

Appendix B6

Construction Cultural Heritage Management Sub-plan

M12 Motorway – Central





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Glossary/ Abbreviations

Abbreviations	Expanded text
ACHAR	Aboriginal Cultural Heritage Assessment Report
Aboriginal place	An Aboriginal Place is an area declared by the Minister administering the Act to be of special significance with respect to Aboriginal culture
Aboriginal objects	Aboriginal objects include any deposit, object or material evidence (not being a handicraft made for sale), including Aboriginal remains, relating to the Aboriginal habitation of NSW, before or concurrent with occupation by Non-Aboriginal people, as defined in Section 5 of the NPW Act
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
AR	Amendment Report
ARSR	Amendment Report Submissions Report
ASO	Aboriginal Site Officers
CA	Consistency Assessment
CCHMP	Construction Cultural Heritage Management Sub-plan
CEMP	Construction Environmental Management Plan
CFFMP	Construction Flora and Fauna Management Sub-plan
CNVMP	Construction Noise and Vibration Management Sub-plan
Commonwealth CoA	Federal Conditions of Approval under the EPBC Act
Construction	Includes all activities required to construct the CSSI as described in the documents listed in Condition A1, including commissioning trials of equipment and temporary use of any part of the CSSI, but excluding Low Impact Work which is carried out to complete prior to the approval of the OCEMP, works approved under a Site Establishment Management Plan, demolition of acquired residential houses, structures and sheds, and works specified in Appendix B of the Infrastructure Approval and approved under an environmental management plan(s) in accordance with Condition A24.
CSSI	Critical State Significant Infrastructure
DAWE	Former Commonwealth Department of Agriculture, Water and the Environment
DCCEEW	Commonwealth Department of Climate Change, Energy, Environment and Water
DEC	Former NSW Department of Environment and Conservation, now NSW Environment, Energy and Science

Abbreviations	Expanded text
DECCW	Former NSW Department of Environment, Climate Change and Water, now NSW Environment, Energy and Science
DITRDC	Commonwealth Department of Infrastructure, Transport, Regional Development and Communications
Division 5.2 Approval	Approval issued by the NSW Minister for Planning and Public Spaces for the M12 Motorway
DPC Heritage	Former NSW Heritage Department of Premier and Cabinet (Heritage), now Heritage NSW
DPHI	Department of Planning Housing and Infrastructure (formerly NSW DPE which has now been split into NSW DCCEEW and NSW DPHI)
DPI	Department of Primary Industries
DUAP	Former Department of Urban Affairs and Planning, now DPE
EAD	Environmental Assessment Documentation
EESG	Former Environmental, Energy and Science Group (now EHG)
EHG	Environment and Heritage Group
EIS	Environmental Impact Statement

Abbreviations	Expanded text
Environmental Assessment Documentation	<p>The set of documents that comprise the Division 5.2 Approval:</p> <ul style="list-style-type: none"> • Roads and Maritime Services (October, 2019) M12 Motorway, Environmental Impact Statement (EIS) • Transport for NSW (October, 2020) M12 Motorway, Submissions Report (the Submissions Report) • Transport for NSW (October, 2020) M12 Motorway, Amendment Report (AR) • Transport for NSW (December, 2020) M12 Motorway, Amendment Report submissions report (ARSR) • Transport for NSW (March, 2021) The M12 Motorway Amendment Report Submissions Report – Amendment (ARSR amendment) • WSP (October, 2021) M12 Motorway – West Package Detailed Design Consistency Assessment • GHD (October, 2021) M12 Motorway – Central Package Detailed Design Consistency Assessment • Arcadis (June, 2022) M12 Motorway – Sydney Water Crossings Consistency Assessment • Arcadis (July, 2022) M12 Motorway – Design Boundary Changes Consistency Assessment • Arcadis (August, 2022) M12 Motorway – Minor Change Consistency Assessment. • Arcadis (January, 2024) M12 Motorway – Minor Consistency Assessment M12 Central Water Tower Access Road <p>The documents that comprise the EPBC referral:</p> <ul style="list-style-type: none"> • Submission #3486 – The M12 Motorway Project between the M7 Motorway, Cecil Hills and The Northern Road, Luddenham, NSW • Notification of referral decision and designated proponent - controlled action; date of decision 19 October 2018; ID: 2018-8286
Environmental Representative	A suitably qualified and experienced person independent of project design and construction personnel employed for the duration of construction. A key point of contact for the Planning Secretary in relation to environmental performance of the CSSI.
EP&A Act	<i>NSW Environmental Planning and Assessment Act 1979</i>
EPA	NSW Environment Protection Authority
EPBC Act	<i>Commonwealth Environmental Protection and Biodiversity Conservation Act 1999</i>
ER	Environmental Representative
ERG	Environmental Review Group
EWMS	Environmental Work Method Statement
ESM	TfNSW Environment and Sustainability Manager

Abbreviations	Expanded text
ESR	Environmental Site Representative (Seymour Whyte)
Federal Approval	Approval (EPBC 2018/8286) for carrying out the M12 Project under Part 8 of the <i>Environmental Protection and Biodiversity Conservation Act 1999</i> subject to specific CoA as detailed in Annexure A of the approval.
FST	Fleurs Synthesis Telescope
Heritage Act	<i>NSW Heritage Act 1997</i>
Heritage item	A place, building, work, relic, archaeological site, tree, movable object or precinct of heritage significance, that is listed or may be eligible to be listed under one or more of the following registers: the State Heritage Register under the <i>Heritage Act 1977</i> (NSW), a state agency heritage and conservation register under Section 170 of the <i>Heritage Act 1977</i> (NSW), a Local Environmental Plan under the EP&A Act, the World, National or Commonwealth Heritage lists under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Commonwealth), and/ or an Aboriginal object or Aboriginal place as defined in section 5 of the <i>National Parks and Wildlife Act 1974</i> (NSW)
Heritage Council of Australia	Commonwealth Heritage Council
HIP	Heritage Interpretation Plan
Hold Point	A point beyond which a work process must not proceed without express written authorisation from TfNSW
Infrastructure Approval	Approval (SSI 9364) for carrying out of the M12 Project under Section 5.19 of the Environmental Planning and Assessment Act 1979 subject to specific CoA as detailed in Schedule 2 of the approval.
ICOMOS	International Council on Monuments and Sites
KCE	Kemps Creek East
LALC	Local Aboriginal Land Council
LLEP	Liverpool Local Environmental Plan
LIWMS	Low Impact Work Method Statement
NASF	National Airports Safeguarding Framework
Non-Aboriginal Work	A Non-Aboriginal building or standing structure. This may include tram tracks, kerbing, historic road pavement, fences, sheds or building foundations.
NPW Act	<i>National Parks and Wildlife Act 1974</i>
NSW CoA	NSW Conditions of Approval
NSW DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water (formerly NSW DPE which has now been split into NSW DCCEEW and NSW DPHI)

Abbreviations	Expanded text
OCS	Overarching Communication Strategy
OCCHMP	Overarching Construction Cultural Heritage Management Sub-plan
OCEMP	Overarching Construction Environmental Management Plan
OCFFMP	Overarching Construction Flora and Fauna Management Sub-plan
OCNVMP	Overarching Construction Noise and Vibration Management Sub-plan
OEH	NSW Office of Environment and Heritage, now Heritage NSW
PACHCI	Procedure for Aboriginal Cultural Heritage Consultation and Investigation (Roads and Maritime, 2011)
PAD	Potential Archaeological Deposit
PDLP	Place, Design and Landscape Plan
Planning Secretary	Secretary of the NSW Department of Infrastructure, Planning and Environment, or delegate
PLEP	Penrith Local Environmental Plan
POEO Act	<i>NSW Protection of the Environment Operations Act 1997</i>
Primary CoA/REMMs	CoA/REMMs that are specific to the development of this Plan
Project, the	The CSSI as approved by the Minister for Planning and Public Spaces on the 23 April 2021 (SSI 9364)
QA	Quality Assurance
RAP	Registered Aboriginal Parties
REMM	Revised Environmental Management Measures
Relic	Evidence of past human activity which has local or state heritage significance. It may include items such as bottles, utensils, remnants of clothing, crockery, personal effects, tools, machinery and domestic or industrial refuse
RIAR Group	Regions, Industry, Agriculture and Resources Group (a part of DPE)
Roads and Maritime	Former NSW Roads and Maritime Services. Now Transport for NSW
SEARs	Secretary Environmental Assessment Requirements
Secondary CoA/REMMs	CoA/REMMs that are related to, but not specific to, the development of this Plan
TfNSW	Transport for New South Wales

Abbreviations	Expanded text
Unexpected heritage find	A potential heritage item or place discovered but not identified in the documents listed in the Environmental Assessment Documentation, where assessment is required to determine if the item has heritage significance, or is an Aboriginal object or human remains. Unexpected heritage finds does not include confirmed human remains
Work	Any physical work to build or facilitate the building of the CSSI, including low impact work, environmental management measures and utility works. However, it does not include activities that inform or enable detailed design of the CSSI and generate noise that is no more than 5 dB(A) above the rating background level at any sensitive receiver.
WSIA	Western Sydney International Airport
WSP	Western Sydney Parklands

1 Introduction

1.1 Context

This Construction Cultural Heritage Management Sub-plan (CCHMP or Plan) forms part of the Construction Environmental Management Plan (CEMP) for the M12 Motorway – Central package.

This CCHMP has been prepared under the Overarching Construction Environmental Management Plan (OCEMP) and relevant sub-plans developed for M12 Motorway (the Project), to address the requirements of the Minister's Conditions of Approval (CoA), Revised Environmental Management Measures (REMMs) listed in the Environmental Impact Statement (EIS), Submissions Report, Amendment Report, and Amendment Report Submissions Report (ARSR), ARSR amendment report, all applicable legislation, and Transport for New South Wales (TfNSW) specifications.

1.2 Background

1.2.1 M12 Motorway (the Project)

TfNSW is planning to construct and operate the M12 Motorway (the Project) to provide direct access between the Western Sydney International Airport (WSIA) at Badgerys Creek and Sydney's motorway network. The M12 Motorway will run between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham for about 16 kilometres (km) and is expected to be opened to traffic prior to opening of the WSIA.

Key features of the Project include:

- An east-west 16 km motorway between the M7 Motorway, Cecil Hills and The Northern Road, Luddenham
- A motorway built for four lanes (with provision for up to six lanes) with a median to separate opposing traffic flows
- A direct connection to Western Sydney International Airport
- A new connection to The Northern Road with traffic lights
- A motorway-to-motorway interchange at the M7 Motorway
- Provision for a future interchange connecting Mamre Road and Devonshire Road at the M12 Motorway.

A detailed Project description is provided in Section 2.1 of the CEMP.

1.2.2 Statutory Context

The Project is subject to an approval under Division 5.2 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) as Critical State Significant Infrastructure (CSSI). The Project is also a controlled action under Section 75 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), requiring a separate approval from the Australian Minister for the Environment.

The Project was assessed as part of an EIS, Submission Report, Amendment Report, ARSR and ARSR amendment report which are herein referred to as the Environmental Assessment Documentation. REMMs are nominated in these assessments to manage the identified impacts.

Approval for the Project under the EP&A Act was granted by the Minister for Planning on 23 April 2021 (CSSI 9364). Approval for the Project under the EPBC Act was granted by the Australian Minister for the Environment on 3 June 2021 (EPBC 2018/8286).

The following additional assessments have since been undertaken:

- Two Consistency Assessments (CA) for M12 West and Central addressing detailed design changes for the Project construction boundary approved in October 2021
- Sydney Water Consistency Assessment related to construction boundary extensions associated with Sydney Water utility crossings; approved in June 2022
- Design Boundary Change Consistency Assessment related to design boundary changes within the M12 alignment. This required an extension of the construction footprint and operational footprint, property adjustments and the demolition of Building No.1 at McMasters Field Station; approved in July 2022. Threatened Species Surveys were also undertaken along the M12 alignment between September and December 2021 to satisfy the NSW Conditions of Approval (CoA) E4, E5 and E6; the outcomes of which captured within the Design CA.
- Minor Consistency Assessment required amendments to the construction footprint as a result of utility adjustments and tie in works, property adjustments for flood alleviation and improvements to ancillary facility access due to safety concerns, temporary widening of Elizabeth Drive and signage installation; approved in August 2022.
- M12 Central Water Tower Access Road Minor Consistency Assessment addressed changes to the construction boundary to facilitate the construction of concrete slabs over the Sydney Water main, the construction of a temporary access road to the existing water town and radar tower, and the subsequent reinstatement of this temporary access road to pre-construction conditions; approved in January 2024.

1.2.3 M12 Motorway Delivery Strategy

The Project will be constructed in separate stages under separate construction contracts:

- **M12 West**– between The Northern Road, Luddenham and about 250 metres east of Badgerys Creek
- **M12 Central** (the subject of this Plan) – between about 500 metres west of South Creek and the Western Sydney Parklands at Duff Road, Cecil Park
- **M12 Central – Devonshire Road (Temporary Roundabout)** – temporary roundabout installation at Elizabeth Drive and Devonshire Road, Kemps Creek
- **M12 East** Elizabeth Drive connections, at Cecil Park
- **M12 East**– (as part of the M7.M12 Integration Project)
 - Elizabeth Drive Connections (EDC) a two kilometre section from Duff Road to about 300 metres east of the M7 Motorway
 - M7/M12 Interchange – An interchange between the M12 Motorway and M7 Motorway and tie-in works for approximately four kilometres on the M7 Motorway

Each package of work is to be delivered under separate contracts on behalf of the proponent TfNSW. While the packages will commence at different times there will be periods during which the

packages works will overlap. Co-ordination between the contractors will be required to manage cumulative impacts.

1.3 M12 Central

Seymour Whyte has been engaged to deliver the M12 Central package. Construction of the M12 Central package involves building 7.5 km of motorway from west of Badgerys Creek to the Water Tower Access Road within Western Sydney Parklands.

The M12 Central package will provide a dual carriageway with a wide median to allow for future widening to six lanes. Safety barriers will be provided along the length of the package. Emergency stopping bays and emergency crossovers will also be provided at regular intervals. A shared user path with lighting will provide an active transport link along the motorway and eastward to the M7.

The M12 Central package includes the following bridges:

- Twin bridges over South Creek
- A bridge for Clifton Avenue over the M12 Motorway
- Twin bridges over Kemps Creek
- Twin bridges over Elizabeth Drive near Mamre Road
- Twin Bridges over Range Road
- A bridge for the Water Tower Access Road over the M12 Motorway
- A private property access bridge in University of Sydney land.

Retaining walls will be provided around Range Road to help limit Project impacts on Range Road. Adjustments will be made to local roads including Clifton Avenue and Salisbury Road.

The M12 Central package also requires relocation of utility services including electricity, water, gas and telecommunications. Urban design features of this package include Aboriginal artwork on bridges, rest areas on shared user paths, interpretive signage and landscape planting.

A detailed description of the M12 Central package is provided in Section 2.3 of the CEMP.

1.4 Scope of the Plan

The scope of this CCHMP is to describe how the potential Aboriginal and non-Aboriginal heritage impacts will be managed during construction of the M12 Central package. This Plan has been prepared under and consistent with the OCEMP, and in particular the Overarching Construction Cultural Heritage Management Sub-Plan (OCCHMP) considering relevant heritage items, archaeological potential and package specific construction activities. In the preparation and ongoing implementation of this Plan, SMART (Specific, Measurable, Achievable, Realistic and Timely) principles are to be considered and applied.

This Plan is applicable to all activities during construction of the M12 Central package, including all areas where physical works will occur or areas that may otherwise be impacted by the construction works, and under the control of Seymour Whyte. All Seymour Whyte staff and sub-contractors are required to operate fully under the requirements of this Plan and related environmental management plans, over the full duration of the construction program.

A copy of this CCHMP will be kept on the premises for the duration of construction.

Early Works, as defined in the EIS Section 5.24.4 and OCEMP Section 2.4 do not fall within the scope of the OCEMP and Sub-plans. Furthermore, operational Aboriginal and Non-Aboriginal heritage impacts and operation measures do not fall within the scope of this CCHMP and therefore are not included within the processes contained within the CCHMP.

1.5 Environmental Management System overview

The Environmental Management System (EMS) for the M12 Central package is described in Section 3 of the CEMP. The EMS is consistent with the overarching EMS described in Section 3 of the OCEMP.

To achieve the intended environmental performance outcomes, Seymour Whyte have established, implemented, maintained and continually improved an EMS in accordance with the requirements of ISO14001:2015. The Seymour Whyte EMS will be adopted as the guiding environmental management framework for the M12 Central package.

The EMS consists of governance documentation, incorporating environmental management plans, policies, procedures and tools including:

- **M12 Central Environment and Sustainability Policy.** Outlines the commitments and intentions established by Seymour Whyte to ensure environmental performance and sustainability objectives and targets are achieved (Appendix A3 of the CEMP)
- **CEMP.** Details the processes and procedures to be implemented during the M12 Central package to comply with applicable CoA, REMMs, Environmental Protection Licence (EPL), legislative obligations and contractual requirements. The relevant compliance obligations are detailed in Appendix A1, with a cross reference to where they are met in this Plan
- **Environmental Management Sub-plans.** These documents describe procedures and controls for specific environmental aspects requiring more rigorous management strategies
- **Aboriginal Cultural Heritage Assessment Report.** Details the methodology and results of the Aboriginal heritage detailed salvage program including consultation with RAPs
- **Archival Recording Heritage Report.** Provides the results of non-Aboriginal heritage investigations and archival recordings
- **Sensitive Area Plans (SAPs).** A series of maps providing key features of the alignment and relevant environmental constraints. Features include waterways, heritage, biodiversity contamination and sensitive receivers amongst other site relevant features
- **Environmental Work Method Statements (EWMS).** Management measures identified in this Plan may also be incorporated into site or activity specific Environmental Work Method Statements (EWMS). EWMS incorporate appropriate mitigation measures and controls and identify key procedures to be used concurrently with the EWMS. Construction personnel undertaking a task governed by an EWMS must undertake the activity in accordance with the mitigation and management measures identified in the EWMS. See Section 3.3.3 of the CEMP for details of the EWMS preparation and approval requirements
- **TfNSW Unexpected Heritage Finds and Human Remains Procedure.** Management of unexpected heritage finds in accordance with any guidelines and standards prepared by the Heritage Council of NSW and Heritage NSW
- Procedures, strategies and protocols. Detailed procedures for inclusion in work packs.

1.5.1 CCHMP preparation, endorsement and approval

The OCCHMP has been prepared to satisfy the NSW CoA in relation to the management of Aboriginal and non-Aboriginal heritage during construction of the Project, particularly NSW CoA C4(f) and subsequently approved by the Planning Secretary. This stage-specific CCHMP for the M12 Central package has been developed under and consistent with the approved OCCHMP.

This CCHMP was reviewed by the TfNSW Environment and Sustainability Manager (ESM) (or delegate) and the independent Environmental Representative (ER) to confirm they are consistent with, and incorporate, all relevant elements of the approved OCCHMP, prior to submission to the Planning Secretary for information. Construction of the M12 Central package did not commence until the CCHMP was endorsed by the ER and provided to the Planning Secretary for information.

1.5.2 Interactions with other management plans and strategies

This Plan has the following interrelationships with other management plans and strategies:

- Site Establishment Management Plan (SEMP), which identifies measures to avoid and/or minimise impacts to heritage items and areas of archaeological potential during establishment of ancillary facilities
- Aboriginal Heritage Interpretation Plan which includes interpretation measures that will improve community awareness of Aboriginal cultural heritage values along the Project corridor including implementation of an Aboriginal Artwork Strategy
- Non-Aboriginal Heritage Interpretation Plan which includes consideration of elements to enable the continued interpretation and understanding of non-Aboriginal heritage values
- Construction Flora and Fauna Management Plan detailing exclusions zone establishment and clearing and flagging protocols
- M12 Central Community and Stakeholder Engagement Plan which has been developed under the Overarching Communication Strategy (OCS), which details procedures and processes for community notification, consultation and complaints management for the M12 Central package
- M12 Place, Design and Landscape Plan (PDLP) demonstrates how the design responds to the character, setting and fabric of heritage elements and landscapes
- M12 Central Sustainability Management Plan which has been developed under the overarching Project Sustainability Strategy which sets out a framework covering effective monitoring of heritage during construction.

1.6 Consultation

The OCCHMP has been prepared in consultation with relevant government agencies and stakeholders Councils including Heritage Council of NSW, Heritage NSW, WaterNSW, Penrith City Council, Liverpool City Council, Fairfield City Council and the Registered Aboriginal Parties (RAPs). Additionally, the TfNSW Unexpected Heritage Finds and Human Remains Procedure was provided to the RAPs for review and comment. It is also noted that although REMM AH01 requires consultation with the Environment, Energy and Science (EES) Group, consultation is considered to have been completed through Heritage NSW. This is deemed appropriate, as at the time of EIS preparation the Aboriginal Cultural heritage regulator (Office of Environment and Heritage) was located within EES and the non-Aboriginal heritage team was within the Department of Premier and Cabinet (DPC Heritage). Both departments are now located within Heritage NSW.

Key matters raised by stakeholders and how they have been addressed are outlined in the OCCHMP including consultation evidence in accordance with NSW CoA C4 and A5. This stage-specific CCHMP has been prepared under and consistent with the OCCHMP and therefore no further consultation is required as part of the preparation of this Plan.

Ongoing consultation between TfNSW, Seymour Whyte, neighbouring Project packages, other construction projects, stakeholders, the community and relevant agencies regarding the management of impacts on Aboriginal and non-Aboriginal heritage values will be undertaken during the construction of the M12 Central package as required. The process for the consultation will be consistent with the OCS and as described in the M12 Central Community and Stakeholder Engagement Plan.

Further consultation will also be carried out with relevant stakeholders, including Heritage NSW and project RAPs where relevant, in the event of an unexpected find in accordance with the TfNSW Unexpected Heritage Finds and Human Remains Procedure.

2 Purpose and objectives

2.1 Purpose

The purpose of this CCHMP is to describe how Seymour Whyte will protect and manage Aboriginal and non-Aboriginal heritage during construction of the M12 Central package.

2.2 Objectives

The key objective of the CCHMP is to ensure that Aboriginal and non-Aboriginal cultural heritage values are managed appropriately throughout the construction of the M12 Central package. To aid in achieving this objective all CoA, REMMs and licence/permit requirements relevant to heritage management are described, scheduled and assigned responsibility as outlined in:

- Environmental Assessment Documentation
- Infrastructure Approval CoA (SSI 9364)
- Environment Protection Licence
- TfNSW Quality Assurance (QA) Specifications
- Infrastructure Sustainability Council (ISC) technical manual
- All relevant legislation and other requirements described in Section 3 of this Plan.

2.3 Targets

Targets for the management of Aboriginal and non-Aboriginal cultural heritage impacts during construction of the M12 Central package include:

- Ensure full compliance with the relevant legislative requirements, CoA and REMMs, including implementing appropriate measures as described in Section 3.1 of this CCHMP
- Avoid or minimise disturbance, possible damage to heritage items or loss of Aboriginal and Non-Aboriginal heritage cultural heritage
- Follow correct procedures and ensure notification of any Aboriginal heritage objects/places uncovered during construction
- Provide appropriate archival photographic recording of non-Aboriginal heritage items impacted by the M12 Central package (if not previously undertaken by TfNSW)
- Ensure training is provided in the form of inductions to all construction personnel on heritage items, protection measures and unexpected heritage items procedures before they begin work on site
- Facilitate engagement with the local Aboriginal community in partnership with TfNSW to appropriately manage the Aboriginal cultural heritage values
- Not commencing work in relevant locations until detailed salvage and/or test archaeological investigation of the site has been completed, including in the event of unexpected finds
- Ensure appropriate controls and procedures are implemented during construction activities to avoid or minimise potential adverse impacts to Aboriginal and non-Aboriginal heritage
- Minimise impacts on, and complaints from, the community and stakeholders.

3 Environmental requirements

In accordance with NSW CoA A7, references in the terms of this Plan to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in at the date of the Infrastructure Approval (CSSI 9364).

3.1 Relevant legislation and guidelines

3.1.1 Legislation

Legislation considered during the development of this Plan includes:

- *Environmental Planning and Assessment Act 1979* (EP&A Act)
- *National Parks and Wildlife Act 1974* (NPW Act)
- *Heritage Act 1977* (Heritage Act)
- *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Commonwealth).

Relevant provisions of the above legislation are identified in the register of legal requirements included Appendix A1 of the CEMP.

3.1.2 Guidelines and standards

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

- TfNSW QA Specification G36 – Environmental Protection (Management System)
- *Procedure for Aboriginal Cultural Heritage Consultation and Investigation* (Roads and Maritime Services, 2011)
- *Cultural Heritage Guidelines* (Roads and Maritime, November 2015)
- *Standard Management Procedure: Unexpected Heritage Items* (Roads and Maritime, November 2015)
- *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* (Department of Sustainability, Environment, Water, Population and Communities, 2013)
- *Commonwealth Heritage Management Principles* (Department of the Environment and Water Resources, 2007)
- *NSW Government Policy on Aboriginal Participation in Construction* (released 1 May 2015, updated 1 August 2016)
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (Office of Environment and Heritage (OEH), 2010)
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (OEH, 2010)
- *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011)

- *Altering Heritage Assets* (Heritage Office and DUAP, 1996)
- *Archaeological Assessment Guidelines* (NSW Heritage Office and NSW Department of Urban Affairs and Planning, 1996)
- *Assessing Heritage Significance* (NSW Heritage Office, 2001)
- *Assessing Significance for Historical Archaeological Sites and "Relics"* (NSW Heritage Branch, Department of Planning, 2009)
- *Photographic Recording of Heritage Items Using Film or Digital Capture* (Heritage Branch, 2006)
- *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (2013).
- *How to prepare archival records of heritage items* (NSW Heritage Office, 1998).
- PS311 – Environmental Design and Compliance, specifically:
 - M12 Motorway - Central Section Detailed Design Consistency Assessment – Design and boundary changes between Cecil Park and east of Badgerys Creek (GHD, 2021)
 - M12 Motorway - Non-Aboriginal Heritage Consistency Assessment (Artefact, 2021).

3.2 Ministers Conditions of Approval

The primary NSW CoA relevant to the development of this Plan are listed in Table 3-1. Secondary conditions relevant to this Plan have been listed in Appendix A. A cross reference is also included to indicate where the CoA is addressed in this Plan or other Project management documents.

Table 3-1: Primary CoA

CoA No.	Condition Requirements	Document Reference
C4	<p>The following CEMP Sub-plans must be prepared in consultation with the relevant government and other agencies identified for each CEMP Sub-plan. Details of all information requested by an agency during consultation must be provided to the Planning Secretary as part of any submission of the relevant CEMP Sub-plan, including copies of all correspondence from those agencies as required by Condition A5.</p> <p>(f) Heritage (including Aboriginal and non-Aboriginal) – Heritage Council of NSW, Heritage NSW, WaterNSW and relevant Council(s).</p>	<p>OCCHMP</p> <p>This Plan</p> <p>Section 1.6</p>
C5	<p>The CEMP Sub-plans must state how:</p> <p>a) The environmental performance outcomes identified in the documents listed in Condition A1 will be achieved</p>	<p>Section 1.5 outlines the overarching EMS for the M12 Central package, specific for heritage management, Section 2.3 provides the targets for the management of heritage on the M12 Central package, Section 6 outlines mitigation and management measures which incorporate the relevant requirements of the documents listed in Condition A1, Section 7 outlines how the implementation of these relevant requirements will be monitored.</p>
	<p>b) The mitigation measures identified in the documents listed in Condition A1 will be implemented</p>	<p>Section 3.2 outlines the primary REMMs relevant to the management of heritage, Section 6 outlines mitigation and management measures which incorporate the relevant mitigation measures listed in Condition A1, Section 7 outlines how the implementation of these relevant requirements will be monitored, Appendix A provides references for the secondary REMMs relevant to the management of heritage.</p>

CoA No.	Condition Requirements	Document Reference
	c) The relevant terms of this approval will be complied with	<p>Section 1.4 includes a commitment to applying SMART principles.</p> <p>Issues requiring management and ongoing risk analysis are discussed in Section 5. Compliance with the relevant terms of approval is discussed throughout the Plan, though primarily in Section 6, and compliance monitoring is covered in Section 7.</p> <p>Cumulative impacts and how they are identified and managed are addressed in Section 5.4 of this Plan.</p>
	d) Issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed through SMART (Specific, Measurable, Achievable, Realistic and Timely) principles.	Section 1.4 and Section 6
E31	An Unexpected Heritage Finds and Human Remains Procedure must be prepared to manage unexpected heritage finds in accordance with any guidelines and standards prepared by the Heritage Council of NSW and Heritage NSW. The Procedure must be prepared in consultation with Heritage NSW and form part of the Heritage CEMP Sub Plan required by Condition C4 .	Appendix B
E32	<p>The Unexpected Heritage Finds and Human Remains Procedure, as submitted to the Planning Secretary, must be implemented for the duration of Work.</p> <p><i>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.</i></p>	Appendix B

CoA No.	Condition Requirements	Document Reference
E33	Where previously unidentified Aboriginal objects are discovered, all work must immediately stop in the vicinity of the affected area. Works potentially affecting the previously unidentified objects 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 E31 and include registration in the Aboriginal Heritage Information Management System (AHIMS).	Section 6.5, CH04

3.3 Revised Environmental Management Measures

The primary REMMs relevant to the development of this Plan are listed in Table 3-2. Secondary REMMs relevant to this Plan are listed in Appendix A. A cross reference is also included to indicate where the REMM is addressed in this Plan or other Project management documents.

Table 3-2: Primary REMMs

ID	Measure/requirement	Timing	Document Reference
AH01	A Construction Cultural Heritage Management Plan (CCHMP) will be developed for the project in consultation with the project RAPs and EESG. The CCHMP will include:	Prior to construction	OCCHMP This Plan Section 1.6
	<ul style="list-style-type: none"> An unexpected finds procedure for the discovery of Aboriginal ancestral remains, Aboriginal objects or new Aboriginal sites consistent with TfNSW Standard Management Procedure Unexpected Heritage Items (Roads and Maritime, 2015). This procedure will also outline requirements to manage unexpected human remains finds in accordance with NSW statutory requirements, and relevant guidelines and standards prepared by EESG. The Procedure will outline the process for consulting with the RAPs in the event that previously unidentified Aboriginal heritage is discovered. 		Appendix B

ID	Measure/requirement	Timing	Document Reference
	<ul style="list-style-type: none"> Procedures for the management and curation of salvaged Aboriginal objects 		OCCHMP TfNSW Aboriginal Cultural Salvage Strategy
	<ul style="list-style-type: none"> Detailed locations and installation procedures for fencing and protective coverings 		Section 6.2 Section 6.5
	<ul style="list-style-type: none"> Details of permissible activities inside protected Aboriginal areas 		Section 6.2
	<ul style="list-style-type: none"> Procedures for consideration of heritage aspects within site inductions and toolbox talks for construction workers and supervisors. 		Section 7.2
NAH01	A Construction Cultural Heritage Management Plan (CCHMP) will be prepared for the project as part of the CEMP in consultation with Heritage NSW. The CCHMP will include as a minimum:	Prior to construction	OCCHMP Section 1.6
	<ul style="list-style-type: none"> A list, plan and maps with GIS layers showing the location of identified heritage items both within, and near, the construction footprint 		Section 4 Appendix A6 of the CEMP
	<ul style="list-style-type: none"> A significance assessment and statement of significance for each item 		Section 4.2 and 4.3
	<ul style="list-style-type: none"> Protocols and procedures including inductions and toolbox talks for all contractors and sub-contractors working in the area to be informed of all exclusion zones, the elements and their significance, to prevent accidental damage or encroachment 		Section 7.2
	<ul style="list-style-type: none"> Protocols and procedures to be implemented during construction to avoid or minimise impacts on items of heritage significance including protective fencing 		Section 6.2, Section 6.5

ID	Measure/requirement	Timing	Document Reference
	<ul style="list-style-type: none"> The TfNSW <i>Unexpected Heritage Items Procedure</i> (Roads and Maritime, 2015) which would be followed in the event that unexpected heritage finds are uncovered during construction. 		Appendix B

3.4 Environment Protection Licence

The M12 Central package is subject to Environment Protection Licence (EPL) No. 21596 as a Scheduled Activity for 'road construction'. Management and protection of heritage items is not typically addresses in Environment Protection Licence however compliance with the obligations of the EPL assist in avoiding indirect impacts through pollution or other disturbances. The M12 Central package will be constructed so as to meet requirements identified in the EPL.

3.5 TfNSW QA Specifications

The TfNSW QA specifications set out the minimum requirements for the detailed outcomes in terms of quality or performance expected in the finished product for construction projects and are relevant to various construction activities on work sites to minimise impacts to the environment.

This CCHMP incorporates the relevant requirements for protecting and managing Aboriginal and non-Aboriginal heritage values from the TfNSW QA Specifications prepared for the *M12 Motorway (Central), Construction between Badgerys Creek and the Water Tower Access Road, Cecil Hills* including:

- G36 – Environmental Protection
- G40/E – Flagging Protocol
- G71 – Construction surveys
- B341 – Demolition of Existing Structures.

The specifications set out environmental protection requirements, including Hold Points and Witness Points that must be complied with during construction of the M12 Central package. A Hold Point is a point beyond which a work process must not proceed without express written authorisation from TfNSW. Witness Points are an identified point in the process where TfNSW request to, review, witness, inspect method and/or process of work. The activities, however, may proceed. For processes under the CEMP, the request for release of Hold Points and Witness Points is to be made through the TfNSW ESM (or delegate).

Details of the Hold Points and Witness Points relevant to this Plan are outlined in Section 7.4.

Cross references are included in Appendix A, to indicate where the relevant TfNSW QA specifications have been addressed in this Plan or other Project documents.

3.6 Infrastructure Sustainability Council

The M12 Central package will implement an integrated approach to sustainability to ensure effective implementation and tracking of initiatives. This approach includes the identification of requirements in Plans for clarity of objectives and transparency in implementation. While the M12 Central Sustainability Management Plan details the overall requirements and targets for the M12 Central package, Table 3-3 summarises the sustainability requirements for heritage specific aspects to demonstrate compliance with Infrastructure Sustainability Council (ISC) Infrastructure Sustainability (IS) Version 1.2 Rating Tool credit benchmarks.

Table 3-3: Heritage specific sustainability targets

ISC Reference	Requirement	Project Target
Her-1	<p>Effective assessment of baseline targets and mitigation of impacts:</p> <ul style="list-style-type: none"> • Identification of heritage values through consultation and studies • Minimisation of impacts to heritage • Participation of key stakeholders in heritage studies • Interpretation of heritage values • Opportunities for enhancement of heritage values. 	<p>Identification of relevant heritage values, inclusion of stakeholders in management of heritage and interpretation to result in an enhancement of heritage values through education and design.</p> <p>The two Heritage Interpretation Plans will guide the Project in realising opportunities for enhancement of heritage values.</p>
Her-2	<p>Effective monitoring of heritage:</p> <ul style="list-style-type: none"> • Monitoring of heritage throughout • Modelling to demonstrate maintenance/enhancement of heritage values. 	<p>Monitoring of heritage sites/items throughout construction leads to the enhancement of values and where possible, enhance values through interpretation and design.</p>

Where required (e.g. in the event of unexpected heritage finds), monitoring will be overseen by a suitably qualified professional, whom has a formal cultural heritage qualification and minimum of five years' experience.

More details on sustainability initiatives and implementation for the M12 Central package is provided in the M12 Central Sustainability Management Plan. Overarching sustainability objectives for the Project is provided in the overarching Project Sustainability Strategy.

4 Existing Environment

This section summarises the Aboriginal and non-Aboriginal heritage values within and adjacent to the M12 Central package, based on information contained in the Environmental Assessment Documentation and additional heritage assessments carried out post-approval.

4.1 Key reference documents

4.1.1 Environmental Assessment Documentation

The Environmental Assessment Documentation contains the following key reference documents for Aboriginal and non-Aboriginal heritage values within and adjacent to the Project corridor, including the footprint of the M12 Central package:

- Aboriginal heritage:
 - Exhibited EIS Section 7.5 and Appendix I – Technical working paper: Aboriginal Cultural Heritage Assessment Report
 - Amendment Report – Appendix E Aboriginal Heritage Supplementary Technical Memorandum
- Non-Aboriginal heritage:
 - Exhibited EIS Section 7.6 and Appendix J – Technical working paper: Non-Aboriginal Heritage Assessment Report
 - Amendment Report – Appendix F – Non-Aboriginal Heritage Supplementary Technical Memorandum.

Relevant heritage data including heritage items, areas of archaeological potential / sensitivity, exclusion zones and the construction footprint of the M12 Central package are shown in the Sensitive Area Plans included in Appendix A6 of the CEMP.

4.1.2 Additional heritage assessments

Following adjustments to the construction footprint post-approval, additional heritage assessments were carried out for those heritage items which were not previously captured within the Environmental Assessment Documentation. For the M12 Central package, this includes:

- M12 Motorway - Non-Aboriginal Heritage Consistency Assessment (Artefact, 2021). The additional survey works found:
 - Fabric associated with the former location of Fleurs Synthesis Telescope antenna 'X₃'
 - Concrete pad between antennas 'X₃' and 'X₄' likely to have been equipment for control and power
 - Sub-surface cables, power supply, and compressed air hoses
 - Sections of the former vehicle access track to antennas 'X₃' and 'X₄'.
- M12 Central Design Consistency Assessment – Boundary Adjustment Review Aboriginal Cultural Heritage Memo (KNC, 2021)
- M12 Central Design Consistency Assessment - Non-Aboriginal Heritage (GHD, 2021). Additional assessment found:

- The impacts to non-Aboriginal heritage associated with the detailed design are generally consistent with the impacts described in the approval documents
- Boundary changes within the curtilage of Fleurs Radio Telescope (Penrith LEP 2010 1832) would be minor and would not result in any changes in overall impact to the heritage item, however, additional requirements were included in REMM NAH05 to manage the additional items within the Fleurs Radio Telescope site
- M12 West and Central Consistency Assessment – Sydney Water Utility Crossings Aboriginal Cultural Heritage (KNC, 2022). Additional assessment found:
 - The identified changes to Aboriginal heritage impacts from the Sydney Water utility crossing works are consistent with the approved Project and the REMMs are to be maintained and implemented for the Sydney Water work areas within the extended project construction boundary, including Active Protection (protective fencing), Salvage collection and/or Salvage excavation as required
- M12 West and Central Design Consistency Assessment – Boundary Changes Aboriginal Cultural Heritage (KNC, 2022). Additional assessment found:
 - The identified changes to Aboriginal heritage impacts from the proposed boundary adjustments at Sites 1-11 are consistent with the approved project and the management measures to be implemented as detailed in **Error! Reference source not found.** and Table 6-1 as required for Aboriginal sites CCE T3 and CCW
 - The identification of additional Aboriginal archaeological site Mamre Road Kemps Creek AFT 1 (AHIMS 45-5-5478) within Site 8a requires management measures to be implemented as detailed in **Error! Reference source not found.** and Table 6-1
- M12 West and Central Design Consistency Assessment - Non-Aboriginal Technical Assessment – McMaster's Farm/Field Station Building 1 (Artefact, 2022). Additional assessment found:
 - That the impacts of the proposed design changes at McMaster's Farm/Field Station are consistent with the previously approved impacts
- M12 West and Central Minor CA - Pre-Works Aboriginal Heritage Clearance Memo - Minor adjustments to M12 Central construction boundary (KNC, 2022). Additional assessment found:
 - The identified changes to Aboriginal heritage impacts from the proposed boundary adjustments are considered consistent with the approved project. However, management measures, as detailed in **Error! Reference source not found.** and Table 6-1, must be implemented
 - Existing management requirements and recommendations for the identified sites should be maintained for the boundary adjustment areas.
- M12 Central Water Tower Access Road Minor Consistency Assessment - Pre-Works Aboriginal Heritage Clearance Memo (KNC, 2023) found that:
 - An additional Aboriginal archaeological site was identified approximately 16m south of the boundary adjustment area: Artefact Scatter PAD 2023-846 (AHIM-45-5-4022)
 - The site must be avoided and should be identified within the relevant environmental documentation including the Construction Environmental Management Plan (CEMP). Workers and contractors must be advised in relation to the Aboriginal site location
 - A portion of the site is covered under an existing, active Aboriginal Heritage Impact Permit (AHIP 4776) issued to Sydney Water. This AHIP extends into the M12 Central project area and partially covers the proposed boundary adjustment area

- There will be no additional impacts on any identified Aboriginal archaeological heritage and that the proposed change is consistent with the findings of the EAD.
- M12 Central Water Tower Access Road Minor Consistency Assessment (Arcadis, 2023) found that:
 - Sydney Water has confirmed that the proposed change works are compliant with AHIP 4776 conditions (email dated 15 December 2023)
 - No additional impacts other than what was previously assessed in the EAD are anticipated to Non-Aboriginal heritage items and that management measures for non-Aboriginal heritage identified in the EAD are considered appropriate.

These assessments have been incorporated into this Plan with reference to impacts on additional elements of the heritage items. This included amendment of REMM NAH05, as detailed in Appendix A (additional requirements identified by bold text).

4.2 Aboriginal cultural heritage

4.2.1 Aboriginal cultural heritage sites

Field surveys and test excavations carried out to inform the Environmental Assessment Documentation determined that there is a continuous but variable distribution of Aboriginal objects across the Project corridor. While much of the landscape has been subjected to high levels of ground disturbance, resulting from excavation and quarrying activities, and intensive clearing and farming, a total of nine Aboriginal cultural heritage sites were identified within the construction footprint of the M12 Central package, as listed in Table 4-1.

Most of the Aboriginal cultural heritage sites consist of broad distributions of Aboriginal stone artefacts associated with major creeks; these watercourses provided water, food sources, and cultural significance for Aboriginal groups. These sites are expected to extend well into comparable landscapes outside of the construction footprint. These locations are shown in Figure 4-1.

The assessment significance criteria used to determine the significance for each Aboriginal cultural heritage site was based Australia International Council on Monuments and Site (ICOMOS) Burra Charter (Australia ICOMOS, 2000) in the Environmental Assessment Documentation. The criterion includes: social value, historical value, scientific value, aesthetic value and spiritual value. These values together, provided an “overall statement of significance” for each Aboriginal cultural heritage site as detailed in Table 4-1.

Table 4-1: Aboriginal cultural heritage sites located in the M12 Central construction footprint

Site Name	Description	Statement of significance	Construction footprint
Badgerys Creek East (BCE)	PAD on floodplain of South Creek. Continuous with South Creek West T1.	High	Partially within works footprint
South Creek West T1 (SCW T1)	PAD on floodplain on the western edge of South Creek. Continuous with South Creek West T2 and South Creek East.	High	Partially within works footprint

Site Name	Description	Statement of significance	Construction footprint
South Creek West T2 (SCW T2)	PAD on a low rise running north–south and parallel to South Creek. Continuous with Badgerys Creek East and South Creek West T1.	High	Partially within works footprint
South Creek East (SCE)	PAD on floodplain on the eastern side of South Creek. Continuous with South Creek West T1.	High	Partially within works footprint
Kemps North West (KNW)	Gentle slopes on the western side of Kemps Creek.	Moderate	Partially within works footprint
Kemps Creek West (KCW)	Creek flats on the western side of Kemps Creek. Continuous with Kemps Creek East	Moderate	Partially within works footprint
PCP8	Excavation area across site on ridgeline and hillslopes exposed by a fire trail.	Moderate	Totally within works footprint
Kemps Creek East (KCE)	Creek flats on the eastern side of Kemps Creek. Continuous with Kemps Creek West.	Low	Totally within works footprint
RR	Excavation area across site on gentle slopes along a first order drainage line.	Low	Totally within works footprint

An additional four Aboriginal cultural heritage sites were identified within the detailed investigation area for the M12 Central package, however are located outside of the construction footprint. These four sites are listed in Table 4-2. The significance of these sites was not assessed however they will not be impacted upon by construction.

Table 4-2: Aboriginal cultural heritage sites located outside of the construction footprint

Site Name	Description	Construction footprint
M12A5	Stone artefact site	Totally outside works footprint

An additional three Aboriginal cultural heritage sites previously located outside of the construction footprint that have been assessed in consistency assessments and are now within the construction footprint. Table 4-3 lists the additional Aboriginal heritage sites.

The additional Aboriginal cultural heritage sites will be actively avoided with visible signage and temporary fencing during construction. Mitigation measure AH10 has been amended for consideration of the additional Aboriginal cultural heritage sites, that states:

No ground disturbance (penetration and/or cutting of the surface) is permitted within Mamre Road Kemps Creek AFT 1, KC/ED2 and CP AS1/P-CP9. Protection will be provided with visible signage

and temporary fencing where necessary notifying construction personnel to avoid ground impacts within Mamre Road Kemps Creek AFT 1 and KC/ED2 and CP AS1/P-CP9.

Table 4-3: Additional Aboriginal cultural heritage sites now located within the construction footprint

Site Name	Description
CP AS1	Stone artefact site
P-CP9	Stone artefact site
KC/ED2	Stone artefact site

4.2.2 TfNSW Aboriginal heritage works

Prior to the commencement of Seymour Whyte work activities for the M12 Central package, TfNSW are responsible for undertaking the relevant Aboriginal heritage testing and salvage collection / excavation works (including all measures which are necessary at these sites), including implementing the relevant mitigation measures as outlined in the Environmental Approval Documentation and additional heritage assessments, and relevant CoA, REMMs and other legal requirements (referred to as 'TfNSW Aboriginal heritage works'). As such, Aboriginal Heritage salvage will be completed within the construction footprint of the M12 Central (noting that there is the potential for unexpected Aboriginal heritage items).

In accordance with REMM AH06, TfNSW are responsible for salvage collection of surface artefacts at: BCE, SCW T2, KCW, PCP8, and RR.

In accordance with REMM AH07, TfNSW are responsible for salvage excavation at: SCW T1, SCW T2, SCE, KCW. The methodology and extent of excavations required for these sites will be in accordance with site specific requirements outlined in the ACHAR prepared for the project.

Of the nine directly impacted Aboriginal heritage items, three are totally within the construction footprint and therefore are no longer considered present following TfNSW Aboriginal heritage works. Six of the directly impacted Aboriginal heritage items are only partially within the construction footprint (see Table 4-1 for details) and will therefore remain present directly adjacent to (but outside) the construction footprint following the TfNSW Aboriginal heritage salvage works.

Details of the impacts and management measures to be implemented during the TfNSW Aboriginal heritage salvage works are outlined in the OCCHMP.

Seymour Whyte works within the relevant areas must not be carried out until a record of completion of the salvage program is issued by TfNSW and sighted by the Seymour Whyte Project Director and ESR.

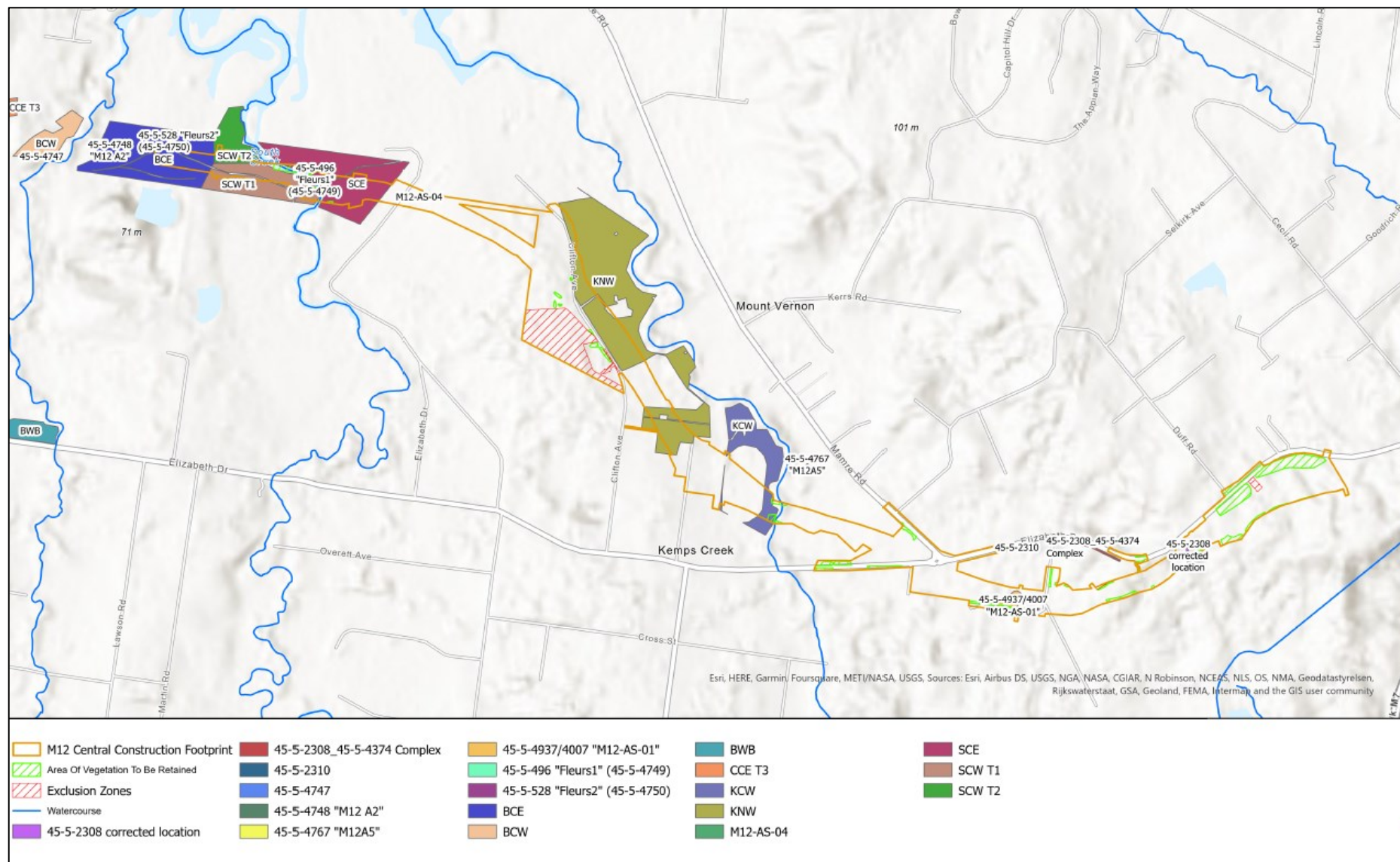


Figure 4-1: Location of Aboriginal heritage sites across the M12 Central package

4.3 Non-Aboriginal cultural heritage

4.3.1 Non-Aboriginal heritage items

Two non-Aboriginal heritage items (Item 2 and Item 7) assessed as having either local, State or potentially National heritage significance have been identified within the construction footprint of the M12 Central package. Two heritage items (Item 10 and Item 12) are located immediately adjacent to, but outside the construction footprint. Further details of these four items, including heritage significance, are provided in Table 4-4. Locations of these four items are provided in Figure 4-2.

4.3.2 TfNSW non-Aboriginal heritage works

Prior to the commencement of Seymour Whyte work activities for the M12 Central package, TfNSW are responsible for undertaking the relevant non-Aboriginal archival photographic recording, archaeological testing and salvage works, including implementing the relevant mitigation measures as outlined in the Environmental Approval Documentation and additional heritage assessments, and relevant CoA, REMMs and other legal requirements (referred to as 'TfNSW non-Aboriginal heritage works').

The TfNSW non-Aboriginal heritage works excludes however, salvage of the Fleurs Radio Telescope site.

As such the construction footprint of the M12 Central package, excluding the extents of the Fleurs Radio Telescope site within the construction footprint, will be free of known non-Aboriginal heritage items prior to the commencement of construction (noting that there is the potential for unexpected non-Aboriginal heritage items).

Each of the directly impacted non-Aboriginal heritage items are only partially within the construction footprint (see Table 4-4 for details) and will therefore remain present directly adjacent to (but outside) the construction footprint following the TfNSW non-Aboriginal heritage works. Details of the impacts and management measures to be implemented during the TfNSW non-Aboriginal heritage works are outlined in the OCCHMP.

Seymour Whyte works within the relevant areas must not be carried out until a record of completion of the salvage program is issued by TfNSW and sighted by the Seymour Whyte Project Director and ERS.

Table 4-4: Heritage items of significance, within and immediately adjacent to M12 Central package

Heritage item	Description	Significance	Construction footprint
Item 2: Fleurs Radio Telescope Site (PLEP 832)	<p>The Fleurs Radio Telescope intersects with the M12 Central package on Lot 21 DP 258414. The telescope site was surveyed on 20 and 21 October 2017 by Wallis Heritage Consulting (Gorman 2018).</p> <p>During field surveys a number of buildings, remains of antennas, antenna footing trenches, concrete plinths, concrete pads, cabling, signal boxes, fabrics and demolition material were identified.</p> <p>Additional heritage surveys in the South Creek 3 and 5 Antenna Complex and South Creek 4 (Lot 104 DP 1271336 and Lot 102 DP 1271336), partially outside of the M12 Central package footprint, revealed additional fabrics for antennas X3 and X4, former access to the antennas, concrete pads and concrete plinths, cables and a high-pressure hose and metal shed located within the amended construction footprint. The area around the Fleurs site is mostly grazing and farmhouses and the land is zoned low lying rural/commercial.</p> <p>Details of the specific locations of the various elements which make up this heritage item are provided in Figure 4-3.</p>	This site is considered to have State and potentially National significance	<p>This heritage item is located partially within the construction footprint.</p> <p>Several elements of the Fleurs Radio Telescope site including the Shain Cross (SC01), and the visual components of the South Creek 3, 5 Antenna Complex and South Creek 4 are located within the construction footprint.</p> <p>South Creek 1 and 2 heritage items are located around 80 metres outside of the construction footprint to the north.</p>
Item 7: Fleurs Aerodrome	<p>The Fleurs Aerodrome is located on Lot 2 DP88836 and was surveyed on 27 February 2018 (Survey area no. 21).</p> <p>Currently at the property there are three sections of the former airstrip:</p> <ul style="list-style-type: none"> • A short airstrip of bitumen that appears to be disused • A grassed area south and north of the existing airstrip • Building remains (north of the grassed area – outside the construction footprint). <p>A modern shed is located at the southern end of the airstrip and a large metal structure is located at the northern end of the current bitumen airstrip. It is unknown if the metal structure is connected with the original aerodrome.</p>	This site is considered to have local historical significance	<p>This heritage item is located partially within the construction footprint.</p> <p>The historical runway, to the north of the existing runway, is bisected by the construction footprint.</p> <p>A remnant metal object is located around 13 metres outside of the construction footprint to the south.</p>

Heritage item	Description	Significance	Construction footprint
Item 10: Exeter Farm Archaeological Site (Artefact Scatter and Trees)	<p>During the field survey, a row of trees forming a hedge that may be Osage-orange trees (<i>Maclura pomifera</i>) were observed. The Osage-orange was traditionally used in hedges for stock management and in colonial gardens. No buildings are visible however an angled depression is visible both on the ground and on the 1947 aerial image.</p> <p>East of the trees, an artefact scatter was noted, situated within a large depression in the ground. The artefact scatter comprises bricks, metal, ceramic and glass across an area about 50 metres wide.</p>	This archaeological site is considered to have local historical significance	This heritage item is located totally outside the construction footprint around 50 metres to the south.
Item 12: South, Kemps and Badgerys Creek Confluence Weirs Scenic Landscape	<p>Within the part of the landscape investigated immediately adjacent to the study area (Lot 21 DP258414), no weirs were observed, and the area did not overlap with any of the three creeks. South Creek is located adjacent (west) to the study area. Badgerys Creek is located around 930 metres west of the study area and Kemps Creek is located 1.2 kilometres northeast of the study area.</p> <p>This heritage landscape area also overlaps with the Fleurs Radio Telescope site.</p> <p>Vegetation at this location comprised of grass in an open paddock environment with occasional small trees located in the vicinity of buildings associated with the eastern side of the Fleurs Radio Telescope site.</p>	This Scenic Landscape is considered to have local historical significance .	This heritage landscape is located totally outside the construction footprint, but is located immediately adjacent to the north.

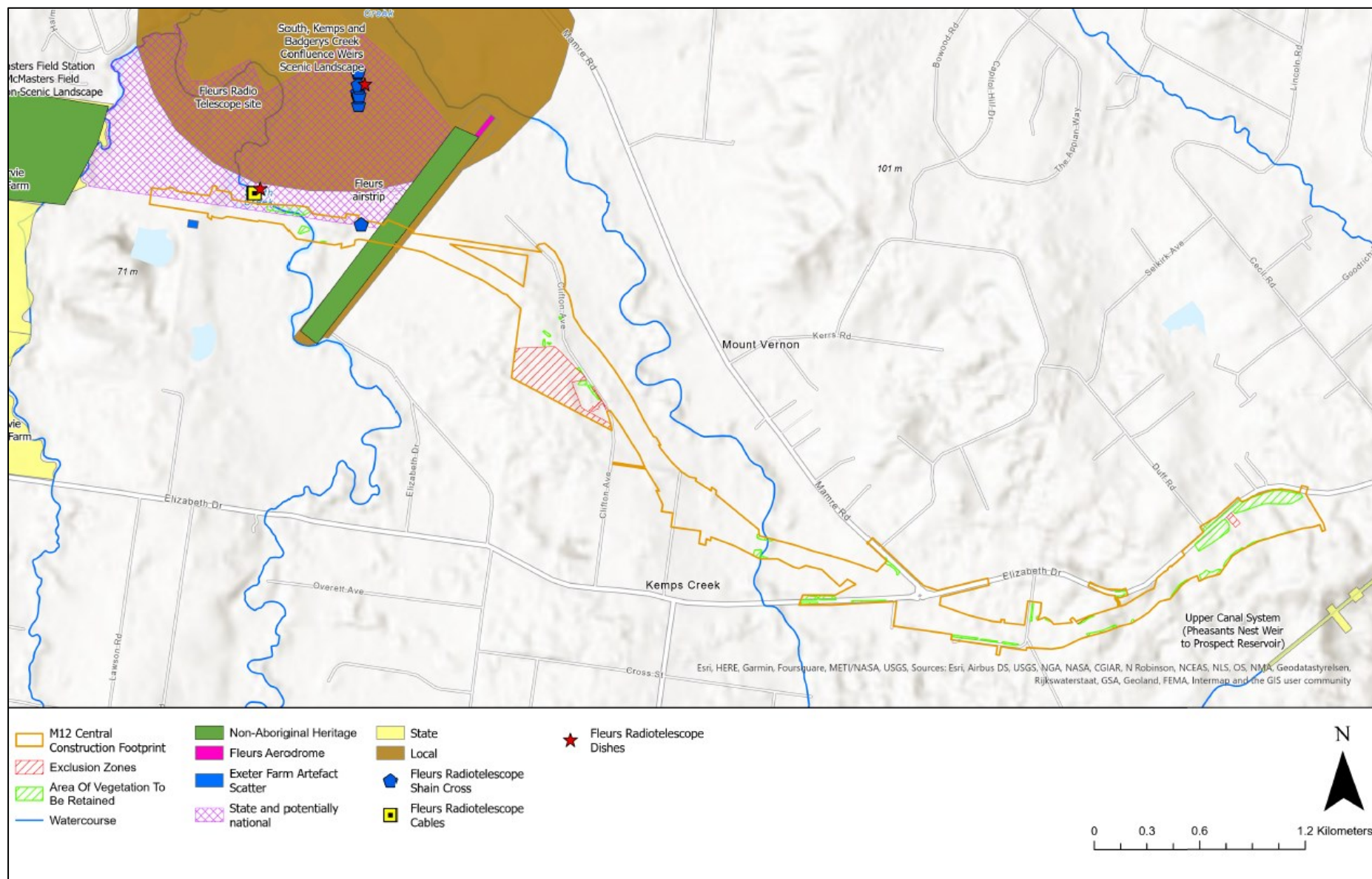


Figure 4-2: Location of Non-Aboriginal heritage sites and items

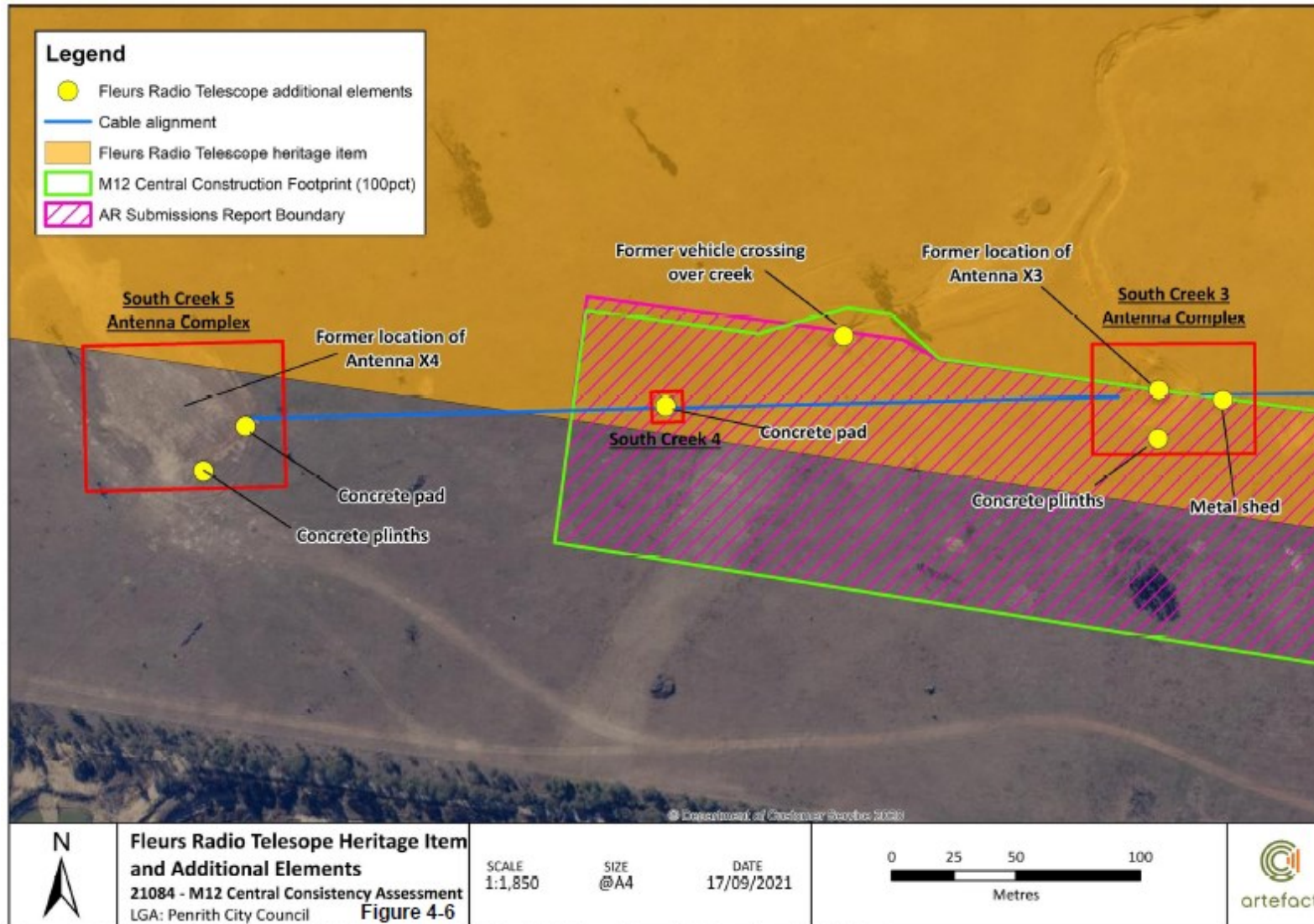


Figure 4-3: Location of Non-Aboriginal heritage items at Fleurs Radio Telescope site

5 Environmental aspects and impacts

5.1 Construction activities

Key aspects of construction of the M12 Central package that could result in adverse impacts to Aboriginal and Non-Aboriginal heritage include:

- Initial clearing and/or grubbing of vegetation
- Initial removal of topsoil
- Establishment of ancillary facilities and site compounds including stockpile areas for spoil, mulch, and/or equipment
- Installation of temporary access roads
- Earthworks and excavations
- Drainage infrastructure upgrades
- Bridge works
- Demolition of existing structures
- Construction of pavements
- Cumulative impacts.

Refer also to the Initial Risk Register included in Appendix A2 of the CEMP.

5.2 Aboriginal heritage impacts

Prior to the commencement of works by Seymour Whyte, TfNSW are responsible for undertaking the TfNSW Aboriginal heritage works as described in Section **Error! Reference source not found.** The construction footprint will therefore be free of known Aboriginal heritage items prior to the commencement of works by Seymour Whyte (noting that there is the potential for unexpected Aboriginal heritage items). Six of the nine directly impacted Aboriginal heritage sites, i.e. those identified as partially within the construction footprint in Table 4-1, will only be partially removed by the TfNSW Aboriginal heritage works. Exclusion zones are to be established at these locations using appropriate signposted site perimeter fencing and identifying these zones in the Sensitive Area Plans.

Further impacts to Aboriginal heritage values may occur as a result of the activities listed in Section 5.1 in the event that previously unidentified Aboriginal heritage items (such as artefacts and/or areas of archaeological sensitivity) are disturbed or destroyed.

Management measures, including identifying exclusion areas and procedures to follow in the event of an unexpected heritage finds, are provided in Section 6.

5.3 Non-Aboriginal heritage impacts

Prior to the commencement of works by Seymour Whyte, TfNSW are responsible for undertaking the TfNSW non-Aboriginal heritage works as described in Section 4.3.2. The construction footprint will therefore be free of known non-Aboriginal heritage items prior to the commencement of works by Seymour Whyte, with the exception of the Fleurs Radio Telescope site and noting that there is the potential for unexpected non-Aboriginal heritage items. Salvage will be undertaken of the

remaining elements of the Fleurs Radio Telescope site within the construction footprint as described in Section 6.1.

The two directly impacted non-Aboriginal heritage items are only partially within the construction footprint, as outlined in Table 4-4, and will therefore only be partially removed. Remaining elements of these heritage items, located outside of the construction footprint, are to be protected during construction through the identification of exclusion zones to avoid further impacts.

Further impacts to non-Aboriginal heritage values may occur as a result of the activities listed in Section 5.1 in the event that previously unidentified archaeological and built heritage sites/items are disturbed or destroyed.

Management measures, including identifying exclusion areas and procedures to follow in the event of an unexpected heritage finds, are provided in Section 6.

5.4 Cumulative impacts

Cumulative Aboriginal and non-Aboriginal heritage impacts may arise from the interaction of construction and operation of the M12 Central package and other approved and/or proposed projects in the area. When considered in isolation, specific impacts may be considered minor. These minor impacts may be more substantial however, when the impact of multiple Project packages or other projects impact on the same heritage item and/or culturally sensitive area/landscape.

A multitude of other projects are currently being constructed or have recently been completed in the area including:

- The Northern Road project
- The Western Sydney International Airport
- Sydney Metro – Western Sydney Airport
- Sydney Water Treatment Facility and water upgrades
- Planned road upgrades and land releases such as Western Sydney Aerotropolis.
- M7 Widening

Cumulative Aboriginal heritage impacts during construction include the disturbance of 40 ha of archaeologically sensitive South Creek alluvium which occurs along waterways. This may cause moderate impact to Aboriginal objects, site complexes and cultural landscapes. This area also contains a large cultural value to the Darug people. The Aboriginal Heritage Interpretation Plan, to be prepared by TfNSW, will consider cumulative Aboriginal heritage impacts.

Cumulative non-Aboriginal impacts during construction, although transformative, are considered relatively minor as they are addressed and managed through the implementation of a range of environmental mitigation measures. These measures are outlined in Section 6 of the OCCHMP and Section 6 of this Plan.

Interagency communication between government departments, stakeholders and RAPs undertaking Work in the area will be managed by TfNSW with the aim of combining messages when possible and minimising heritage impacts to the local community.

Consultation will be undertaken with neighbouring properties and with personnel who will be undertaking work on other projects within the vicinity of the M12 Central package to ensure they are aware of any exclusion zones or sensitive areas identified for the M12 Central package.

6 Environmental mitigation and management measures

6.1 Fleurs Radio Telescope site

Following changes to the construction footprint, additional heritage assessments were carried out at the Fleurs Radio Telescope Site as described in Section 4.1.2. Additional measures are therefore required to manage and protect the heritage values of this site during construction.

Initially TfNSW will engage a suitably qualified heritage consultant to prepare an archival photographic recording of the impacted areas of the property, in accordance with Heritage NSW guidelines (Heritage Council of NSW 2006).

Prior to the main construction activities commencing at the Fleurs Radio Telescope Site, with advice from the TfNSW Overarching Archival Recording Contractor, the following additional heritage works are required, and in accordance with TfNSW QA specification B341:

Cables:

- Salvage retrieval of a sample of each type of cable / compressed air hose along the cable alignment between antennas X3 and X4 with supervision by a heritage specialist. This will include retrieval of around 1 - 2m (or a length directed by TfNSW following consultation with stakeholders) of each type of cable / compressed air hose including the relevant attachment
- The selection of the types and length of cables / hose to be collected will include consideration of the following:
 - Physical review of the cables / hose types visible at South Creek 3 Antenna Complex and South Creek 4 Complex
 - Any additional information identified through remote sensing survey of the cable alignment, including the ground penetrating radar (GPR) report to be provided by TfNSW
 - Discussion with archival recording or other relevant heritage specialists where required
 - Outcomes from the consultation undertaken by TfNSW with interested parties
 - Cable samples will be collected, with consideration given to potentially contaminated materials, such as asbestos and PCBs. Appropriate WHS measures will be implemented in accordance with Seymour Whyte's WHS Plan
 - Cable samples will be tagged, including exact location by description and relevant coordinates of the cabling prior to its extraction
 - Safe storage of cable samples until collection by interested parties. If samples are unclaimed by interested parties within three months, they will be appropriately disposed of at a licensed landfill
- Cables will be excavated using non-destructive digging techniques (e.g. vacuum truck) under the supervision of TfNSW's overarching heritage specialist
- Where cabling is not impacted by construction works, it can remain in-situ, otherwise cabling is to be disposed of appropriately in accordance with the Construction Waste and Resources Management Sub-plan (Appendix B9 of the CEMP)
- Seymour Whyte will facilitate further archival recording of identified subsurface items identified during construction.

Concrete plinths:

- Prior to construction, an exclusion zone must be established around the concrete plinths at South Creek 3 Antenna Complex to protect against inadvertent impacts during construction
- If leaving the plinths *in situ* during construction is not practicable, the plinths will be removed and stored temporarily with survey information providing details of their position relative to each other and orientation. Opportunities will be investigated for re-establishing the concrete plinths on site close to their original location and/or as part of the interpretative display for the Radio Telescope site. If re-established, the survey information collected prior to their removal must be used to ensure that the plinths are located in the same orientation and arrangement
- Prior to removal of the concrete plinths, the plinths will be investigated to check if they had been used as State survey marks. Where identified these are to be managed in accordance with the preservation of survey infrastructure requirements in TfNSW QA specification G71. It is noted TS7279 is located on one of the plinths at X3
- Prior to construction exclusion zones must be established around the following items to protect against inadvertent impacts during construction:
 - Former location of antenna X3 at South Creek 3 Antenna Complex
 - Metal shed at South Creek 3 Antenna Complex.

All extant elements of the radio telescopes and associated infrastructure, including rubbish mounds situated outside the construction footprint will be left intact.

The methodology for the heritage works of the cables and concrete plinths is to be developed as part of an EWMS(s) prepared by the ESR and reviewed by a heritage specialist. The EWMS(s) will be reviewed by the TfNSW Project Manager, TfNSW ESM (or delegate) and ER before commencement of the activities to which they apply. TfNSW's Overarching Heritage Consultant will also review and provide input into the EWMS. The EWMS will include the review and incorporation of the GPR report to be provided by TfNSW.

6.2 Exclusion zones

Exclusion zones will be established (through fencing or other means) to demarcate heritage items and sensitive areas to be retained (including those within and outside of the construction boundary). Exclusion zone fencing will be located at the site perimeter for those heritage items and sensitive areas located outside of the construction footprint. Exclusion zones will restrict access by construction personnel and vehicles into sensitive environmental areas. Exclusion zones are to be mapped out by a qualified surveyor in accordance with the Flagging Protocol in the Construction Flora and Fauna Management Plan (CFFMP) (Appendix B3 of the CEMP) and TfNSW G40 specification.

Environmental protection area signage will be installed at all exclusion zones at regular intervals as agreed to by the TfNSW ESM (or delegate). Exclusion zone fencing will be regularly inspected to ensure the fencing has not been damaged, as detailed in Section 7.4. If identified as damaged, the exclusion zone will be rectified immediately. Exclusion zone fencing will only be removed following agreement by the TfNSW ESM (or delegate).

Exclusion zones will be established on the construction site perimeter (with appropriate signage) at the locations of the remaining Aboriginal heritage items/areas which have not be subject to the TfNSW Aboriginal heritage works, and/or partially impacted sites, including:

- Badgerys Creek East (BCE)
- South Creek West T1 (SCW T1)
- South Creek West T2 (SCW T2)
- South Creek East (SCE)
- Kemps North West (KNW)
- Kemps Creek West (KCW).

Exclusion zones will be established on the construction site perimeter (with appropriate signage) at the locations of the remaining non-Aboriginal heritage items/areas which have not be subject to the TfNSW non-Aboriginal heritage works, including:

- Item 2: Fleurs Radio Telescope site
- Item 7: Fleurs Aerodrome
- Item 10: Exeter Farm Archaeological Site (Artefact Scatter and Trees).

Sensitive Area Plans (Appendix A6 of the CEMP) illustrate the location of exclusion zones.

6.3 Unexpected Heritage Finds and Human Remains Procedure

The TfNSW Unexpected Heritage Finds and Human Remains Procedure (Appendix B) will be implemented for the duration of the M12 Central package. This procedure has been prepared by a suitably qualified and experienced heritage specialist in accordance with relevant guidelines and standards through consultation with NSW Heritage and the Heritage Council of NSW. The procedure has been submitted by TfNSW to the Planning Secretary for information no later than one month before the commencement of construction.

The management of unexpected potential Aboriginal objects or remains must be in accordance with the TfNSW publication “Unexpected Heritage Items”, the overarching procedure prepared for the OCEMP and in accordance with any guidelines and standards prepared by the Heritage Council of NSW or Heritage NSW.

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.

6.4 Safe working distances

A detailed survey has been completed as part of the Overarching and Standard Hours Noise and Vibration Impact Statement (NVIS) to determine the potential for vibration impacts on, and to define appropriate criteria, for each heritage item. Sensitive items that require survey were identified in the EIS. These include:

- Item 2: Fleurs Radio Telescope Site - 2 items within the construction footprint to be removed. Four other items scattered at distances of 80 - 800 metres from project boundary.
- Item 7: Fleurs Aerodrome - metal structure around 13 metres from project boundary. A shed also identified around 250 metres from boundary.

The NVIS concluded that the Fleurs Aerodrome metal structure is the only heritage item within a distance to be potentially affected by vibration. This structure will be evaluated for its sensitivity to vibration, prior to the commencement of earthworks, construction of the access road or other vibrator activities within 25m, and an appropriate management level applied if required.

Vibration monitoring will be carried out when vibration intensive tasks are occurring within the minimum working distances to heritage structures.

Where the monitoring identifies exceedances in the relevant criteria, or where impacts are identified, additional mitigation measures will be identified and implemented to appropriately manage impacts. These measures may include delineating additional exclusion areas around structures to restrict high-vibration activities occurring too close to sensitive structures.

6.5 Management Measures

Performance outcomes, commitments and management measures were identified in the Environmental Assessment Documentation, the CoAs, REMMs and relevant TfNSW documents.

All specific practicable measures and requirements to avoid and/or minimise impacts on Aboriginal and non-Aboriginal heritage values and are outlined in Table 6-1.

It is noted that the following Project requirements are to be implemented by TfNSW or are associated with another Project package and therefore not addressed in this Plan:

- NSW CoA E26, E27, E28, E29 and E30
- REMM AH02, AH04, AH05, AH06, AH07, AH08, and AH09
- REMM NAH02, NAH04, NAH06, NAH07, NAH09, NAH10, and NAH11.

Table 6-1: Heritage management and mitigation measures

ID	Management Measure	When to implement	Responsibility for implementation	Reference or source	Evidence of implementation
CH01	At least 10 working days prior to commencing Physical Work on Site in or near an environmentally sensitive area (including heritage sites), prepare an EWMS which includes the details of the environmental protection measures to be implemented at that location. Clearly delineate the environmentally sensitive area and signpost the locations and boundaries in accordance with TfNSW G40, Appendix G40/E Flagging Protocol.	During construction	ESR Construction manager Supervisor	G36	Sensitive Area Plans Site inspection/ photographs
CH02	Impacts to identified Aboriginal cultural heritage sites will be minimised where feasible in consultation with a suitably qualified and experienced archaeologist. Measures considered will include (but not be limited to) focusing protection measures on the zone within 100 metres of creeks and should consider opportunities to cover the original cultural deposits with temporary protective barriers such as geotextile fabric and a layer of clean fill.	Detailed design, prior to construction and during construction	ESR TfNSW ESM	AH03	EWMS SAPs
CH03	The TfNSW Unexpected Heritage Finds and Human Remains Procedure must be implemented for the duration of Work.	During construction	Construction manager Supervisor ESR	CoA E31, & E32	Unexpected Heritage Finds and Human Remains Procedure (Appendix B)
CH04	Where previously unidentified Aboriginal objects are discovered, all work must immediately stop in the vicinity of the affected area. Works potentially affecting the previously unidentified objects must not recommence until Heritage NSW has been informed. The measures specified in the TfNSW Unexpected Heritage Finds and Human Remains Procedure (Appendix B), as required by Condition E31, are to be implemented including registration in the Aboriginal Heritage Information Management System (AHIMS).	Prior to and during construction and operations	Construction manager Supervisor ESR TfNSW	CoA E33	Unexpected Heritage Finds and Human Remains Procedure (Appendix B)

ID	Management Measure	When to implement	Responsibility for implementation	Reference or source	Evidence of implementation
CH05	<p>If human remains are found unexpectedly during the carrying out of Work, the NSW Police must be notified immediately and the Unexpected Heritage Finds and Human Remains Procedure shall be implemented.</p> <p>All endeavours must be undertaken to prevent harm to, modification of, or otherwise impact any human remains that may be uncovered.</p>	Prior to and during construction and operations	Construction manager Supervisor ESR	CoA E32 G36	Consultation evidence
CH06	<p>Exclusion zones will be established on the construction site perimeter at the locations of the remaining Aboriginal heritage items/areas which have not be subject to the TfNSW Aboriginal heritage works, including:</p> <ul style="list-style-type: none"> • Badgerys Creek East (BCE) • South Creek West T1 (SCW T1) • South Creek West T2 (SCW T2) • South Creek East (SCE) • Kemps North West (KNW) • Kemps Creek West (KCW). 	Prior to and during construction	Construction manager Supervisor ESR	AH06	<p>Sensitive Area Plans</p> <p>Site inspection/ photographs</p>
CH07	<p>Exclusion zones will be established around the remaining non-Aboriginal heritage items which have not be subject to the TfNSW non-Aboriginal heritage works, including:</p> <ul style="list-style-type: none"> • Item 2: Fleurs Radio Telescope site • Item 7: Fleurs Aerodrome • Item 10: Exeter Farm Archaeological Site (Artefact Scatter and Trees). 	Prior to and during construction	Construction manager Supervisor ESR	NAH05 NAH08	<p>Sensitive Area Plans</p> <p>Site inspection/ photographs</p>

ID	Management Measure	When to implement	Responsibility for implementation	Reference or source	Evidence of implementation
CH08	All extant elements of the Fleurs Radio Telescope site (Item 2, Penrith LEP 832) such as telescopes, associated infrastructure and rubbish mounds situated outside the construction footprint will be left intact	Detailed design and prior to construction	Construction manager	NAH05 (amended)	Sensitive Area Plans Site inspection/ photographs
CH09	Exclusion zones around the former location of Antenna X3 and the metal shed at South Creek 3 Antenna Complex will be established prior to the commencement of construction	Prior to ground disturbance at the Fleurs Radio Telescope Site	Construction manager Heritage Consultant	NAH05 (amended)	Sensitive Area Plans Site inspection/ photographs
CH10	Ground penetrating radar, or other remote sensing survey techniques, will be carried out by TfNSW under the supervision of a suitably qualified and experienced archaeologist before any ground disturbance within the heritage curtilage of the Fleurs Radio Telescope Site contained within the construction footprint to identify any sub-surface cables. Seymour Whyte will review the outcomes of the remote sensing survey and undertake the management measures required within the remote sensing report.	Prior to ground disturbance at the Fleurs Radio Telescope Site	TfNSW Construction manager ESR Heritage Consultant	NAH05 (amended)	EWMS which is to include the review and incorporation of the GPR report
CH11	Prior to the commencement of construction, TfNSW will consult with relevant interested parties such as CSIRO, Universities, amateur telescopic organisations, local heritage bodies and relevant special interest groups to determine if there is interest in retaining sub-surface cabling or other structures at Fleurs Radio Telescope site in accordance with REMM NAH05 (amended).	Prior to ground disturbance at the Fleurs Radio Telescope Site	TfNSW ESM (or delegate)	NAH05 (amended)	Consultation records

ID	Management Measure	When to implement	Responsibility for implementation	Reference or source	Evidence of implementation
CH12	With advice from the TfNSW Overarching Archival Recording Contractor, samples of each type of cable / compressed air hose along the cable alignment between antennas X3 and X4 will be collected with supervision from a heritage specialist in accordance with requirements listed in NAH05 (amended).	During construction	Heritage Specialist TfNSW Overarching Archival Recording Contractor	NAH05 (amended)	Letter report prepared by Heritage Specialist
CH13	Prior to the commencement of construction, exclusion zones around the concrete plinths located at the South Creek 3 Antenna Complex and South Creek 5 Antenna Complex will be established in accordance with REMM NAH05 (amended).	Prior to construction	Construction manager Supervisor ESR	NAH05 (amended)	Sensitive Area Plans Site inspection/ photographs
CH14	Where retaining concrete plinths <i>in-situ</i> during construction is not practicable, plinths will be temporarily removed and stored. Survey information will be obtained providing details of the plinths position and orientation relative to each other.	Prior to construction	Construction manager ESR Heritage Consultant	NAH05 (amended)	Report provided by Heritage Specialist Survey information
CH15	Opportunities for re-establishing the concrete plinths on site close to their original location and/or as part of the interpretative display for the Radio Telescope site will be investigated. If re-established, the survey information collected prior to their removal must be used to ensure that the plinths are located in the same orientation and arrangement.	Prior to construction	Construction manager ESR Heritage Consultant	NAH05 (amended)	Report provided by Heritage Specialist Survey information

ID	Management Measure	When to implement	Responsibility for implementation	Reference or source	Evidence of implementation
CH16	Prior to removal of the concrete plinths, Seymour Whyte is to determine whether any of the plinths are used as state survey marks. If so, compliance with the preservation of survey infrastructure requirements in TfNSW specification G71 is required. It is noted TS7279 is located on one of the plinths at X3.	Prior to construction	ESR Heritage Consultant	NAH05 (amended)	Report provided by Heritage Specialist Survey information
CH17	Before occupying or utilising heritage buildings for potential use, a dilapidation survey will be carried out and a heritage architect will be engaged to advise on proposed modifications and management measures to avoid and minimise impact on the buildings	Prior to construction	Construction manager ESR Archaeologist	NAH07	Dilapidation survey and heritage architect advice
CH18	Impacts on Non-Aboriginal heritage items will be avoided or minimised where reasonable and feasible. Where impacts are unavoidable, works will be carried out in accordance with the measures for individual Non-Aboriginal heritage items outlined in REMM's NAH04 to NAH11.	Prior to construction and during construction	Construction manager Supervisor ESR	NAH03	Sensitive Area Plans Site inspection/ photographs
CH19	<p>The following structures have the potential to be within the safe working distances for sensitive structures (Group 3 from DIN 4150):</p> <ul style="list-style-type: none"> Item 2: Fleurs Radio Telescope Site Item 7: Fleurs Aerodrome <p>A detailed survey will be completed to determine the potential for vibration impacts and to define appropriate criteria for each heritage item. Vibration monitoring will be carried out when vibration intensive tasks are occurring within the minimum working distances to heritage structures. Where the monitoring identifies exceedances in the relevant criteria, or where impacts are identified, additional mitigation measures will be identified and implemented to appropriately manage impacts.</p>	Prior to construction and during construction	Construction manager Supervisor ESR Heritage Consultant Noise and Vibration Consultant	NV11	CNVMP Report prepared by Heritage Specialist

ID	Management Measure	When to implement	Responsibility for implementation	Reference or source	Evidence of implementation
CH20	Consultation will be undertaken with neighbouring land owners and with personnel who will be undertaking work on other projects within the vicinity of the M12 Motorway construction footprint to ensure they are aware of any exclusion zones or sensitive areas identified for the M12 Central package.	Prior to construction	Community Relations Manager	CoA C5(d)	Consultation records

7 Compliance management

7.1 Roles and responsibilities

The organisational structure for the M12 Central package and overall roles and responsibilities are outlined in Section 5.1 of the CEMP. Specific responsibilities for the implementation of environmental controls are detailed in Section 6 of this Plan.

7.2 Training

To ensure that this Plan is effectively implemented, all site personnel (including sub-contractors) will undergo site induction training relating to heritage management issues prior to undertaking their duties. The induction training will address elements related to Aboriginal and non-Aboriginal heritage items and values, such as to prevent accidental damage or encroachment, including:

- Existence and requirements of the OCCHMP, this CCHMP, and all protocols, procedures prepared under the CCHMPs relevant to the M12 Central package
- Relevant legislation, regulations
- Incident response, management and reporting
- Location of environmentally sensitive areas and exclusion zones
- Elements and their significance
- Site flagging protocol
- Boundaries for land disturbance
- General heritage management measures
- Cultural awareness / education training
- Procedure to follow in the event of an Unexpected Heritage Find or discovery of human remains during construction (see Appendix B).

Targeted training in the form of toolbox talks or specific training will be provided to staff with a key role in heritage management or those carrying out an activity with a high risk of environmental impact. Site personnel will undergo refresher training at not less than six monthly intervals.

The ER will review and approve the induction and training program prior to the commencement of construction and monitor implementation.

Daily pre-start meetings conducted by the Foreman / Site Supervisor (or delegate) will inform the site workforce of any environmental issues relevant to heritage that could potentially be impacted by, or impact on, the day's activities.

Further details regarding staff induction and training are provided in Section 5.3 of the CEMP.

7.3 Inspections and monitoring

Regular inspections of environmentally sensitive areas, exclusion zones and activities with the potential to impact Aboriginal and Non-Aboriginal heritage will be undertaken for the duration of construction. Inspections will include daily site inspections by Site Supervisors, and weekly site inspection by environmental personnel during construction as a minimum.

Site inspections will be recorded (along with actions and issues observed) and actioned appropriately within agreed timeframes. These inspections will be recorded as part of the Weekly Environmental Inspection Checklist. Additional requirements and responsibilities in relation to inspections are documented in Section 5.1 of the CEMP. For activities carried out under an EWMS, measures are to be reviewed regularly to ensure that they are effective, including for minimising the risk of impacting the environmentally sensitive areas.

Weekly and other routine inspections by the TfNSW ESM (or delegate), the Environmental Review Group (ERG) representatives and the ER will also occur throughout construction. Detail on the nature and frequency of these inspections are documented in Section 7.1 of the CEMP.

7.4 Hold Points and Witness Points

Hold Points and Witness Points relevant to this Plan are outlined in Table 7-1.

Table 7-1: Hold Points and Witness Points applicable to this Plan

TfNSW QA spec	Clause	Type	Description	Plan reference
G36	4.13	Hold Point	At least 10 working days prior to commencing Physical Work on Site in or near an environmentally sensitive area, prepare an EWMS which includes the details of the environmental protection measures to be implemented at that location in accordance with G40/E (Flagging Protocol). Clearly delineate the environmentally sensitive area and signpost the locations and boundaries.	Table 6-1, CH01
N/A	N/A	Hold Point	Works within heritage areas (Aboriginal and non-Aboriginal sites) will not commence until a record of completion of the salvage program is issued by TfNSW and sighted by the Seymour Whyte Project Director / ERS.	Section 4.2.2 and Section 4.3.2

7.5 Auditing

Audits (both internal and external) will be undertaken to assess the effectiveness of environmental controls, compliance with this CCHMP, CoA and other relevant approvals, licenses and guidelines. Audit requirements are detailed in Section 7.4 of the CEMP.

7.6 Reporting

Reporting requirements relevant to the management of heritage are identified in Table 7-2. Requirements and responsibilities for reporting are further described in Section 7.5 of the CEMP.

Accurate records will be maintained substantiating all construction activities associated with the M12 Central package or relevant to the conditions of approval, including measures taken to implement this CCHMP. Records will be made available to the Department of Planning and Environment (DPE) and Commonwealth Department of Agriculture, Water and the Environment (DAWE) upon request, within the timeframe nominated in the request.

Table 7-2: Reporting requirements relevant to this Plan

Item	Frequency	Standards	External reporting	Responsibility
Monthly Environmental Report	Monthly	Reporting as required by TfNSW G36 Specification, Section 3.11.1.2, including: Archaeological salvage or excavations; Unexpected Heritage Items.	TfNSW	ESR
Incident and non-compliance reports	At each occurrence	Reporting of incidents and non-compliances in accordance with CoA, EPL, PIRMP, G36 and the TfNSW Environmental Incident Classification and Reporting Procedure	Appropriate authority dependant on nature of the incident (e.g. EPA, DPE) (see Section 6 of CEMP)	ESR
Unexpected Heritage Finds and Human Remains	At each occurrence	Reporting in accordance with the TfNSW Unexpected Heritage Finds and Human Remains Procedure (Appendix B). The Unexpected Finds Form will include a preliminary assessment of the need for redesign or salvage. An Unexpected Finds Register will be maintained after the first unexpected find is discovered.	Appropriate authority dependant on nature of the find (e.g. Heritage NSW, RAPs) (see Appendix B)	ESR
Environmental Works Method Statement (EWMS)	At least 10 working days prior to commencing Physical Work on Site in or near an environmentally sensitive area	Provide a copy of the EWMS for working in or near the environmentally sensitive areas and written notice that the environmentally sensitive areas are clearly delineated with locations and boundaries signposted. Include in the EWMS environmental protection measures that are effective for minimising the risk of impacting the environmentally sensitive areas. Review EWMS measures regularly to ensure that they are effective.	TfNSW	ESR

8 Review and improvement

8.1 Continuous improvement

Continuous improvement of this CCHMP will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement.

The continuous improvement process will be designed to:

- Identify areas of opportunity for avoiding and/or minimising heritage impacts and improving environmental performance
- Identify environmental risks not already included in the risk register
- Determine the cause or causes of non-conformances and deficiencies
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies
- Verify the effectiveness of the corrective and preventative actions
- Document any changes in procedures resulting from process improvement
- Make comparisons with objectives and targets.

The ESR is responsible for ensuring stage-specific environmental risks are identified and included in the M12 Central package risk register and appropriate mitigation measures implemented throughout the construction, as part of the continuous improvement process. The process for ongoing risk identification and management during construction is outlined in Section 4.1.2 of the CEMP.

8.2 CCHMP update and amendment

The processes described in Section 7.7 of the CEMP may result in the need to update or revise this CCHMP. This will occur as needed. Any revisions to this CCHMP will be in accordance with the process outlined in Section 1.12 of the CEMP.

A copy of the updated CCHMP and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure (refer to Section 7.6.2 of the CEMP).



Construction Cultural Heritage Management Sub-plan

Appendix A – Secondary CoA, Secondary REMMs and TfNSW QA specifications

M12 Motorway - Central

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Appendix A – Secondary CoA, Secondary REMMs and TfNSW QA Specifications

Secondary requirements that are related, but not specific to, the development of this Plan are outlined in this appendix. Cross references are provided to indicate where the requirements are addressed in this Plan or other Project management documents. This includes:

- Secondary NSW Conditions of Approval (CoA) which are listed in Table A1
- Secondary Revised Environmental Management Measures (REMMs) which are listed in Table A2
- Relevant requirements of the TfNSW QA Specifications which are listed in Table A3.

Table A1: Secondary NSW CoA

CoA No.	Condition Requirements	CCHMP Reference
A5	Where the terms of this approval require a document or monitoring program to be prepared or a review to be undertaken and submitted to the Planning Secretary, and the terms of this approval require the document, monitoring program or review to be prepared/undertaken in consultation with identified parties, evidence of the consultation must be submitted to the Planning Secretary with the relevant document, monitoring program or review. The evidence must include:	OCCHMP Section 1.5.1
	(a) Documentation of the engagement with the party identified in the condition of approval that has occurred before submitting the document for approval	
	(b) A log of the dates of engagement or attempted engagement with the identified party	
	(c) Documentation of the follow-up with the identified party where engagement has not occurred to confirm that they do not wish to engage or have not attempted to engage after repeated invitations	
	(d) Outline of the issues raised by the identified party and how they have been addressed	

CoA No.	Condition Requirements	CCHMP Reference
	(e) A description of the outstanding issues raised by the identified party and the reasons why they have not been addressed.	
A7	References in the terms of this approval to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this approval.	Section 3
C10	Construction must not commence until the CEMP and all CEMP Sub-plans have been approved by the Planning Secretary, unless otherwise agreed by the Planning Secretary. The CEMP and CEMP Sub-plans, as approved by the Planning Secretary, including any minor amendments approved by the ER, must be implemented for the duration of construction. Where construction of the CSSI is staged, construction of a stage must not commence until the CEMP and sub-plans for that stage have been endorsed by the ER and approved by the Planning Secretary.	OCCHMP Section 1.5.1 Section 8.2 Section 1.12 of the CEMP
E25	Construction and operation of the CSSI should aim to not diminish the potential of the following heritage items for nomination to the State Heritage Register beyond the impacts to significance already identified in the documents listed in Condition A1: McGarvie Smith Farm, McMaster Field Station and Fleurs Radio Telescope Site.	Section 6
E26	An experienced and qualified heritage specialist(s) must prepare and/or endorse the: (a) Heritage Interpretation Plan required by Condition E27; (b) archival photographic digital recording required by Condition E28; and (c) Heritage Report required by Condition E29.	OCCHMP (TfNSW responsibility) Section 6.1

CoA No.	Condition Requirements	CCHMP Reference
E27	<p>A Heritage Interpretation Plan must be prepared that identifies and interprets the key heritage values and stories of the heritage items impacted by the CSSI. The Heritage Interpretation Plan must include, but not be limited to:</p> <ul style="list-style-type: none"> (a) integration of heritage themes and values in the design of the CSSI; (b) design elements (form and fabric) and themes for the CSSI; (c) consideration of the design concepts for Western Sydney International Airport and Sydney Metro Western Sydney Airport; and (d) opportunities for design responses for Aboriginal and non-Aboriginal heritage. <p>The Heritage Interpretation Plan must be provided to Western Sydney International Airport and Sydney Metro Western Sydney Airport to assist in guiding opportunities for integration of heritage themes and values into their design.</p> <p>The Heritage Interpretation Plan must be prepared in accordance with the Interpreting Heritage Places and Items Guidelines (NSW Heritage Office, 2005), and in consultation with Heritage NSW, Aboriginal Cultural Heritage Advisory Committee, LALC and relevant council(s).</p> <p>The Plan must be implemented and inform the Place, Design and Landscape Plan required by Condition E69.</p> <p>The Heritage Interpretation Plan must be submitted to the Planning Secretary and Heritage NSW for information prior to finalising the Place, Design and Landscape Plan required by Condition E69.</p> <p>Note: Nothing in this condition prevents the Proponent from preparing separate Heritage Interpretation Plans for Aboriginal and Non-Aboriginal Heritage.</p>	OCCHMP (TfNSW responsibility)

CoA No.	Condition Requirements	CCHMP Reference
E28	Archival photographic digital recording must be undertaken as outlined in the documents listed in Condition A1 for all listed heritage items and for all sites assessed to have heritage significance which will be affected by the CSSI. The recordings must be undertaken prior to the commencement of Work which may impact the items. 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).	OCCHMP (TfNSW responsibility) Section 4.3.2 Section 6.1
E29	Following completion of all Work described in the documents listed in Condition A1 in relation to heritage items, a Heritage Report including the details of archival recordings, further historical research either undertaken or to be carried out and archaeological excavations (with artefact analysis and identification of a final repository for finds), must be prepared in accordance with any guidelines and standards required by the Heritage Council of NSW and Heritage NSW. Note: Nothing in this condition prevents the Proponent from preparing separate Heritage Reports for Aboriginal and Non-Aboriginal Heritage.	OCCHMP (TfNSW responsibility)
E30	The Heritage Report must be submitted to the Planning Secretary 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 Heritage Report must also be provided to relevant local libraries and relevant local historical societies.	OCCHMP (TfNSW responsibility)

CoA No.	Condition Requirements	CCHMP Reference
E42	The Proponent must conduct vibration testing during vibration generating activities that have the potential to impact on heritage items to identify minimum working distances to prevent cosmetic damage. In addition, vibration monitoring must be undertaken during construction for relevant remaining Fleurs Radio Telescope structures, the Upper Canal (in consultation with WaterNSW) and McMaster Farm and McGarvie-Smith Farm group of remaining buildings. 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.	CNVMP, Section 8.5, NV23
E43	Advice from a heritage specialist must be sought on methods and locations for installing equipment used for vibration, movement and noise monitoring at heritage-listed structures.	CNVMP, Section 8.5, NV24
E44	Before conducting at-property treatment at any heritage item identified in the documents listed in Condition A1, the advice of a suitably qualified and experienced built heritage specialist must be obtained and implemented to ensure such work does not have an adverse impact on the heritage significance of the item.	This requirement will be carried out by TfNSW, see OCCHMP for details.

CoA No.	Condition Requirements	CCHMP Reference
E76	The Proponent must offer pre-construction surveys to the owners of surface and sub-surface structures and other relevant assets identified at risk from vibration, including all listed heritage items and buildings/structures of heritage significance as identified in the documents listed in Condition A1. Where the offer is accepted, the survey must be undertaken by a suitably qualified and experienced engineer and/or building surveyor prior to the commencement of vibration- generating works that could impact on the structure/asset. The results of each survey must be documented in a Pre-construction Condition Survey Report and the report must be provided to the owner of the item(s) surveyed no later than one (1) month before the commencement of all other potentially impacting works	CNVMP, Section 8.5, NV26

Table A2: Secondary REMMs

ID	Measure/requirement	Timing	CCHMP Reference
Aboriginal Heritage			
Impacts on Aboriginal heritage during construction			
AH02	<p>A detailed Aboriginal Cultural Salvage Strategy will be prepared for the project in consultation with project RAPs and EESG to guide the salvage excavation process for Aboriginal sites that will be salvaged. The strategy will address specific questions about each site and will be based on the salvage excavation methodology outlined in the ACHAR and prepared in consultation with EESG and project RAPs.</p> <p>All salvage collections and excavations will be carried out by a suitably qualified and experienced archaeologist. The method and extent of excavation required, and management of artefacts finds will be determined in consultation with project RAPs and EESG.</p> <p>Following completion of all salvage works associated with Aboriginal heritage sites, an Aboriginal Cultural Heritage Report will be prepared in accordance with relevant guidelines and in consultation with project RAPs and EESG. The Aboriginal Cultural Heritage Report will document all results of the salvage activities including analysis of artefacts from collections and excavations and management of all artefact finds.</p>	Prior to construction	OCCHMP Section Error! Reference source not found.
AH03	<p>Impacts on identified Aboriginal sites will be minimised where feasible in consultation with a suitably qualified and experienced archaeologist. Measures considered will include (but not be limited to):</p> <ul style="list-style-type: none"> • Designing and locating bridges (including bridge pylons), haulage routes and other access roads to minimise potential disturbance of soils where feasible • Focusing protection measures on the zone within 100 metres of creeks including consideration of opportunities to cover the original cultural deposits in temporary protective barriers such as geotextile fabric and a layer of clean fill. 	Detailed design, prior to construction and during construction	Section 6.5, CH02
AH04	An investigation will be carried out during detailed design to minimise impacts on the CHRP site where feasible.	Detailed design	OCCHMP

ID	Measure/requirement	Timing	CCHMP Reference
AH05	<p>Investigations will be carried out during detailed design to determine the feasibility of retaining cultural deposits between the pylons of bridges or elevated structures at the following sites:</p> <ul style="list-style-type: none"> • BCW • BCE • SCW T1 • SCW T2 • SCE. <p>This will include covering the original cultural deposits beneath temporary protective barriers where feasible, such as geotextile fabric and a layer of clean fill material.</p>	Detailed design	OCCHMP Section Error! Reference source not found.
AH06	<p>Salvage collection of surface artefacts will be carried out at the following sites:</p> <ul style="list-style-type: none"> • BCE • SCW T2 • KCW • PCP8 • CHRP • RR • M12A1 • Isolated artefact 4 • TNR-AFT-14. 	Detailed design	OCCHMP Section Error! Reference source not found.
AH07	<p>Salvage excavation will be carried out at the following sites:</p> <ul style="list-style-type: none"> • CCW • BWB • BCW • SCW T1 • SCW T2 • SCE • KCW 	Detailed design	OCCHMP Section Error! Reference source not found.

ID	Measure/requirement	Timing	CCHMP Reference
	<ul style="list-style-type: none"> • CHRP. <p>The methodology and extent of excavations required for the above sites will be in accordance with site specific requirements outlined in the ACHAR prepared for the project.</p>		
AH10 (amended)	No ground disturbance (penetration and/or cutting of the surface) is permitted within Mamre Road Kemps Creek AFT 1, KC/ED2 and CP AS1/P-CP9. Protection will be provided with visible signage and temporary fencing where necessary notifying construction personnel to avoid ground impacts within Mamre Road Kemps Creek AFT 1 (AHMIS 45-5-5478), KC/ED2 and CP AS1/P-CP9.	Prior to construction	OCCHMP Section 5.2 CH11
Non-Aboriginal heritage			
General			
NAH02	<p>A suitably qualified heritage specialist will be engaged to prepare a heritage interpretation framework to guide development of the detailed urban design for the project. This framework will be prepared in accordance with the Interpreting Heritage Places and Items Guidelines (NSW Heritage Office, 2005) and will include:</p> <ul style="list-style-type: none"> • Integration of heritage themes and values to be incorporated • Collaboration with other design elements and themes for the project, including those associated with Western Sydney Airport and Sydney Metro – Western Sydney Airport, to develop an integrative design approach with surrounding development • Opportunities for design responses for Aboriginal and non-Aboriginal heritage. 	Detailed design	OCCHMP Section 1.5.2
NAH03	Impacts on Non-Aboriginal heritage items will be avoided or minimised where reasonable and feasible. Where impacts are unavoidable, works will be carried out in accordance with the measures for individual Non-Aboriginal heritage items outlined in measures NAH04 to NAH12.	Detailed design, prior to construction and during construction	Section 6.5, CH18
NAH04	<p>McGarvie Smith Farm (Item 1, Penrith LEP 857)</p> <p>A suitably qualified heritage consultant will be engaged to prepare an archival photographic</p>	Pre-construction	OCEMP

ID	Measure/requirement	Timing	CCHMP Reference
	<p>recording of the site in accordance with the Heritage Information Series How to prepare archival records of heritage items (NSW Heritage Office, 1998). This will include both buildings and landscape features such as dams, and earthworks. The recording will include a detailed map showing the location of the features.</p> <p>Options will be investigated to provide funding support to the property's current owner to prepare a thematic heritage study of CSIRO and other agricultural research stations, including both McGarvie Smith Farm and McMaster Field Station, and other relevant agricultural research stations and similar facilities located in NSW. The thematic study will include a review of the role of such properties in veterinary research, association with agricultural, pastoral and animal husbandry groups, use of pioneering methods and practices and contribution to the development of farming in Australia. In the event that landowners do not prepare this study, TfNSW will engage a heritage specialist to do so.</p>		Not within M12 Central Package
NAH05	<p>The Fleurs Radio Telescope Site (Item 2, Penrith LEP 832)</p> <ul style="list-style-type: none"> • All extant elements of the radio telescopes and associated infrastructure, including rubbish mounds situated outside the construction footprint will be left intact • Ground penetrating radar, or other remote sensing survey techniques, will be carried out under the supervision of a suitably qualified and experienced archaeologist before any ground disturbance within the heritage curtilage of the Fleurs Radio Telescope Site contained within the construction footprint to identify any sub-surface cables • Measures will be included in the CHMP to describe how the heritage values of the site will be conserved and managed during construction • TfNSW will engage a suitably qualified heritage consultant to prepare an archival photographic recording of the impacted areas of the property, in accordance with DPC (Heritage) guidelines (Heritage Council of NSW 2006) • The heritage interpretation framework for the project (NAH02) will include interpretation measures that will improve community awareness of the history of the Fleurs Radio Telescope as well as determine suitable locations for the presentation of information that are publicly accessible. 	Pre-construction and construction	<p>OCCHMP (TfNSW responsibility)</p> <p>Section 4.3.2</p> <p>Section 6.1</p>

ID	Measure/requirement	Timing	CCHMP Reference
NAH06	<p>Upper Canal System (Pheasants Nest Weir to Prospect Reservoir (Item 4, SHR 01373))</p> <ul style="list-style-type: none"> • Relevant conservation policies outlined in the Upper Canal CMP (NSW Public Works Government Architect's Office, 2016) will be considered during detailed design and incorporated into CCHMP to ensure heritage fabric is not impacted by the project. • The CCHMP will be consistent with and require implementation of relevant measures outlined in the Guidelines for development adjacent to the Upper Canal and Warragamba Pipelines (WaterNSW 2020) which sets out guidelines for designing, planning or assessing development on land adjacent to the canal at this location. Additional structures identified in the construction footprint will be investigated and measures implemented to avoid or minimise impacts. • Guidelines and associated safe working distances to be adhered to for heritage structures as outlined in Appendix K of the EIS • A safe working distance exclusion zone will be established around the exposed tunnel air shaft in the M7 Motorway median in accordance with the process outlined in noise and vibration management measures NV09 - NV10 • Transport for NSW will provide an updated report to WaterNSW on project design changes as they relate to the WaterNSW Upper Canal corridor during detailed design. 	Pre-construction	OCEMP Not within M12 Central Package
NAH07	<p>McMaster Field Station (Item 6)</p> <ul style="list-style-type: none"> • A suitably qualified heritage consultant will be engaged to prepare an archival photographic recording of the impacted area, in accordance with DPC (Heritage) guidelines (Heritage Council of NSW 2006). This will include both buildings and landscape features such as dams, and earthworks. The recording will include a detailed map showing the location of the features. • Options will be investigated to provide funding support to property's current owner to prepare a thematic heritage study of CSIRO and other agricultural research stations, including both McMaster Field Station and McGarvie Smith Farm, and other relevant agricultural research stations and similar facilities located in NSW. The thematic study will include a review of the role of such properties in veterinary research, association with 	Pre-construction	OCEMP Not within M12 Central Package

ID	Measure/requirement	Timing	CCHMP Reference
	<p>agricultural, pastoral and animal husbandry groups, use of pioneering methods and practices and contribution to development of farming in NSW and Australia. In the event that landowners do not prepare this study, TfNSW will engage a heritage specialist to do so.</p> <ul style="list-style-type: none"> • A potential use zone will be established around the McMaster Farm group of buildings, including a suitable buffer zone, and no construction activities will take place within this zone. This zone will be incorporated into the construction heritage management plan (CHMP). The potential use zone will include safe working distances to be adhered to for heritage structures as outlined in Appendix K of the EIS. Before occupying or utilising the buildings, a dilapidation survey will be carried out and a heritage architect will be engaged to advise on proposed modifications and management measures to avoid and minimise impact on the buildings. 		
NAH08	<p>Fleurs Aerodrome (Item 7)</p> <ul style="list-style-type: none"> • A suitably qualified heritage consultant will be engaged to prepare an archival photographic recording of the impacted area before its disturbance and/or removal, in accordance with DPC (Heritage) guidelines (Heritage Council of NSW 2006). The recording will include a detailed map showing the location of the features. • An interpretive framework developed for the project will include consideration of elements to enable the continued interpretation and understanding of the airstrip at Fleurs Aerodrome as a linear and continuous element. This will be carried out in consultation with Department of Defence and consider opportunities for involvement of veterans groups. • Relevant guidelines and associated safe working distances will be adhered to for remaining heritage structures as outlined in the Appendix K of the EIS 	Pre-construction and construction	<p>OCCHMP (TfNSW responsibility)</p> <p>Section 4.3.2</p> <p>Section 6.1</p>
NAH09	<p>Cecil Park School, Post Office and Church Site (Item 8)</p> <ul style="list-style-type: none"> • A suitably qualified archaeologist will be present during the excavation of the area occupied by the Cecil Park Archaeological site to confirm that the significance of artefacts and remains are in line with the findings of the test excavations already completed. If remains with the potential to be considered 'relics' (as defined in the Heritage Act 1977) are found, then works will stop and the unexpected finds procedure (RMS, 2015) will be followed. 	Pre-construction	<p>OCEMP</p> <p>Not within M12 Central Package</p>

ID	Measure/requirement	Timing	CCHMP Reference
NAH10	South, Kemps and Badgerys Creek Confluence Weirs Scenic Landscape (Item 12) <ul style="list-style-type: none"> • Management measures identified in the project UDLP (LVIA01) will be implemented during detailed design to minimise impacts on landscape and vistas • Flooding management measures (F01 to F08) and surface water quality and hydrology management measures (SWH01 to SWH14) will be implemented to reduce broader impacts on the surrounding scenic landscape. 	Pre-construction	OCEMP Not within M12 Central Package
NAH11	Luddenham Road (Item 03) Where post and rail fencing of heritage significance is identified within the construction footprint, Transport for NSW will seek to avoid directly impacting such features. Where avoidance is not practicable, Transport for NSW will seek to minimise and mitigate impact in consultation with a suitably qualified heritage specialist.	Pre-construction	OCEMP Not within M12 Central Package
Item 2: The Fleurs Radio Telescope Site (PLEP 832)			
NAH05 (amended)	<ul style="list-style-type: none"> • All extant elements of the radio telescopes and associated infrastructure, including rubbish mounds situated outside the construction footprint will be left intact 	Detailed design and prior to construction	Section 6.5, CH08
	<ul style="list-style-type: none"> • Ground penetrating radar, or other remote sensing survey techniques, will be carried out under the supervision of a suitably qualified and experienced archaeologist before any ground disturbance within the heritage curtilage of the Fleurs Radio Telescope Site contained within the construction footprint to identify any sub-surface cables 	Prior to construction	Section 6.5, CH10
NAH05 (amended)	<ul style="list-style-type: none"> • If additional sub-surface Fleurs Synthesis Telescope (FST) components are unexpectedly identified during ground penetrating radar survey which have not been discussed as part of the consistency assessment, then additional assessment and management would be required. This would include, but may not be limited to, archival survey and recording 	Prior to construction	This requirement will be carried out by TfNSW, see OCCHMP for details.
	<ul style="list-style-type: none"> • Measures will be included in the CHMP to describe how the heritage values of the site will be conserved and managed during construction. 	Prior to construction	Section 6

ID	Measure/requirement	Timing	CCHMP Reference
	<ul style="list-style-type: none"> TfNSW will engage a suitably qualified heritage consultant to prepare an archival photographic recording of the impacted areas of the property, in accordance with Heritage NSW guidelines (Heritage Council of NSW 2006) The archival recording report will include but not be limited to: Detailed survey drawings and photographic archival recording of remaining above-ground elements of the Fleurs Radio-telescope site. This survey will detail the exact location and orientation of remnant fabric within the landscape, including fabric associated with the former location of FST antenna X3 and antenna X4, the concrete pad between antennas X3 and X4, and the former vehicle access track Survey drawings will be included in the archival recording report Outcomes of the remote sensing survey undertaken by GHD in 2021 to provide a comprehensive record of the site (or as comprehensive as possible prior to excavation) Details of sample cables collected including original exact location by description, coordinates and mapping. 	Prior to construction	This requirement will be carried out by TfNSW, see OCCHMP for details.
	<p>Prior to construction TfNSW will consult with relevant interested organisations (such as CSIRO, Universities, amateur telescopic organisations, local heritage bodies and other special interest groups) to determine if there is interest in retaining sub-surface cabling (including details on the type and length cabling to be retained) or other structures identified during archival recording, remote sensing or any unexpected additional cables found during construction.</p>	Prior to construction	Section 6.5, CH11

ID	Measure/requirement	Timing	CCHMP Reference
NAH05 (amended)	<p>The M12 West and M12 Central Contractor will (with advice from TfNSW Overarching Archival Recording Contractor) be responsible for the following:</p> <ul style="list-style-type: none"> • Retrieval of a sample of each type of cable / compressed air hose along the cable alignment between antennas X3 and X4 with supervision by a heritage specialist. This will include retrieval of 1-2m (or a length directed by TfNSW following consultation with stakeholders) of each type of cable / compressed air hose including therelevant attachment. The selection of the types and length of cables / hose to be collected will include consideration of the following: • Physical review of the cables / hose types visible at South Creek 3Antenna Complex, South Creek 4 Complex, and South Creek 5 Antenna Complex • Any additional information identified through remote sensing survey of the cable alignment • Discussion with archival recording or other relevant heritage specialists where required • Outcomes from the consultation undertaken by TfNSW with interested parties • Cable samples will be collected, with consideration given to potentially contaminated materials, such as asbestos and PCBs.Appropriate WHS measures will be implemented in accordance with the Contractor's WHS Plan • Cable samples will be tagged, including exact location by description and relevant coordinates of the cabling prior to itsextraction • Safe storage of cable samples until collection by interested parties. If samples are unclaimed by interested parties within three months, they will be appropriately disposed of at a licensed landfill by the contractor 	Prior to construction and during construction	<p>Section 6.1</p> <p>Section 6.5, CH12</p> <p>Note that South Creek 5 Antenna Complex is not relevant to the M12 Central package.</p>
	<p>Where cabling is not impacted by construction works, it can remain in-situ, otherwise the contractor is responsible for appropriate disposal.</p>	Prior to construction	Section 6.1

ID	Measure/requirement	Timing	CCHMP Reference
NAH05 (amended)	Concrete plinths: <ul style="list-style-type: none"> Prior to construction, the contractor must establish an exclusion zone around the concrete plinths at South Creek 3 Antenna Complex (Central) and South Creek 5 Antenna Complex (West) to protect against inadvertent impacts during construction 	Prior to construction	Section 6.5, CH14
	<ul style="list-style-type: none"> If leaving the plinths in situ during construction is not practicable, they will be removed and stored temporarily with survey information providing details of their position relative to each other and orientation. The Contractor will then investigate opportunities for reestablishing the concrete plinths on site close to their original location and/or as part of the interpretative display for the Radio Telescope site. If re-established, the survey information collected prior to their removal must be used to ensure that the plinths are located in the same orientation and arrangement. 	Prior to construction	Section 6.5, CH15
	<ul style="list-style-type: none"> Prior to removal of the concrete plinths, the contractor is to identify whether any of the plinths are used as state survey marks. The contractor must comply with the preservation of survey infrastructure requirements in TfNSW specification G71. It is noted TS7279 is located on one of the plinths at X3. 	Prior to construction	Section 6.5, CH16
	Measures for M12 Central only: <ul style="list-style-type: none"> Prior to construction the contractor must establish an exclusion zone around the former location of antenna X3 at South Creek 3 Antenna Complex to protect against inadvertent impacts during construction 	Prior to construction	Section 6.5, CH13
	<ul style="list-style-type: none"> Prior to construction the contractor must establish an exclusion zone around the metal shed at South Creek 3 Antenna Complex to protect against inadvertent impacts during construction. 	Prior to construction	Section 6.5, CH09
	The heritage interpretation framework for the project (NAH02) will include interpretation measures that will improve community awareness of the history of the Fleurs Radio Telescope as well as determine suitable locations for the presentation of information that are publicly accessible.	Detailed Design	This requirement will be carried out by TfNSW, see OCCHMP for details.

ID	Measure/requirement	Timing	CCHMP Reference
Item 7: Fleurs Aerodrome			
NAH08	A suitably qualified heritage consultant will be engaged to prepare an archival photographic recording of the impacted area before its disturbance and/or removal, in accordance with DPC (Heritage) guidelines (Heritage Council of NSW 2006). The recording will include a detailed map showing the location of the features.	Detailed design, prior to construction	This requirement will be carried out by TfNSW, see OCCHMP for details.
	An interpretive framework developed for the project will include consideration of elements to enable the continued interpretation and understanding of the airstrip at Fleurs Aerodrome as a linear and continuous element. This will be carried out in consultation with Department of Defence and consider opportunities for involvement of veteran's groups.	Detailed Design	This requirement will be carried out by TfNSW, see OCCHMP for details.
	Relevant guidelines and associated safe working distances will be adhered to for remaining heritage structures as outlined in the Appendix K of the EIS	Detailed design, prior to construction and during construction	Section 6.4 Section 6.5, CH19
Vibration impacts on heritage structures			
NV11	<p>The following structures have the potential to be within the safe working distances for sensitive structures (Group 3 from DIN 4150):</p> <ul style="list-style-type: none"> Item 1: McGarvie Smith Farm Item 2: Fleurs Radio Telescope Site Item 4: Upper Canal System Item 6: McMaster Field Station Item 7: Fleurs Aerodrome Item 4a Upper Canal System, including air shaft 3. <p>A detailed survey will be completed to determine the potential for vibration impacts and to define appropriate criteria for each heritage item. Vibration monitoring will be carried out when vibration intensive tasks are occurring within the minimum working distances to</p>	Prior to construction and during construction	Section 6.4 Section 6.5, CH19

ID	Measure/requirement	Timing	CCHMP Reference
	heritage structures. Where the monitoring identifies exceedances in the relevant criteria, or where impacts are identified, additional mitigation measures will be identified and implemented to appropriately manage impacts.		

Table A3: TfNSW QA Specifications

Specification	Measure/requirement	CCHMP Reference
G36 Section 4.13	<p>The Principal has identified the following environmentally sensitive areas:....</p> <p>(iii) Aboriginal heritage sites; and</p> <p>(iv) Non-Aboriginal heritage sites.</p> <p>Clearly show all identified environmentally sensitive areas and sensitive places on Sensitive Area Maps, submitted as part of the CEMP. Prepare environmentally Sensitive Area Maps using a high resolution aerial imagery and include all WUC, station markers at minimum of 500 metre intervals, a north point, a scale bar and be prepared at a scale of 1:5000, unless otherwise agreed by the Principal. The Sensitive Area Maps must clearly show vegetation clearing limits (refer to TfNSW G40), exclusion / no-go zones, all locations of known threatened flora and fauna species, and ecological communities, Aboriginal heritage sites, non-Aboriginal heritage sites, weed infestations, and trees which have been marked or otherwise identified through your own Site investigations as well as extracted from details included in the Environment Assessment documents listed in Annexure G36/A3, for preservation. Review and update regularly the Sensitive Area Maps to include environmentally sensitive areas identified during the Work Under the Contract. Make the Sensitive Area Maps available to all personnel working on the Site.</p>	<p>Section Error! Reference source not found.</p> <p>Section 4.3.2</p> <p>Section 6.2</p> <p>Appendix A6 of CEMP</p>
	<p>Prepare and include in the CEMP an EWMS for working in or near the environmentally sensitive areas. Include in the EWMS environmental protection measures that are effective for minimising the risk of impacting the environmentally sensitive areas. Review these measures regularly to ensure that they are effective.</p>	<p>Section 1.5</p> <p>Section 6.5, CH01</p> <p>Section 7.3</p>
	<p>At least 10 working days prior to commencing Physical Work on Site in or near an environmentally sensitive area, prepare an EWMS which includes the details of the environmental protection measures to be implemented at that location. Clearly delineate the environmentally sensitive area and signpost the locations and boundaries in accordance with TfNSW G40, Appendix G40/E Flagging Protocol.</p>	<p>Section 6.5, CH01</p>
	<p>As part of the environmental induction (refer Clause 3.5) to your staff and sub-contractors working on the Site, provide an understanding of the risks associated with working in or near environmentally sensitive areas, and training on implementing the relevant environmental protection measures.</p>	<p>Section 7.2</p>
	<p>Clearly delineate and signpost the locations and boundaries of all environmentally sensitive areas on Site.</p>	<p>Section 6.5, CH01</p>

Specification	Measure/requirement	CCHMP Reference
G36 Section 4.9	4.9 ABORIGINAL HERITAGE Impacts to heritage, unless approved by the Principal, must be avoided and minimised. Where impacts are unavoidable, works must be undertaken in accordance with the Construction Cultural Heritage Management Plan made up of both an Aboriginal Heritage Management Sub-Plan and a Non-Aboriginal Heritage Management Sub-Plan (see Clause 4.10).	OCCHMP This Plan Section Error! Reference source not found. Section 6.5, CH02
	Prepare an Aboriginal Heritage Management Sub-Plan as part of the CEMP to manage any areas of the Site where known Aboriginal objects, places and/or culturally sensitive areas have been identified on Site.	This Plan
	The Aboriginal Heritage Management Sub-Plan must include: (i) the policy basis for management measures; (ii) the erection of any temporary fencing for the protection of heritage sites being impacted, even partially; (iii) responsibilities for heritage management; (iv) a process for a due diligence check that salvage by others has been undertaken, and where it hasn't, include your salvage methodologies; (v) consultation requirements; and (vi) procedures for monitoring and reporting on the effectiveness of measures.	Section 3 for policies Section 6 for management measures which includes cross-references to source requirements. Section 1.6 for consultation requirements. Section 7 for responsibilities for heritage management and procedures for monitoring and reporting on effectiveness of measures
	The Aboriginal Heritage Management Sub-Plan must also include a procedure for the management of unexpected potential Aboriginal objects or remains discovered by you during construction. The management of unexpected	Section 6.3

Specification	Measure/requirement	CCHMP Reference
	potential Aboriginal objects or remains must be in accordance with the TfNSW publication “Unexpected Heritage Items”, the overarching procedure prepared for the OCEMP and in accordance with any guidelines and standards prepared by the Heritage Council of NSW or Heritage NSW.	
	All endeavours must be undertaken to prevent harm to, modification of, or otherwise impact any human remains that may be uncovered.	Section 6.5, CH05
	The procedure for unexpected finds must include the following steps: (a) cease work in the immediate area of the identified potential Aboriginal object or remains immediately; (b) notify the Principal immediately; (c) provide access to the Site to any heritage specialist required to assess the finds; (d) provide temporary exclusion (pedestrian) fencing; (e) implement additional safeguards as required (see also Annexure G36/I).	Appendix B
	The Aboriginal Heritage Management Sub-Plan must outline the process for consulting with the Registered Aboriginal Parties in the event that previously unidentified Aboriginal heritage is discovered. The Procedure must be prepared by a suitably qualified and experienced heritage specialist in consultation with Heritage NSW and submitted to the Principal within one month of Award of Contract.	Appendix B
	Provide for all personnel working on the Site training on their responsibilities pertaining to the <i>Aboriginal Heritage provisions of the National Parks and Wildlife Act 1974</i> (NSW). Make the personnel working on Site aware of all Aboriginal archaeological sites and areas of cultural sensitivity identified in the Cultural Heritage Assessment Report or the Environment Assessment documents listed in Annexure G36/A3 that must be preserved. Refer to TfNSW GC21 and G1/L for requirements relating to Cultural education training.	Section 7.2
	Prior to commencement of construction protect the Aboriginal heritage sites in accordance with the protection measure detailed in Table G36.1.	Section 6.2 Section 6.5, CH01

Specification	Measure/requirement	CCHMP Reference
	<p>The Aboriginal artefacts at the sites listed in Table G36.1 are generally partially impacted by construction related activities. Identify the portion of these sites outside the construction footprint in the CEMP as environmentally sensitive exclusion zones and ensure no impact outside the construction footprint.</p> <p>Table G36.1 – Aboriginal Sites that are Partially Impacted by construction</p> <p><i>See G36 for table</i></p>	<p>Section 6.2</p> <p>Section 6.5, CH07</p>
	<p>The Aboriginal artefacts at the sites listed in Table G36.2 are totally impacted by construction related activities. The Principal will have already undertaken whatever measures are necessary at these sites prior to the Contract.</p> <p>Table G36.2 – Aboriginal Sites that are Totally Impacted by Construction</p> <p><i>See G36 for table</i></p>	<p>Noted.</p>
	<p>Monitor heritage artefacts at appropriate intervals during construction to achieve minimum Her-2 L1 requirements.</p>	<p>Section 3.5</p>
G36 Section 4.9	<p>4.10 NON-ABORIGINAL HERITAGE</p> <p>Impacts to heritage, unless approved by the Principal, must be avoided and minimised. Where impacts are unavoidable, works must be undertaken in accordance with the Construction Cultural Heritage Management Plan made up of both an Aboriginal Heritage Management Sub-Plan (See Clause 4.9) and a Non-Aboriginal Heritage Management Sub-Plan.</p>	<p>OCCHMP</p> <p>This Plan</p> <p>Section 4.3.2</p> <p>Section 6.5, CH18</p>
	<p>Prepare a Non-Aboriginal Heritage Management Sub-Plan as part of the CEMP to manage relevant Revised Environmental Management Measures (REMMs) and the CoA any areas of the Site where any known Heritage Items/s and/or archaeological sites have been identified as detailed in Table G36.3.</p> <p>Table G36.3 – Non-Aboriginal Heritage items that the Project intersects</p>	<p>This Plan</p>

Specification	Measure/requirement	CCHMP Reference															
	<p><i>Table G36.3 – Non-Aboriginal Heritage items that the Project intersects</i></p> <table> <tr> <th><i>Item No.</i></th><th><i>Heritage Item Name</i></th><th><i>Listing</i></th></tr> <tr> <td><i>2</i></td><td><i>The Fleurs Radio Telescope Site</i></td><td><i>Penrith LEP 832</i></td></tr> <tr> <td><i>7</i></td><td><i>Fleurs Aerodrome</i></td><td><i>N/A</i></td></tr> <tr> <td><i>10</i></td><td><i>Exeter Farm Archaeological Site</i></td><td><i>N/A</i></td></tr> <tr> <td><i>12</i></td><td><i>South, Kemps and Badgerys Creek Confluence Weirs Scenic Landscape</i></td><td><i>N/A</i></td></tr> </table>	<i>Item No.</i>	<i>Heritage Item Name</i>	<i>Listing</i>	<i>2</i>	<i>The Fleurs Radio Telescope Site</i>	<i>Penrith LEP 832</i>	<i>7</i>	<i>Fleurs Aerodrome</i>	<i>N/A</i>	<i>10</i>	<i>Exeter Farm Archaeological Site</i>	<i>N/A</i>	<i>12</i>	<i>South, Kemps and Badgerys Creek Confluence Weirs Scenic Landscape</i>	<i>N/A</i>	
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<i>10</i>	<i>Exeter Farm Archaeological Site</i>	<i>N/A</i>															
<i>12</i>	<i>South, Kemps and Badgerys Creek Confluence Weirs Scenic Landscape</i>	<i>N/A</i>															

Specification	Measure/requirement	CCHMP Reference
	<p>The Non-Aboriginal Heritage Management Sub-Plan must include the following:</p> <ul style="list-style-type: none"> (a) Induction protocols for staff and project personnel to undertake a cultural heritage induction, to assist them in understanding and complying with their legal obligations under the Heritage Act 1977; (b) A list, plan and GIS layer showing the location of identified Heritage Items; (c) A significance assessment and statement of significance for each item; (d) Detailed mitigation measures and when the measures are to be implemented; (e) Protocols and procedures to be implemented during construction to ensure the protection of items of heritage significance; (f) An unexpected finds procedure, in accordance with the TfNSW publication “Unexpected Heritage Items”, in the event that further sites are identified during work; (g) A separate procedure for the discovery of skeletal remains in accordance with Clause 4.9; and (h) Procedures for the salvage and storage of sub-surface cables, concrete plinths and other structures associated with the Fleurs Radio-Telescope Site, if required by the Principal (see TfNSW B341 also). 	<p>Section 7.2 for induction and training. Section 4.3 for the locations of identified heritage items, along with significance assessment and statement of significance. Also see Appendix A6 of the CEMP for Sensitive Area Plans Section 6 for the management measures, including salvage and cross-references to source requirements. Appendix B for TfNSW Unexpected Heritage Finds and Human Remains Procedure</p>
	<p>The Non-Aboriginal Heritage Management Sub-Plan must also include a procedure for the management of unexpected potential archaeological relics discovered by you during construction. The management of unexpected potential archaeological relics must be in accordance with the TfNSW publication “Unexpected Heritage Items” and in accordance with any guidelines and standards prepared by the Heritage Council of NSW or Heritage NSW. The procedure for unexpected finds must include the steps (a) to (e) listed in Clause 4.9.</p>	Appendix B
	<p>Provide for all personnel working on the Site training on their responsibilities under the <i>Heritage Act 1977</i> (NSW). Make the personnel aware of all non-Aboriginal heritage sites/areas, including cultural plantings, and areas of archaeological potential, which are identified in the Environment Assessment documents listed in Annexure G36/A3.</p>	Section 7.2

Specification	Measure/requirement	CCHMP Reference
	Monitor heritage artefacts at appropriate intervals during construction to achieve minimum Her-2 L1 requirements.	Section 3.5
G36 Section 4.7	To avoid structural damage, carry out construction activities in accordance with the following requirements: 1. for structural damage to heritage structures, the vibration limits set out in the German Standard DIN 4150-3: Structural Vibration – Part 3 Effects of vibration on structures; 2. for damage to other buildings and/or structures, the vibration limits set out in the British Standard BS 7385-2:1993 – Evaluation and measurement of vibration in buildings Part 2— Guide for measurement of vibration and evaluation of their effects on buildings (and referenced in Australian Standard 2187.2 – 2006 Explosives – Storage and use – Use of explosives); and 3. for human exposure, the acceptable vibration values set out in Assessing Vibration: A Technical Guideline (Department of Environment and Conservation, 2006).	CNVMP Section 5.5. and 5.6.4
G36 Section 4.7	Your Construction Vibration Management Sub-Plan mitigation must contain the following measures at a minimum: (d) Adopting vibration mitigation measures consistent with TfNSW publication “Construction Noise and Vibration Guideline” including; (i) Process to determine minimum working distances/ work methods to prevent cosmetic damage to Heritage Items, in consultation with a heritage specialist.	CNVMP

Appendix B – Unexpected Heritage Finds and Human Remains Procedure

The Unexpected Heritage Items Procedure (Roads and Maritime, 2015) was developed to provide a consistent method for managing unexpected heritage items (both Aboriginal and non-Aboriginal) that are discovered. The Procedure includes TfNSW's heritage notification obligations under the *Heritage Act 1977* (NSW), *National Parks and Wildlife Act 1974* (NSW), *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth) and the *Coroner's Act 2009* (NSW).

The discovery of an 'unexpected heritage item' may include:

- Aboriginal objects
- Historic (non-Aboriginal) heritage items
- Human skeletal remains

The following guidelines and policies were referenced during the drafting of the Procedure:

- *Assessing heritage significance* (NSW Heritage Office, 2001)
- *Photographic recording of heritage items using film or digital capture* (NSW Heritage Office, 2006)
- *Skeletal remains: Guidelines for management of human skeletal remains* (NSW Heritage Office, 1988)
- *Due diligence code of practice for the protection of Aboriginal objects in NSW* (OEH, 2010)
- *Aboriginal cultural heritage consultation requirement for proponents* (OEH, 2010)
- *Code of practice for the archaeological investigation of Aboriginal objects in NSW* (OEH, 2010)
- *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011)

The Procedure was prepared by two suitably qualified and experienced heritage specialists:

- Gretta Logue, former Environment Officer (Heritage) with Roads and Maritime Services. Gretta has a B.Sc. Hons (Archaeology), M.Sc. Hons (Forensic Anthropology, PG Diploma (Environment Law) and at the time of preparation of the procedure had 10 years professional heritage experience
- Daniel Percival, Environment Officer (Heritage) with Roads and Maritime Services. Daniel has a BA Hons (Archaeology) (First Class) with over 10 years professional heritage experience

The Procedure was prepared in consultation with the Heritage Council of NSW and Heritage NSW as part of the OCCHMP for consultation purposes, as required by NSW CoA E31, E32 and E33. During the consultation process, the Heritage Council of NSW and OEH indicated their support for the Procedure as being appropriate to manage the discovery of unexpected heritage items during Construction of the Project (refer Annexure A of the OCCHMP). The Procedure includes the

requirement that consultation with Registered Aboriginal Parties will be undertaken in the event that previously unidentified Aboriginal heritage is discovered.

Attachment 1 to this Unexpected Heritage Items Procedure contains additional information that describes the process to be followed in the event that suspected human remains are discovered during construction.

Attachment 2 is the procedure for handling Aboriginal human remains in accordance with NSW-CoA outlines the procedure for handling Aboriginal human remains in accordance with NSW CoA E31, E32 and E33.

Attachment 1 Unexpected Aboriginal and Non-Aboriginal heritage finds procedure

The following procedure has been prepared to accompany the CCHMP. This section outlines the tasks that will be carried out following the discovery of an unexpected heritage item. Figure D-1 outlines the procedure in summary.

This procedure has been prepared in based on the content and processes outlined in the *Unexpected Heritage Items: Heritage Procedure 02* (RMS, 2015) and has been updated to be specific to construction. The RMS procedure was prepared by suitably qualified professionals in consultation with Heritage NSW.

In accordance with the *Unexpected Heritage Items Procedure* (RMS, 2015), different procedures will be put in place dependent on the items classification. The Unexpected Heritage finds procedure identifies three types of heritage items listed and classified as follows:

1. *Relic: Evidence of past human activity which has local or state heritage significance. It may include items such as bottles, utensils, remnants of clothing, crockery, personal effects, tools, machinery and domestic or industrial refuse*
2. *Aboriginal object: May include a shell midden, stone tools, bones, rock art or a scarred tree*
3. *Work: A building or standing structure. This may include tram tracks, kerbing, historic road pavement, fences, sheds or building foundations.*

Step 1. Stop work, protect item, and inform Environmental Site Representative

If an unexpected heritage item is encountered during excavation/construction activities:

- Stop all work in the immediate area of the item and notify the Project Manager or Environmental Site Representative (or delegate) The Project Manager or site supervisor will be responsible for establishing a 'no-go zone' around the item, using high visibility fencing where practicable
- The item will be inspected, documented and photographed using 'Unexpected Heritage Item Recording Form 418'
- The Project Manager or Environmental Site Representative will engage a suitably qualified heritage specialist to identify whether the item is likely a 'relic', 'Aboriginal object' or 'work'. If the item is determined to be a 'work', and it is possible to continue works without causing further disturbance, works will continue, and the completed Form 418 will be submitted to the relevant TfNSW Staff within 24 hours
- TfNSW Environment and Sustainability Manager will advise Project Manager whether TfNSW has an approval or safeguard in place (apart from this procedure) to impact on the item. If yes, work will recommence in accordance with the approval, permit or appropriate safeguard and no further action will be required
- The Project Manager or Site Supervisor will liaise with Traffic Management Centre where the delay is likely to affect traffic flow

Item will be reported as a 'Reportable Event' in accordance with the TfNSW Environmental Incident Classification and Reporting Procedure.

Step 2. Contact and engage an archaeologist and, where required, an Aboriginal site officer

- A suitably qualified and experienced archaeological consultant will be engaged to assess the find
- Where the item is likely to be an Aboriginal object, an Aboriginal Site Officer (ASO) will also be engaged to assess the find
- The archaeological consultant (and ASO, if relevant) will be provided with the photographs.

Step 3. Preliminary assessment and recording of the find

- Should the archaeologist (and ASO, if relevant) determine from the photographs that no site inspection is required because no archaeological constraint exists, such advice will be provided in writing and confirmed by the Project Manager or Site Supervisor
- Site access will be arranged for the archaeologist (and ASO, if relevant) to inspect the item as soon as practicable
- Subject to the archaeologist assessment (and ASO's assessment, if relevant), work will recommence at a set distance from the item
- Should the archaeologist (and ASO, if relevant) provide advice after the site inspection and preliminary assessment that no archaeological constraint exists, such advice should be provided in writing and confirmed by the Project Manager or Site Supervisor
- Should it be required, additional specialist technical advice will be organised
- Should the item be identified as a relic, heritage item or an Aboriginal object the archaeologist will formally record them
- Heritage NSW could be notified informally by telephone at this stage by the archaeologist or project manager. Any verbal conversations with Heritage NSW will be noted on project file for future reference.
- If a relic, heritage item or Aboriginal object has been identified, the archaeologist will notify:
 - Heritage NSW (and formally register the site on the Aboriginal Heritage Information Management System (AHIMS) as required) and
 - Water NSW if a relic found is in proximity to Water NSW Upper Canal.

Step 4. Prepare an archaeological or heritage management plan

- An archaeological or heritage management plan will need to be prepared in the event of an unexpected Aboriginal or non-Aboriginal heritage find
- Registered Aboriginal Parties will be consulted in the event of an unexpected Aboriginal heritage find
- The archaeological consultant will prepare an archaeological or heritage management plan (with input from the ASO and RAPs, where relevant) with consideration to the any heritage sub-plans, any conditions of heritage approvals, Minister's Conditions of Approval, and heritage assessment documentation
- The archaeologist will submit this plan as a letter, brief report or email to the Project Manager or Site Supervisor outlining all relevant archaeological or heritage issues

- The Project Manager or Site Supervisor will review the archaeological or heritage management plan.

Step 5. Notify Regulator (if required)

- The archaeological or heritage management plan will be reviewed to confirm if Heritage NSW notification is required
- If yes, a notification letter will be prepared
- The draft notification letter, archaeological or heritage plan and the site recording form will then be sent to TfNSW Environment and Sustainability Manager for review and amended where appropriate
- The signed notification letter, archaeological or heritage management plan and site recording form will be submitted to Heritage NSW, DPE
- A copy of the final signed notification letter, archaeological or heritage management plan and the site recording form will be kept on file by the Project Manager or Site Supervisor and a copy sent to the TfNSW Environment and Sustainability Manager.

Step 6. Implement archaeological or heritage management plan

- The archaeological or heritage management plan will be modified to take into account any additional advice resulting from notification and discussions with Heritage NSW
- The archaeological or heritage management plan will be implemented. Where impact is expected, this will include such things as a formal assessment of significance and heritage impact assessment, preparation of excavation or recording methodologies, consultation with registered Aboriginal parties, obtaining heritage approvals etc, if required
- Where heritage approval is required, the Environmental Site Representative will be contacted for further advice and support material
- It will then be assessed whether heritage impact is consistent with the project approval
- Where statutory approval is not required and where recording is recommended by the archaeologist, sufficient will be allowed for this to occur.

Step 7. Review CCHMP, OCEMP and CoA

- The CCHMP will be updated as appropriate with any changes resulting from final heritage management (e.g. retention of heritage item, salvage of item). The updated CCHMP will incorporate additional conditions arising from any heritage approvals, and Aboriginal community consultation if relevant
- Any changes to the CCHMP will be included in site induction material site workers will be updated during toolbox talks
- Where statutory approval is not required and where recording is recommended by the archaeologist, sufficient time will be allowed for this to occur.

Step 8. Resume work

- The Construction Contractor will seek written clearance to resume project work from TfNSW Environment and Sustainability Manager and the archaeologist (and Heritage NSW)
- Archaeological excavation/heritage reporting and other heritage approval conditions will be completed in the required timeframes. This includes artefact retention repositories, conservation and/or disposal strategies.

All heritage/archaeological assessments, heritage location data and its ownership status will be forwarded to the TfNSW Environment and Sustainability Manager. They will ensure all heritage items in TfNSW ownership and/or control are considered for the Roads and Maritime S170 Heritage and Conservation Register.

On discovering something that could be an unexpected heritage item ('the item'), the following procedure (Figure D-1) must be followed.

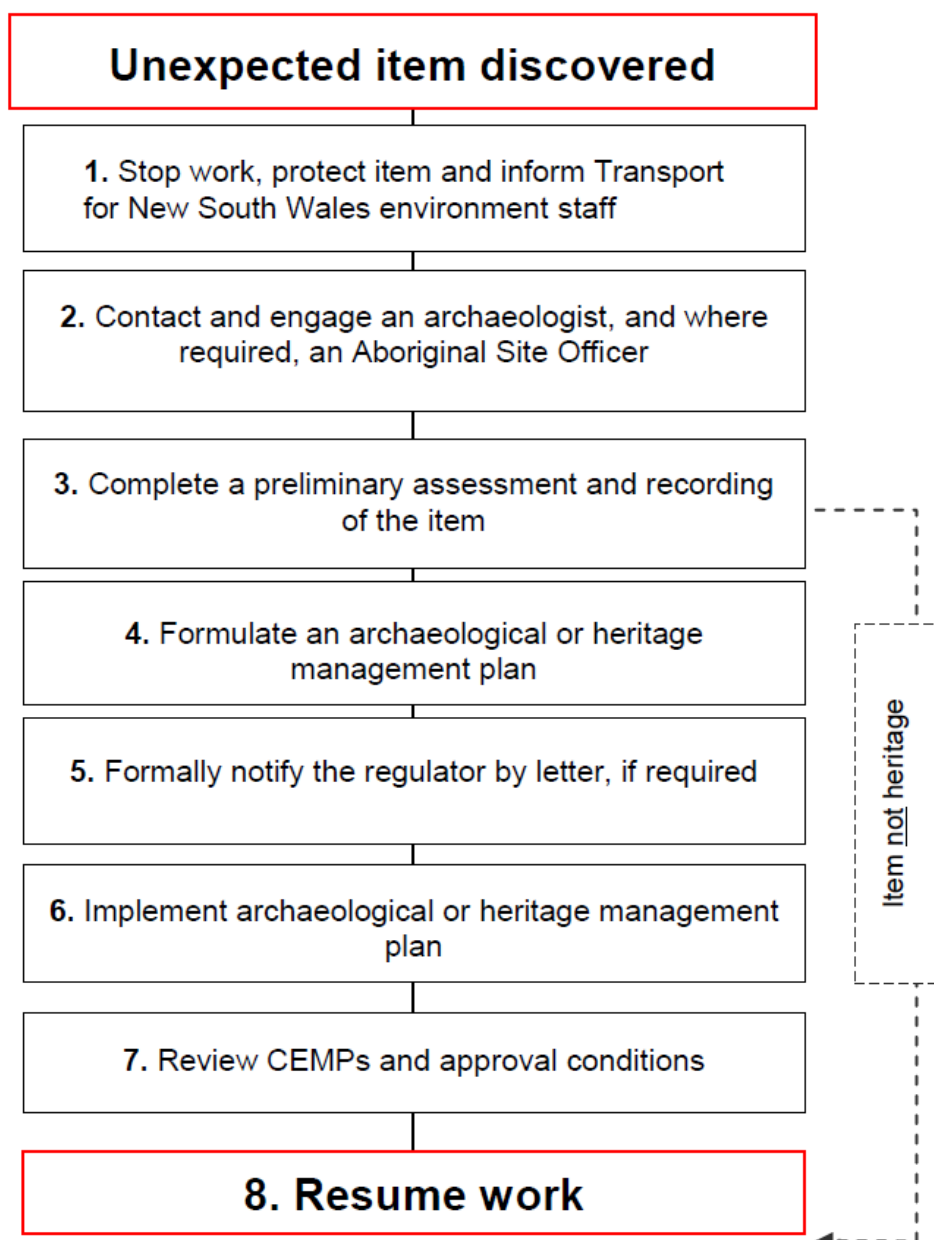


Figure D-1: Overview of steps to be undertaken on the discovery of an unexpected heritage item.

Attachment 2 Unexpected Human Remains Procedure

This attachment outlines the procedure for handling Aboriginal human remains in accordance with NSW-CoA, the *Skeletal Remains – Guidelines for the Management of Human Skeletal Remains under the Heritage Act 1977* (NSW Heritage Office 1998) and the *Aboriginal Cultural Heritage Standards and Guidelines Kit* (NPWS 1997).

If construction activity reveals possible Aboriginal human skeletal material (remains), the following procedure is to be followed:

1. Identify whether the remains are animal bones, ceramics or material before proceeding with this Procedure.
2. As soon as remains are exposed, immediately halt all work at that location and immediately notify the TfNSW Environment and Sustainability Manager (or delegate) or Construction Contractor Project Manager on site to allow assessment and management
3. Secure the site
4. Contact police as the discovery of human remains triggers a process which assumes that they are associated with a crime. The NSW Police will retain carriage of the process until such time as the remains are confirmed to be Aboriginal or historic. If the remains are identified as being non-human, skip to Step 8.
5. Notify DPHI, as the approval authority, when human remains are found
6. Once the police process is complete and if remains are not associated with a contemporary crime contact DPHI. DPHI will determine the process, in consultation with Heritage NSW and/or the Heritage Office as appropriate
7. If the remains are identified as Aboriginal, secure the site, notify NSW DCCEEW via the Environment Line and notify all RAPs or Aboriginal stakeholders in writing. NSW DCCEEW will act in consultation with Heritage NSW as appropriate. Notify Heritage NSW in writing according to NSW DCCEEW instructions. Work may not recommence until Heritage NSW have been notified.
8. If the remains are identified as Non-Aboriginal (historical) remains, secure the site and contact the NSW DCCEEW. NSW DCCEEW will act in consultation with the Heritage Division as appropriate. Notify the Heritage Division in writing according to NSW DCCEEW instructions.
9. Once the police process is complete and if the remains are identified as not being human and the appropriate clearances have been given, work can recommence.