriginal heritage during the delivery of the SCAW package are aligned with those established through the EIS and set out in the CEMF.

In order to assess the environmental performance during construction, environmental objectives and targets have been established. These objectives and targets have been developed with consideration of the Secretary Environmental Assessment Requirements (SEARs) for the project. The performance outcomes were revised as part of the Submissions Report and identify measurable, performance-based standards for environmental management. EIS Performance outcomes are addressed in **Element 4: Project Specific Requirements**. The heritage management objectives relevant to SCAW from Section 9.1 of the CEMF are provided in Table 4. CPBUI JV will implement the project requirements detailed in Section 6 and **Element 4: Project Specific Requirements** to achieve targets related to the management of heritage impacts.

Table 4: CEMF objectives and targets

Objective	Target (KPI)	Measurement Tool
Embed significant heritage values through any architectural design, education or physical interpretation	Heritage interpretation is not applicable to the SCAW scope (refer to SM-WSA Staging Report)	
Minimise impacts on items or places of heritage value	Zero incidents relating to impacts on non-Aboriginal and archaeological sensitivity and significance	Condition surveys and pre- and post-condition surveys Archival recording and reporting Monitoring records – vibration Site inspections Audits
Avoid accidental impacts on heritage items	100% of unexpected heritage items during construction are reported Controls are implemented to protect known heritage items on or adjacent to the site and 100% of inspections weekly environmental inspections completed to review the controls	Inductions Training records Site inspections
Maximise worker's awareness of indigenous and non-indigenous heritage	Heritage specific induction for all on-site personnel Delivery of a minimum of two site specific heritage awareness trainings at toolbox and pre-starts, including training on the Unexpected Heritage Finds Protocol during the course of the SCAW project	Inductions Training records
For on-airport works, the Sydney Metro Western Sydney Airport Aboriginal Cultural Heritage CEMP and the European and Other Heritage CEMP will detail all the heritage management objectives and will be consistent	Not applicable to the off-airport works subject to this Sub-plan	This Plan does not address on-airport works.

Objective	Target (KPI)	Measurement Tool
with the WSA Aboriginal Cultural Heritage CEMP and European and Other Heritage CEMP, including all appendices to these CEMP documents.		

2.1.3. Agency Consultation

Agencies to be consulted for this Sub-plan, are detailed in Table 5.

Table 5 – Sub Plan Agency Consultation

Subject	Agency Consultation
Non-Aboriginal heritage (CoA C5)	Relevant Councils (Penrith City Council, Liverpool City Council), Water NSW and Heritage NSW

CPBUI JV have engaged with these agencies in developing and finalising this Sub-plan. Records of consultation in accordance with CoA A6 are provided in Table 6 and Appendix C2 – Consultation Records.

Table 6 – Log of engagement or attempted engagement with relevant stakeholders (NSW CoA A6(b))

Agency	Date	Person Contacted	Comment	Status
Penrith City Council	22/06/2022	Penrith City Council representative	CPBUI JV emailed the Non-Aboriginal Heritage Management Sub-plan requesting comment	Open
	20/07/2022	CPBUI representative	Response received from Penrith City Council via email providing comment on the Sub-plan. CPBUI addressed the comment.	Closed
Liverpool City Council	22/06/2022	Liverpool City Council representative	CPBUI JV emailed the Non-Aboriginal Heritage Management Sub-plan requesting comment.	Open
	28/06/2022	CPBUI representative	A meeting held with representatives of Liverpool City Council, CPBUI and Sydney Metro on 28/06/2022 to discuss the SCAW project and environmental management. No issues were raised during the meeting that required addressing in the Non-Aboriginal Heritage Management Plan.	Closed
Heritage NSW	22/06/2022	Heritage NSW representative	CPBUI JV emailed the Non-Aboriginal Heritage Management Sub-plan requesting comment	Open
	03/08/2022	CPBUI representative	Response received from Heritage NSW via email providing comment on the Sub-plan. CPBUI addressed the comment.	Closed
Water NSW	22/06/2022	Water NSW representative	CPBUI JV emailed the Non-Aboriginal Heritage Management Sub-plan requesting comment	Open

Agency	Date	Person Contacted	Comment	Status
	05/07/2022	CPBUI JV Representative	Response received from Water NSW via email providing comments on the Sub-plan.	Open
	06/07/2022	Water NSW representative	CPBUI JV emailed copy of Appendix C1 (See Appendix C2 for detail)	Closed

In accordance with the Staging Report (Rev 6), this Sub-plan will be endorsed by the SCAW project independent Environmental Representative (ER) before commencement of construction in accordance with CoA C8.

2.1.4. Compliance Record Generation and Management

In accordance with Section 9.2(a)(c) of the CEMF the following compliance records will be retained:

- Inspections undertaken in relation to heritage management measures
- Archival recordings undertaken of any heritage item
- Unexpected finds and stop work orders
- Records of any impacts avoided or minimised through design or construction methods.

The details of record keeping and documentation in relation to non-Aboriginal heritage can be found in Part B Element 2 of this sub-plan.

The Design Report/s will detail the records of any avoided impacts through the design.

3. Legal and Other Requirements

3.1. Legislation and Related Requirements

Key legislation relevant to non-Aboriginal heritage management includes:

- *Environmental Planning & Assessment Act 1979 (NSW) (EP&A Act)*
- *Heritage Act 1977 (NSW) (Heritage Act)*
- *Penrith Local Environment Plan 2010 (LEP)*

Refer to Section 4 of the CEMP for further details of the relevant legislation.

3.2. Project Compliance Requirements

All works to be delivered for SCAW have been assessed and approved under the EP&A Act for the Critical State Significant Infrastructure application number 10051. The on-airport works are a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* (EPBC Act) relating to approval EPBC 2019/8541.

There are three (3) principal statutory schemes that govern the planning and assessment process for the Sydney Metro Western Sydney Airport (SM-WSA) project:

- Commonwealth:
 - SCAW works have been assessed and approved under the *Airports Act 1996* (Airports Act) for works located on Commonwealth land within the boundary of the Western Sydney International Airport (on-airport).
 - SCAW works have been assessed and approved as a controlled action by the Department of Agriculture, Water and the Environment (DAWE) under Part 9 of the EPBC Act was obtained by Sydney Metro on 3 June 2021 (EPBC2020/8687) for the impacts on threatened species and communities and Commonwealth Land (off-airport).
- State:
 - The approval and permit requirements for the *Heritage Act 1977* for the SCAW works have been assessed Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and are classified as Critical State Significant Infrastructure (SSI 10051) (off-airport).

Detailed environmental assessments have been carried out to gain the necessary Commonwealth and State planning approvals.

3.2.1. Project Specific Requirements:

The Project Specific Requirements (**Element 4: Project Specific Requirements**) contains a summary of the key compliance requirements relevant to heritage management measures which are applicable to SCAW. This includes relevant CoA, REMMs, CEMF requirements and EIS performance outcomes.

3.3. Guidelines and Standards

Guidelines and standards relating to the management of non-Aboriginal heritage include:

- NSW Heritage Council's Criteria for Assessment of Excavation Directors (2019)
- NSW Heritage Council's Assessing Significance for Historical Archaeological Sites and Relics (2009)
- NSW Heritage Office Archaeological Assessments (1996)
- NSW Heritage Council's How to Prepare Archival Records of Heritage Items (1998)
- NSW Heritage Council's Photographic Recording of Heritage Items Using Film or Digital Capture (2006)
- NSW Heritage Office Guidelines for Management of Human Skeletal Remains (1998)

4. Existing Environment

4.1. Non-Aboriginal Heritage

The potential for impacts on non-Aboriginal heritage has been assessed as part of the EIS. The non-Aboriginal heritage impacts were assessed in Chapter 12, Tech Paper 4 and the Submissions Report, Archaeological Research Design (ARD) (Appendix K of Submissions Report).

The EIS identified five non-Aboriginal heritage items that could potentially be impacted by the SCAW project. These items are shown in Figure 2 and include:

- McGarvie-Smith Farm north of Elizabeth Drive and west of Badgerys Creek – listed locally significant item (within the construction footprint)
- Luddenham Road – listed locally significant item (within the construction footprint)
- Warragamba Supply Scheme – listed State significant item (within the construction footprint)
- McMasters Farm north of Elizabeth Drive and east of Cosgroves Creek – potential locally significant item (within the construction footprint).

The Kennetts Airfield, located to the west of Luddenham Road and directly south of the Warragamba to Prospect Water Supply Pipelines was listed as potential locally significant item in the EIS, however, during the Submissions Report a site inspection of the property was undertaken to identify and assess any significant heritage fabric at the site and determined it did not reach the threshold for local heritage significance. The potential for impacts on these items as a result of the SCAW is discussed in Section 5. The EIS archaeological assessment identified potential archaeological remains at St Marys construction site only.

4.2. Aboriginal Cultural Heritage

The Aboriginal Cultural heritage has been assessed in Chapter 13, Tech Paper 5 and Submissions Report via the Revised Aboriginal Cultural Heritage Assessment Report (Appendix H), Aboriginal Cultural Heritage Management Plan (Appendix I) and the Aboriginal Archaeological Report (Appendix J).

Sydney Metro has prepared an Aboriginal Cultural Heritage Management Plan (ACHMP) in accordance with MCoA E30. Reflecting the requirements of the ACHMP, Sydney Metro will undertake an archaeological survey and if required, test excavation and salvage activities prior to the commencement of the SCAW. During the SCAW, CPBUI will implement the requirements of the ACHMP and undertake all reasonable steps so as not to harm, modify or otherwise impact Aboriginal objects or places of cultural significance except as authorised by the Planning Approval (SSI 10051). This will be achieved through the implementation of the ACHMP, the Sydney Metro Unexpected Heritage Finds Procedure (SM-18-001105232) and the Exhumation Management Procedure (SM ES-PW-315/5.0).

Works undertaken on Defence Establishment Orchard Hills (Commonwealth land) will be undertaken in accordance with the Defence Establishment Orchard Hills Heritage Management Plan. In the event that previously unidentified Aboriginal objects or places of cultural significance are discovered within the boundaries of the Defence Establishment Orchard Hills, these will be reported to the Department of Defence and managed in accordance with the relevant provisions of the Defence Establishment Orchard Hills Heritage Management Plan. SCAW activities within the bounds of existing Aboriginal Heritage Impact Permit (AHIP) areas will be undertaken in accordance with the conditions of those permits and with permission from the relevant AHIP holder. Aboriginal sites located outside of the construction footprint, but within 100m of it, will be clearly demarcated or sign posted to avoid potential impact.

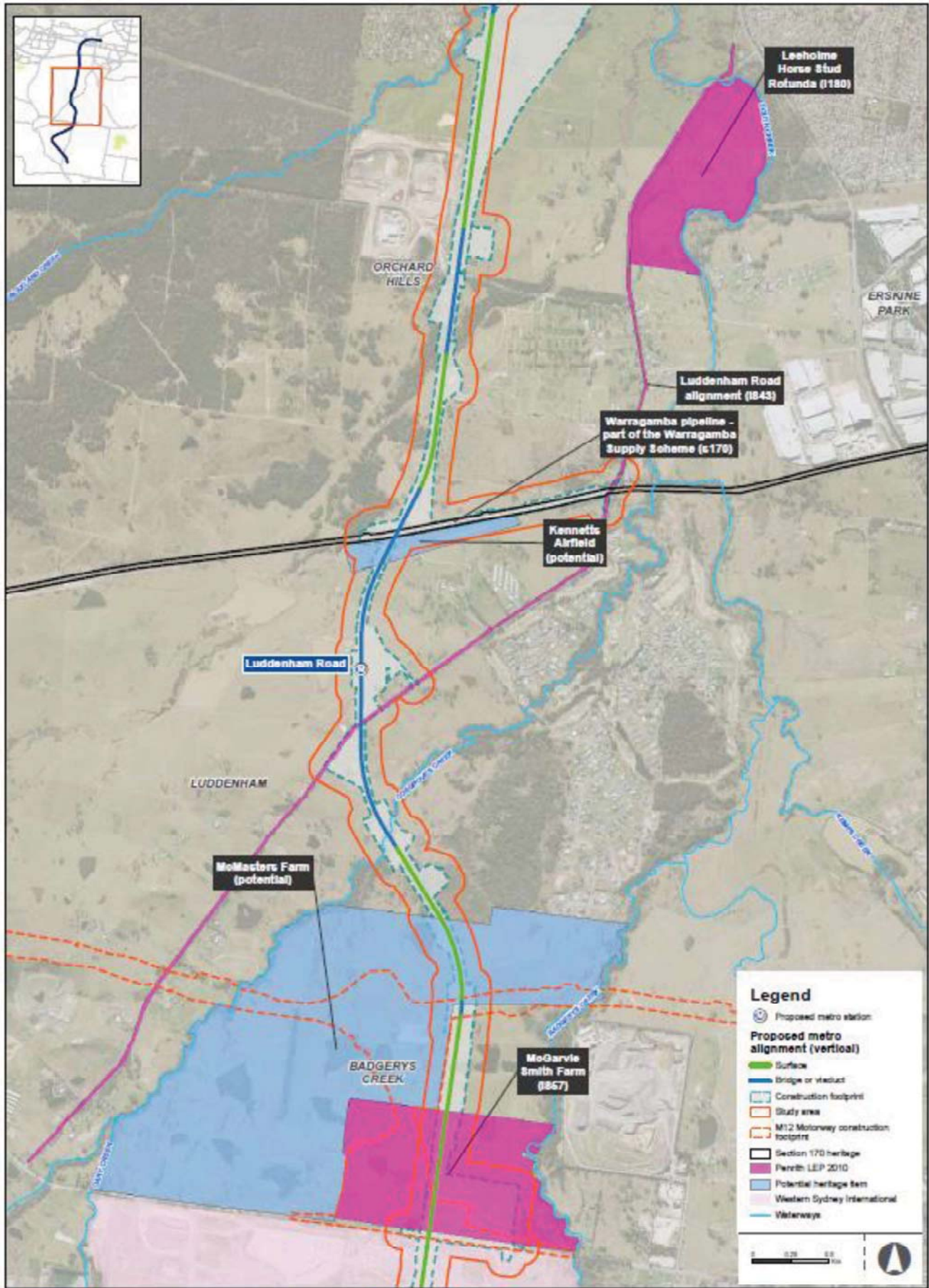


Figure 2 – Non-Aboriginal heritage items

5. Aspects and Impacts

Non-Aboriginal heritage impacts have been assessed based on impacts as a result of the following impact types:

- Direct impacts
- Permanent indirect impacts
- Temporary indirect impacts
- Settlement and vibration impacts

The construction activities that have potential to impact on non-Aboriginal heritage are:

- Enabling works including demolition of existing structures, vegetation clearing, establishment of temporary ancillary facilities
- Earthworks including drainage works
- Bridge and viaduct construction

The potential for impacts on the non-Aboriginal heritage items are discussed in Table 7. The potential for noise and vibration impacts on non-Aboriginal heritage items will be managed in accordance with the Noise and Vibration Management Sub-plan.

The EIS and ARD has identified that the project area applicable to SCAW is unlikely to contain significant archaeology and implementation of the Sydney Metro Unexpected Heritage Finds Procedure (SM-18-001105232) can manage this risk during construction. As identified in Section 4, the archaeological assessment (Submissions Report, Archaeological Research Design (ARD) (Appendix K of Submissions Report)) identified potential archaeological remains at St Marys construction site only (not within SCAW scope).

Direct and indirect Aboriginal Cultural heritage impacts have been assessed as part of the EIS and will be managed during delivery in accordance with the ACHMP, the Sydney Metro Unexpected Heritage Finds Procedure (SM-18-001105232) and the Exhumation Management Procedure (SM ES-PW-315/5.0).

Should further potential impacts that were not considered and approved in the EIS and Submissions Report be identified during detailed design, these will be considered via the approval process described in Element 5 of the CEMP, for consistency with the Project Planning Approval, or for further consideration and assessment by the Planning Secretary.

Table 7 - Non-Aboriginal heritage items and the potential impacts from the SCAW

Item, Listing and significance	Potential Impacts	Magnitude
Warragamba Supply Scheme Water NSW s170 (SHI 4580161) State significance	<p>Direct impact</p> <p>During construction the existing Warragamba to Prospect Water Supply Pipelines corridor would be used for heavy vehicle access to support construction of the rail viaduct structure over the pipelines. The proposed viaduct structure would be elevated above the pipelines and would not be physically connected to the pipelines in any way. Works in the vicinity of the pipelines would be managed in accordance with Guidelines for Development Adjacent to the Upper Canal and Warragamba Pipelines (WaterNSW, 2020).</p>	Negligible
	<p>Permanent indirect impact – alteration of heritage setting</p> <p>The project would introduce an elevated concrete viaduct structure over the pipelines which would be visible from the surrounding rural landscape. The viaduct would only be visible within a localised area and minor portion of heritage curtilage.</p>	Minor
	<p>Temporary indirect impact (construction phase)</p>	Minor

Item, Listing and significance	Potential Impacts	Magnitude
	<p>A construction site with vegetation clearance and earthworks to support viaduct construction would be required. Construction site hoarding and fencing would temporarily obstruct views of the pipelines in a small localised area.</p>	
	<p>Vibration impact There is potential for minor vibration impact to this item as the pipelines are located within the minimum safe working distance for the viaduct construction. Works in the vicinity of the pipelines would be managed in accordance with Guidelines for Development Adjacent to the Upper Canal and Warragamba Pipelines (WaterNSW, 2020).</p>	Minor
	<p>Settlement impact The project alignment is on viaduct at this location and therefore no potential settlement impacts are anticipated</p>	Nil
	<p>Overall impact on significance</p>	Minor
<p>McGarvie-Smith Farm Penrith LEP 2010 1857 Local significance</p>	<p>Direct impact – partial demolition The project would result in the construction of surface rail track and rail sidings through the heritage curtilage, the demolition of two buildings of moderate significance and outbuildings, and extensive landscape modification.</p>	Moderate
	<p>Permanent indirect impact – alteration of heritage setting The project alignment would result in irreversible changes to the significant rural farming landscape that is directly associated with the history of the McGarvie-Smith Farm. It would change the setting of the item, divide the heritage curtilage and obstruct views throughout the site.</p>	Major
	<p>Vibration impact Potential construction vibration impacts on a concrete silo (high significance) associated with the heritage item have been identified. These potential impacts are considered to be minor.</p>	Minor
	<p>Settlement impact The project alignment would be at surface in this location and therefore no settlement impacts are anticipated.</p>	Nil
	<p>Overall impact on significance</p>	Major
<p>Luddenham Road Alignment Penrith LEP 2010 1843 Local significance</p>	<p>Direct impact Proposed works in this location include two new signalled intersections to provide access to the station and the construction of an elevated viaduct structure over Luddenham Road. There would be no permanent changes to the road alignment and no significant fabric would be removed.</p>	Nil
	<p>Permanent indirect impact – alteration of heritage setting The introduction of an elevated station and viaduct would alter the rural character of the area, which is part of the heritage significance of this item.</p>	Minor

Item, Listing and significance	Potential Impacts	Magnitude
	Temporary indirect impact – alteration of heritage setting (construction phase) Construction works and construction sites would be required to the north west and the south east of Luddenham Road which would temporarily alter the setting of this item.	Minor
	Vibration and settlement impact No potential vibration and/or settlement impacts on the heritage item are anticipated.	Nil
	Overall impact on significance	Minor
McMaster Farm Potential local significance	Direct impact – partial demolition A small number of significant elements of this item would be removed for construction of the project, including one remnant dam and two former feeding troughs.	Minor
	Permanent indirect impact – alteration of heritage setting The project alignment would run through part of the heritage curtilage of this property at surface level resulting in irreversible changes to the rural farming landscape which is of heritage significance.	Minor
	Temporary indirect impact – alteration of heritage setting (construction phase) Construction works would include vegetation removal and excavation which would alter the rural landscape associated with the item.	Minor
	Vibration impact The vibration assessment has identified that heavy earthmoving equipment during construction may result in potential for minor vibration impacts on heritage significant structures.	Negligible
	Settlement impact The project would be located at surface level in this location and therefore potential settlement impacts are not anticipated.	Nil
	Overall impact on significance	Moderate

6. Heritage Management

6.1. Heritage Mitigation Measures

A range of standard and specific controls that will be implemented to minimise non-Aboriginal, Aboriginal Cultural and cumulative heritage impacts, to ensure compliance, and to reduce risk are implemented before any relevant works commence. Elimination of the hazard is the first preference of control, followed by engineering, then administrative controls. Mitigation measures have been developed considering the SMART principles, being specific with measurable outcomes. They are all achievable (notwithstanding the assessment of reasonable and feasible) and realistic. Each measure is also time-based, applicable before or during construction as indicated in Table 8. Refer to Element 4: Project Specific Requirements for the Project Planning Approval and REMMs relevant to the mitigation and management of heritage during delivery.

Table 8 – Standard heritage controls

Ref	Control	Responsibility	Timing	Source
HMM1	Induction presentation will include: <ul style="list-style-type: none"> ▪ Applicable legislative requirements ▪ Unexpected Heritage Finds Procedure ▪ Identification of Aboriginal artefacts and management of Aboriginal heritage values in accordance with the ACHMP ▪ Complaints management 	Environmental Manager	Pre-construction	Best practice CEMF Section 9.3(a)(i)
HMM2	Environmental control maps will be prepared to show location of non-Aboriginal Heritage items	Environmental Manager	Pre-construction	CEMF Section 3.6(c)
HMM3	Any heritage item not affected by the works will be retained and protected throughout construction.	Site Supervisor Environmental Manager	Construction	CEMF Section 9.3(a)(ii) Condition E19
HMM4	If potential moveable heritage items are identified following the completion of the Archival recordings of McGarvie Smith Farm and McMasters Farm, a significant fabric salvage schedule would be prepared by an appropriately qualified and experienced heritage specialist.	Environmental Manager	Pre-construction	REMM NAH1
HMM5	A dilapidation survey of the Warragamba to Prospect Water Supply Pipelines will be undertaken prior to construction commencing in the vicinity of this item.	Environmental Manager Construction Manager	Pre-construction	REMM NAH8
HMM6	Undertake vibration monitoring of the McGarvie Smith Farm and McMaster Farm during construction for vibration impacts.	Environmental Manager	Construction	REMM NAH6
HMM7	Seek heritage specialist advice on methods and location for installing equipment used for noise and vibration monitoring at heritage items.	Environmental Manager	Construction	Condition E55

6.2. Heritage specialist

A Project Heritage Specialist will be engaged for the duration of SCAW to provide advice and to supervise and lead the implementation of processes and management measures associated with this Sub-Plan. These activities will include:

- Provide advice in the event unidentified Aboriginal objects or heritage items are discovered prior to construction re-commencing
- Provide advice on methods and location for installation of site boundary hoarding or monitoring equipment on Heritage items (where required)
- Provide advice on proposed installation of at-property vibration treatment on Heritage items (where required), and
- Undertaken any additional assessments as required by this Sub-Plan and/or the CEMP.

The Project heritage specialist/s will demonstrate that they hold appropriate qualifications and all licenses relevant to the work being undertaken for the various roles and functions required to be performed under the project Deed and General Specification. In accordance with the SCAW contract requirements, this Sub-Plan has been prepared in consultation with the Project heritage specialist.

6.3. Unexpected Finds

Any unexpected finds will be managed in accordance with the Sydney Metro Unexpected Heritage Finds Procedure (SM-18-001105232) provided in **Appendix C1 – Sydney Metro Unexpected Heritage Finds Procedure**. The Procedure has been prepared by a suitable qualified and experienced heritage specialist to manage unexpected heritage finds (heritage items and values). The discovery of human skeletal remains will be managed in accordance with the Sydney Metro Exhumation Management Procedure (SM ES-PW-315/5.0 provided in Appendix C3. Both Procedures have been prepared to meet the requirements of Conditions E34 to E36.

The Sydney Metro Unexpected Heritage Finds Procedure and the Exhumation management Procedure will be implemented for the duration of construction.

In accordance with Condition E19, if the find is identified as a relic having state significance, methods of avoidance and redesign must be considered to protect the find.

6.4. Archival Recording

Archival photographic digital recording will be undertaken for all listed heritage items which will be affected by the SCAW project in accordance with Condition E24. Photographic archival recording is to be prepared in accordance with How to Prepare Archival Records of Heritage Items (NSW Heritage Office, 1998) and Photographic Recording of Heritage Items Using Film or Digital Capture (NSW Heritage Office, 2006).

In accordance with REMM NAH3, photographic archival recording will be undertaken for the following items prior to the commencement of construction:

- Luddenham Road Alignment
- McMaster Farm
- McGarvie-Smith Farm.

The archival recordings will be completed prior to the commencement of work which may impact the heritage items and documented in an Archival Recording Report. The recordings will include buildings, structures and landscape features and detailed maps showing the location of features.

The ARR will be submitted to the Planning Secretary, relevant councils and Heritage NSW for information within 12 months of completing all heritage works for the SCAW in accordance with the requirements of Condition E25. Copies of the Archival Recording Report will also be provided to relevant local historical societies.

6.5. Archaeological Excavation

No archaeological excavations are anticipated to be required for the SCAW project. If there are unexpected finds uncovered that require excavation then the requirements of the planning conditions will be followed as outlined below.

Prior to an archaeological excavation, a suitably qualified Excavation Director (complies with Heritage Council of NSW's Criteria for Assessment of Excavation Director (September 2019)) will be nominated to oversee and advise on matters associated with historical archaeology in accordance with CoA E23 for the approval of the Planning Secretary. The Excavation Director will be present to oversee excavation, advise on archaeological issues, advise on the duration and extent of oversight required during archaeological excavations consistent with the Archaeological Research Design and Excavation Methodology(s). More than one Excavation Director may be engaged for the SCAW project if required.

Following completion of all heritage excavation works under SCAW, a non-Aboriginal Archaeological Excavation Report (NAAER) will be produced. The NAAER will include details of further historical research either undertaken or to be carried out, archaeological excavations (with artefact analysis and identification of a final repository for finds) and address the research design.

The NAAER will be submitted to the Planning Secretary, relevant councils and Heritage NSW within 12 months of completing all heritage work completed during the SCAW project. Copies of the Report will also be provided to relevant local historical societies and local libraries.

Any non-Aboriginal heritage items raised as an unexpected finds notification will be detailed in a Final Archaeological Report.

6.6. Salvage

If potential moveable heritage items are identified following the completion of the Archival recordings of McGarvie Smith Farm and McMasters Farm, a significant fabric salvage schedule would be prepared by an appropriately qualified and experienced heritage specialist as required by REMM NAH1.

Any artefacts that are recovered during the archival recordings or archaeological investigations will be cleaned, bagged, labelled, and appropriately analysed and stored so that information that can contribute to the understanding of the site and its historical development is not lost. Such information may be appropriate for use in the site interpretation. The following process would be implemented should significant fabric be identified as potentially salvageable:

1. The heritage specialist will undertake an inspection and archival recording of the item/s and identify elements and materials to be salvaged, as per REMM NAH1
2. Items proposed to be salvaged would be recorded in a salvage register. The salvage register will include photographs and elements will be catalogued. The element will be physically tagged for identification.
3. Initial discussions with Sydney Metro would occur to determine the feasibility of salvage, with consideration of the potential for significance to be retained and re-used as per REMM NAH1. Significant fabric would only be salvaged if it can be salvaged in such a way that it can be reused and is likely to be able to be reused.
4. The elements identified for salvage shall be salvaged prior to demolition works. Salvage would be supervised by the heritage specialist. The salvaged elements will be placed in suitable temporary repository location/s
5. Salvaged items will be stored as directed by Sydney Metro.

6.7. Vibration Monitoring

REMM NAH6 requires monitoring of the McGarvie Smith Farm and McMaster Farm during construction for vibration impacts. CPBUI will undertake vibration monitoring in accordance with the Noise and Vibration Management Sub-plan which sets out vibration assessment and monitoring processes for heritage items.

CPBUI will engage a suitably qualified heritage consultant for specialist advice on methods and locations for installing equipment used for vibration monitoring at these two locations in accordance with CoA E55.

In accordance with REMM NAH8 a dilapidation survey of the Warragamba to Prospect Water Supply Pipelines will be undertaken prior to construction commencing in the vicinity of this item.

6.8. Aboriginal Cultural Heritage Management Plan

Sydney Metro has prepared an Aboriginal Cultural Heritage Management Plan (ACHMP) in accordance with Condition E30. During the SCAW, CPBUI will implement the requirements of the ACHMP and undertake all reasonable steps so as not to harm, modify or otherwise impact Aboriginal objects or places of cultural significance except as authorised by the Planning Approval (SSI 10051). This will be achieved through the implementation of the ACHMP, the Sydney Metro Unexpected Heritage Finds Procedure (SM-18-001105232) and the Exhumation Management Procedure (SM ES-PW-315/5.0).

Part B Implementation Plan

Elements and Expectations

Part B of this Sub-plan explains how potential impacts to non-Aboriginal heritage during the SCAW Works will be minimised and managed. Compliance with all elements is required at all times to minimise the likelihood of causing unauthorised environmental harm and maximise the uptake of opportunities to reduce environmental impact.

Part B contains the following:

- **Environmental Elements and Expectations:** These describe what is required of CPBUJ JV to implement the objectives of the Environment and Sustainability Policy Statement and system requirements:
- **Element** – Key aspects for managing this function in delivering the SCAW Works
- **Expectation** – The outcomes achieved as part of each Element.
- **Requirements:** These are the specific actions required to demonstrate compliance with the Elements and Expectations.
- **Responsibility and Key Contributor:** Designation of responsibility for achieving compliance with the stated Expectation. Key contributors assist/contribute to achieving compliance.
- **Deliverables:** Tangible outcomes produced to demonstrate compliance with the environmental Elements and Expectations.

Element 1: Training

CPBUI JV will ensure that SCAW project personnel can competently perform their duties and meet environmental obligations

Expectations	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Deliverables
<p>1.1 All personnel have completed an induction containing relevant environmental information before they are authorised to work on the project</p>	<p>Induction presentation will include:</p> <ul style="list-style-type: none"> ▪ Applicable legislative requirements ▪ Unexpected Heritage Finds Procedure ▪ Identification of Aboriginal artefacts and management of Aboriginal heritage values in accordance with the ACHMP ▪ Complaints management 	<p>Senior HR Advisor Environmental Manager Environmental Coordinators</p>	<p>Induction presentation Induction records</p>
<p>1.2 Toolbox talks are used to reinforce key management requirements and lessons learnt</p>	<p>Toolbox talks will be held regularly during site establishment and throughout construction. They will reinforce and reiterate information from inductions. Toolbox talks will be undertaken with key site people on the key requirements of this Sub-plan including:</p> <ul style="list-style-type: none"> ▪ Unexpected Finds and Human Remains Procedure ▪ Complaints 	<p>Environmental Manager Site Supervisors Environmental Coordinators</p>	<p>Toolbox presentations Toolbox records</p>

Element 2: Monitoring and Reporting

All staff, employees and subcontractors will actively drive compliant environmental performance of SCAW.

Expectations	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Deliverables
<p>2.1 Worksites are regularly inspected to ensure the adequacy of controls and compliance with the requirements of this Sub-plan</p>	<p>CPBUI JV will regularly review the SCAW Project Works to ensure compliance with this plan. A regular inspection program will be conducted as follows:</p> <ul style="list-style-type: none"> ▪ Details of daily inspections undertaken by the Site Supervisor will be logged in their respective site diaries. ▪ Inspection reports will be documented in the project electronic system and made available to the ER upon request. ▪ Routine weekly inspections are to be conducted which will include heritage checks where applicable. Weekly inspections will be documented in project electronic system. <p>The ER will monitor the implementation of this Sub-plan and related documents such as Archival Recording Report. The ER will achieve this through:</p> <ul style="list-style-type: none"> ▪ Regular inspections of active worksites ▪ Review of CPBUI JV records such as the archival recording report. 	<p>Environmental Manager Site Supervisors Environmental Coordinators ER</p>	<p>Environment and Sustainability Inspection Checklists Site Diary entries ER Reports</p>
<p>2.3 Non-Aboriginal heritage Reporting</p>	<p>Non-Aboriginal heritage data will be collected and used for recording and reporting purposes including:</p> <ul style="list-style-type: none"> ▪ Inspections undertaken in relation to heritage management measures ▪ Archival recordings undertaken of any heritage item ▪ Unexpected finds and stop work orders ▪ Records of any impacts avoided or minimised through design or construction methods. 	<p>Environmental Manager Environmental Coordinators Heritage Consultant</p>	<p>Archival Recording Reports Non-Aboriginal Archaeological Excavation Report (if required) Final Archaeological Report (if required) Design Report</p>

Element 3: Auditing, Review and Improvement

CPBUI JV will continually improve its environmental systems and performance by monitoring and reviewing their effectiveness

Expectations	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Deliverables
<p>3.1 Audits are undertaken to ensure compliance with the requirements of this Sub-plan</p>	<p>Procedures for corrective actions are addressed in Element 3 of the CEMP. Audits will be performed in accordance with Element 12 of the CEMP. Associated documents or procedures will be updated if required. The ER may participate in or conduct audits to ensure the implementation of this Sub-plan and related documents is compliant with what is stated in the documents and the terms of the planning approvals.</p>	<p>Environmental Manager Environmental Coordinators Sustainability Manager ER</p>	<p>Audit Reports Corrective Action Reports</p>
<p>3.2 All non-compliances are reported and actioned</p>	<p>A heritage non-compliance can generally be defined as a failure to comply with the Project Planning Approval. Where a non-compliance is raised as part of an audit or an incident or complaint investigation the audit, incident or complaint report may be used to close out the non-compliance and it is not necessary to raise a separate non-compliance reporting process. Corrective and Preventative Actions may also be raised in accordance with Element 3 of the CEMP.</p>	<p>Environmental Manager Sustainability Manager Environmental Coordinators Quality Manager</p>	<p>Audit Reports Corrective Action Reports</p>

Element 4: Project Specific Requirements

No	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
CoA 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 to detail how the performance outcomes, commitments and mitigation measures specified in the documents listed in Condition A1 will be implemented and achieved during construction.	This Sub-plan	Environmental Manager	Pre-construction
CoA C5	Of the CEMP Sub-plans required under Condition C1, 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 (as required by Condition A6) must be provided as part of the relevant CEMP Sub Plan when submitted to the Planning Secretary / ER (whichever is applicable). 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. Non-Aboriginal heritage – Relevant Councils, Water NSW and Heritage NSW	Section 1.1	Environmental Manager	Pre-construction
CoA C6	The CEMP Sub-plans must state how: (a) the environmental performance outcomes identified in the documents listed in Condition A1 will be achieved, (b) the mitigation measures identified in the documents listed in Condition A1 will be implemented, (c) the relevant terms of this approval will be complied with; and	Section 2.1.2 Section 6 Element 4: Project Specific Requirements	Environmental Manager	Construction Construction Construction

No	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
	(d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed through SMART principles.	Section 6 Element 2: Monitoring and Reporting Element 3: Auditing, Review and Improvement		Construction
CoA C8	The CEMP Sub-plans not requiring the Planning Secretary's approval must obtain the endorsement of the ER as being in accordance with the conditions of approval and all relevant undertakings made in the documents listed in Condition A1. Any of these CEMP Sub-plans must be submitted to the ER with, or subsequent to, the submission of the CEMP but in any event, no later than one (1) month before construction or where construction is staged no later than one (1) month before the commencement of that stage.	Section 2.1.3	Environmental Manager	Pre-construction
CoA 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 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.	Section 1.1	Environmental Manager	Pre-construction
CoA E19	The Proponent must not destroy, modify or otherwise physically affect any Heritage item not identified in documents referred to in Condition A1. Unexpected heritage finds identified by the CSSI must be managed in accordance with the Unexpected Heritage Finds and Human Remains Procedure outlined in Conditions E34 to E36. Consideration of avoidance and redesign to protect unexpected finds of state heritage significance must be addressed where this condition applies.	Section 6 Appendix C1 – Sydney Metro Unexpected Heritage Finds Procedure	Environmental Manager	Construction
CoA E22	The Archaeological Research Design included in the documents listed in Condition A1 must be implemented during construction.	Section 6.5	Environmental Manager	Construction

No	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
CoA E23	<p>Before commencement of archaeological excavation, the Proponent must, in consultation with Heritage NSW, nominate a suitably qualified Excavation Director, who complies with Heritage Council of NSW's Criteria for Assessment of Excavation Director (September 2019), to oversee and advise on matters associated with historical archaeology for the approval of the Planning Secretary. The Excavation Director must be present to oversee excavation, advise on archaeological issues, advise on the duration and extent of oversight required during archaeological excavations consistent with the Archaeological Research Design and Excavation Methodology(s) identified in the documents listed in Condition A1. More than one Excavation Director may be engaged for CSSI to exercise the functions required under the conditions of this approval.</p>	Section 6.5	<p>Environmental Manager Heritage Specialist</p>	Construction (if Required by an unexpected find)
CoA E24	<p>Archival photographic digital recording must be undertaken for all listed heritage items which will be affected by the CSSI. The recordings must be undertaken prior to the commencement of Work which may impact the items and documents in an Archival Recording Report. The recordings must include buildings, structures and landscape features and detailed maps showing the location of features. The archival recording must be prepared in accordance with How to Prepare Archival Records of Heritage Items (NSW Heritage Office, 1998) and Photographic Recording of Heritage Items Using Film or Digital Capture (NSW Heritage Office, 2006).</p>	Section 6.4	<p>Environmental Manager Heritage Specialist</p>	Construction
CoA E25	<p>The Archival Recording Report must be submitted to the Planning Secretary, relevant councils and Heritage NSW for information within 12 months of completing all work described in the documents listed in Condition A1 in relation to heritage items. Copies of the Archival Recording Report must also be provided to relevant local historical societies.</p>	Section 6.4	<p>Environmental Manager Heritage Specialist</p>	Construction

No	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
CoA E26	Following completion of all work described in the documents listed in Condition A1 in relation to heritage items, a non-Aboriginal Archaeological Excavation Report including the details of further historical research either undertaken or to be carried out and archaeological excavations (with artefact analysis and identification of a final repository for finds) and addressing the research design, must be prepared in accordance with any guidelines and standards required by the Heritage Council of NSW and Heritage NSW.	Section 6.5	Environmental Manager Heritage Specialist	Construction (if Required by an unexpected find)
CoA E27	The non-Aboriginal Archaeological Excavation Report must be submitted to the Planning Secretary, relevant councils and Heritage NSW for information within 12 months of completing all Work described in the documents listed in Condition A1 in relation to heritage items. Copies of the Report must also be provided to relevant local historical societies and local libraries.	Section 6.5	Environmental Manager Heritage Specialist	Construction (if Required by an unexpected find)
CoA E28	All reasonable steps must be taken so as not to harm, modify or otherwise impact Aboriginal objects or places of cultural significance except as authorised by this approval.	Section 6.3 Appendix C1 – Sydney Metro Unexpected Heritage Finds Procedure	Environmental Manager Heritage Specialist	Construction
CoA E31	The updated Aboriginal Cultural Heritage Management Plan must be implemented for the duration of salvage activities and construction.	Section 6.8	Environmental Manager Heritage Specialist	Construction
CoA E33	Where previously unidentified Aboriginal objects or places of cultural significance are discovered, all work must immediately stop in the vicinity of the affected area. Works potentially affecting the previously unidentified objects or places must not recommence until Heritage NSW has been informed. The measures to consider and manage this process must be specified in the Unexpected Heritage Finds and Human Remains Procedure required by Condition E34 and include registration in the Aboriginal Heritage Information Management System (AHIMS), where required.	Section 6.3 Appendix C1 – Sydney Metro Unexpected Heritage Finds Procedure	Environmental Manager Heritage Specialist	Construction

No	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
CoA E54	<p>Vibration testing must be conducted during vibration generating activities that have the potential to impact on Heritage items to verify minimum working distances to prevent cosmetic damage. In the event that the vibration testing and attended monitoring shows that the preferred values for vibration are likely to be exceeded, the Proponent must review the construction methodology and, if necessary, implement additional mitigation measures. Such measures must include, but not be limited to, review or modification of excavation techniques.</p>	<p>Noise and Vibration Management Sub-plan</p>	<p>Environmental Manager Heritage Specialist</p>	<p>Construction</p>
CoA E55	<p>The Proponent must seek the advice of a heritage specialist on methods and locations for installing equipment used for vibration, movement and noise monitoring at Heritage items.</p>	<p>Section 6.2</p>	<p>Environmental Manager Heritage Specialist</p>	<p>Construction</p>
CoA E34	<p>An Unexpected Heritage Finds and Human Remains Procedure must be prepared to manage unexpected heritage finds (heritage items and values) in accordance with any guidelines and standards prepared by the Heritage Council of NSW or Heritage NSW.</p>	<p>Section 6.3 Appendix C1 – Sydney Metro Unexpected Heritage Finds Procedure</p>	<p>Environmental Manager</p>	<p>Pre-construction</p>
CoA E35	<p>The Unexpected Heritage Finds and Human Remains Procedure must be prepared by a suitably qualified and experienced heritage specialist in consultation with the Heritage Council of NSW (with respect to non-Aboriginal cultural heritage) and in relation to Aboriginal cultural heritage, in accordance with the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010) and submitted to the Planning Secretary for information no later than one (1) month before the commencement of construction.</p>	<p>Section 6.3 Appendix C1 – Sydney Metro Unexpected Heritage Finds Procedure</p>	<p>Environmental Manager Heritage Specialist</p>	<p>Pre-construction</p>

No	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
CoA E36	<p>The Unexpected Heritage Finds and Human Remains Procedure, as submitted to the Planning Secretary, must be implemented for the duration of construction.</p> <p>Where archaeological investigations have been undertaken as a result of Unexpected Finds notifications then a Final Archaeological Report must be provided in accordance with Heritage Council guidance and standard requirements for final reporting under Excavation Permits.</p> <p>Note: Human remains that are found unexpectedly during the carrying out of work may be under the jurisdiction of the NSW State Coroner and must be reported to the NSW Police immediately. Management of human remains in NSW is subject to requirements set out in the Public Health Act 2010 (NSW) and Public Health Regulation 2012 (NSW). Nothing in these conditions prevents separate procedures for the Unexpected Heritage Finds and Human Remains Procedure.</p>	<p>Section 6.3 Section 6.5 Appendix C1 – Sydney Metro Unexpected Heritage Finds Procedure</p>	<p>Environmental Manager Heritage Specialist</p>	<p>Construction</p>
REMM NAH1	<p>Potential moveable heritage items would be identified and assessed and a significant fabric salvage schedule would be prepared by an appropriately qualified and experienced heritage specialist for St Marys Railway Station, Brigelly RAAF Base, McGarvie-Smith Farm and McMasters Farm. Significant fabric would only be salvaged if it can be salvaged in such a way that it can be reused and is likely to be able to be reused.</p>	<p>Section 6.6</p>	<p>Environmental Manager Heritage Specialist</p>	<p>Pre-construction and Construction</p>

No	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
REMM NAH3	<p>Archival recording of heritage items which would be impacted or that would have their setting altered, would be carried out in accordance with the NSW Heritage Office's Photographic Recording of Heritage Items Using Film or Digital Capture (2006). The following items would be archivally recorded:</p> <ul style="list-style-type: none"> ■ St Marys Railway Station ■ Luddenham Road Alignment ■ McMaster Farm ■ McGarvie-Smith Farm ■ Kelvin Park Group (the State Heritage listed curtilage) ■ Bringelly RAAF Base. 	<p>Section 6.4 Only relevant to Luddenham Road Alignment, McMasters Farm and McGarvie-Smith Farm.</p>	<p>Environmental Manager Heritage Specialist</p>	<p>Pre-construction and Construction</p>
REMM NAH5	<p>Archaeological investigation would be undertaken in accordance with the recommendations in the non-Aboriginal Archaeological Research Design.</p>	<p>Section 6.5</p>	<p>Environmental Manager Heritage Specialist</p>	<p>Construction (if required by an unexpected find)</p>
REMM NAH6	<p>The following heritage items would be monitored for potential vibration impacts during works:</p> <ul style="list-style-type: none"> ■ St Marys Railway Station Group ■ Queen Street Post War Commercial Building ■ St Marys Munitions Workers Housing ■ McGarvie Smith Farm ■ McMaster Farm. 	<p>Section 6.7 Noise and Vibration Management Sub-plan Only relevant to McMasters Farm and McGarvie-Smith Farm.</p>	<p>Environmental Manager Heritage Specialist</p>	<p>Construction</p>
REMM NAH8	<p>A dilapidation survey of the Warragamba to Prospect Water Supply Pipelines would be undertaken prior to construction commencing in the vicinity of this item.</p>	<p>Noise and Vibration Management Sub-plan</p>	<p>Environmental Manager Heritage Specialist</p>	<p>Pre-construction</p>

No	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
REMM AH1	Aboriginal stakeholder consultation would continue to be carried out in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (NSW Office of Environment and Heritage, 2010). Registered Aboriginal Parties would be provided with opportunities to participate in survey and testing in unverified areas of Aboriginal archaeological sensitivity, archaeological salvage works and unexpected find assessments (if required).	Section 6.8 Appendix C1 – Sydney Metro Unexpected Heritage Finds Procedure	Environmental Manager	Construction
REMM AH9	Works within the bounds of existing Aboriginal Heritage Impact Permit areas should be undertaken in accordance with the conditions of those permits and with permission from the relevant Aboriginal Heritage Impact Permit holder. Works undertaken within the revised boundaries on Defence Establishment Orchard Hills (Commonwealth land) should be undertaken in accordance with the Defence Establishment Orchard Hills Heritage Management Plan	Section 6.8	Environmental Manager	Construction
REMM AH10	Impacted Aboriginal Sites would be managed in accordance with the Aboriginal Cultural Heritage Management Plan	Section 6.8	Environmental Manager	Construction
REMM AH11	Measures would be implemented to ensure that Aboriginal sites located outside of the construction footprint, but within 100m of it, would not be affected by construction activities	Section 6.8	Environmental Manager	Construction
REMM AH13	Measures to manage and protect the identified cultural values would be developed collaboratively through a consultation process with knowledge holders to inform construction planning and design development	Section 6.8	Environmental Manager	Construction
CEMF 9.2a	On-airport management of Aboriginal cultural heritage and European heritage will be achieved through the implementation of the SMWSA Aboriginal Cultural Heritage and the European and Other Heritage CEMP. Principal Contractors will develop and implement a Heritage Management Plan for all off-airport works. Plans will include as a minimum:	This Sub-plan Section 6.8	Environmental Manager	Construction

No	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
	<p>i. Evidence of consultation with Registered Aboriginal Parties and the NSW Heritage Council;</p> <p>ii. Identify initiatives that will be implemented for the enhancement of heritage values and minimisation of heritage impacts, including procedures and processes that will be used to implement and document heritage management initiatives;</p> <p>iii. The heritage mitigation measures as detailed in the planning approval documentation;</p> <p>iv. The responsibilities of key project personnel with respect to the implementation of the plan;</p> <p>v. Procedures for interpretation of heritage values uncovered through salvage or excavation during detailed design;</p> <p>vi. Procedures for undertaking salvage or excavation of heritage relics or sites (where relevant), consistent with and any recordings of heritage relics prior to works commencing that would affect them;</p> <p>vii. Details for the short and / or long term management of artefacts or movable heritage;</p> <p>viii. Details of management measures to be implemented to prevent and minimise impacts on heritage items (including further heritage investigations, archival recordings and/or measures to protect unaffected sites during construction works in the vicinity);</p> <p>ix. Procedures for unexpected heritage finds, including procedures for dealing with human remains;</p>	<p>Section 2.1.3 Section 6.8</p> <p>Section 2.1.2 Section 6</p> <p>Section 6 Element 4: Project Specific Requirements</p> <p>Section 6 Element 4: Project Specific Requirements</p> <p>Section 6.6</p> <p>Section 6.5 and Section 6.6</p> <p>Section 6.6</p> <p>Section 6</p> <p>Section 6.3 Appendix C1 – Sydney Metro Unexpected Heritage Finds Procedure</p>	<p>Environmental Manager</p> <p>Environmental Manager</p> <p>Environmental Manager</p> <p>Environmental Manager</p> <p>Heritage Consultant</p> <p>Heritage Consultant</p> <p>Heritage Consultant</p> <p>Heritage Consultant</p> <p>Environmental Manager</p>	<p>Construction</p> <p>Construction</p> <p>Construction</p> <p>Construction</p> <p>Construction</p> <p>Construction</p> <p>Construction</p> <p>Construction</p> <p>Construction</p>

No	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
	<p>x. Heritage monitoring requirements; and</p> <p>xi. Compliance record generation and management.</p>	<p>Section 6.7 Element 2: Monitoring and Reporting</p> <p>Element 3: Auditing, Review and Improvement</p>	<p>Environmental Manager</p> <p>Environmental Manager</p>	<p>Construction</p> <p>Construction</p>
CEMF 9.2b	The Contractor's regular inspections will include checking of Aboriginal and non-Aboriginal heritage mitigation measures.	Element 2: Monitoring and Reporting	Environmental Manager	Construction
CEMF 9.2c	<p>Compliance records will be retained by the Contractor. These will include:</p> <p>i. Inspections undertaken in relation to heritage management measures;</p> <p>ii. Archival recordings undertaken of any heritage item;</p> <p>iii. Unexpected finds and stop work orders; and</p> <p>iv. Records of any impacts avoided or minimised through design or construction methods.</p>	<p>Element 2: Monitoring and Reporting</p> <p>Element 2: Monitoring and Reporting</p> <p>Element 2: Monitoring and Reporting</p> <p>Element 2: Monitoring and Reporting</p> <p>Design Compliance Reports</p>	<p>Environmental Manager</p> <p>Environmental Manager</p> <p>Environmental Manager</p> <p>Environmental Manager</p>	<p>Construction</p> <p>Construction</p> <p>Construction</p> <p>Construction</p>
CEMF 9.3a	<p>The on-airport Aboriginal Cultural Heritage and European and Other Heritage CEMPs and the off-airport Heritage Management Plan will include the following mitigation measures as well as relevant Conditions:</p> <p>i. Induction courses for site workers will include training in the identification of Aboriginal artefacts and management of Aboriginal heritage values.</p> <p>ii. Any heritage item not affected by the works will be retained and protected throughout construction;</p>	<p>Section 6 Element 1: Training</p> <p>Section 6</p>	<p>Environmental Manager</p> <p>Environmental Manager</p>	<p>Construction</p> <p>Construction</p>

No	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
	<p>During construction undertake professional archaeological investigation, excavation, and reporting of any historical Indigenous heritage sites of state significance which will be affected. Reporting may be completed as construction progresses;</p> <p>iv. Undertake archival recordings of all non-Indigenous heritage items affected by the works prior to commencement of works; and</p> <p>v. Implement unexpected heritage find procedures for Indigenous and non-Indigenous heritage items.</p>	<p>Section 6.5</p> <p>Section 6.4</p> <p>Section 6.3 Appendix C1 – Sydney Metro Unexpected Heritage Finds Procedure Appendix C3 – Sydney Metro Exhumation Management Procedure</p>	<p>Environmental Manager</p> <p>Environmental Manager Heritage Consultant</p> <p>Environmental Manager</p>	<p>Construction</p> <p>Pre-Construction</p> <p>Construction</p>

The Performance Objectives relevant to this Plan contained within the Staging Report are listed in the table below. A cross reference is also included to indicate where the condition is addressed in this Plan or other project management documents.

Table 9 – Environmental Performance Objective Topic

Environmental Performance Objective Topic	Performance Objective	Document Reference
<p>Non-Aboriginal Heritage</p> <p>The design, construction and operation of the project facilitates, to the greatest extent possible, the long term protection, conservation and management of the heritage significance of items of environmental heritage</p> <p>The design, construction and operation of the project avoids or minimises impacts, to the greatest extent possible, on the heritage significance of environmental heritage</p>	<p>Impacts on non-Aboriginal heritage items and archaeology are minimised or where possible avoided.</p>	<p>Design Compliance Reports</p>
<p>Aboriginal heritage</p> <p>The design, construction and operation of the project facilitates, to the greatest extent possible, the long term protection, conservation and management of the heritage significance of items of Aboriginal objects and places</p> <p>The design, construction and operation of the project avoids or minimises impacts, to the greatest extent possible, on the heritage significance of Aboriginal objects and places</p>	<p>The heritage significance of Aboriginal objects and places are protected, conserved and/or managed in order to ensure the project does not diminish the story and cultural understanding associated with the objects and places of Aboriginal people in New South Wales</p> <p>Impacts on areas of archaeological sensitivity and significance are avoided or minimised, where practical</p> <p>The design of the project incorporates Aboriginal heritage interpretation and Aboriginal cultural design principles in consultation with Aboriginal knowledge holders</p>	<p>This Sub-Plan</p> <p>ACHMP Design Compliance Reports</p> <p>ACHMP</p>
<p>Noise and vibration</p> <p>Construction noise and vibration (including airborne noise, ground-borne noise and blasting) is effectively managed to minimise adverse impacts on acoustic amenity</p> <p>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</p>	<p>Structural damage to buildings, heritage items and public utilities and infrastructure, including the Warragamba to Prospect Water Supply Pipelines, from construction vibration to be avoided</p>	<p>Noise and Vibration Management Sub-plan</p>

Part C Appendices

Appendix C1 – Sydney Metro Unexpected Heritage Finds Procedure

Appendix C2 – Consultation Records

Penrith City Council

Liverpool City Council

Heritage NSW

Water NSW

Appendix C3 – Sydney Metro Exhumation Management Procedure