

TransGrid: State Significant Infrastructure - Powering Sydney's Future - Development and operation of a new 330 kV underground cable circuit



CONSTRUCTION HERITAGE MANAGEMENT PLAN (CHMP)



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Document Approvals:

	Name	Credentials	Signature	Date
Prepared by:	Mark Favetta	B. Eng (Hons) Environment M.B.A.	Mus futto	21/08/2020
Reviewed by:	lan Garrard	B. Nat Res M App Sc PhD RABSQA	Ion M Gornal	21/08/2020
	Luke Fania	B. Sc Environment	Alle	21/08/2020
Approved by:	John Klaser	Cert. Building Cert. Civil Construciton Dip PM	full-	21/08/2020



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Abbreviations and acronyms

Abbreviation/	Expanded term
Acronym	
AMP	Asbestos Management Plan
ASSMP	Acid Sulfate Soils Management Plan
CAQMP	Construction Air Quality Management Plan
CEMP	Construction Environmental Management Plan
CHMP	Construction Heritage Management Plan
CHMP 2	Cultural Heritage Management Plan (requirements addressed in CHMP)
CLMP	Contaminated Land Management Plan
CNVMP	Construction Noise and Vibration Management Plan
CPIMP	Construction Public Infrastructure Management Plan
CSWMP	Construction Soil and Water Management Plan
CTTMP	Construction Traffic and Transport Management Plan
CVBMP	Construction Vegetation and Biodiversity Management Plan
CWMP	Construction Waste Management Plan
DPIE	Department of Planning, Industry and Environment
ESCP	Erosion and Sediment Control Plan
ECM	Environmental Control Measure
FMP	Flood Management Plan
FMS	Flood Mitigation Strategy
GMS	Groundwater Management Strategy
HCA	Heritage Conservation Area
OOHW Protocol	Out-of-hours work Protocol
PSF	Powering Sydney's Future
SSLGMP	Site Specific Landfill and Gas Management Plan
SWMP	Surface Water Management Plan
TCP	Traffic Controls Plans
UCLAFP	Unexpected Contaminated Land and Asbestos Finds Procedure



1 Introduction

1.1 Context

The Powering Sydney's Future – Potts Hill to Alexandria transmission cable project (the project) involves the construction of 330kV underground cables between TransGrid's Rookwood Road substation at Potts Hill and the Beaconsfield West substation Alexandria.

The NSW Department of Planning, Industry and Environment (DPIE) has assessed the State Significant Infrastructure (SSI-8583) and has granted Infrastructure Approval on 14 May 2020 in accordance with Section 5.19 of the *Environmental Planning and Assessment Act* 1979 (EP&A Act).

TransGrid and its contractors will construct the Project infrastructure.

The purpose of the CHMP is to address:

- the requirements of the Minister's Conditions of Approval (CoA) for SSI-8583
- the Environmental Management and Mitigation Measures (EMMMs) listed in the Powering Sydney's Future (PSF) Potts Hill to Alexandria transmission cable project Environmental Impact Statement (EIS) as documented in the Amendments Report;
- applicable environmental legislation; and
- applicable contract requirements.

A project overview is included in the CEMP Section 2, the Project EIS (AECOM, 2019) and the Project Amendments (AECOM, 2019).

1.2 Scope and objectives of the CHMP

This Construction Heritage Management Plan (CHMP) describes how TransGrid and its contractors will avoid, minimise and manage impacts to Aboriginal cultural heritage and non-Aboriginal heritage during construction of the Project.

This CHMP addresses the following management plan requirements in the contract:

- 1. Aboriginal Cultural Heritage Management Plan; and
- 2. Cultural Heritage Management Plan.

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

1.3 Project environmental management system overview

The Project Environmental Management System (EMS) is described in Figure 1-1.

To achieve the intended environmental performance outcomes, TransGrid and its contractors have established, implemented, maintained and continually improved an EMS.

The EMS consists of environmental plans, including this Sub-plan, and protocols as set out below and illustrated in Figure 1-1.

In addition, TransGrid and its contractors has established and applies its standard suite environmental procedures and tool, such as its *Environment Control Measures (ECMs)* to deliver the desired environmental outcomes.



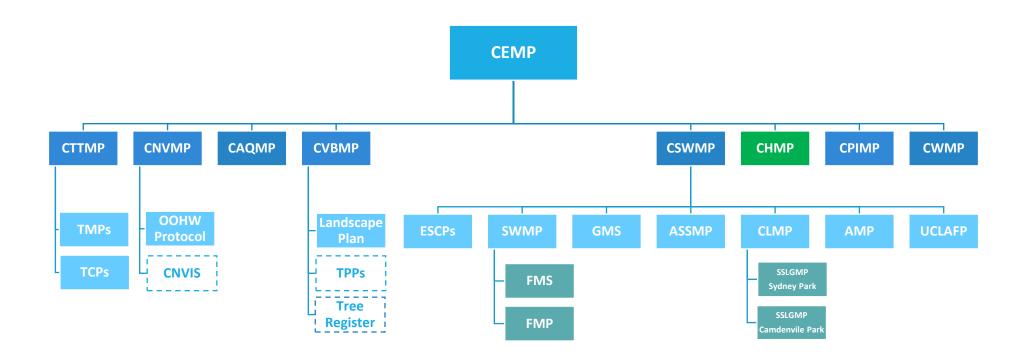


Figure 1-1 Project environmental management system



1.4 Changes since the Project EIS relevant to the CHMP

The EIS included a number of potential route options and other project alternatives. Further detailed design and assessment has been undertaken for the final route only, consistent with the Amendment Report and Conditions of Approval. The following changes documented in the EIS and Conditions of Approval are considered in this CHMP.

- Construction and operation of the cable bridge (special crossing) required to cross
 the Cooks River is has been replaced with an underbore from the cul-de-sac at the
 end of Lindsay Street into Lees Park before the cable route continues on to Harmony
 Street, Ashbury.
- The proposed construction laydown area at Cooke Park in Belfield, within the Strathfield Local Government Area (LGA) will not be used, as it is no longer required to support construction of the project.
- There are some changes to locations of open trenching and underboring, however the alignment has been maintained.
- Works within Mildura Reserve (an area of potential Aboriginal archaeological sensitivity) have been avoided, therefore consultation with Registered Aboriginal Parties (RAPs) and Department of Planning, Industry and Environment (DPIE) is not required¹.

1.5 Consultation for preparation of the CHMP

This CHMP has been provided to relevant stakeholders including City of Canterbury Bankstown Council, Inner West Council, City of Sydney Council and Sydney Water. Consultation requirements are described in Table 3 of the CEMP. Comments have been addressed as detailed in Appendix 1.

1.6 Ongoing consultation

In the event that the Unexpected Heritage Finds and Human Remains Procedure is triggered, further consultation would be undertaken with the Heritage Division or Heritage Council of NSW and RAPs as applicable.

2 Environmental Requirements

2.1 Legislation

Legislation relevant to heritage management includes:

- Heritage Act 1977;
- the Commonwealth Environment Protection and Biodiversity Conservation Act 1999;
- Aboriginal and Torres Strait Islander Heritage Protection Act 1984;
- the NSW Environmental Planning and Assessment Act 1979 (EP&A Act);
- the National Parks and Wildlife Act 1974 (NPW Act);
- National Parks and Wildlife Regulation 2009; and
- Local Environmental Plans (LEPs) for each local government area within the study area.

¹ Refer EMMM AH1.



2.2 Guidelines and standards

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

- Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (Office of Environment & Heritage, 2011);
- Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010b);
- Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW, 2010a);.
- Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW, (DECCW, 2010 (NSW);
- Assessing Heritage Significance for Historical Archaeological Sites and 'Relics' (Heritage Branch of NSW Department of Planning 2009);
- Historical Archaeology Code of Practice (NSW Heritage Office 2006;)
- Skeletal Remains: Guidelines for Management of Human Remains (NSW Heritage Office 1998);
- Criteria for the assessment of excavation directors (NSW Heritage Council 2011);
- NSW Heritage Manual (Heritage Office and Department of Urban Affairs and Planning 1994);
- How to Prepare Archival Records of Heritage Items (NSW Heritage Office 2003);
- Assessing Heritage Significance (NSW Heritage Council 2002);
- Statement of Heritage Impact (NSW Heritage Council 2002);
- Archaeological Assessments: Archaeological Assessment Guidelines (NSW Heritage Office and NSW Department of Urban Affairs and Planning 1996); and
- Historical Archaeology Code of Practice, Heritage Branch NSW Department of Planning, 2006 (NSW)
- TransGrid Environmental Guidance Note: Heritage.

The above guidelines were used in preparation of the EIS and this CHMP.

The above guidelines should be used as references if unexpected finds are encountered during construction or as a reference point for further information.

2.3 Minister's Conditions of Approval

The CHMP is developed in accordance with the Conditions of Approval (CoA) from the DPIE as described in Table 2-1.

2.4 Updated Environmental Management and Mitigation Measures (EMMMs)

The EMMMs as documented in the Amendments Report are presented in Table 2-2.

2.5 Additional approvals, licences, permits and requirements

This CHMP has been prepared on the basis that as the Project has been assessed and approved under Division 5.2 of the EP&A Act. As such, exemptions from non-Aboriginal heritage approvals apply (in accordance with Section 139 and Section 57 of the *Heritage Act 1997*, and, section 90 – AHIPs – of the National Parks and Wildlife Act 1974) and no further approvals or permits are envisaged as part of the construction activities. However, notification provisions still apply in accordance with Section 146 of the *Heritage Act 1977* still apply.



If unexpected finds are encountered during construction, the guidelines in Section 2.2 would be consulted when planning and responding to the unexpected find. This would include considerations related to the proposed investigation methodology, performing the investigation, the impact assessment, and any proposed mitigation measures.



Table 2-1 Relevant Conditions of Approval

CoA.	Conditions of approval	Document Reference	How addressed
C3	The following CEMP Sub-plans must be prepared in consultation with the relevant government agencies	This CHMP	A Sub-Plan has been prepared which incorporates all mitigation and management measures identified in the Project EIS.
	identified for each CEMP Sub-plan in Table 1. (f) Heritage		The relevant government agencies have been consulted. This included: City of Canterbury Bankstown Council, Inner West Council and City of Sydney Council. Additionally Sydney Water provided comments.
C4	Details of all information requested by an agency to be included in a CEMP Sub-plan as a result of consultation, including copies of all correspondence from those agencies, must be provided with the relevant CEMP Sub-Plan.	Section 1.5 Appendix 1	All information requested by stakeholders and agencies as a result of consultation, has been included in this plan. Copies of correspondence, received as comments, have ben included in the stakeholder consultation comments table (refer Appendix 1).
C7	The CEMP and CEMP Sub-plans required under this approval must be prepared by suitably qualified and experienced persons in accordance with relevant guidelines, and include where relevant:	Document Control Page. Section 2.2	The plan has been prepared by suitably qualified and experienced persons. Relevant guidelines have been used.
	(a) a summary of relevant background or baseline data;	Section 3	Relevant background or baseline data has been fully considered.
	(b) details of:		
	(i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);	Section 2.1 Section 2.5	Relevant statutory requirements have been identified.
	(ii) any relevant limits or performance measures and criteria; and	Section 5.1 CNVMP (Sections 8,	Section 5.1 provides additional detail and describes the vibration elements that are explored in the CNVMP that must be followed.
		9 and 10, Tables 9 and 10)	The CNVMP establishes performance measures and criteria.
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ECM-H13	
	(iii) the specific performance indicators that are proposed to be used to judge the performance	Section 5.1	Vibration monitoring will be undertaken as well as dilapidation assessments. These are outlined in Section 5.1 and detailed in the CNVMP.
	of, or guide the implementation of, the SSI or any management measures;	CNVMP (Sections 8, 9 and 10, Tables 9 and 10)	
		ECM-H12	
	(c) any relevant commitments or recommendations identified in the EIS;	Table 2-2	Relevant commitments and recommendations established in the EIS have been followed. Refer Table 2-2.
	(d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Section 5	Section 5 contains a list of environmental control measures to comply with the relevant statutory requirements, limits, or performance measures and criteria.
	(e) a program to monitor and report on the:		



CoA.	Conditions of approval	Document Reference	How addressed
	(i) impacts and environmental performance of the SSI; and	Section 6.3	Monitoring is described in Section 6.3.
	(ii) effectiveness of the management measures set out pursuant to paragraph (d);		
	(f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Appendix 2 Table 2-2 (vis NAH4) Table 5-1 General ECM's Sect. 6.2 Training Sect. 6.3 Monitoring Sect 7.1 Continuous Improvement	A comprehensive program to identify unpredicted impacts include Heritage Unexpected Finds Protocol in Appendix 2 supported by environmental controls, training and monitoring inspection to prevent or reduce levels of impact. Continuous improvement will be implemented in accordance with Section 7.1 and CEMP Section 7.
	(g) a program to investigate and implement ways to improve the environmental performance of the SSI over time;	CEMP Section 8 CEMP Section 8.4 Sect 7	A number of events may trigger the update and revision of the CHMP, these are detailed in section 8. Continuous improvement will be implemented in accordance with Section 7 and CEMP Section 7.4
	(h) a protocol for managing and reporting any:		
	(i) incident, non-compliance or exceedance of any impact assessment criterion and performance criterion;	CEMP Section 7 Section 6.5 Section 6.7 Table 6-2	A protocol for CEMP incident and emergency response is included in the CEMP. Specifically with regard to complaints, this is detailed within sections 6.5. Table 6-2 establishes KPIs Additionally Section 6.5 outlines corrective and preventative actions in response to con compliances or performance criteria exceedances.
	(ii) complaint; or	Community Communication Strategy Section 6 Complaints management system.	In accordance with the Conditions of Approval Part B, all complaints will be managed in accordance with the Community Communication Strategy (Refer section 6 for protocol) and via the complaints management system.



CoA.	Conditions of approval	Document Reference	How addressed
		Section 6.5	
	(iii) failure to comply with other statutory requirements; and	CEMP Section 8.3 CEMP Section 8.4	TransGrid and its contractors are obliged to comply with all statutory requirements. In the event of failure to meet statutory requirements, these would be immediately recorded, reported to TransGrid consistent with CEMP Sections 8.3 and 8.4. and action would be taken. Investigations would be undertaken
		Section 6.7	consistent with the triggers in Section 7.1 for continuous improvement, with immediate actions taken to address any incidents or emergencies consistent with the CEMP section 7.3
		Section 7.1	Further details on corrective and preventative actions is provided in Section 6.7
	(i) a description of the roles and environmental responsibilities for relevant employees, as well as training and awareness; and	CEMP Section 7.3 Section 6.1	A description of roles and responsibilities has been included.
	(j) a protocol for periodic review of the CEMP and associated subplans and programs.	Section 7.1	Refer Section 7.1 for information related to how continuous improvement
E25	The Proponent must ensure that the SSI does not cause	Section 5	Works within Mildura Reserve have been avoided.
	any direct or indirect impacts on the: (a) area of potential Aboriginal archaeological sensitivity at Mildura Reserve in Campsie, as shown on the maps	Section 5.1 ECM-H07	Works within the vicinity of the brick paving in Enmore Road and Juliett Street in Marrickville, will be protected and managed in accordance with the Construction Noise and Vibration Management Plan (CNVMP) .
	in the EIS; (b) heritage listed brick paving in Enmore Road and Juliett Street in Marrickville.	ECM-H08 ECM-H09 ECM-H10	Section 5.1 describes the issue of managing vibration for heritage items and provides an overview of the management measures. Section 5.1 links with the CNVMP, which fully explores the issue.
		ECM-H12 ECM-H13 ECM-H14	A range of ECMs have been included as references, which further documents control measures to avoid direct and indirect impacts.
E26	The Heritage CEMP Sub-Plan required under Condition C3 must include a: (a) description of the measures to avoid impacts on the area of potential Aboriginal archaeological sensitivity and heritage items in the project area; and (b) Unexpected Heritage Finds and Human Remains Procedure to manage unexpected heritage finds in accordance with any guidelines and standards prepared by the Heritage Division or Heritage Council of NSW.	Section 5.2 ECM-H01 ECM-H02 ECM-H03 ECM-H05 Section 5.2 Appendix 2	Whilst works will be avoided in areas with potential Aboriginal archaeological sensitivity, a description and management measures associated with potential Aboriginal archaeological sensitivity has been included. A range of ECMs have been included as references, which further documents control measures to avoid impacts A full description of precautionary measures in relation to avoiding impacts in the area of potential Aboriginal archaeological sensitivity (Mildura Reserve) is included in Section 5.2. The Unexpected Heritage Finds and Human Remains Procedure is included as Appendix 2.



Table 2-2 Relevant Environmental Mitigation and Management Measures (EMMMs)

Impact	EMMM ID	Measure	Document Reference	How addressed			
Aboriginal heritage	Aboriginal heritage						
Impacts to areas of Aboriginal archaeological sensitivity and/or impacts to Aboriginal sites	AH1	If impacts to the area of potential Aboriginal archaeological sensitivity at Mildura Reserve, Campsie cannot be avoided, a program of archaeological test excavation will be required to determine the presence or absence of subsurface Aboriginal objects.	Attachment 2	Works within Mildura Reserve will be avoided and nearby works limited to the road reserve, where an underbore will connect Lees Street to Harmony Street, Campsie. Works within Mildura Reserve (an area of potential			
		The methodology for investigating and managing areas of Aboriginal archaeological sensitivity and known Aboriginal sites/objects will be detailed in an Aboriginal Cultural Heritage Management Plan (ACHMP) for the project.		Aboriginal archaeological sensitivity) have been avoided, therefore the need for an ACHMP and its associated consultation is not triggered.			
		The ACHMP will be prepared in consultation with Registered Aboriginal Parties (RAPs) and Department of Planning, Industry and Environment (DPIE). Subject to ACHMP approval by DPIE, this document will guide the management of Aboriginal cultural heritage within the project area throughout the life of the project.					
Site inductions	AH2	Prior to the commencement of works, all construction personnel will undergo an Aboriginal heritage induction which identifies the general nature of Aboriginal sites and objects, the location of areas of archaeological sensitivity, requirements of the ACHMP (if relevant), procedure for unexpected finds, personnel responsibilities, and safeguards to be implemented to protect and avoid impacts to Aboriginal sites, if discovered.	ECM-H01 Section 6.2	Training will be undertaken in accordance with Mitigation Measure ECM-H01 and Section 6.2.			
Unexpected Aboriginal objects or human remains	AH3	If unexpected Aboriginal objects or human remains are uncovered in the project area during construction, TransGrid's Unexpected Finds Protocol will be initiated. This includes:	Appendix 2	An unexpected finds protocol is included in Appendix 2 – Unexpected Heritage Finds and Human Remains Procedure. This updates this EMMM AH3.			
		 All ground surface disturbance in the area of finds should cease immediately when the finds are uncovered and relevant personnel will be notified; If the find is suspected to be human skeletal material, the NSW Police will be contact immediately; 		Note: Where the find(s) are determined to be Aboriginal Objects, any re-commencement of construction related ground surface disturbance will only resume in the area of the find(s) following the carrying out of Step 4 (EMMM step 6).			



Impact	EMMM ID	Measure	Document Reference	How addressed
		If there is substantial doubt regarding an Aboriginal origin for the finds, then a qualified opinion from an archaeologist will be sought as soon as possible;		
		If a qualified opinion cannot be gained or the identification is positive, immediately notify the following authorities or personnel of the discovery:		
		a. OEH (Environment Line: 131 555);		
		b. Relevant Aboriginal Community Representatives		
		5. Immediately notify the following authorities or personnel of the discovery:		
		a. OEH (Environment Line: 131 555);		
		b Relevant Aboriginal Community Representatives.		
		Facilitate, in co-operation with the appropriate authorities and relevant Aboriginal community representatives:		
		 a. the recording and assessment of the finds; 		
		 b. fulfilling any legal constraints arising from the find(s). This will include complying with OEH directions; and 		
		 the development and conduct of appropriate management strategies. Strategies will depend on consultation with stakeholders and the assessment of the significance of the find(s). 		
		Where the find(s) are determined to be Aboriginal Objects, any re-commencement of construction related ground surface disturbance will only resume in the area of the find(s) following the preparation of an ACHMP for the project, if one does not already exist.		
Non-Aboriginal heritage	•			
Impact on Alexandra Canal and Potts Hill Reservoirs 1 and 2	NAH1	Works in the vicinity of Alexandra Canal at Beaconsfield West substation and the Potts Hill Reservoirs 1 and 2 will be managed by the Cultural Heritage Management Plan (CHMP 2) (refer to NAH6) to ensure that there are no direct impacts on the canal walls or the reservoirs.	Table 4-1 CNVMP ECM-H09 ECM-H10	Works in the vicinity of Alexandra Canal at Beaconsfield West substation and the Potts Hill Reservoirs 1 and 2 will be managed in accordance with the CNVMP .
Removal of street trees/plantings at the intersection of Seventh Avenue and Fifth Avenue	NAH2	The project will avoid impacts to heritage listed street plantings on Fifth Avenue wherever feasible and reasonable. During construction, manual excavation and monitoring by an arborist, with exclusion fencing used to protect trees from	Table 4-1 ECM-H06	No trees on fifth avenue are required for removal. Trees in close proximity to the works will be protected.



Impact	EMMM ID	Measure	Document Reference	How addressed
(Canterbury LEP 2012 Item 55)		indirect impacts if there are works in their immediate vicinity will be considered.		
		If tree removal cannot be avoided, a tree replanting strategy will be discussed and agreed with the relevant local council, in consideration of the Canterbury Bankstown Tree Management Manual (Bankstown Council, 2015).		
Impacts on the Brick Paving (Marrickville LEP 2011 Item 98)	NAH3	The design of the final transmission cable route will avoid the footpath that includes the brick paving that is immediately adjacent to the transmission cable route.	Table 4-1 ECM-H06	Works in the vicinity of the brick paving areas identified in the Marrickville LEP will be managed in accordance with the CNVMP.
Impact on heritage values of the HCAs from	NAH4	Removal of street trees identified as providing contributory heritage values within HCAs will be avoided where possible.	ECM-H11	Heritage listed trees will be protected in accordance with the Construction Vegetation and Biodiversity
tree removal		If tree removal cannot be avoided, a tree replanting strategy will be developed in consultation with the relevant local council.		Management Plan (CVBMP). No trees that are within HCAs are proposed to be removed, therefore the need for consultation is not triggered. If a tree with contributory heritage value was proposed to be removed (e.g. unexpected impact), consultation with the relevant council with regard to tree replanting would be undertaken.
Damage to heritage structures from vibration	NAH5	Minimum working distances will be enforced when working in proximity to heritage structures. This includes:	ECM-H12 CNVMP	Potential damage to heritage structures will be managed in accordance with the CNVMP .
		hand held jack hammers will be used, if needed, at least one metre away from the location of a heritage item;		
		hydraulic hammers up to 300 kilograms only be used if greater than four metres away from the location of a heritage item;		
		hydraulic hammers up to 900 kilograms will only be used if greater than 12 metres away from the location of a heritage item; and		
		hydraulic hammers up to 1,600 kilograms will only be used if greater than 34 metres away from the location of a heritage item.		
		If minimum working distances cannot be maintained during construction, a CHMP will be developed that includes building condition surveys and/or vibration monitoring as per environmental management measure NV14.		
General construction impacts	NAH6	A CHMP2 will be produced for the project as part of the CEMP, to manage any impacts on identified heritage items.	This plan	
πρασιο		The CHMP2 will:	Table 4-1 ECM-H01	
			LOIVI-I IU I	



Impact	EMMM ID	Measure	Document Reference	How addressed
		guide appropriate responses to identified heritage constraints during construction;	Section 6.2.	The identified heritage constraints are included in
		define limits to machinery use and construction activity in		Table 4-1.
		proximity to heritage structures to avoid vibration impacts;		Limits for machinery use in proximity to heritage structures are defined in the CNVMP.
		 detail where and when monitoring will be undertaken to ensure no vibration or other indirect impacts on identified heritage items; 		Guidance on vibration monitoring in CNVMP
		 define any protectionary fencing required to delineate safe working areas and/or no-go areas in relation to heritage protection; and 		Precautionary and other protectionary measures (e.g. fencing) is also included in this Plan and the CNVMP
		include maps showing the location and curtilage of heritage items.		Maps showing the location and curtilage of heritage items are included in Appendix 3 – Heritage
		A toolbox presentation or project induction will be held with all staff and contractors prior to the commencement of works to		Items.Training will be undertaken in accordance with ECM-H01 and Section 6.2.
		make them aware of their responsibilities with regard to avoiding heritage impacts.		Anticipated heritage impacts are described in Table 4-1 .
		Once the final design is known, the relevant local councils within the project area will be informed of any anticipated impacts to heritage items.		
Unexpected finds	NAH7	In the event that unexpected historic finds are identified during construction, all works will immediately cease at that area. Unexpected finds may include artefact scatters (including glass, animal bone, ceramic, brick and metal), building foundations and earthworks of unknown origin. The following procedure guides the management of unexpected and previously unidentified finds during the course of project	Appendix 2	An unexpected finds protocol is included in Appendix 2 – Unexpected Heritage Finds and Human Remains Procedure. This includes steps and contacts which updates this EMMM NAH7. Note: 1. Where the find(s) are determined to be
		works:		Aboriginal Objects, any re-commencement of construction related ground surface
		all work in the area will cease immediately; least the Force area of Connection to the first terms of the first terms		disturbance will only resume in the area of the find(s) following the preparation of an
		 alert the Environmental Specialist to the find; if necessary, protect the area with fencing;		ACHMP and for the project, if one does not
		 In necessary, protect the area with rending, engage a suitably qualified archaeologist to undertake an 		already exist.
		assessment of the find/s;		Under Section 5.23 of the EP&A Act, the project is exempt from an approval under
		 if it is determined the relic is likely to be significant, a Section 146 notification form will be sent with a short letter report to the Heritage Council notifying them of the discovery; 		Part 4, or an excavation permit under section 139, of the <i>Heritage Act 1977</i> . An application under section 140 of the



Impact	EMMM ID	Measure	Document Reference	How addressed
		 an assessment will be undertaken using the guidelines Assessing Significance for Historical Archaeological Sites and 'Relics' (NSW Heritage Branch, 2009); 		Heritage Act 1977 for an excavation permit is thus not required.
		 on the advice of the archaeologist, if necessary, prepare an Impact Assessment with Research Design and Methodology to submit to the Heritage Division along with a Section 140 excavation permit to undertake archaeological works; 		
		 undertake the archaeological mitigation in accordance with the prepared documents and any permit/exception issued by the Heritage Division; and 		
		 once the site has been mitigated to the satisfaction of the archaeologist and the Heritage Division, works may resume in the area. 		



3 **Existing environment**

Section 3 summarises what is known about Aboriginal and Non-Aboriginal heritage within and adjacent to the Project Area (within 1km buffer) based on information provided in:

- the EIS Appendix I Aboriginal Cultural Heritage Assessment Report; and
- the EIS Appendix J Historical Heritage Impact Assessment

3.1 Aboriginal cultural heritage

3.1.1 **Historic context**

Available sources indicate that the study area falls wholly within the traditional country of the Darug people, who spoke the Darug language. Darug is believed to have been spoken from the Hawkesbury River in the north, to Appin in the south, and from the coast, west across the Cumberland Plain into the Blue Mountains (AECOM, 2019).

Regional Archaeological Context

Key regional archaeological observations include:

- available radiometric dates indicate that Aboriginal people have occupied the Cumberland Plain for at least 36,000 years:
- compared with that available for the late Pleistocene/early Holocene, evidence for midto-late Holocene Aboriginal occupation of the Cumberland Plain abounds, with the majority of previously recorded sites likely dating to these periods;
- Aboriginal site distribution on the Cumberland Plain has been linked to a variety of environmental factors, with proximity to water, stream order, landform and geology variously highlighted as key determinants; and
- most surface sites will occur on landform elements within 200 metres of watercourses, with larger, more complex artefact assemblages associated with higher order streams.

Local Archaeological Context

Searches of the AHIMS database² indicates there are no known sites within 50 metres of the project area. Valid sites recorded within 500 metres of the project area are outlined in Table 2-1 and are identified in the maps included in Appendix 3 – Heritage Items.

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Lable 3-1	Valid recorde	d sites i	vithin	500	metres	of the	project area

Heritage list type	Site ID number	Site name	Site feature	Approximate distance from project area
Rockshelter	45-6-1797	ST George S.R.A	Art (Pigment or Engraved)	397 metres
Open artefact site	45-6-3546	Maria Reserve 1 (STRA-002)	Artefact(s)	381 metres
Rockshelter	46-6-2016	Georges R.S.R.A	Art (Pigment or Engraved)	420 metres
Rockshelter	46-6-1009	Georges River, plundered cave	Art (Pigment or Engraved), Shell, Artefact(s)	421 metres

² Searches of the AHIMS database were undertaken on 2 March 2018 (AHIMS search #331412) and 2 April 2018 (AHIMS search #342392). A one kilometre buffer was applied to the transmission cable route and substations. Collectively, the AHIMS search area reported a total of 16 Aboriginal sites within the respective AHIMS search areas. Of these, a single Aboriginal Resource and Gathering site (45-6-0751, Shea's Creek Dugong) was listed as 'Destroyed', leaving fifteen (15) remaining 'Valid' entries. The Project EIS had identified a single open artefact site Elliott Reserve 1 [STRA-001] (AHIMS #45-6-3545) around 6 metres from the project area.



Heritage list type	Site ID number	Site name	Site feature	Approximate distance from project area
Open artefact site	45-6-2902	Gkw39 (Moonah Road Talus) Botany Bay	Shell, Artefact(s)	430 metres
Rockshelter	45-6-1798	ST George S.R.A	Art (Pigment or Engraved)	436 metres
Rockshelter	45-6-0962	Georges River, falling rock cave	Art (Pigment or Engraved), Shell, Artefact(s)	448 metres
PAD	45-6-2876	MP08	PAD	491 metres

Areas with archaeological potential

The southern alluvial corridor of the Cooks River in the vicinity of Mildura Reserve was assessed as having a moderate archaeological potential. This area is shown in Appendix 3.

3.2 Non-Aboriginal heritage

3.2.1 Heritage items adjacent to the cable route

A search of relevant heritage lists and registers was undertaken on 29 May 2019, the complete results of which are presented in the Project EIS.

The searches identified a number of items within the study area including:

- two items listed on the State Heritage Register (SHR) (refer to EIS, Figure 15-1 and Figure 15-4);
- two Sydney Water Section 170 Register items1 (S170 register) (refer to EIS Figure 15-1 to Figure 15-4); and
- 45 locally listed items, including 10 heritage conservation areas (HCAs) and the Local Environmental Plan (LEP) listing for Alexandra Canal (which is also listed separately on the SHR) (refer to EIS Figure 15-1 to Figure 15-4).

There were no relevant listings under the World Heritage List, National Heritage List, Commonwealth Heritage List or Australian Heritage Database.

Overall, there are nine heritage items (including HCAs) that would potentially be impacted by the project. There are two heritage items listed on the SHR that are partially located within the study area but are outside the project area. This includes the Potts Hill Reservoirs 1 and 2 and the Alexandra Canal.

The Potts Hill Reservoir is listed on both the SHR and the S170 register. Similarly, the Alexandra Canal is also listed on two heritage registers, the SHR and the Sydney LEP. The two SHR items that are located immediately adjacent to the project area have been assessed individually due to their State significance rating. There are 37 locally listed heritage items, including the S170 register listing of the Potts Hill Reservoirs and the Sydney LEP listing of the Alexandra Canal, that are located within the study area. These 37 heritage items have been collectively assessed for indirect impacts, such as due to vibration and/or changes to views as a result of the project.



4 Environmental aspects and impacts

An environmental risk assessment process was undertaken to identify the key aspects and potential impacts in relation to the management of Aboriginal and non-Aboriginal heritage.

The objectives of the risk assessment were to:

- Identify activities, events or outcomes that have the potential to adversely affect the local environment and/or human health/property;
- Qualitatively evaluate and categorise each risk item;
- Assess whether risk issues can be managed by environmental protection measures; and
- Qualitatively evaluate residual risk with implementation of measures.

4.1 Construction Activities

Key aspects of the works that could result in adverse impacts to heritage include:

- site establishment works and ancillary facilities;
- clearing and/or grubbing of vegetation;
- relocations and connections of utilities;
- construction of temporary access roads, temporary relocation of pedestrian and cycle paths and the provision of property access
- earthworks, including those in previously undisturbed areas or at a depth below; modern disturbance and road/footpath surfaces;
- · underboring; and
- substation works.

4.2 Heritage Impacts

The project area is largely contained to existing road reserves. These areas are expected to have been disturbed from the installation of the road and other similar services. In addition, as the HCAs reflect the allotment and road layout of the original subdivisions, there is not expected to be historical archaeological potential present within the current road reserve areas.

However, portions of the project area also extend outside road reserves, including sections of the transmission cable route crossing through Goodsell Estate (which contains Camdenville Park), Cooks River, Henson Park and Sydney Park.

Table 4-1 provides a physical description of each item and provides a summary of impacts:

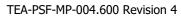
- Direct impacts impacts associated with physical disturbance to a heritage item, removal of street trees/plantings and changes to the visual settings within a HCA or of a heritage item.
- Indirect impacts impacts associated with potential vibration impacts on heritage items.

The items Table 4-1 are shown on the Heritage Maps in Appendix 3.



Table 4-1 Summary of potential direct and indirect construction impacts on heritage items and HCAs

Precinct	Heritage Item	Address	Property description	Description	Potential Impact type	Impacts	Environmental Control Measures
1	Potts Hill Reservoirs 1 and 2 and Site (SHR 01333) [e]	Rookwood Road, Bankstown North		The two reservoirs at Potts Hill are part of Sydney Water's supply system, having previously been part of the Upper Nepean Water Supply Scheme. They have industrial design, built features and both natural and exotic plantings. Various components that contribute to the listing include the Carrier Canal, the telescopic valve tower, a pressure tunnel inlet, a pressure tunnel access shaft building, a suction well, surge tank and reflux valve as well as various landscape elements. The curtilage of this item marginally intersects the project area at its western-most extent in Precinct 1.	Direct	There would be no impact to this State significant heritage item. The State heritage listed item is partially located within the study area but are outside the project area, and no impacts to the item are expected.	ECM-H10
All	City Tunnel (SHI 4574202) [e]	-		The City Tunnel consists of access chambers, supporting structures, a tunnel, vertical shafts and buildings attached to the shafts. It operates as water supply infrastructure and can be closed in sections for maintenance. The item is located between 15 and 67 metres below ground (i.e. the tunnel depth) so it is well below the typical trench depth for the project. There would be no direct or indirect impacts from construction activities to this item.	Direct	There would be no direct impact from construction activities to this item. The item is located between 15 and 67 metres below ground level (i.e. the tunnel depth) which provides adequate separation from the transmission cable circuit.	N/A
2	Inter War Street Trees (Fifth Avenue) (I55) [b]	Fifth Avenue, Campsie		The item 'Inter War Street Trees' comprises palm trees that have been planted on both sides of Fifth Avenue. The plantings relate to the beautification of streets that was undertaken by councils in the 20 th Century. The transmission cable route would cross Fifth Avenue as it proceeds along Seventh Avenue, Campsie (refer to Plate 1). The project would be located within the existing road reserve in this area.	Direct	Construction activities, including trenching, would occur within the road reserve at the intersection of Seventh Avenue and Fifth Avenue. Tree removal would be avoided at this location.	ECM-H06
2	Mildura Reserve	Campsie		Lands within the southern alluvial corridor of the Cooks River in the vicinity of Mildura Reserve (between Brighton Avenue and Lindsay Street) was assessed as having a moderate archaeological potential. The survey confirmed the desktop assessment which suggested that, despite being channelised, the alignment of the Cooks River in this portion of the study area appears to generally follow its natural course. While no surface Aboriginal objects were identified during the survey, the area was noted for its proximity to the Cooks River (within 200 metres), the presence of elevated landforms (rises and terraces) and retaining an inferred moderate ground integrity (on the basis of field observations and the preliminary desktop assessment). These field observations were reiterated by RAP field representative Mr Kevin Telford who noted elevated landforms similar to those retaining Aboriginal sites elsewhere along the Cooks River. When contextualised with the regional archaeological model presented in Section 5.7, the area of identified sensitivity has the potential to primarily contain flaked stone objects and shell material (middens) in subsurface contexts.	Indirect	Disturbance in the land identified as Mildura Reserve would be avoided.	ECM-H05
3	Ashbury Heritage Conservation Area (HCA1) [b]			Ashbury Heritage Conservation Area is a large area that includes several major suburban streets. This HCA relates to the early 20th Century suburban expansion of Sydney. This area was developed between 1912 and 1940 and designed to have wide streets and street plantings. The trees form part of the HCA. The transmission cable route would be located within the road reserve in this area (refer to Plate 2). A construction laydown area is also proposed within Peace Park which is within the HCA.	Direct	Construction activities, including trenching, would occur within the road reserve along Dunstan Street, Hay Street, Harmony Street, Malleny Street and Cheviot Street within this HCA. While construction would not have a direct impact on any houses, there is the potential for street trees that are included in the heritage listing to be removed, which would be a direct impact on the HCA. The Peace Park construction laydown area will not be used, therefore there will be no impact associated with the Park	ECM-H11
3	Canterbury Park Racecourse (I80) [b]	98 King Street, Canterbury	Lot 1, DP 256288; Lot 1, DP 561293; Lot 1, DP 123799; Lot 1, DP		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14





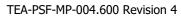
Precinct	Heritage Item	Address	Property description	Description	Potential Impact type	Impacts	Environmental Control Measures
			123800; Lot 2, DP 350469; Lot 2, DP 953812; Lots 1 and 2, DP 67830; Lot 1, DP 932394; Lots 1–7, DP 1129704; Lot 1, DP 201160				
3	Federation house (I2) [b]	5 Second Street, Ashbury	Lot 1, DP 950576		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
3	School (3) [a]	220–252 Holden Street, Ashbury	Lot 100, DP 738051		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
3	House (2) [a]	38 Hanks Street, Ashbury	Lot 3, DP 949228		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
3	House (1) [a]	10 Hanks Street, Ashbury	Lot 6, DP 4170		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
3	Service Avenue Heritage Conservation Area (C18) [a]			The Service Avenue Heritage Conservation Area was once a large land grant that was subsequently subdivided near the end of the 19th century and start of the 20th Century. The HCA consists of various pre and interwar houses, on allotments fronting wide streets. Plantings are present on either side of the road that includes trees, particularly along Hanks Road where the transmission cable route would be located. These plantings form the streetscape that contribute to the aesthetics associated with the HCA.	Direct	Construction activities, including trenching, would occur along Hanks Street within this HCA. While construction would not have a direct impact on any houses, there is the potential for street trees that are included in the heritage listing to be removed, which would be a direct impact to this HCA. This impact, however, would not degrade the heritage significance associated with the HCA.	ECM-H11
3	Former Baby Health Centre (587) [a]	296D Old Canterbury Road, Summer Hill	Lot 11, DP 1002099		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
3	Yeo Park (public reserve) (335) [a]	Yeo Park (public reserve), Ashbury	Victoria Street		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
3	School 'headmaster's house and chapel (608) [a]	119 Prospect Road, Summer Hill	Lot 11, DP 130160; Lot 9, DP 15765; Lot 100, DP 1049869		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
3	The Abergeldie Estate Heritage Conservation Area (C1) [c]			The transmission cable route within the Abergeldie Estate Heritage Conservation Area would be along Arlington Street. This street includes interwar period brick Californian Bungalows. Arlington Street itself is a wide street that includes street plantings on either side of the road within the footpaths (see Plate 5). The trees form part of the HCA. The transmission cable route would be within the road corridor in this area.	Direct	Construction activities, including trenching, would occur along Arlington Street within this HCA. While construction would not have a direct impact on any listed houses, there is the potential for street trees that are included in the heritage listing to be removed, which would be a direct impact to this HCA.	ECM-H11



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Precinct	Heritage Item	Address	Property description	Description	Potential Impact type	Impacts	Environmental Control Measures
3	I10 Victorian Villa, including interiors, 29 Constitution Road [c]	29 Constitution Road, Dulwich Hill	Lot B, DP 372435		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
3	Electricity substation No. 1458 (I315) [c]	208 Denison Road, Dulwich Hill	Lot 13, DP 79672		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
3	Lewisham Estate Heritage Conservation Area (C26) [c]				Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
3	Dulwich Hill Commercial Precinct Heritage Conservation Area (C28) [c]				Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
3	Holy Trinity Church of England, including interiors (I15) [c]	7 Herbert Street, Dulwich Hill	Lot 1, DP 529533		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
3	The Rectory, including interiors (I16) [c]	11 Herbert Street, Dulwich Hill	Lot 2, DP 529533		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
3	Victorian filigree style villa – 'Fairview', including interiors (I17) [c]	17–19 Herbert Street, Dulwich Hill	Lot 1, DP 901271		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
3	Victorian italianate style villa – 'Malvern', including interiors (I23) [c]	42–44 Pile Street, Dulwich Hill	Lot 1, DP 1058788; Lot 7, DP 1280		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
3	Henson Park (I71) [c]	Centennial Street, Marrickville	Lots 423 and 424, DP 1035319		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
3	Tunneyfall Terrace— Victorian italianate corner shops and Victorian style terrace houses, including interiors (l91) [c]	46–60 Illawarra Road, Marrickville	Lots 1–4, DP 306991; Lots 2 and 3, DP 101498; Lots 1–3, DP 103785		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
3	Victorian italianate corner shop and adjacent pair of Victorian terrace houses (190) [c]	40, 42 and 44 Illawarra Road, Marrickville	Lots A–C, DP 101925		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
4	Terrace housing, including interiors (I76) [c]	341–371 Enmore Road, Marrickville	Lots A-D, DP 928973; Lots 1-4, DP 253046; Lots 1-4, DP 858436; Lot 1, DP 611913; Lots 1-3, DP 253540		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14



Precinct	Heritage Item	Address	Property description	Description	Potential Impact type	Impacts	Environmental Control Measures
4	Llewellyn Estate Heritage Conservation Area (C14) [c]		Conservation design and styles of houses that have survived from 1894 onwa		Direct	Construction activities, including trenching, would occur within the road reserve. While construction would not have a direct impact on any houses listed as part of the HCA, there is the potential for street trees to be removed. The removal of street trees would result in a direct impact to this HCA.	ECM-H11
4	Enmore Park and entry gates and Port Jackson fig trees (I75) [c]	Enmore Road, Marrickville	Part Lot 7024, DP 93582		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
4	Enmore House Estate Heritage Conservation Area (C13) [c]				Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
4	Brick Paving (along Enmore and Juliett Streets (I98) [c]	Sections of Juliett Street, Llewellyn Street, Enmore Road, Victoria Road, Bourne Street, Lynch Avenue and Murray Street		Brick Paving (along Enmore and Juliett Streets – Marrickville LEP 2011 Item 98) The brick paving that forms part of this heritage listing is located on various streets within Enmore. The transmission cable route would pass immediately adjacent to this heritage item along Enmore Road, where the paving is located on the eastern side, and along Juliett Street (refer to Plate 4). The paving is located within the footpath immediately adjacent to the road reserves and is laid in a 90-degree herringbone pattern. The paving is largely intact, with only small sections having been removed for modern driveways.	Direct	Construction activities within the road corridor including trenching, would occur in proximity to this item. The brick paving also extends to the kerb and includes the kerbing in some areas. Impacts to this item would be avoided.	ECM-H07 & H08
4	Golden Barley Hotel, including interiors (I34) [c]	165 Edgeware Road, Enmore	Lot D, DP 355228		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
4	St Pius Church, Church Hall and Presbytery, including interiors (I147) [c]	90 Edgeware Road, Newtown	Lots 1–7, Section 3, DP 128		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
4	Waugh & Josephson industrial buildings former—Inter-war Functionalist Showroom and offices and workshop, including interiors (I280)	1–7 Unwins Bridge Road	Lot 100, DP 629032	Waugh & Josephson industrial buildings former, showroom, offices and workshop, including interiors	Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
4	Goodsell Estate Heritage Conservation Area (16) [c]			The Goodsell Estate Heritage Conservation Area has some historic association with the former brickworks that were present to the east of this area in Sydney Park and the associated brick pit that was on the western side of the Goodsell Estate curtilage, within the current Camdenville Park (see Plate 6). The heritage significance of this listing focuses on the development that occurred as a result of successive land releases that occurred in Marrickville. The trees form part of the HCA.	Direct	Construction activities, including trenching and establishment of a construction laydown area, would occur within this HCA. The project area within this HCA has been assessed as having no archaeological potential relating to the historical steam driven brick pit operations. While construction would not have a direct impact on any houses listed as part of the HCA, there is the potential for street trees to be removed. The removal of street trees would result in a direct impact to this HCA.	ECM-H11





Precinct	Heritage Item	Address	Property description	Description	Potential Impact type	Impacts	Environmental Control Measures
				The Camdenville Park playing field was the area where the brick pit was located for the Goodsell brick maker. The western end of Camdenville Park is cut down to be lower than the surrounding streets. This section of the oval is covered in tall grass and trees and is closed off to the public. The visible evidence indicates that this area has been highly disturbed, likely from the landscaping works that occurred after the closure of the former brickworks and this associated brick pit. The transmission cable route traverses the western side of this HCA, crossing through the existing Camdenville Park playing fields that is within the HCA, before continuing outside of the HCA along May Street. A construction laydown area is also proposed to be located within Camdenville Park.			
4	Terrace housing, including interiors (1273) [c]	105–119 May Street, St Peters	Lots 1–8, DP 879483		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
4	Former brickworks group (I27) [d]				Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
4	Electricity substation No. 549 (I369) [c]	Princes Highway, St Peters	Lot 1, DP 190505		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
5	Terrace group including interiors (I12) [d]	2-34 Campbell Road, Alexandria	Lots 1–17, DP 33263		Indirect	Potential vibration impacts.	ECM-H12, H13 & H14
5	Alexandra Canal (SHR 01621)			Alexandra Canal is an artificial waterway that runs from the Cooks River in the south to around Huntley Street, Alexandria in the north. It replaced the natural alignment of Sheas Creek with a channel formed by banks with sloping dry sandstone and sandstone capping. The canal is at the eastern-most extent of the project area in Precinct 5.	Direct	The project would not have a direct impact on the State heritage listed canal. The canal wall, which forms the boundary of the heritage curtilage, would not be directly impacted by the project.	ECM-H09

Notes:
[a]
[b]
[c]
[d] Ashfield Local Environmental Plan 2013 Canterbury Local Environmental Plan 2012 Marrickville Local Environmental Plan 2011 Sydney Local Environmental Plan 2012 [e] Sydney Water Section 170 Register



5 Environmental Control Measures

5.1 Managing vibration

Potential vibration impacts on heritage items is identified as one of the key issues that requires management. The Construction Noise and Vibration Management Plan (CNVMP), specifically identifies limitations, mitigation measures, management approaches and monitoring approaches that will be implemented to manage vibration.

The issue of vibration is fully explored in the CNVMP in Sections 8, 9 and 10. Specific guidance on minimum working distances is included for listed heritage items and buildings within HCAs that are not heritage listed as well as requirements for pre-construction and post-construction dilapidation survey that would be conducted. The CNVMP Table 10 establishes nominated site vibration management levels. The CNVMP Appendix B presents the results of the baseline vibration impact assessment for the works using the minimum working distances for an excavator with rock breaker attachments based on the Condition of Approval E2 Minimum Working Distances.

5.2 Precautionary measures when working adjacent to Mildura Reserve (area of potential Aboriginal archaeological sensitivity)

Mildura Reserve is an area of potential Aboriginal archaeological sensitivity. The site has timber bollards restricting vehicle entry.

There are no works proposed at this location and it will be avoided. Given the sensitivity of the area, the project will take additional precautionary measures to ensure that vehicles, plant and equipment are restricted from entering this area, as appropriate.

Vehicles, plant and equipment will be restricted by erecting temporary chain wire fencing or other suitable barrier or visual measures (e.g. tape, signage) along kerb/verge/fence line as appropriate in addition to existing restriction measures to prevent vehicles plant and equipment from entering Mildura Reserve.

Refer ECMs in Table 5-1 for specific measures to be implemented.

5.3 Measures when working adjacent to areas with Non-aboriginal heritage items

Care must be taken to limit vibration as described above, when working adjacent to areas with Non-aboriginal heritage items. At various locations that are in close proximity to heritage items, additional measures such as fencing, barriers, visual delineation (tape) and signage are proposed. These measures are outlined in the relevant ECMs in in Table 5-1.

5.4 Specific measures

The specific Environmental Control Measures (ECMs) to meet the objectives of this CHMP are outlined in Table 5-1.



Table 5-1 Environmental Control Measures

ID	Environmental Control Measures	Responsibility	When to implement	Reference (COA/EM MM's)
General En	vironmental Control Measures			
ECM-H01	Construction personnel will undergo inductions in accordance with the CEMP and any other training commitments agreed as part of the project approval.	All personnel	Prior to construction	AH2
	Induction to include:			
	 the general nature of Aboriginal sites and objects, the location of areas of Aboriginal archaeological sensitivity; the locations of non-Aboriginal items and HCAs; procedure for unexpected heritage finds procedure for unexpected human remains, safeguards to be implemented to protect and avoid impacts to Aboriginal sites, if discovered safeguards to be implemented to protect and avoid impacts to Non Aboriginal items penalties associated with non-compliance with this CHMP. 			
ECM-H02	Unexpected Aboriginal objects	All personnel	Construction	E26
	On discovery of an unexpected Aboriginal site, the Unexpected Heritage Finds Procedure (Appendix 2) will be implemented.			AH3
ECM-H03	Unexpected human remains	All personnel	Construction	E26
	 On discovery of a human remains, the Unexpected Heritage Finds Procedure (Appendix 2) will be implemented. Ensure that human remains that are uncovered during construction are not harmed, modified, or otherwise impacted. 			AH3
ECM-H04	Unexpected heritage items	All personnel	Construction	E26
	On discovery of a human remains, the Unexpected Heritage Finds Procedure (Appendix 2) will be implemented.			NAH7
Site-specifi	c Environmental Control Measures			
ECM-H05	 Mildura Reserve, Campsie Avoid work in Mildura Reserve. Underbore from Lees Street to Harmony Street, Campsie. Erect temporary chain wire fencing or other suitable barrier or visual measures (e.g. tape, signage) along kerb/verge/fence line as appropriate in addition to existing vehicle restriction measures to prevent plant and equipment from entering Mildura Reserve. 	Site Manager	Construction	E25 AH1
ECM-H06	Crossing of Fifth Avenue, Campsie (Seventh Avenue)	Site Manager	Construction	E21
	 Avoid trees in Fifth Avenue, except for intersection crossing Fifth Avenue / Seventh Avenue Campsie. Implement controls identified in the CVBMP. Undertake manual excavation and monitoring by an arborist. Erect exclusion fencing to protect trees from indirect impacts if there are works in their immediate vicinity of any trees on Fifth Avenue, Campsie. 	Project Arborist		NAH2
ECM-H07	Enmore Road, Marrickville	Site Manager	Construction	E2 E25



ID	Environmental Control Measures	Responsibility	When to implement	Reference (COA/EM MM's)
	 Select suitable plant and equipment that will not cause damage to the brick paving. Minimise vehicle, plant and equipment use at this location. Observe minimum working distances shown in CoA E2 Table 3. Follow CNVMP if work is required within minimum working distances. Conduct vibration monitoring when work is being undertaken. Erect temporary chain wire fencing or other suitable barrier along kerb to prevent plant and equipment from driving onto brick paving. 	Noise and Vibration Specialist		NAH3 NAH5
ECM-H08	 Juliett Street, Marrickville Select suitable plant and equipment that will not cause damage to the brick paving. Minimise vehicle, plant and equipment use at this location. Observe minimum working distances shown in CoA E2 Table 3. Follow CNVMP if work is required within minimum working distances. Conduct vibration monitoring when work is being undertaken. Erect visual delineation such as tape, temporary chain wire fencing or other suitable barrier along kerb to prevent plant and equipment from driving onto brick paving. 	Site Manager Noise and Vibration Specialist	Construction	E2 E25 NAH3 NAH5
ECM-H09	Alexandra Canal Observe minimum working distances shown in CNVMP. Follow CNVMP if work is required within minimum working distances.	Site Manager Noise and Vibration Specialist	Construction	NAH1 NAH5
ECM-H10	Potts Hill Reservoirs 1 & 2 Observe minimum working distances shown in CNVMP. Follow CNVMP if work is required within minimum working distances.	Site Manager Noise and Vibration Specialist	Construction	NAH1 NAH5
ECM-H11	Street trees providing contributory heritage values within HCAs Avoid If tree removal cannot be avoided, mitigate and manage impacts under the guidance of the Project Arborist and implement a tree replanting strategy developed in consultation with the relevant local council.	Site Manager Project Arborist	Construction	NAH4
ECM-H12	Conduct vibration monitoring in accordance with CNVMP	Site Manager Noise and Vibration Specialist	Construction	NAH5 NAH6
ECM-H13	Strictly adhere to limits on plant, equipment and machinery use identified in the CNVMP, including minimum working distances and vibratory limits.	All personnel	Construction	NAH5 NAH6
ECM-H14	Erect temporary fencing or barriers when performing work near heritage items at the areas shown in Attachment 3 .	Site Manager	Construction	



6 Compliance management

6.1 Roles and responsibilities

The Project Team's organisational structure and overall roles and responsibilities are outlined in Section 3.3 of the CEMP. Specific responsibilities for the implementation of environmental controls are detailed in Section 5 (see Table 5-1) of this Sub-plan.

Table 6-1 Roles and responsibility

Role	Authority and responsibility				
Civil Project Manager	Erect exclusion fencing to protect trees from indirect impacts where specified in table 5.1 of the CHMP.				
	Select suitable plant and equipment that will not cause damage to heritage items and building in HCAs.				
	Conduct vibration monitoring in accordance with CNVMP				
	Mitigate and manage impacts under the guidance of the Project Arborist and implement a tree replanting strategy				
	Minimise vehicle, plant and equipment use in vibration sensitive areas as per the CNVMP				
	Observe minimum working distances in vibration sensitive areas as per the CNVMP				
	Conduct inspections when working adjacent to areas of potential Aboriginal archaeological sensitivity.				
	Ensure site based personnel stop work in the vicinity of an unexpected heritage item.				
	Ensure site based personnel are aware of this procedure.				
	Support the Environment and Sustainability Manager during the implementation of this procedure and ensures reporting of unexpected heritage items through environment management systems.				
All Personnel	Follow the unexpected heritage finds procedure on discovery of an unexpected Aboriginal site and/or human remains				
	Undergo inductions in accordance with the CEMP and any other training commitments agreed as part of the project approval				
	Strictly adhere to limits on plant, equipment and machinery use identified in the CNVMP				
Noise and Vibration	Conduct vibration monitoring in accordance with CNVMP				
specialist	Ensure minimum working distances in vibration sensitive areas are adhered to				
Project Arborist	Provide guidance for tree replanting strategies				
Archaeologist (Arch)	Professional consultant, on call, contracted on a case-by-case basis to provide heritage and archaeological advice and technical services (such as reports, heritage approval documentation etc).				
	May identify additional inputs as required from an AHCA or Technical specialist.				
Aboriginal Cultural Heritage Advisor (ACHA)	Provide Aboriginal cultural heritage advice to project teams. Acts as Aboriginal community liaison for projects on cultural heritage matters. Engages and consults with the Aboriginal community.				
Environment and Sustainability Manager (ESM)	Complete Unexpected Heritage Item Recording Form. Escalates to PM as required.				
	Provide technical assistance on this procedure and archaeological technical matters, as required. Reviewing the archaeological management plans and facilitating heritage approval applications, where required. Assists with regulator engagement, where required.				
	May identify additional inputs as required from an AHCA or Technical specialist.				
Project Manager (PM)	Ensure all aspects of this procedure are implemented. The Project Manager can delegate specific tasks personnel, where appropriate.				



Technical Specialist (TS)	Professional consultant contracted to provide specific technical advice that relates to the specific type of unexpected heritage find (eg a forensic or physical
	anthropologist who can identify and analyse human skeletal remains).

6.2 Training & induction

All project personnel working on site will undergo induction training relating to:

- Aboriginal and non-Aboriginal heritage management issues prior to construction commencement.
- Existence and requirements of this Sub-plan
- Relevant legislation
- Roles and responsibilities for heritage management
- Location of identified heritage sites and no-go areas
- Identification and protection of heritage items
- Proposed heritage management and protection measures
- Procedure to follow in the event of an unexpected heritage item find or discovery of human remains during construction works (refer Appendix 2).

The induction will be completed by all relevant project personnel that are required to work onsite, prior to the relevant person commencing construction onsite. The induction will encompass all items relating to the CHMP.

The induction content will be subject to continual review to reflect the construction stage, significant risks and learnings from incidents or non-conformances.

Further details regarding staff induction and training are outlined in the CEMP.

Daily toolbox talks will incorporate heritage specific issues if working within the vicinity of an item or nearby to areas of potential Aboriginal archaeological sensitivity e.g. Mildura Reserve). Communication related to any unexpected finds that might occur would also be communicated via toolbox talks.

6.3 Monitoring and inspections

Inspections of sensitive areas and activities with the potential to impact Aboriginal and non-Aboriginal heritage will occur for the duration of the project.,

Daily inspections and active oversight of sensitive locations will be undertaken by the Site Manager when working immediately adjacent to Areas of potential Aboriginal archaeological sensitivity and non-aboriginal heritage Items. The inspection will be to check that the relevant ECMs are being adhered to and report any immediately report any breaches to the Environment and Sustainability Manager to investigate and report incidents ³as required. Daily "toolbox" talks will reinforce the team is working in or adjacent to sensitive (Aboriginal or non-Aboriginal) heritage areas,

Environmental inspections will be undertaken by the Environment and Sustainability Manager. The Inspection frequency will reflect the sensitivity of the area and the potential impact of the activity though, in general, would be on a weekly basis for active worksites.

³ TransGrid manages its incident in accord with it procedures, vis. "HSE Hazard and Incident Management" (2020).



Specialist consultants will be required to prepare reports, if unexpected or human remains are discovered, as required.

Reporting in relation to heritage management for the Project will also capture any complaints or incidents relating to heritage management, including any responses provided or actions undertaken in response to the matter.

Vibration monitoring in sensitive heritage areas is described in the CNVMP.

Regular monitoring and inspections will be undertaken during construction in accordance with Table 6-2 Inspection and Monitoring Requirements.

Table 6-2 Inspection and Monitoring Requirements

Monitoring details	Area	Record	Responsibility	Frequency	KPI
ECMs in place	All	Checklist recording ECMs are in place	Site Manager	Daily / Active oversight	100% of measures are in place
ECMs adhered to	All	Checklist identifying ECMs are being adhered to	Site Manager	Daily / Active oversight	100% of ECMs are adhered to
Observation of minimum distances for heritage items as identified in CNVMP	Worksites where minimum working distances must be observed	Record identifying locations where constraints with minimum working distances and how it was managed	Site Manager	Daily	Conformance with CNVMP for minimum working distances when working near heritage items
Vibration monitoring	At locations identified in Heritage ECMs	Checklist documenting the carrying out of vibration monitoring	Site Manager Environment and Sustainability Manager	As required by CNVMP	Within guidance presented in CNVMP
Unexpected finds	All	Unexpected finds are documented and photographed as per Unexpected Heritage Recording Form Any harm is recorded	Site Manager Environment and Sustainability Manager	As required	Unexpected Heritage Recording Form completed within 24 hours

Table 6-3 Reporting Requirements

Report So	cope	Timing	Frequency	Responsibility	Submission
Monthly Environmental Monitoring Report •	Eummary of months: ECMs documented in place (% of time) ECMs adhered to (% of time) Details on vibration monitoring conducted Details on unexpected finds	Within 7 days of the end of the month	Monthly	Environment and Sustainability Manager	Client



6.4 Reporting

Reporting requirements relevant to Heritage are identified in Table 6-3.

6.5 Complaints

Complaints will be managed in accordance with the TransGrid Complaints Management System and Community Communication Strategy required under Part B of the Conditions of Approval. The Community Communication Strategy is published on the project Website.

6.6 Audits

Audits (both internal and external) will be undertaken to assess the effectiveness of environmental controls, compliance with this Sub-plan, CoA and other relevant approvals, licenses and guidelines.

Audit requirements are detailed in Section 8.1.4 of the CEMP.

6.7 Corrective and preventative actions

In the event a non-conformance and/or non-compliance is identified, a corrective and preventative action process will be undertaken. The corrective and preventative action process is documented in the CEMP Section 8.7.



7 Review and improvement

7.1 Continuous improvement

. Continuous improvement of this CEMP and Sub-Plans will be achieved through the ongoing evaluation of performance against environmental policies, objectives and targets.

The CHMP and processes contained within will be reviewed following the first unexpected heritage find (if this occurs) and following the implementation of the vibration related mitigation measures at the first worksite and consider any improvements to process, delivery methodology or internal communications or other relevant aspects.

7.2 CHMP update and amendment

Updates and amendments to the CHMP may be triggered by any of the items which are listed in the CEMP section 8.4. Inductions should be updated to reflect any changes in the CHMP as needed.

7.3 Contingency Planning and Unpredicted Impacts

This Plan has been the outcome of detailed:

- · environmental impact assessment process;
- · consultation with relevant authorities, stakeholder and the general public; and
- review and approval by the issuing Planning department.

Notwithstanding this process, as the project unfolds and is implemented an unpredicted impact could emerge. If this occurs, a contingency process will be initiated to:

- identify the nature, extent and consequences of the unpredicted impact;
- establish an applicable criterion, to which the impact should be reduced, consistent with and aligned to the requirements of the CHMP;
- consider the available options to reduce the impact to this criterion, outline the selected option(s) and a timetable for implementation;
- initiate a monitoring programs to assess the effectiveness of the selected option(s) in achieving the nominated reduced impact; and
- re initiated the contingency process, if needed.

8 References

AECOM (2019), Powering Sydney's Future - Potts Hill to Alexandria transmission cable project, Environmental Impact Statement, Volume 1 – Main Volume, 11 October 2019.

AECOM (2019), "Potts Hill to Alexandria transmission cable project", Amendment Report. Ashfield Local Environmental Plan 2013

Canterbury Local Environmental Plan 2012

DECCW (2010), Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW.

DECCW (2010a), Aboriginal Cultural Heritage Consultation Requirements for Proponents



DECCW (2010b), Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales.

Heritage Branch of NSW Department of Planning (2009) Assessing Heritage Significance for Historical Archaeological Sites and 'Relics'.

Heritage Office and Department of Urban Affairs and Planning (1994), NSW Heritage Manual.

Marrickville Local Environmental Plan 2011

NSW Department of Planning – Heritage Branch (2006), Historical Archaeology Code of Practice, Heritage Branch.

NSW Heritage Council (2002) Statement of Heritage Impact

NSW Heritage Council (2002), Assessing Heritage Significance

NSW Heritage Council (2011) Criteria for the assessment of excavation directors.

NSW Heritage Office (1998), Skeletal Remains: Guidelines for Management of Human Remains.

NSW Heritage Office (2003), How to Prepare Archival Records of Heritage Items.

NSW Heritage Office (2006) Historical Archaeology Code of Practice.

NSW Heritage Office and NSW Department of Urban Affairs and Planning (1996), Archaeological Assessments: Archaeological Assessment Guidelines

Office of Environment & Heritage (2011), Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW.

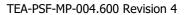
Sydney Local Environmental Plan 2012

Sydney Water Section 170 Register

TransGrid (2020) HSE and Incident Management



Appendix 1 – Consultation Evidence





						Document name		Comment	TransGrid/Taihan How addressed	
#	DocumentNo	Plan Title	Data	Organisation	Name	Page / section /	Revision		How addressed	Status
#	Documentivo	Plan Title	Date	Organisation	Name	reference	Kevision		The discussions to date regarding a	Status
								Sydney Water's understanding is that	DN1200 water main were in relation	
								TransGrid were to impact a DN1200	to the DN1200 present on Addison	
			19-					(from memory) disconnected Local	Road. This asset is not listed on the	
	TEA-PSF-MP-	Construction Heritage	Jun-					Heritage listed asset - this doesn't	s170 heritage register or DBYD	
53	004.600	Management Plan	20	Sydney Water	Peter Jansen	Observation only	0	appear to be shown	information.	Closed
33	004.000	Wanagement ran	20	Sydney Water	i ctci janisch	Observation only		appear to be snown	Please refer to section 5.1 of the	Closed
									CHMP which has been updated to	
									respond to this concern.	
								concerns are raised regarding the	l espond to this concerni	
								potential vibration impact of the work	The issue is fully explored in CNVMP	
			19-					on heritage items and on buildings	as to trigger noise and vibration levels	
	TEA-PSF-MP-	Construction Heritage	Jan-	Inner West				within the heritage conservation	and applicable ECMs and in some	
54	004.600	Management Plan	00	Council	Niall Macken		0	areas.	cases additional ECMs.	Closed
			26-	City of						
	TEA-PSF-MP-	Construction Heritage	Jun-	Canterbury						
55	004.600	Management Plan	20	Bankstown	Jeff Senior		0	No comment		Closed
								From a heritage perspective, I have		
								reviewed the Construction Heritage		
								Management Plan (CHMP) and		
								heritage aspects of the Construction		
								Noise and Vibration Management		
								Plan (CNVMP). I can confirm that		
								these documents have been		
								adequately prepared to satisfy the		
			26					Conditions of Approval for SSI-8583		
	TEA-PSF-MP-	Construction Haritage	26-		Drivanka			and identify and address heritage		
E 6	004.600	Construction Heritage	Jun-	City of Sydnov	Priyanka			issues arising from the construction		Closed
56	004.600	Management Plan	20	City of Sydney	Misra		0	works.		Closed

Consultation summary

5 June 2020 Invitation to CEMP and sub-plan briefing.

10 June 2020 CEMP and sub-plan "Zoom" briefing to Relevant Government Agencies/. Councils/ Authorities/Service providers.

16 June 2020 Open invitation to all stakeholders for drop in Q&A session.

19 June 2020 Original closure of consultation period.

3 July 2020 Email sent to all organisations identifying (a) how all comments received on this Sub-Plan were addressed and closed; and (b) confirming formal consultation period is closed.

Comment status at time of submission to DPIE

- Comments received on this Sub-Plan from:
 - o City of Sydney Council closed
 - o Inner West Council closed
 - Sydney Water **closed**
- No comments received on this Sub-Plan from:
 - o City of Canterbury Bankstown Council closed



Appendix 2 - Unexpected Heritage Finds and Human Remains **Procedure**



Unexpected Heritage Finds and Human Remains Procedure

1 Key information

1.1 Why is this plan required?

In New South Wales, there are strict laws to protect and manage heritage objects and relics. As a result, appropriate heritage management measures need to be implemented to minimise impacts on heritage values, ensure compliance with relevant heritage notification and obligations, and to minimise the risk of penalties to individuals, TransGrid and its contractors.

1.2 Purpose

The purpose of this document is to provide guidance for site personnel in the event that an unexpected heritage find or human remains is encountered on a TransGrid Site.

1.3 What is an unexpected heritage find?

An 'unexpected heritage find' can be defined as any unanticipated archaeological discovery not identified during a previous assessment or not covered by an existing permit under relevant legislation such as the NP&W Act or Heritage Act. The find may have potential cultural heritage value, requiring a statutory cultural heritage permit or notification if any interference of the heritage item is proposed or anticipated.

The range of potential archaeological discoveries can include but are not limited to:

- Aboriginal stone artefacts, shell middens, burial sites, engraved rock art, scarred trees;
- remains of buildings, footings, stations, rail lines, bridges and culverts;
- remains of other infrastructure including sandstone or brick buildings, wells, cisterns, drainage services, conduits, old kerbing and pavement, former road surfaces, timber and stone culverts, bridge footings and retaining walls;
- artefact scatters including clustering of broken and complete bottles, glass, ceramics, animal bones and clay pipes; and
- · archaeological human skeletal remains.

2 Unexpected heritage finds protocol

In the event that an unexpected heritage find (the 'find') is encountered on a site, the flowchart in Figure 2-1 should be followed. Section 2.1 provides additional information on the process related to Aboriginal objects or human remains. Section 2.2 provides additional detail related to Historic (non-Aboriginal) finds.

MPORTANT!

If you think that you may have discovered a heritage item and you are unsure whether an approval is in place or not, STOP works and follow this procedure.



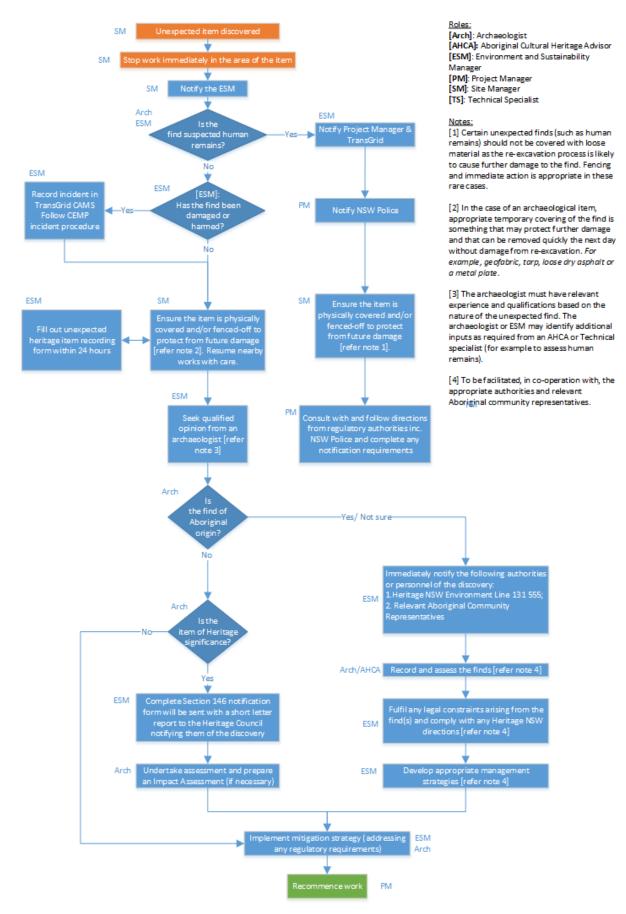


Figure 2-1 Unexpected Heritage Finds Protocol



2.1 Aboriginal objects or human remains

If unexpected Aboriginal objects or human remains are uncovered in the project area during construction, TransGrid and its contractors Unexpected Finds Protocol will be initiated. This includes:

- 1. All ground surface disturbance in the area of finds must cease immediately when the finds are uncovered and relevant personnel will be notified;
- 2. If the find is suspected to be human skeletal material, the NSW Police will be contacted immediately;
- 3. If there is substantial doubt regarding an Aboriginal origin for the finds, then a qualified opinion from an archaeologist will be sought as soon as possible If a qualified opinion cannot be gained or the identification is positive, immediately notify the following authorities or personnel of the discovery:
 - a. Heritage NSW (Environment Line: 131 555);
 - b. Relevant Aboriginal Community Representatives .
- 4. Facilitate, in co-operation with the appropriate authorities and relevant Aboriginal community representatives:
 - a. the recording and assessment of the finds;
 - b. fulfilling any legal constraints arising from the find(s). This will include complying with Heritage NSW directions; and
 - c. the development and conduct of appropriate management strategies. Strategies will depend on consultation with stakeholders and the assessment of the significance of the find(s).

Where the find(s) are determined to be Aboriginal Objects, any re-commencement of construction related ground surface disturbance will only resume in the area of the find(s) following the preparation of an ACHMP for the project, if one does not already exist.

2.2 Historic (non-Aboriginal) finds

In the event that unexpected historic finds are identified during construction, all works will immediately cease at that area. Unexpected finds may include artefact scatters (including glass, animal bone, ceramic, brick and metal), building foundations and earthworks of unknown origin. The following procedure guides the management of unexpected and previously unidentified finds during the course of project works:

- 1. all work in the area must cease immediately;
- 2. alert the Environment and Sustainability Manager to the find;
- 3. if necessary, protect the area with fencing;
- engage a suitably qualified archaeologist to undertake an assessment of the find/s:
- if it is determined the relic is likely to be significant, a Section 146 notification form will be sent with a short letter report to the Heritage Council notifying them of the discovery;
- an assessment will be undertaken using the guidelines Assessing Significance for Historical Archaeological Sites and 'Relics' (NSW Heritage Branch, 2009);
- on the advice of the archaeologist, if necessary, prepare an Impact
 Assessment with Research Design and Methodology to submit to the
 Heritage Division along with a Section 140 excavation permit to undertake
 archaeological works;



- 8. undertake the archaeological mitigation in accordance with the prepared documents and any permit/exception issued by the Heritage Division; and
- 9. once the site has been mitigated to the satisfaction of the archaeologist and the Heritage Division, works may resume in the area.

3 Legislative requirements

Table 3-1 identifies some of the relevant legislation/regulations for the protection of heritage and the management of unexpected heritage finds in NSW. It should be noted that significant penalties exist for breaches of the listed legislation as a result of actions that relate to unauthorised impacts on heritage items. Further, it is noted that heritage that has been assessed and is being managed in accordance with an environmental impact assessment is exempt from these offences.

To avoid breaches of legislation, it is important that TransGrid and its contractors are aware of their legislative obligations under relevant legislation and that appropriate management measures are in place to avoid impacts on unexpected heritage items during construction. Contractors/alliances will need to ensure that they undertake their own due diligence to identify any other legislative requirements that map apply for a given project.

Table 3-1 Legislation and guidelines for management of unexpected heritage finds

Legislative requirements	Objectives and offences			
Environmental	Requires heritage to be considered within the environmental impact assessment of projects.			
Planning and Assessment Act 1979 (EP&A Act)	This guideline is based on the premise that an appropriate level of Aboriginal and non-Aboriginal cultural heritage assessment and investigations and mitigation have already been undertaken under the relevant legislation, including the EP&A Act, during the assessment and determination process. It also assumes that appropriate mitigation measures have been included in the conditions of any approval.			
National Parks	Provides for the protection and management of Aboriginal objects.			
and Wildlife Act 1974 (NPW Act)	An Aboriginal object is defined as: 'any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains'.			
	It is an offence to harm or desecrate an Aboriginal object or place. These are strict liability offences. An offence cannot be upheld where the harm or desecration was authorised by an Aboriginal heritage impact permit and the permit's conditions were not contravened.			
	A person must notify the Heritage Branch of OEH if a person is aware of the location of an Aboriginal object.			
	Penalties for some of the offences can include 2 years imprisonment and/or up to \$550,000 (for individuals), and a maximum penalty of \$1.1million (for corporations).			
Heritage Act	Provides for the care, protection and management of relics.			
1977	A relic is defined as: 'any deposit, artefact, object or material evidence that: (a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and (b) is of State or local heritage significance.'			
	It is an offence to disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed, unless the disturbance or excavation is carried out in accordance with an excavation permit issued by the Heritage Branch of the OEH.			
	A person must notify the Heritage Branch of OEH, if a person is aware or believes that they have discovered or located a relic. Penalties for offences under the Heritage Act can include 6 months imprisonment and/or up to \$1.1million.			



4 Types of unexpected heritage items and their legal protection

The roles of project, field and environmental staff are critical to the early identification and protection of unexpected heritage items. The CHMP Appendix 4 *TransGrid Environmental Guidance Note: Heritage* illustrates the wide range of heritage discoveries found on TransGrid projects and provides a useful photographic guide. Subsequent confirmation of heritage discoveries must then be identified and assessed by a specialists (usually an archaeologist).

An 'unexpected heritage item' means any unanticipated discovery of an actual or potential heritage item, for which TransGrid does not have approval to disturb¹ or does not have a safeguard in place (apart from this procedure) to manage the disturbance.

These discoveries are categorised as either:

- Aboriginal objects;
- Historic (non-Aboriginal) heritage items; or
- · Human skeletal remains.

The relevant legislation that applies to each of these categories is described below.

4.1 Aboriginal objects

The *National Park and Wildlife Act 1974* protects Aboriginal objects which are defined as:

"any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non Aboriginal extraction, and includes Aboriginal remains"².

Examples of Aboriginal objects include stone tool artefacts, shell middens, axe grinding grooves, pigment or engraved rock art, burials and scarred trees.

MPORTANT!

All Aboriginal objects, regardless of significance, are protected under law.

If any impact is expected to an Aboriginal object, an Aboriginal Heritage Impact Permit (AHIP) is usually required from the Heritage NSW³. Also, when a person becomes aware of an Aboriginal object they must notify the Department of Premier and Cabinet (DPC) about its location (Former OEH).

4.2 Historic heritage items (non-Aboriginal)

Historic (non-Aboriginal) heritage items may include:

- Archaeological 'relics'; or
- Other historic items (i.e. works, structures, buildings or movable objects).

¹ Disturbance is considered to be any physical interference with the item that results in it being destroyed, defaced, damaged, harmed, impacted or altered in any way (this includes archaeological investigation activities).

² Section 5(1) National Park and Wildlife Act 1974.

³ For Part 5.1 of the *EP&A Act* applies.



4.2.1 Archaeological relics

The Heritage Act 1977 protects relics which are defined as:

"any deposit, artefact, object or material evidence that relates to the settlement of the area that comprises NSW, not being Aboriginal settlement; and is of State or local heritage significance"⁴.

Relics are archaeological items of local or state significance which may relate to past domestic, industrial or agricultural activities in NSW, and can include bottles, remnants of clothing, pottery, building materials and general refuse.

MPORTANT!

All relics are subject to statutory controls and protections.

If a relic is likely to be disturbed, a heritage approval is usually required from the NSW Heritage Council⁵. Also, when a person discovers a relic, they must notify the NSW Heritage Council of its location⁶.

4.2.2 Other historic items

Some historic heritage items are not considered to be 'relics'; but are instead referred to as works, buildings, structures or movable objects. Examples of these items that TransGrid may encounter include culverts, historic road formations, historic pavements, buried roads, retaining walls, tramlines, cisterns, fences, sheds, buildings and conduits. Although an approval under the *Heritage Act 1977 (NSW)* may not be required to disturb these items, their discovery must be managed in accordance with this procedure.

As a general rule, an archaeological relic requires discovery or examination through the act of excavation. An archaeological excavation permit under Section 140 of the *Heritage Act* is required to do this. In contrast, 'other historic items' either exist above the ground's surface (e.g. a shed), or they are designed to operate and exist beneath the ground's surface (e.g. a culvert).

Despite this difference, it should be remembered that relics can often be associated with 'other heritage items', such as archaeological deposits within cisterns and underfloor deposits under buildings.

4.3 Human skeletal remains

Human skeletal remains can be classed as:

- Reportable deaths;
- Aboriginal objects; or
- · Relics.

Where it is suspected that less than 100 years has elapsed since death, human skeletal remains come under the jurisdiction of the State Coroner and the *Coroners*

⁴ Section 4(1) Heritage Act 1977.

⁵ Except when Part 3A, Division 4.1 of Part 4 or Part 5.1 of the EP&A Act applies.

⁶ This is required under s146 of the *Heritage Act 1977* and applies to all projects assessed under Part 3A, Part 5.1 of the EP&A Act, including exempt development.



Act 2009 (NSW). Under s 35(2) of the Act, a person must report the death to a police officer, a coroner or an assistant coroner as soon as possible. This applies to all human remains less than 100 years old⁷ regardless of ancestry. Public health controls may also apply.

Where remains are suspected of being more than 100 years old, they are considered to be either Aboriginal objects or non-Aboriginal relics depending on the ancestry of the individual. Aboriginal human remains are protected under the *National Parks and Wildlife Act 1974*, while non-Aboriginal remains are protected under the *Heritage Act 1977*.

The approval and notification requirements of these Acts are described above in Section 2. Additionally, the discovery of Aboriginal human remains also triggers notification requirements to the Commonwealth Minister for the Environment under s 20(1) of the Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth).

MPORTANT!

All human skeletal remains are subject to statutory controls and protections.

All bones must be treated as potential human skeletal remains and work around them must stop while they are protected and investigated urgently.

⁷ Under s 19 of the *Coroners Act 2009*, the coroner has no jurisdiction to conduct an inquest into reportable death unless it appears to the coroner that (or that there is reasonable cause to suspect that) the death or suspected death occurred within the last 100 years.



5 Responsibilities

The following roles and responsibilities in Table 5-1 are relevant to this procedure:

Table 5-1 Roles and responsibility

Role	Responsibility				
Archaeologist (Arch)	Professional consultant, on call, contracted on a case-by-case basis to provide heritage and archaeological advice and technical services (such as reports, heritage approval documentation etc).				
	May identify additional inputs as required from an AHCA or Technical specialist.				
Aboriginal Cultural Heritage Advisor (ACHA)	Provides Aboriginal cultural heritage advice to project teams. Acts as Aboriginal community liaison for projects on cultural heritage matters. Engages and consults with the Aboriginal community.				
Civil Project Manager CPM)	Ensures site based personnel stop work in the vicinity of an unexpected heritage item.				
	Ensures site based personnel are aware of this procedure. Supports the Environment and Sustainability Manager during the implementation of this procedure and ensures reporting of unexpected heritage items through environment management systems.				
Environment and Sustainability Manager	Completes Unexpected Heritage Item Recording Form. Escalates to PM as required.				
(ESM)	Provides technical assistance on this procedure and archaeological technical matters, as required. Reviewing the archaeological management plans and facilitating heritage approval applications, where required. Assists with regulator engagement, where required.				
	May identify additional inputs as required from an AHCA or Technical specialist.				
Project Manager (PM)	Ensures all aspects of this procedure are implemented. The Project Manager can delegate specific tasks personnel, where appropriate.				
Technical Specialist (TS)	Professional consultant contracted to provide specific technical advice that relates to the specific type of unexpected heritage find (e.g. a forensic or physical anthropologist who can identify and analyse human skeletal remains).				

6 Seeking advice

Advice on this procedure should be sought from TransGrid environment staff in the first instance.

Technical archaeological or heritage advice regarding an unexpected heritage item should be sought from the contracted archaeologist. Technical specialist advice can also be sought from heritage staff within TransGrid to assist with the preliminary archaeological identification and technical reviews of heritage/archaeological reports.



Appendix A – Unexpected Heritage Recording Form



Project:		TransGrid – Powering Sydney's Future				
		Potts Hill to Alexandria transmission cable project (SSI 8583)				
Date						
Recorded by						
Description of works being undertaken						
eg Removal of failed pavement by excavation and pouring concrete slabs in 1m x 1m replacement sections						
Description of exact location of item						
eg Within the road formation on Parramatta Road, east bound lane, at the corner of Johnston Street, Annandale, Sydney.						
Description of item found						
What type of item is it likely to be?	Tick th	ne relevant boxes				
A. A relic		A 'relic' is evidence of a past human activity relating to the settlement of NSW with local or state heritage significance. A relic might include bottles, utensils, plates, cups, household items, tools, implements, and similar items.				
B . A 'work, building or structure'		A 'work' can generally be defined as a form infrastructure such as tram tracks, a culvert, road base, a bridge pier, kerbing, and similar items.				
C. An Aboriginal object		An 'Aboriginal object' may include stone tools, stone flakes, shell middens, rock art, scarred trees and human bones.				
D. Bone		Bones can either be human or animal remains.				
		Remember that you must contact the local police immediately by telephone if you are certain that the bone(s) are human remains.				
E. Other						
Provide short description of item						
eg Metal tram tracks running parallel to road alignment. Good condition. Tracks set in concrete, approximately 10cms (100 mm) below the current ground surface.						



Sketch
Provide a sketch of the item's general location in relation to other road features so its approximate location can be mapped without having to re-excavate it. In addition, please include details of the location and direction of any photographs of the item taken.
Action taken Tick either A or B
A . Unexpected item <u>would no</u> t be further impacted on by works \square
Describe how works would avoid impact on the item . eg The tram tracks will be left in situ, and recovered with road paving.
B . Unexpected item <u>would be</u> further impacted on by works \square
Describe how works would impact on the item. eg Milling is required to be continued to 200 mm depth to ensure road pavement requirements are met. Tram tracks will need to be removed.
Project manager / Environmental and Sustainability Manager signature

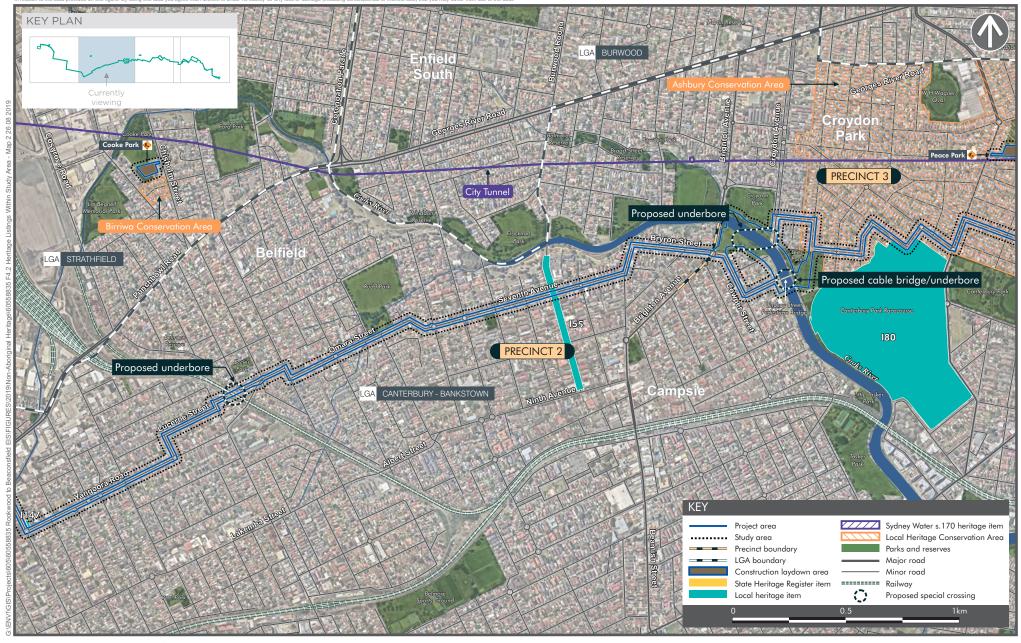


Appendix 3 – Heritage Items

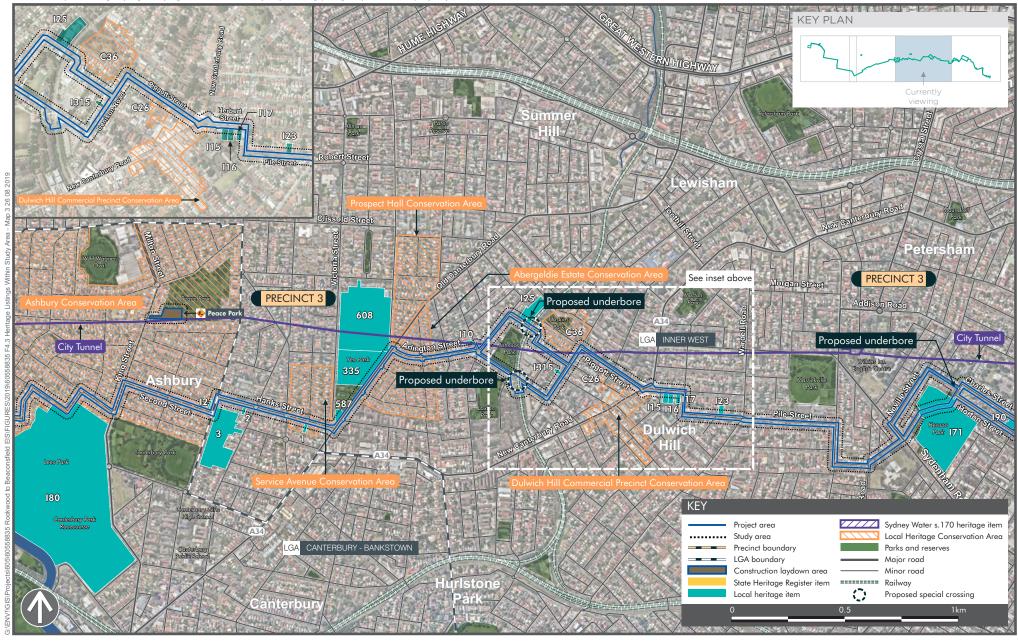












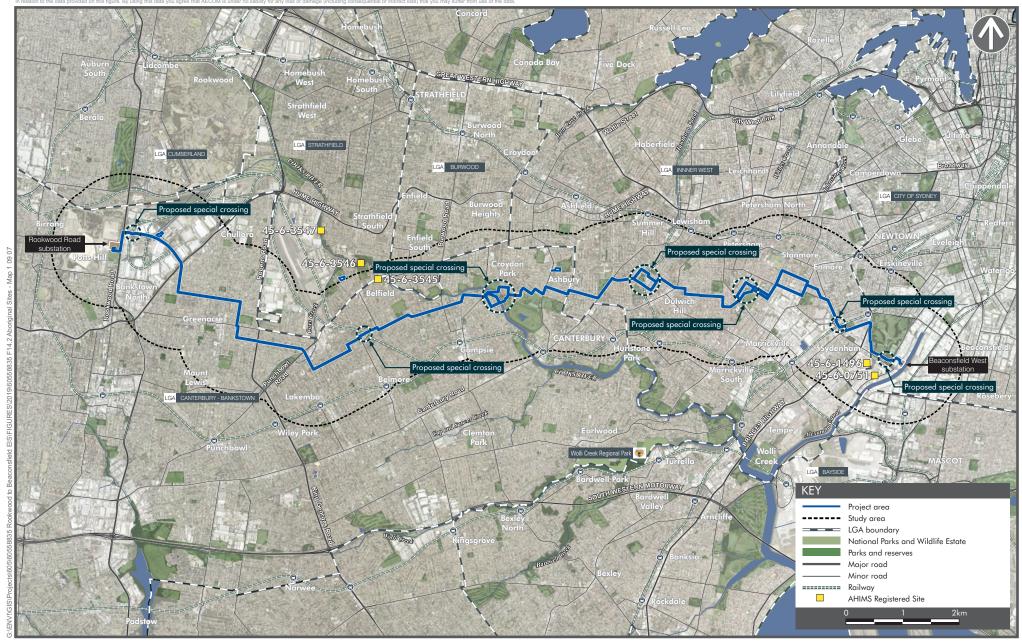














REGISTERED ABORIGINAL SITES - MAP 1





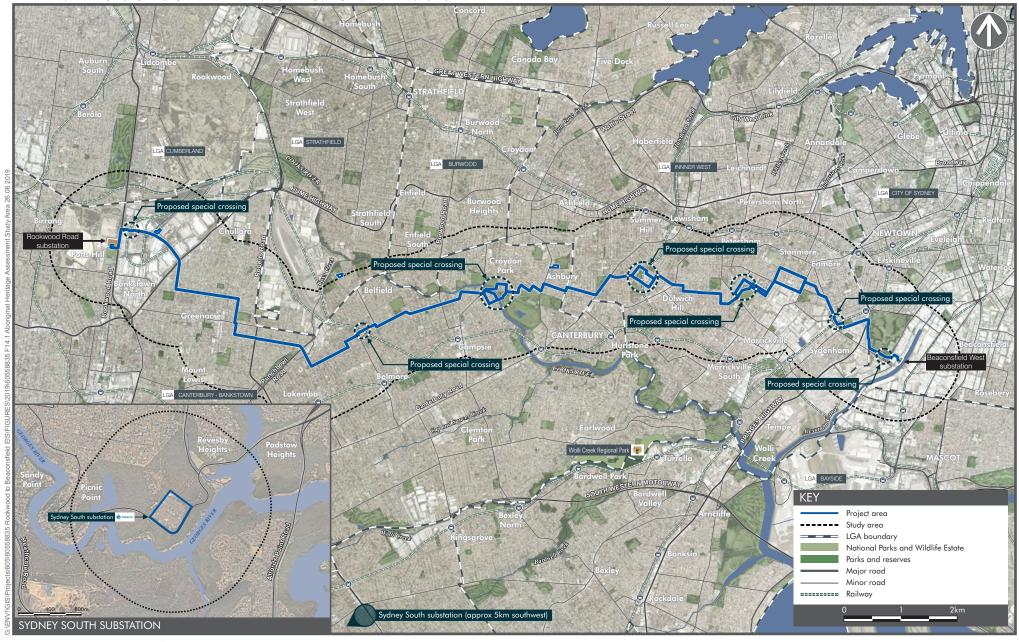
REGISTERED ABORIGINAL SITES - MAP 2







AREA OF ABORIGINAL ARCHAEOLOGICAL SENSITIVITY







ABORIGINAL HERITAGE ASSESSMENT STUDY AREA





Infrastructure

Centreline RevC

Joint bays RevC

Bridge RevC

HDD RevC

Heritage

Potential Aboriginal archaeological sensitivity

NonAboriginal LEP

State Heritage

Sydney Water s170







Legend

Infrastructure

Centreline RevC

Joint bays RevC

Bridge RevC HDD RevC

Heritage

Potential Aboriginal archaeological sensitivity

NonAboriginal LEP

State Heritage

Sydney Water s170







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Joint bays RevC

Bridge RevC

HDD RevC

Heritage

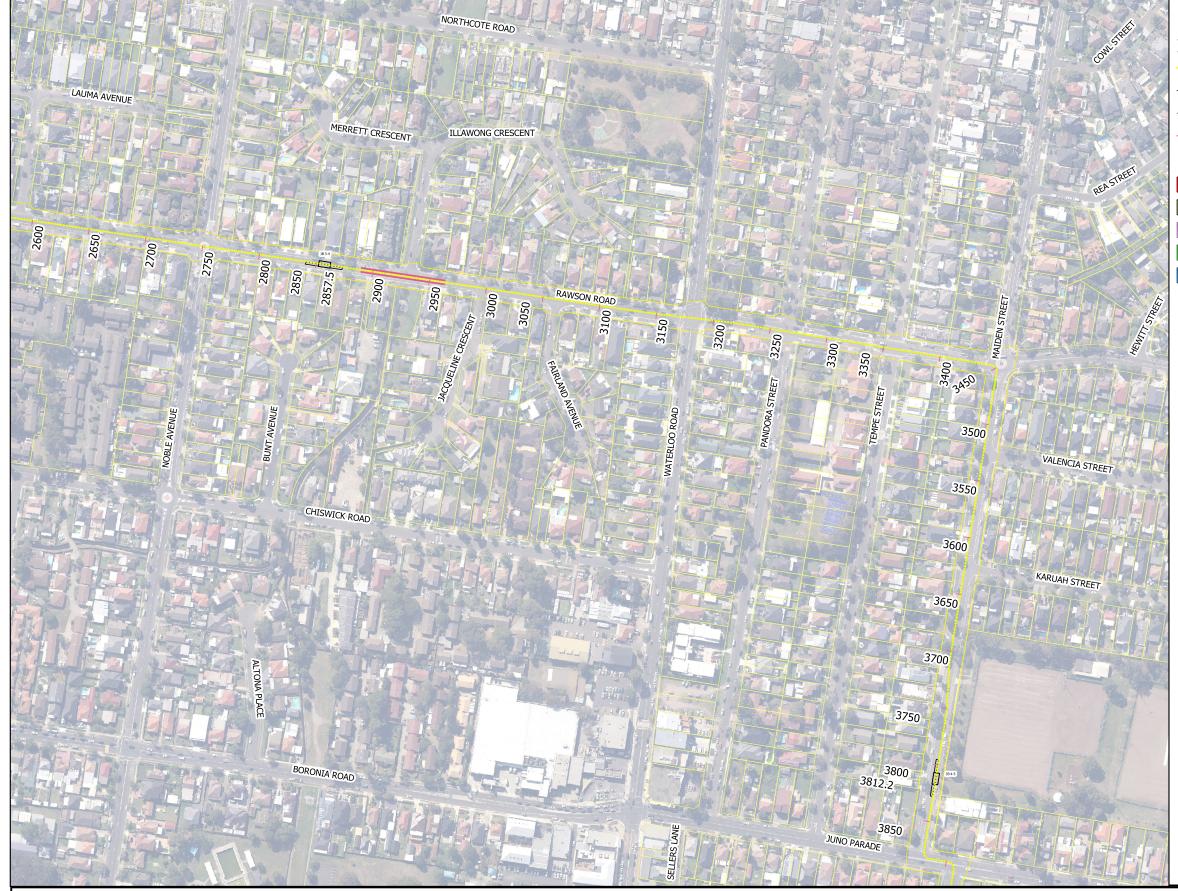
Potential Aboriginal archaeological sensitivity

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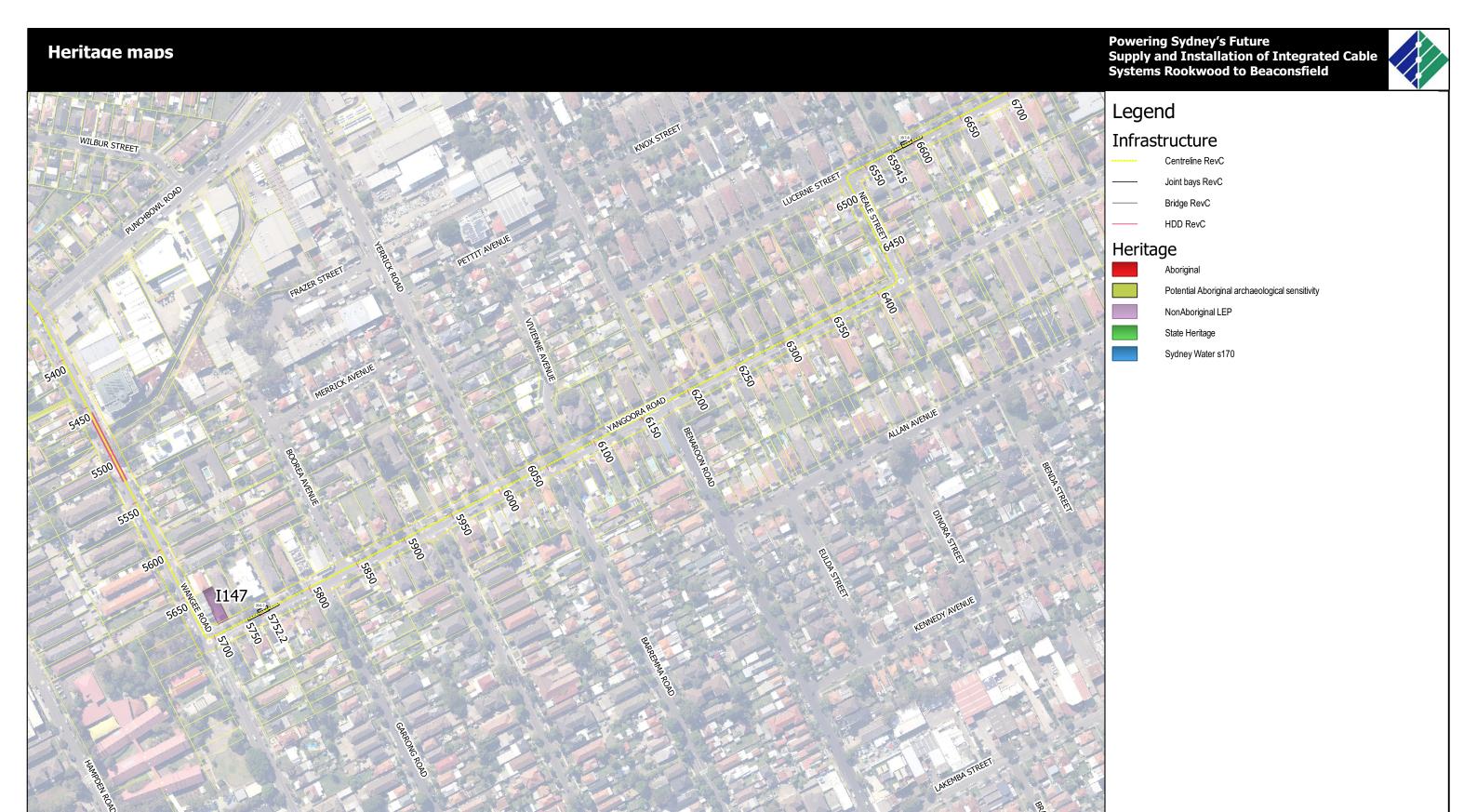
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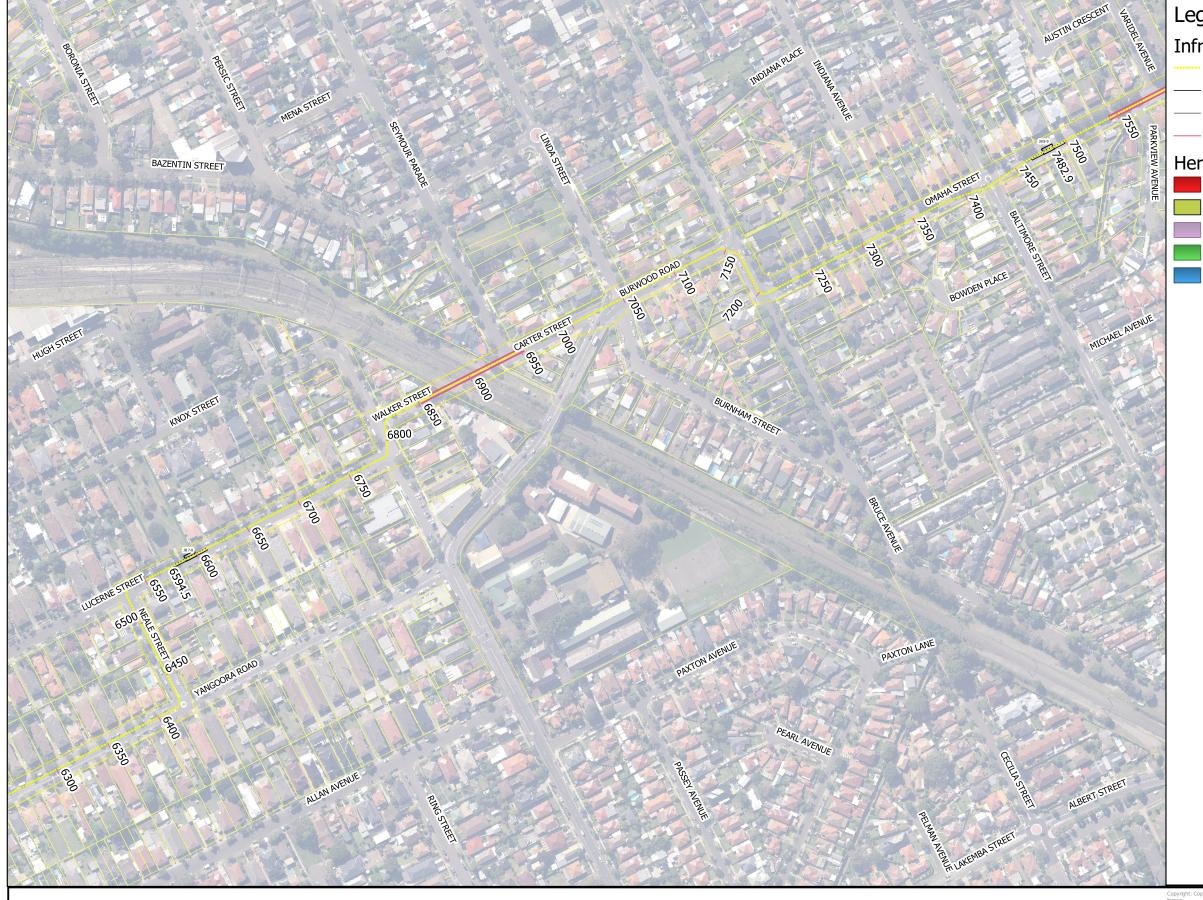
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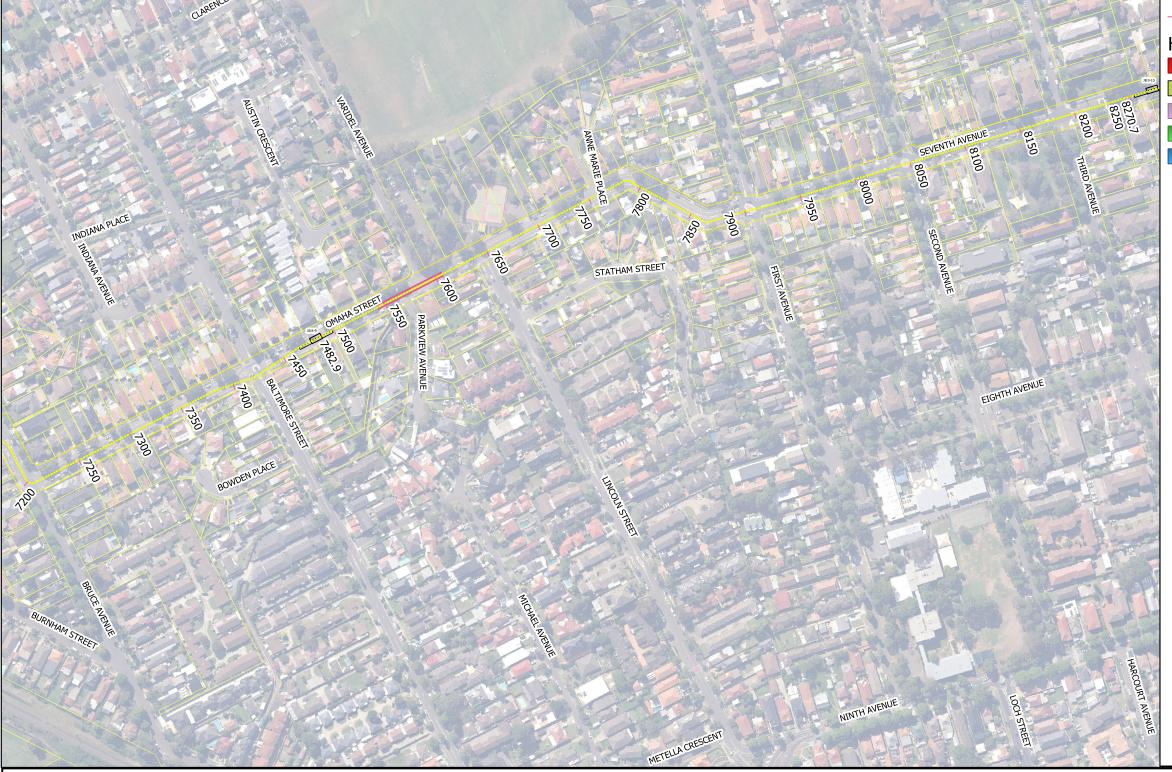
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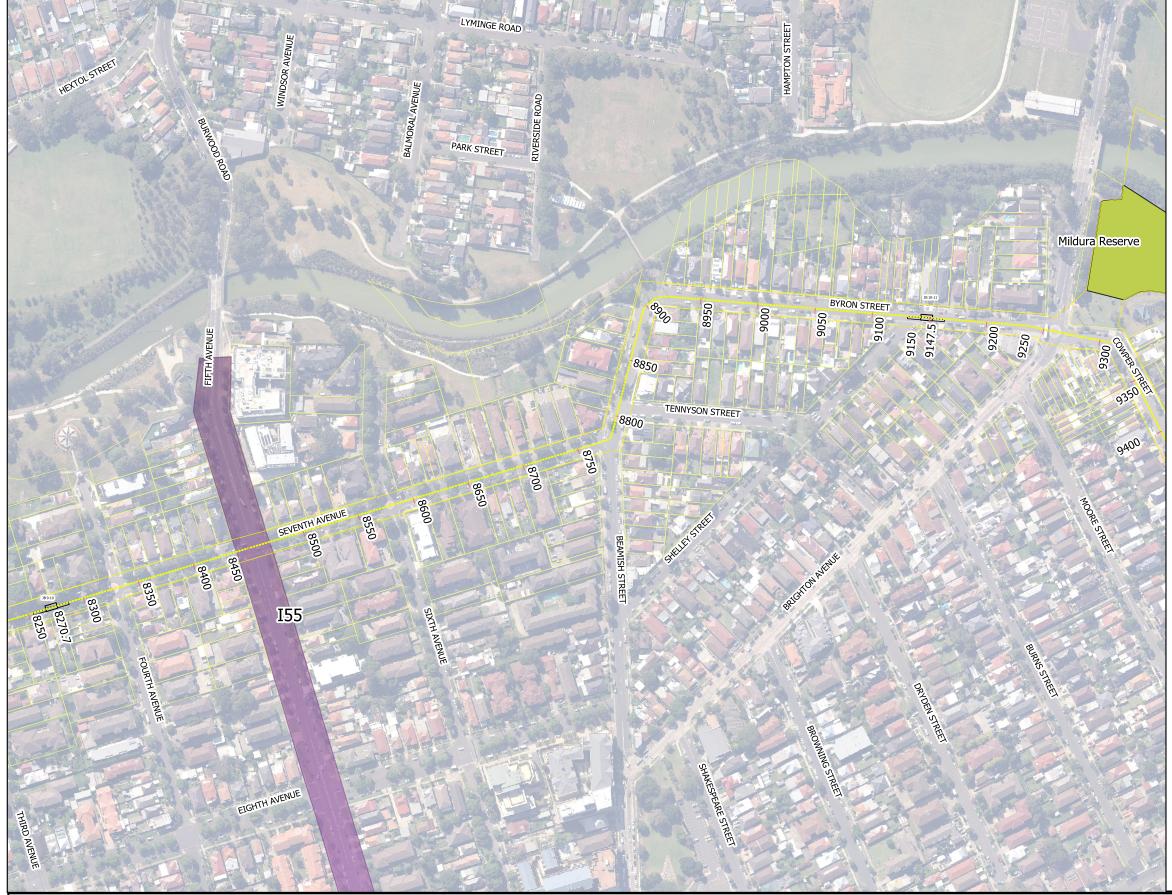












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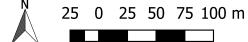
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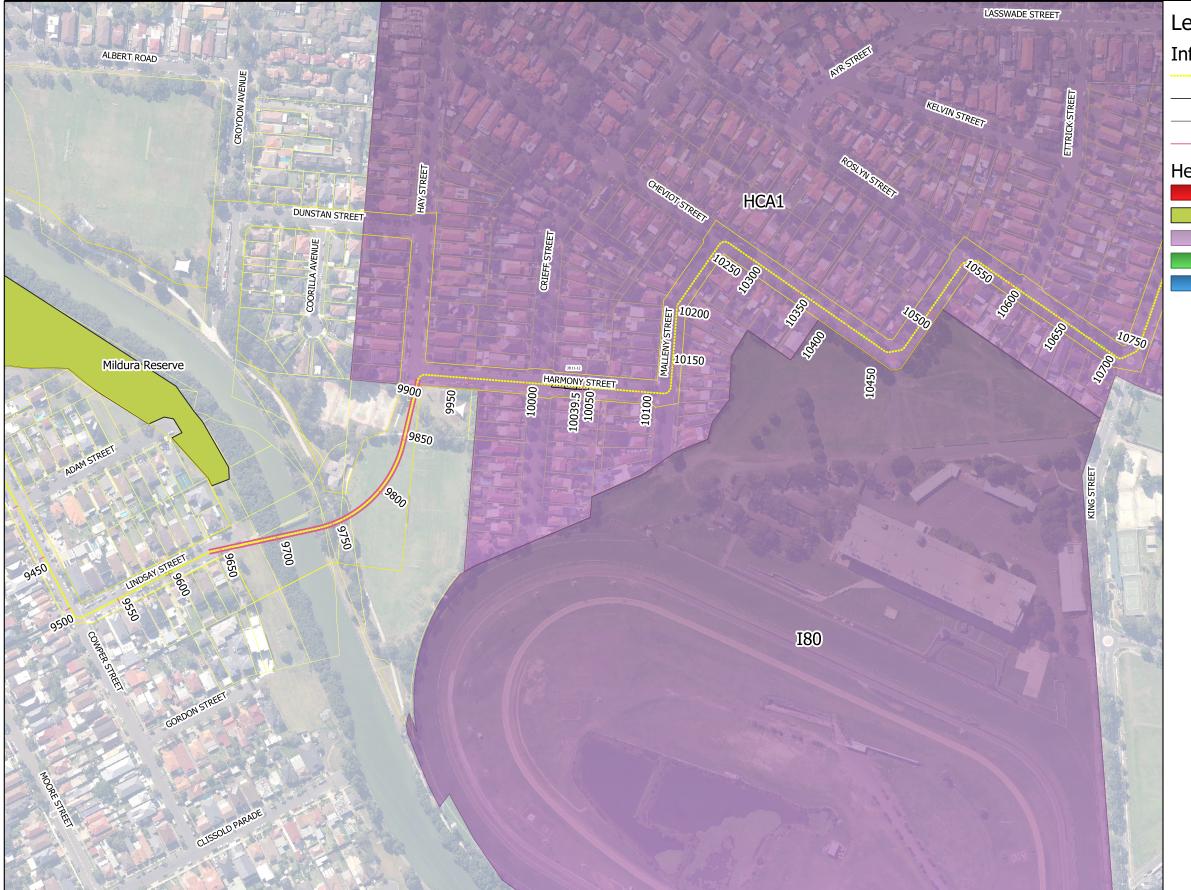
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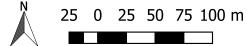
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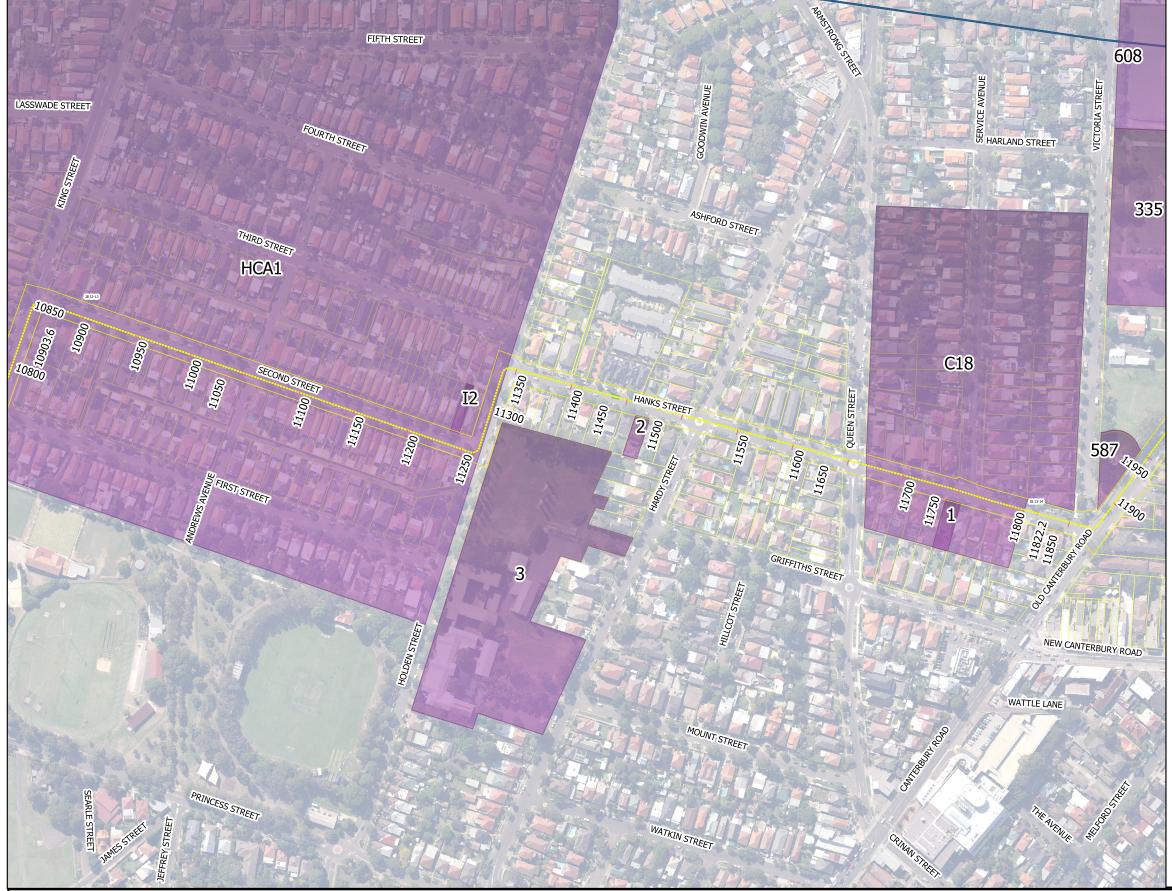
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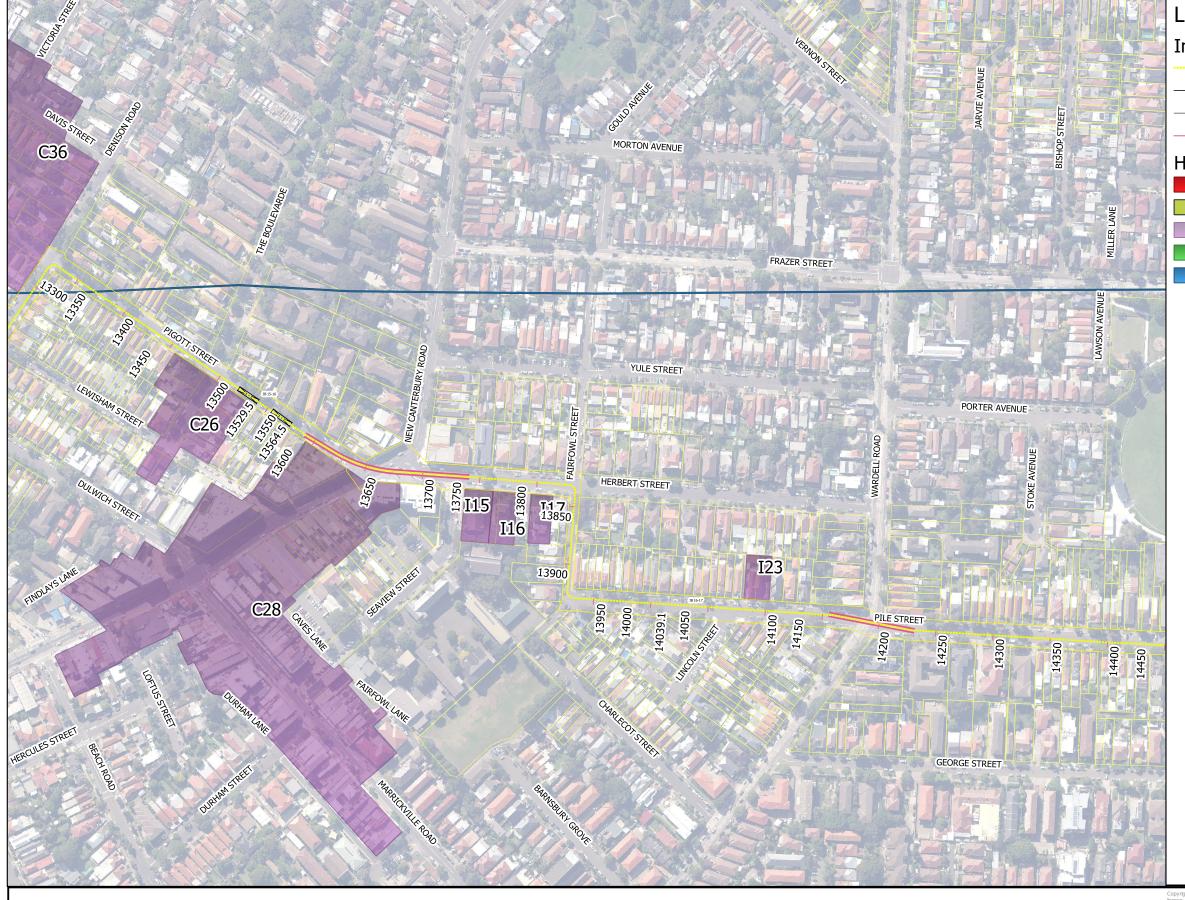
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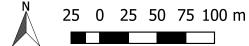
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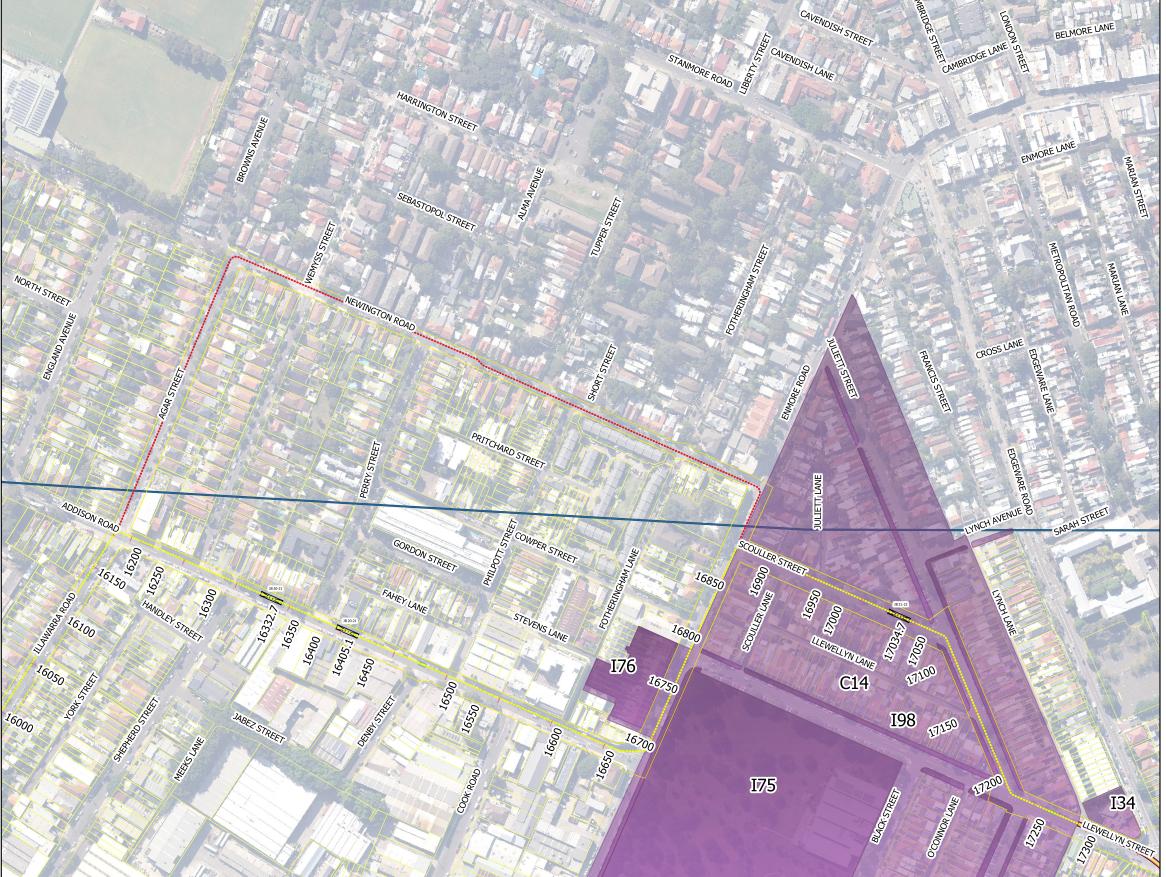
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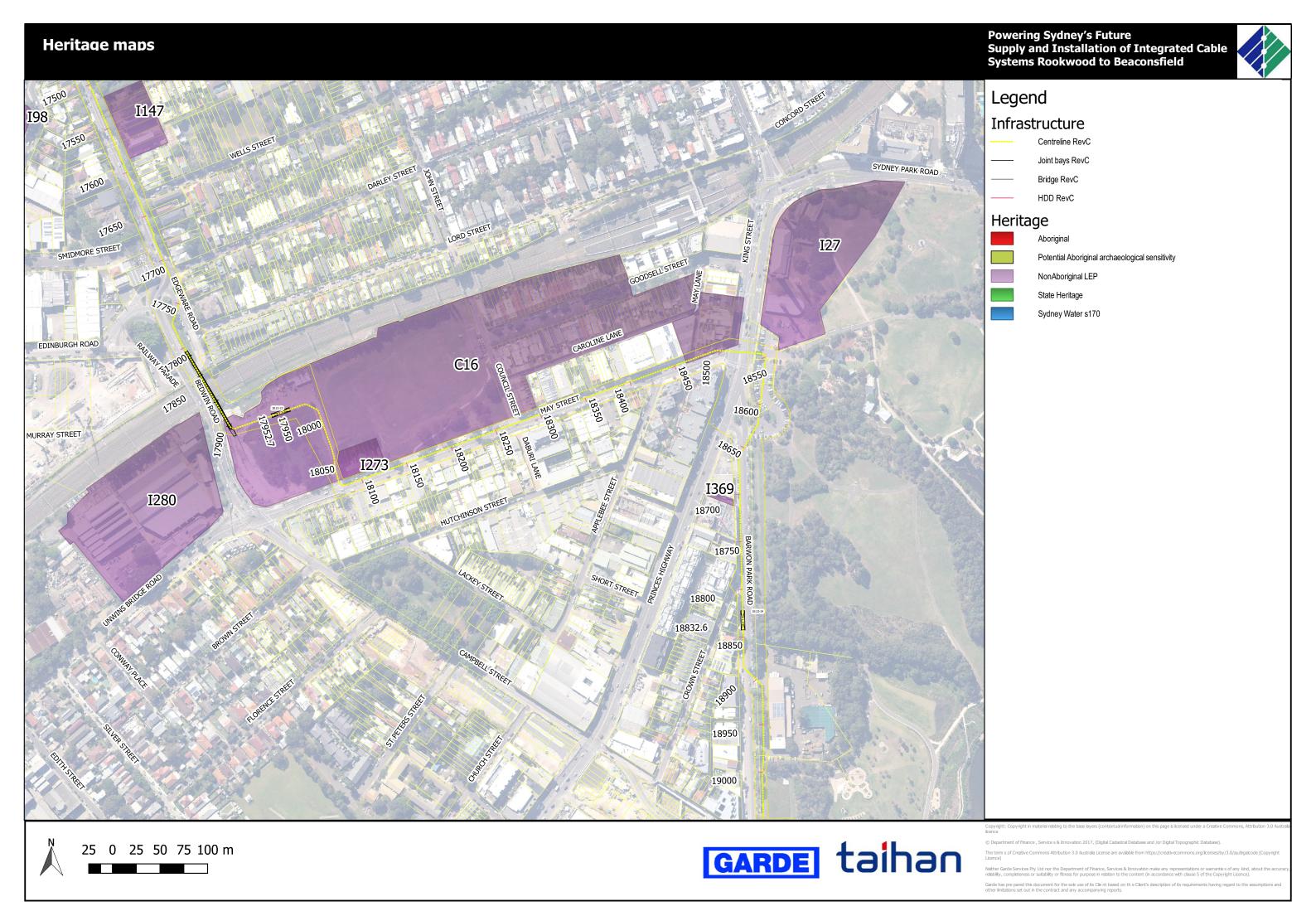
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Appendix 4 – TransGrid Environmental Guidance Note: Heritage

Environmental Guidance Note Heritage



Authorised by: Krista Fogarty Issue date: 22/3/19 HP TRIM No. D2019/01109

This Guidance Note outlines the processes & mitigation measures to avoid *harm* to heritage items identified / flagged in the vicinity of proposed *maintenance works*.

TransGrid's EAF requires all maintenance works that may cause harm to heritage are assessed by an Authorised Officer.

Significant Aboriginal, cultural & European heritage sites may flag on or in the vicinity of TransGrid's easements, properties & tracks used for access. It is an offense to harm or destroy cultural heritage objects. Cultural heritage information (sourced from AHIMs) & State / locally listed heritage sites in the vicinity of TransGrid's Easements are mapped in TransGrid's TSS system.

There are many types of aboriginal cultural sites / objects, including:

- > Quarries
- > Middens
- > Stone Tools & fragments
- > Engravings
- > Art
- > Grinding grooves & wells

<u>European Heritage (State Heritage Register) flagged near TransGrid assets may include:</u>

- > Canals
- Old buildings / ruins (for example Bathurst Migrant Camp in TL 944 Span 173)
- > Pipelines
- > Bridges

Determining if harm is likely?

Will activities disturb the heritage item, the ground surface or any culturally modified tree?

Depending on the type of heritage site, *harm* may occur where the following activities are undertaken in the vicinity of heritage sites:

Disturbance of the ground by using mobile plant/machines, such as:

- > Access with heavy plant or equipment with steel tracks,
- > Mulching/slashing operations, &
- > Pruning or removal of mature trees.

Where heritage sites flag in the vicinity of proposed works an assessment of whether *harm* is likely must be undertaken by an E5

CONTROL MEASURES TO MITIGATE HARM

Locations of flagged heritage sites must be shown on either Work Plans or associated maps

All staff & contractors to be made aware of identified heritage sites/areas & the control measures to protect heritage items including tagging/barricading sites prior to the commencement of work

Any excavation or ground disturbing works in the vicinity of identified cultural heritage sites must be reviewed by a TransGrid Environmental Officer (E5)

Where potential *harm* is unavoidable, an AHIP may be required. Consult with the local TransGrid Environmental Officer to assess the proposed works. For approval of potential harm of Aboriginal cultural heritage, an AHIP is required & works must be in accordance with AHIP Conditions.



Well & grinding grooves



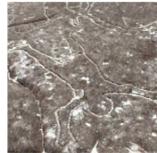
Artefacts



Stone quarry



Tree Scar (from bark removal for a shield



Engravings



European Heritage ruins



Shell midden

<u>Unexpected Finds</u> – If during the work you identify potential heritage, cease work immediately, advise workers of the site & contact the site supervisor. Contact TransGrid's Environmental Officer, who will arrange for a qualified archaeologist to attend site. If suspected human remains are discovered, contact the police.



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