



Heritage Management Sub-Plan C2B

Line-wide Works Contract Sydney Metro City & Southwest

Project number:	C600
Document number:	SMCSWLWC-SYC-1NL-PM-PLN-000375
Revision date:	30/09/2021
Revision:	2

Document Approval

Document Approval		
Signature:		
30/09/2021	M Billings	S Hunter

Details of Revision Amendments

Document Control

The Project Director is responsible for ensuring that this Sub-Plan is reviewed and approved. The Environment and Sustainability Manager is responsible for updating this Sub-Plan to reflect changes to Environmental legal and other requirements, as required. A controlled version of this Sub-Plan will be available electronically at all Project locations.

Amendments

Any revisions or amendments must be approved by the Project Manager and/or client before being distributed / implemented.

Revision Details

Revision	Date	Prepared by	Details
A	25/11/2019	K Truscott	Issued for review. This version of this Sub-Plan addresses compliance requirements under CSSI 7400 and CSSI 8256 Planning Approvals as per the Sydney Metro Staging reports.
B	17/12/2019	A Taylor	Updated to address comments from Stakeholders .
0	13/02/2020	J Lindberg (AMBS)	Updated to Address DPIE Comments – For approval
1	15/10/2020	K Truscott	Scheduled review Updates to Section 2.2 Compliance Requirements, Section 1.2 Background, Table 7 Existing Heritage Chatswood to Sydenham, Section 6.2 Heritage Unexpected Finds Protocol
2	30/09/2021	K Truscott	Scheduled review of plan and procedure Addition of REMM NHA11 to Element 4

HMSP COMPLIANCE MATRIX

Construction Environmental Management Framework – Sydney Metro City & Southwest (2017)		
Condition	Requirement	Reference
3.4a	Subject to Section 3.3(b) and Section 3.2(b) the Principal Contractor will prepare issue-specific environmental sub plans to the CEMP and SMP which address each of the relevant environmental impacts at a particular site or stage of the project. Issue specific sub plans will include: (vi) Heritage management	This Sub-Plan
10.2a	Principal Contractors will develop and implement a Heritage Management Plan which will include as a minimum:	
(i)	Evidence of consultation with the Registered Aboriginal Parties and the NSW Heritage Council;	Section 1.6 Appendix C2
(ii)	Identify initiatives that will be implemented for the enhancement of heritage values and minimisation of heritage impacts, including procedures and processes that will be used to implement and document heritage management initiatives;	Part B and Appendix C1
(iii)	The heritage mitigation measures as detailed in the environmental approval documentation;	Section 6.1
(iv)	The responsibilities of key project personnel with respect to the implementation of the plan;	Section 3
(v)	Procedures for interpretation of heritage values uncovered through salvage or excavation during detailed design;	Design requirement
(vi)	Procedures for undertaking salvage or excavation of heritage relics or sites (where relevant), consistent with and any recordings of heritage relics prior to works commencing that would affect them;	Appendix C1
(vii)	Details for the short and / or long term management of artefacts or movable heritage;	Section 6.2
(viii)	Details or management measures to be implemented to prevent and minimise impacts on heritage items (including further heritage investigations, archival recordings and/or measures to protect unaffected sites during construction works in the vicinity);	Section 6.2, 6.3 & 6.4
(ix)	Procedures for undertaking unexpected finds, including procedures for dealing with human remains;	Section 6.2 and Appendix C1
(x)	Heritage monitoring requirements; and	Element 2:
(xi)	Compliance record generation and management.	Element 2:

Table 3 - Summary of LW scope for Portions 2, 3 and 4

LW Portions	Scope
Portion 2 – SMTF South (LW are Principal Contractor)	Construction of Sydney Metro Trains Facility South, in Marrickville, including: <ul style="list-style-type: none"> • Civil works • Track system comprising stabling, shunting and maintenance roads • Infrastructure maintenance facilities including a maintenance workshop, siding, materials storage facilities and parking • Train maintenance facilities • Overhead wiring for new track systems • Mechanical, hydraulic and electrical services for the facility • Administration buildings • Groundwater treatment plant
Portion 3 – Chatswood to Sydenham tunnels and stations works (LW are Principal Contractor for Northern Dive, Artarmon Substation, BPS routes, tunnels and a small area within Barangaroo site)	Tunnel and underground station works including the systems, services and building works within, and required for operation of the tunnels, Barangaroo crossover cavern, trackway and the Southern Dive. Open Northern Dive works including civil, structural and track systems work to incorporate SMCSW with SMNW systems. Construction of Artarmon bulk power supply substation. Bulk Power Supply works including cable routes of 33kV feeders from: <ul style="list-style-type: none"> • Ausgrid’s Willoughby Sub-Transmission Substation to the Artarmon bulk supply infeed substation • Ausgrid’s Surry Hills Sub-Transmission Substation to the bulk supply infeed substation within Waterloo Station
Portion 4 – Sydenham to Bankstown works (LW are Principal Contractors for Substation sites and BPS routes)	Bulk Power Supply works including cable routes of 33kV feeders from Ausgrid’s Canterbury Sub-Transmission Substation to the Campsie bulk supply infeed substation. Southwest corridor power works from Sydenham to Bankstown, including: <ul style="list-style-type: none"> • a HV Reticulation System • a Traction Power System • a Power Control System • an Earthing and Bonding System, Electrolysis Control Measures and Lightning Protection

1.5.2 Staging

In order to address the staged nature of SMCSW project, Sydney Metro has developed two Staging Reports:

- Chatswood to Sydenham Staging Report (July 2019)
- Sydenham to Bankstown Upgrade Staging Report (March 2019)

Each Staging Report defines the Conditions of Approval (CoA), Revised Environmental Management Mitigation Measures (REMM’s) and the Construction Environmental Management Framework (CEMF) requirements that Systems Connect (and the other Project Stage contractors) must address to deliver works between Chatswood and Bankstown under CSSI 7400 and CSSI 8256. The Staging Reports “turn on or off” whether each condition or requirement is “applicable”, “not applicable” or “partially applicable” to LW. If a requirement is applicable or partially applicable, it is included in the Element 4 table of Project Specific Requirements and addressed in this Sub-Plan.

The EIS assessments addressed potential project impacts at all Project stages, including impacts during tunnel and station excavation and construction, being completed by other contractors. These activities will be in varying stages of completion at each worksite, by the time LW Works commence at each location (in accordance with the Staging Reports). As outlined in this section

Table 4 - Sub-Plan agencies consultation according with Staging Reports

Plan	CSSI	Contractor's Internal Review & Approval	Sydney Metro Review	Government Agency / Stakeholder Consultation	Relevant Councils	ER Review & Endorsement prior to Secretary Submission	Secretary Review & Approval
Heritage Management Sub-Plan	7400	✓	✓	✓	✓	✓	✓
	8256	✓	✓	✓	✓	✓	✓

1.6.1 Stakeholder Consultation for Aboriginal Unexpected Finds

In the event that Aboriginal heritage assessments or investigations are required, including unexpected heritage finds, those Registered Aboriginal Parties consulted on the Chatswood to Sydenham and on the Sydenham to Bankstown projects will be consulted. Metro Aboriginal Focus Group will also be consulted as required in the event of unexpected finds.

1.7 Revision and Update

The document review process ensures that environmental documentation including this Sub-Plan is updated as appropriate for the specific works that are occurring on-site. This includes the management review process described in Element 3:.

This Sub-Plan was developed to address the heritage requirements throughout LW scope of works between C2B and it will be updated as the project progresses through each Portion.

Amendments would typically include those that:

- are editorial in nature e.g. staff and agency/authority name changes
- do not increase the magnitude of impacts on the environment when considered individually or cumulatively
- do not compromise the ability of the Project to meet approval or legislative requirements
- do not result in new environmental impacts.

Details of the plan and protocol revisions that will occur to address Planning Approval compliance requirements, across the delivery of all portions of LW, are provided in the project CEMPs.

Minor amendments to the Heritage Management Sub-Plan will be submitted to the Environmental Representative (ER) and Sydney Metro for review and approval. Minor amendments would generally include changes to systems or processes.

Where the change will have the potential to result in an additional environmental or community impact that the ER cannot approve, then the plan would be submitted to DPIE for review and approval.

Where necessary amendments to this Sub-Plan will also be provided to relevant stakeholders for review and comment and/or forwarded for approval.

1.8 Related Documents

This plan is a Sub-Plan of the Construction Environmental Management Plan - C2B (SMCSWLWC-SYC-1NL-PM-PLN-000033). Table 5 shows the interrelationship of this Sub-Plan with other project plans and documents.

Table 5 - Interaction with other project documents

Document Name	Reference
Noise and Vibration Management Sub-Plan – C2B SMCSWLWC-SYC-1NL-PM-PLN-000032)	Describes noise and vibration control measures to be implemented during the LW Works, some of which will mitigate potential heritage impacts.
Aboriginal and Historic Heritage Unexpected Finds Protocol C2B (SMCSWLWC-SYC-1NL-EM-PRO-002656)	Workflow procedure addressing key requirements for management of heritage risk by the project delivery team. Includes flow diagrams with required steps to manage unexpected heritage or human remains finds during construction and hold points for implementing controls.
Site Environmental Plans (SEPs)	SEPs highlight environmental constraints at a worksite (including any heritage considerations), and detail key elements of the site set-up including environmental controls or heritage protection measures.
Community Communications Strategy LW (SMCSWLWC-SYC-1NL-PM-PLN-000027)	The CCS-LW defines requirements for consultation with all project stakeholders.

3. Roles and Responsibilities

3.1 Systems Connect Team

The roles and responsibilities of key Systems Connect Personnel with respect to heritage are detailed in Table 6.

Table 6: Key Roles, authority and responsibility

Role	Authority and responsibility
Project Director	<ul style="list-style-type: none"> Managing the delivery of the LW Works including overseeing heritage management Act as the Contractor's Representative
Environment and Sustainability Manager	<ul style="list-style-type: none"> Oversee the preparation, approval and implementation of this Sub-Plan Oversee the implementation of all heritage management initiatives including coordinating Systems Connect's response to complaints regarding heritage impacts Manage the ongoing compliance with conditions of approval
Environmental Advisor	<ul style="list-style-type: none"> Assist the Environment and Sustainability Manager in the development and implementation of this Sub-Plan and other site specific environmental documents Implement the environmental induction program Conduct and participate in environmental audits The investigation and close out of environmental complaints Assist in the implementation of site environmental controls Undertake environmental monitoring and inspections
Stakeholder and Community Manager	<ul style="list-style-type: none"> Manage notifications and consultation for heritage Liaise with the Environment and Sustainability Manager in responding to resolving complaints regarding heritage impacts
Commercial Manager	<ul style="list-style-type: none"> Ensure that relevant heritage management requirements are considered in procuring materials and services
Integration and Interface Manager	<ul style="list-style-type: none"> Ensures that relevant Planning and contract requirements are addressed via the interface process
Engineering Manager	<ul style="list-style-type: none"> Ensure that relevant heritage management requirements are addressed and incorporated in design development
Construction Manager	<ul style="list-style-type: none"> Manage the delivery of the construction process in relation to heritage management for their work activity in conjunction with the Environment Manger and Environment Coordinators Ensure compliance with this Sub-Plan and associated procedures
Area Managers	<ul style="list-style-type: none"> Manage construction in relation to heritage management for their work activity in conjunction with the Environment and Sustainability Manager and Environment Coordinators Implement and ensure compliance with this Sub-Plan
Environment Coordinator	<ul style="list-style-type: none"> Assist the Environment and Sustainability Manager and Area Managers in implementing this Sub-Plan Oversee training on heritage including inductions, toolbox talks and specific technical training on monitoring equipment Monitoring and reporting on noise and vibration compliance Manage, review and continual improvement of this Sub-Plan
Superintendents	<ul style="list-style-type: none"> Construction delivery in relation to environmental management and compliance in conjunction with the Environment and Sustainability Manager and Environment Coordinators Authority to direct personnel and/or subcontractors to carry out actions to avoid or minimise unintended environmental impacts Implement and ensure compliance with this Sub-Plan

Project Managers Project Engineers Site Engineers Supervisors	<ul style="list-style-type: none"> • Implement and monitor onsite environmental management and compliance measures, including all required mitigation measures, across all sites in conjunction with Environmental Coordinators • Undertake site inspections, provide support to report on environmental performance • Assist the Area Managers and Site Superintendents in implementing this Sub-Plan
--	---

Further details on roles and responsibilities are provided in the Construction Environment Management Plan C2B.

3.2 Specialist Consultants

AMBS Ecology & Heritage (AMBS) has been engaged as the Specialist Heritage Consultant for the LW Works. Jennie Lindbergh, AMBS Director Historic Heritage and Christopher Langeluddecke, AMBS Director Aboriginal Heritage are suitably qualified and experienced and are the nominated Excavation Directors to provide services required to address Planning Approval and statutory obligations including:

- Development and review of EMS documents for heritage management
- Management and reporting of unexpected finds of Aboriginal and historic heritage.

4. Existing Environment

4.1 Chatswood to Sydenham

4.1.1 Non-Aboriginal Heritage

The Archaeological Assessment & Research Design Report (AARD) attached to the EIS identified that SMCSW would have a direct physical impact on three State heritage listed properties – Millers Point & Dawes Point Village Precinct (minor impact), Martin Place Railway (moderate impact) and Sydney Terminal and Central Railway Station Group (moderate to major impact) and seven local heritage items. There would also be indirect and potential indirect impacts to around eight State heritage listed properties and around 28 local heritage listed properties (i.e. vibration and visual changes).

Due to SMCSW Project staging, management of these heritage items is being completed by other contractors, prior to LW commencing.

The AARD included an assessment of potential impacts on heritage items and archaeological remains along the proposed power supply routes. Power supply routes will predominantly consist of trenches around 1m wide and 1.5 – 2m deep, within the road reserve. Previously disturbed areas, such as where utilities have previously been installed, have low archaeological potential. As noted above additional information obtained following completion of investigations of bulk power supply route investigations will be used to update this plan when investigations and assessments are completed.

The preliminary assessment of heritage items, potential impacts and significance from the AARD is provided in Table 7 below. The table also notes where these items are not within LW scope.

Table 7 Existing Heritage Chatswood to Sydenham

Item	Listing ¹	Heritage Significance	Heritage Impact and Magnitude
Chatswood			
Chatswood zone substation No.80 (Ausgrid)	Willoughby LEP	Local	Impacts to fabric and visual impacts are expected to be minor. Not within or adjacent to LW construction impact area.
Archaeological resources	N/A	Potentially Local	Potential for locally significant archaeology in undisturbed sections of the road corridor.

¹ SHR: State Heritage Register; RNE: Register of the National Estate; LEP: local environmental plan; s170: Listing under section 170 (of the Heritage Act 1977)

Item	Listing ¹	Heritage Significance	Heritage Impact and Magnitude
Pymont to Pitt Street			
Former Pymont Power Station Administrative building (42 Pymont Street) including interiors	City of Sydney LEP	Local	Impacts to fabric and visual impacts are expected to be minor. No LW scope within or adjacent to this building.
Archaeological resources	N/A	Potentially Local to State. Potential evidence of early occupation and development of Sydney including drains, early road surfaces.	Potential for locally significant and State significant archaeology in undisturbed sections of the road corridor. Sections of the feeder route around Pymont are reclaimed land and would have low archaeological potential. Market Street alignment has not changed since the 1810s so there is some potential for intact early remains. Works within or adjacent to the road corridor and drainage network at this location are not within LW scope of work.

Archaeological Method Statements (AMS) were prepared for the Tunneling and Stations Excavation Contractor for the Chatswood to Sydenham section of the project and all historical archaeological investigations and excavations have been completed.

4.1.2 Aboriginal Heritage

The Chatswood to Sydenham Aboriginal Cultural Heritage Assessment (ACHA) states that construction of the project would not impact any previously identified Aboriginal heritage sites within the assessed project area. The ACHA Further identified that Blues Point, Barangaroo, Martin Place, Pitt Street, Central Station, Waterloo, and Marrickville project sites had potential to retain subsurface Aboriginal heritage items.

Aboriginal heritage items were subsequently identified during TSE construction works at the Blues Point and Waterloo Project sites. As per the requirements of the Project approval, archaeological excavations were undertaken at those Project sites, in conjunction with the RAPs, to recover Aboriginal heritage objects prior to TSE works proceeding. No additional Aboriginal heritage impact mitigation works are required within the project footprint of the TSE works.

Again, due to project staging, initial ground disturbance will be completed by other contractors in almost all project locations, prior to commencement of LW Works.

Works along the proposed power supply routes at Artarmon and Surry Hills would involve trenching to a depth of about two metres. Preliminary Aboriginal Heritage Information Management System (AHIMS) searches indicate that no Aboriginal sites are present along the proposed power supply routes. However, in locations where there has been no previous ground disturbance, these activities could affect areas with archaeological potential.

4.2 Sydenham to Bankstown

4.2.1 Non-Aboriginal Heritage

Heritage listed items and conservation areas in the EIS study area (defined as a 25 metre buffer around, and including, the project area) consist of those listed on the SHR, local environmental plans, and/or State agency Section 170 Registers. No items listed on National or World heritage lists were identified.

Heritage listed items within and adjoining the project area include:

- Five items listed on the State Heritage Register

Item	Listing ²	Heritage Significance	Heritage Impact and Magnitude
Canterbury Railway Station Group	SHR (01109) RailCorp S.170 Heritage and Conservation Register (4801100) Canterbury LEP 2012 (I67)	State	Not impacted by LW
Canterbury (Cooks River) Underbridge	RailCorp S.170 Heritage and Conservation Register (4801568) Canterbury LEP 2012 (I72)	Local	Not impacted by LW
Canterbury (Cooks River/Charles St) Underbridge - Main Line	RailCorp S.170 Heritage and Conservation Register (5062566)	Local	Not impacted by LW
Campsie Railway Station Group	RailCorp S.170 Heritage and Conservation Register (4801101) Canterbury LEP 2012 (I40)	Local	Not impacted by LW
Belmore Railway Station Group	SHR (No. 01081) RailCorp S.170 Heritage and Conservation Register (4801084) Canterbury LEP 2012 (I11)	State	Not impacted by LW
Post-war bus shelter and public lavatories	Canterbury LEP 2012 (I29)	Local	Not impacted by LW
Lakemba Railway Station Group	RailCorp S.170 Heritage and Conservation Register (4801916) Canterbury LEP 2012 (I143)	Local	Not impacted by LW
Wiley Park Railway Station Group	RailCorp S.170 Heritage and Conservation Register (4801946) Canterbury LEP 2012 (I159)	Local	Not impacted by LW
Punchbowl Railway Station Group	RailCorp S.170 Heritage and Conservation Register (4802009) Canterbury LEP 2012 (I155)	Local	Not impacted by LW
Bankstown Railway Station Group	RailCorp S.170 Heritage and Conservation Register (4802067) Bankstown LEP 2015 (I3)	Local	Not impacted by LW
Bankstown Parcels Office (former)	RailCorp S. 170 Heritage and Conservation Register (4802067) Bankstown LEP 2015 (I4)	Local	Not impacted by LW

4.2.2 Aboriginal Heritage

The Sydenham to Bankstown EIS confirmed that no previously identified Aboriginal sites were present within the assessed Project area. No Aboriginal places declared under section 84 of the National Parks and Wildlife Act, or Aboriginal places of heritage significance defined by the *Standard Instrument – Principal Local Environmental Plan*, are located within or near the project area. Due to the extent of previous disturbance within the project area, the ACHA determined that archaeological potential is only likely to occur in areas that have not been subject to extensive sub-

surface disturbance. The archaeological significance of the project area within the existing rail corridor is considered to be low as a result of the high levels of ground disturbance.

Two areas with potential to retain subsurface Aboriginal heritage objects were identified during the assessment. S2B PAD01 is located within Guide Park in Belmore, outside of the project area, and would not be impacted. S2B PAD02 is within a small park between Punchbowl Road and Urunga Parade in Punchbowl. As S2B PAD02 will be impacted by the Sydney Metro City and Southwest works, a program of test and salvage archaeological excavations are required prior to any groundbreaking works taking place in this area. However, S2B PAD02 will not be impacted by the Line-wide Works.

The Canterbury to Campsie BPS line was not included in the EIS assessment, as all works would be undertaken within existing road corridors in areas of previous disturbance. It was identified that no registered Aboriginal heritage sites are located in the vicinity of the proposed BPS alignment, and that trenching associated with the feeder route would be unlikely to impact Aboriginal objects.

5. Aspects and Impacts

The key aspects and potential impacts in relation to the overall management of heritage during the LW Works are listed in Table 9 below.

Table 9: Summary of overall aspects and potential impacts

Aspects	Potential Impacts
<ul style="list-style-type: none"> Excavation Works. Trenching for installation of utilities. Sub station footings and foundations in SMTF South 	<ul style="list-style-type: none"> Removal of archaeological sub surface deposits that could potentially contain historic and Aboriginal artefactual material or relics resulting in complete or partial destruction of sites
<ul style="list-style-type: none"> Modifications to Design and Construction Methodology 	<ul style="list-style-type: none"> Change to the construction footprint resulting in impacts to areas not previously assessed to be affected

6. Heritage Management

6.1 Heritage Mitigation Measures

Controls that are adequate to manage heritage and to reduce risk to the lowest acceptable rating achievable are implemented before any relevant works commence. The heritage mitigation measures to be implemented during the pre-construction and construction phase of LW Works are listed in Table 10 below.

Table 10: Controls used to manage Heritage

Mitigation Measures	Accountability
Pre-Construction	
Aboriginal stakeholder consultation is to continue as required in accordance with the DPIE Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.	Stakeholder and Community Relations Manager Heritage Consultant
The project design will minimise adverse impacts to heritage buildings, elements, fabric, spaces and vistas that contribute to the overall heritage significance of the Bankstown Line.	Design Team Manager

6.4 Archival Recording

Due to project staging, archival recording and reporting of known heritage items on the Project will be, or will have been, undertaken by other contractors. Any archival recordings that are required to be undertaken in compliance with Condition E10 (CSSI 8256) would be triggered by a Modification or Consistency Assessment and will be prepared in accordance with guidelines and standards required by the Heritage Council of NSW and DPIE, including the NSW Heritage Office's How to Prepare Archival Records of Heritage Items (1998), and Photographic Recording of Heritage Items Using Film or Digital Capture (2006).

6.5 Archeological Excavation

The Archaeological Assessment Research Design Report (AARD) identifies archaeological management zones based on archaeological potential and construction impacts at the station and construction sites. Bulk excavation, demolition and preliminary construction activities will already have been undertaken by others by the time Systems Connect commence works in the station sites and tunnels. Archaeological Method Statements were prepared for the Tunneling and Stations Excavation Contractor for the Chatswood to Sydenham section of the project and all archaeological investigations and excavations (historic and Aboriginal) have been completed. The Early Works Contractor for the Sydenham to Bankstown project has developed Archaeological Method Statements including management and mitigation measures for various station sites. As such the relevant AARD and AMS will be implemented in the event that an Unexpected Heritage Find is exposed during work. If the LW works footprint deviates from the areas previously assessed in the AARD, Systems Connect will need to undertake an archaeological desktop study to determine if further research is warranted and/or additional archaeological requirements are applicable. If this is required, Archaeological Method Statements would be prepared by the relevant nominated project Excavation Director (historic or Aboriginal), in consultation with the Heritage Council of NSW (or its delegate) and DPIE before commencement of archaeological excavation works, with methodology as described in the Conditions of Approval (CSSI 7400).

The archaeological research design, including any mitigation measures identified in the Archaeological Assessment and Research Design report, would be implemented.

6.6 Final Heritage Report

The archaeological requirements of the project are triggered by the Unexpected Heritage Finds Protocol and as such, preparation of a Final Heritage, or Excavation Report should not be required. In accordance with heritage best practice and contractual obligations, each Unexpected Heritage Find will be the subject of a brief report in Memo format that outlines the archaeological management of the find, additional information gained by analysis and research into the find and its heritage significance. Each Memo will be provided to the relevant Interface Contractor and submitted to the Planning Secretary, the Heritage Council of NSW and OEH for information no later than 6 months after the completion of the Work associated with the Unexpected Heritage Find.

PART B – IMPLEMENTATION

7. Elements and Expectations

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

Part B contains the following:

- **Environmental Elements and Expectations:** These describe what is required of Systems Connect to Implement the Objectives of the Environment and Sustainability Policy Statement:
 - **Element** – Key aspects for managing this function in delivering the LW Works
 - **Expectation** – The outcomes achieved as part of each element.
- **Requirements:** These are the specific actions required to demonstrate compliance with the Elements and Expectations.
- **Responsibility and Key Contributor:** Designation of responsibility or achieving compliance with the stated Expectation. Key contributors assist / contribute to achieving compliance.

Deliverables: Tangible outcomes produced to demonstrate compliance with the environmental Elements and Expectations.

Element 3: Auditing, Review and Improvement

Expectations	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Deliverables
<p>3.1 Audits are undertaken to ensure compliance with the requirements of this Sub-Plan</p>	<p>Procedures for corrective actions are addressed in the Construction Environmental Management Plan C2B (SMCSWLWC-SYC-1NL-PM-PLN-000033). Audits will be performed in accordance with the CEMP C2B and this Sub-Plan and/or associated documents or procedures will be updated if required.</p>	<p>Environment and Sustainability Manager Environmental Advisor Environmental Coordinators Sustainability Manager</p>	<p>Audit Reports Corrective Action Reports</p>
<p>3.2 All non-compliances are reported and actioned</p>	<p>A heritage non-compliance can generally be defined as a failure to comply with:</p> <ul style="list-style-type: none"> • Relevant environmental legislation • Project Planning Approvals • Environmental Protection Licence • Deed • Heritage Management Sub-Plan and related documents <p>Where a non-compliance is raised as part of an audit or an incident or complaint investigation the audit, incident or complaint report may be used to close out the non-compliance and it is not necessary to raise a separate non-compliance reporting process. Corrective and Preventative Actions may also be raised in accordance with the Construction Environmental Management Plan C2B (SMCSWLWC-SYC-1NL-PM-PLN-000033).</p>	<p>Environment and Sustainability Manager Sustainability Manager Environmental Advisor Environmental Coordinators</p>	<p>Audit Reports Corrective Action Reports</p>

Element 4: Project Specific Requirements

Construction Environmental Management Framework – Sydney Metro City & Southwest (2017)

Construction Environmental Management Framework				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
10.1a	<p>The following heritage management objectives will apply to construction:</p> <ul style="list-style-type: none"> (i) Embed significant heritage values through any architectural design, education or physical interpretation; (ii) Minimise impacts on items or places of heritage value; (iii) Avoid accidental impacts on heritage items; and (iv) Maximise worker's awareness of Indigenous and non-Indigenous heritage. 	<p>Implementation of this Sub-Plan: Refer to Section 1.3</p>	<p>Environment and Sustainability Manager Environmental Advisor Environmental Coordinators Area Managers</p>	<p>Prior to and for the duration of construction</p>
10.2b	<p>The Contractor's regular inspections will include checking of heritage mitigation measures</p>	<p>Refer to Element 2:</p>	<p>Environment and Sustainability Manager Environmental Advisor Environmental Coordinators</p>	<p>During Construction</p>
10.2c	<p>Compliance records will be retained by the Contractor. These will include:</p> <ul style="list-style-type: none"> (i) Inspections undertaken in relation to heritage management measures; (ii) Archival recordings undertaken of any heritage item; (iii) Unexpected finds and stop work orders; and (iv) Records of any impacts avoided or minimized through design or construction methods. 	<p>Refer to Element 2: Refer to Section 6.4 Refer to Section 6.2 and Appendix C1</p>	<p>Environment and Sustainability Manager Environmental Advisor Environmental Coordinators</p>	<p>Prior to and for the duration of construction</p>
10.3a	<p>Examples of heritage mitigation measures include:</p>	<p>Design Reports and Element 2:</p>		

Planning Approval SSI-7400 (CoA)				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
	<p>find/s and provide mitigation advice according to the significance level and the impact proposed. The Excavation Director must attend the site in accordance with E18 to oversee the excavation where relics of State significance are found.</p> <p>The Secretary must be notified at the same time as the Heritage Council of NSW (or its delegate) of any relic of State significance found.</p> <p>An Archaeological Relic Management Plan specific to the relic of State significance must be prepared in consultation with the Heritage Council of NSW (or its delegate) to outline measures to be implemented to avoid and/or minimise harm to and/or salvage the relic of State significance.</p> <p>Construction in the vicinity of the discovery must not recommence until the requirements of the ARMP have been implemented, in consultation with the Excavation Director. The Proponent must notify the Secretary in writing of the outcome of consultation on the Archaeological Relic Management Plan with the Heritage Council of NSW.</p>			
E21	<p>The Proponent must prepare a Heritage Interpretation Plan which identifies and interprets the key Aboriginal and Non-Aboriginal heritage values and stories of heritage items and heritage conservation areas impacted by the CSSI. The Heritage Interpretation Plan must inform the Station Design and Precinct Plan referred to in Condition E101. The Heritage Interpretation Plan must be prepared in accordance with the NSW Heritage Manual, the NSW Heritage Office's Interpreting Heritage Places and Items: Guidelines (August 2005), and the NSW Heritage Council's Heritage Interpretation Policy and include, but not be limited to:</p>	<p>Developed as part of Area Specific Design Reports for Artarmon, Chatswood and the Southern Dive</p>	<p>Environment and Sustainability Manager Design Manager</p>	<p>Prior to and for the duration of construction</p>
a)	<p>a discussion of key interpretive themes, stories and messages proposed to interpret the history and significance of the affected heritage items and sections of heritage conservation areas including, but not limited to the Sydney Terminal and Central Railway Stations Group, Martin Place Station, Sydenham Station and Sydenham Pit and Drainage Pumping Station Precincts;</p>	<p>Consultation requirements for HIP addressed in the relevant design package and the Community Communications Strategy for the project.</p>	<p>Design Manager</p>	<p>During Design</p>
b)	<p>identification and confirmation of interpretive initiatives implemented to mitigate impacts to archaeological Relics, heritage items and conservation areas affected by the CSSI including;</p>	<p>Consultation requirements for HIP addressed in the relevant design package and the Community Communications Strategy for the project.</p>	<p>Design Manager</p>	<p>During Design</p>

Planning Approval SSI-7400 (CoA)				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
	<ul style="list-style-type: none"> (i) use of interpretative hoardings during construction (ii) community open days (iii) community updates (iv) station and precinct design; and 			
c)	Aboriginal cultural and heritage values of the project area including the results of any archaeological investigations undertaken.	Via Development of HIP in Design	Design Manager	During Design
	The Heritage Interpretation Plan must be prepared in consultation with the Heritage Council of NSW (or its delegate), Relevant Councils and Registered Aboriginal Parties, and must be submitted to the Secretary before commencement of construction.	Consultation requirements for HIP addressed in the relevant design package and the Community Communications Strategy for the project.	Design Manager	During Design
E23	The Proponent must take all reasonable steps so as not to harm, modify or otherwise impact any Aboriginal object associated with the CSSI except as authorised by this approval.	Section 6		
E24	Before excavation, the Proponent must implement the Aboriginal Cultural Heritage Assessment prepared for the CSSI and included in the PIR. Excavation and/or salvage must be undertaken by a qualified archaeologist in consultation with the Registered Aboriginal Parties for the CSSI.	Section 6.2	Environment and Sustainability Manager	if and when required
E25	Where previously unidentified Aboriginal objects are discovered during construction of the CSSI, construction must stop in the vicinity of the affected area and a suitably qualified and experienced Aboriginal heritage expert must be contacted to provide specialist heritage advice, before works recommence. The measures to consider and manage this process must be specified in the Heritage Management sub-plan required by Condition C3 and, where relevant, include registration in the OEH's Aboriginal Heritage Information Management System (AHIMS).	Section 6.2 and Appendix C1	Environment and Sustainability Manager	if and when required
E27	An Exhumation Management Plan must be prepared to guide the relocation of recovered human remains. The Exhumation Management Plan must be prepared:	Section 6.2 and Appendix C1	Preparation of EMP has been done by Sydney Metro, implementation will be the responsibility of the Environment and Sustainability Manager	if and when required

Planning Approval SSI-7400 (CoA)				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
a)	in consultation with, and meeting the requirements of, the OEH and NSW Health; and			
b)	in accordance with the Guidelines for Management of Human Skeletal Remains (NSW Heritage Office, 1998b) and NSW Health Policy Directive – Exhumation of human remains (December, 2013), and other relevant guidelines and standards prepared by the Heritage Council of NSW or OEH.			
	The Exhumation Management Plan must be provided to the Secretary for information before the commencement of excavation works. Note: Human remains that are found unexpectedly during works are under the jurisdiction of the NSW State Coroner and must be reported to the NSW Police immediately.			

Planning Approval SSI-7400 (REMMs)				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
AH1	Aboriginal stakeholder consultation would be carried out in accordance with the NSW Office of Environment and Heritage's Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.	Refer to Section 6.1	Stakeholder and Community Relations Manager	If and when required
AH2	The cultural heritage assessment report would be implemented.	No currently activated under LW		
AH4	Appropriate Aboriginal heritage interpretation would be incorporated into the design for the project in consultation with Aboriginal stakeholders.	Design requirement	Design Manager and Community Relations Manager	During design

Planning Approval SSI-7400 (REIMMs)				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
NAH11	<p>Except for heritage significant elements affected by the project, direct impacts on other heritage significant elements forming part of the following items would be avoided</p> <ul style="list-style-type: none"> The Blues point Waterfront Group (including the former tram turning circle, stone retaining wall bollards and steps) 	Refer to Section 6.1, 6.2 and 6.3	Environment and Sustainability Manager, Site Manager	Design and Construction

Planning Approval SSI 8256 – Sydenham to Bankstown

Planning Approval SSI-8256 (CoA)				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
E10	Following completion of Work described in the documents listed in Conditions A1 and A2 in relation to heritage items, a Heritage Report including the details of any archival recording, further historical research either undertaken or to be carried out and archaeological excavations (with artefact analysis and identification of a final repository for finds), must be prepared in accordance with any guidelines and standards required by the Heritage Council of NSW and OEH.	Refer to Section 6.2	Environmental Manager	If required, following completion of construction
E11	E11 An Excavation Director's Report (EDR) must be prepared for any heritage items of State significance that are discovered during Work. The EDR must be prepared in consultation with OEH.	Refer to Section 6.2	Environmental Manager	If and when required
E15	An Unexpected Heritage Finds and Human Remains Procedure must be prepared to manage unexpected heritage finds in accordance with the guidelines and	Section 6.2 and Appendix C1	Environment and Sustainability Manager	Prior to construction

Planning Approval SSI-8256 (CoA)				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
	standards prepared by the Heritage Council of NSW or OEH.		Environmental Advisor Environmental Coordinators	
E16	The Unexpected Heritage Finds and Human Remains Procedure must be prepared by a suitably qualified and experienced heritage specialist in consultation with the Heritage Council of NSW and submitted to the Planning Secretary for information no later than one (1) month before the commencement of Construction.	Section 3.2, 6.2 and Appendix C1	Environment and Sustainability Manager Environmental Advisor Environmental Coordinators	One (1) Month Prior to Construction
E17	The Unexpected Heritage Finds and Human Remains Procedure, as submitted to the Planning Secretary, must be implemented for the duration of Construction and during Operational Maintenance Work. Note: Human remains that are found unexpectedly during Work are under the jurisdiction of the NSW State Coroner and must be reported to the NSW Police immediately.	Section 6.2 and Appendix C1	Environment and Sustainability Manager Environmental Advisor Environmental Coordinators	For the duration of construction

Planning Approval SSI-8256 (REIMMs)				
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
NAH1	The project design would minimise adverse impacts to heritage buildings, elements, fabric, spaces and vistas	Design requirement	Design Manager	During design

Planning Approval SSI-8256 (REIMMs)

No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
	that contribute to the overall heritage significance of the Bankstown Line.			
NAH2	The project design would maximise the retention and legibility of heritage buildings, structures, fabric, spaces and vistas that are individually significant and contribute to the overall heritage significance of the Bankstown Line.	Design requirement	Design Manager	During design
NAH3	The project design would complement retained heritage buildings, elements, fabric, spaces and vistas to avoid outcomes that compromise the significance of these heritage items.	Design requirement	Design Manager	During design
NAH12	The archaeological research design, including any mitigation measures identified in the Archaeological Assessment and Research Design report, would be implemented.	Section 6.5	Other Contractors	During design and construction, not currently triggered for Systems Connect SoW.
NAH13	Photographic archival recording would be carried out in accordance with the NSW Heritage Office's How to Prepare Archival Records of Heritage Items (1998), and Photographic Recording of Heritage Items Using Film or Digital Capture (2006).	Section 6.4	Other Contractors	If triggered by a Modification or Consistency Assessment the LW Contractor will address NAH13
NAH14	An unexpected finds procedure would be developed and included in the construction heritage management plan.	Section 6.2 and Appendix C1	Environment and Sustainability Manager Environmental Advisor Environmental Coordinators	For the duration of construction
NAH15	Methodologies for the removal of existing structures and construction of new structures would be developed and implemented during construction to	Section 6.3	Environment and	As required, throughout construction

Planning Approval SSI-8256 (REIMMs)

No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
NAH16	<p>minimise direct and indirect impacts to other elements within the curtilages of the heritage items, or to heritage items located in the vicinity of works.</p>		<p>Sustainability Manager Environmental Advisor Environmental Coordinators</p>	
NAH17	<p>All retained heritage buildings, structures, fabric and moveable heritage items would be protected to avoid damage during works in the vicinity of these items, including from vibration. Retained significant buildings or elements susceptible to damage would be protected by hoardings or screens.</p>	Section 6.3	<p>Environment and Sustainability Manager Environmental Advisor Environmental Coordinators</p>	<p>As required, throughout construction</p>
NAH18	<p>Prior to construction commencing, a detailed inventory of all buildings, structures, fabric, spaces and vistas of heritage significance that are to be retained or removed would be prepared by appropriately qualified and experienced heritage specialists. The inventory must provide an assessment of the heritage impact based on the significance of each element and sub-element that comprises it and include recommendations for protection and conservation relative to the identified level of heritage significance.</p> <p>In the event that unexpected archaeological remains, relics, or potential heritage items are discovered during construction, all works in the immediate area would cease, and the unexpected finds procedure would be implemented.</p>	Section 6.3	<p>Other Contractors</p>	<p>During design and construction, not currently triggered for Systems Connect SoW.</p>
NAH18		Section 6.2 and Appendix C1	<p>Environment and Sustainability Manager Environmental Advisor Environmental Coordinators</p>	<p>For the duration of construction</p>

Planning Approval SSI-8256 (REIMMs)

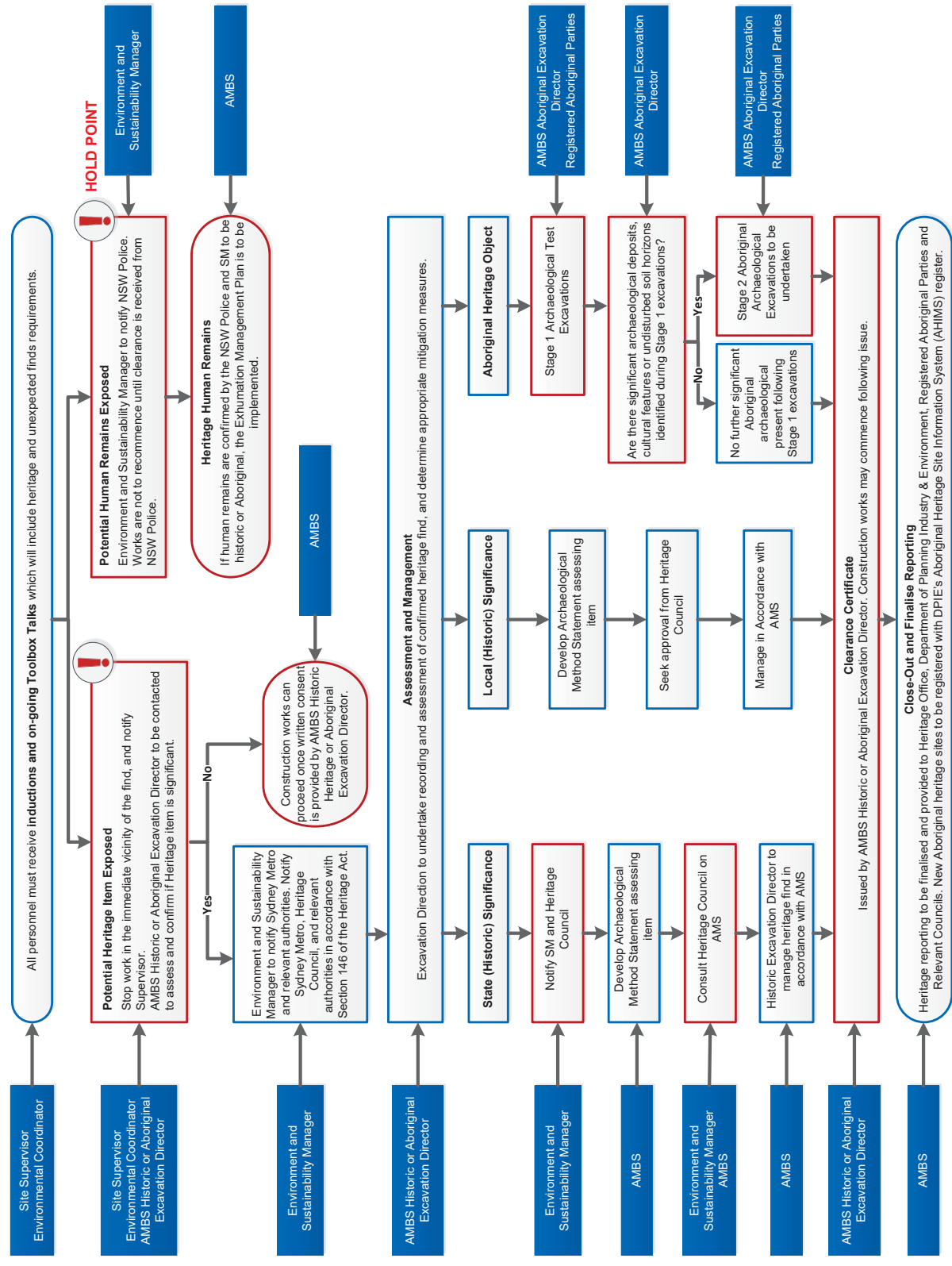
No.	Requirement	How we will meet the Expectations (minimum requirements)	Responsibility Key Contributor	Timing
NAH19	In the event that a potential burial site or potential human skeletal material is exposed during construction, the Transport for NSW Exhumation Management Plan would be implemented.	Section 6.1 and Appendix C1	Environment and Sustainability Manager	If and when required
NAH20	All works to conserve, protect or remove significant heritage fabric would be undertaken by skilled tradespeople with experience working on heritage sites, in consultation with an appropriately qualified conservation heritage architect.	Section 6.3	Other Contractors	During design and construction, not currently triggered for Systems Connect SoW.
AH5	If potential Aboriginal items are uncovered during the works, all works in the immediate area would cease, and the unexpected finds procedure included in the construction heritage management plan would be implemented. During pre-work briefings, employees would be made aware of the unexpected finds procedures and obligations under the National Parks and Wildlife Act 1974.	Section 6.2 and Appendix C1	Environment and Sustainability Manager Environmental Advisor Environmental Coordinators	For the duration of construction

Appendix C1: Aspect Specific Procedures / Protocol

ABORIGINAL AND HISTORIC HERITAGE UNEXPECTED FINDS PROTOCOL

CHATSWOOD TO BANKSTOWN

RESPONSIBILITY



ABORIGINAL AND HISTORIC HERITAGE UNEXPECTED FINDS PROTOCOL

NOTES

Protected or 'No-Go' Areas

- If works in these areas are required, obtain a Permit to Enter Protected or 'No-Go' Areas

Monitoring

- Workers inspect work areas prior to start of work each day

Recording

- All records relating to heritage and unexpected finds will be retained.
- Consultant reports on confirmed heritage or human remains
- Location of unexpected finds on SEP/ site register
- Records of tool box talks and inductions

Note: Additional information on management of heritage and unexpected finds is included in part D of the CEMP C2B (SMCSWLWC-SYC-1NL-PM-PLN-000033), and the Heritage Management Sub-Plan (SCLWW-SYC-1NL-PM-PLN-000375).

Appendix C2: Agency Consultation

Document Title: Heritage Management Sub-Plan - C2B Rev 0

Stakeholder	Raised By/Contact	Date	Comment No.	Document reference	Topic	Stakeholder consultation / comment	Project team response	Amendment made, Y/N?	Section	Closed Out
Heritage NSW (delegated by Heritage Council)	Alex Timms	16/12/2019	N/A	N/A	N/A	I have reviewed the Line-Wide Works Heritage Management Sub-Plan. Heritage NSW have no comments.	Noted	N	N/A	N/A
Aboriginal Cultural Heritage (DPIE)	Dana Alderson Marnie Stewart	28/11/2019	N/A	N/A	N/A	<p>21/10/2019 - Initial call to Dana Alderson to inform her about our upcoming Stakeholder Consultation workshop. No response. A message was left, along with a follow up email.</p> <p>21/10/2019 - DA responded stating that due to other priorities, representatives from Greater Sydney would not be able to attend a briefing. DA advised the Project to send any reports or plans for EES/s review to Planning and Assessment at DPIE who will consult with us as required.</p> <p>25/11/2019 - Initial submission of HMP to Greater Sydney Aboriginal Cultural Heritage.</p> <p>28/11/2019 - Marnie Stewart addressed Heritage Team with SC cc'd and advised them that this referral seeks consultation with the Heritage Council (or delegate). This email has been referred to the Heritage Branch.</p> <p>11/12/2019 - Follow up call from AT to DA about progress. No response.</p> <p>12/12/2019 - DA advised that this matter related to consultation with the Heritage Council on historic heritage and that she has forwarded it onto Heritage NSW.</p> <p>See Heritage Council / NSW comments for further consultation on this.</p>	Noted	N	N/A	N/A
North Sydney Council	Gavin McConnell	4/12/2019	N/A	N/A	N/A	<p>25/11/2019 - Initial submission of HMP to North Sydney Council.</p> <p>4/12/2019 - GM sent an email advising MB that North Sydney Council notes the HMP and raises no further matters for consideration in this regard.</p>	Noted	N	N/A	N/A

Document Title: Heritage Management Sub-Plan - C2B Rev 0

Stakeholder	Raised By/Contact	Date	Comment No.	Document reference	Topic	Stakeholder consultation / comment	Project team response	Amendment made, Y/N?	Section	Closed Out
Willoughby Council	Gordon Farrelly	N/A	N/A	N/A	N/A	<p>25/11/2019 - Initial submission of HMP to Willoughby Council.</p> <p>2/12/2019 - AT made follow up call to GF. No response, voicemail indicated that GF was on leave until tomorrow (3/12/2019). Left message.</p> <p>3/12/2019 - AT made another follow up call to GF. No response, message was left.</p> <p>9/12/2019 - MB called GF to discuss requirement of project to seek consultation on management sub-plans.</p> <p>10/12/2019 - MB emailed GF confirming discussion from yesterday, reminding GF that Systems Connect is targeting feedback from all sub-plans to be received by COB 17/12/2019.</p> <p>10/12/2019 - Gordon passed on to others in council that he considers best suited to review and provide feedback on the management plans. He advised these council members that comments are to be sent directly to MB.</p> <p>17/12/2019 - No response to date.</p> <p>12/02/2020 - MB has sent a follow up email to GF from Willoughby Council.</p>	No response received as at 12/02/2020	N/A	N/A	N/A
City of Sydney	Elise Webster	N/A	N/A	N/A	N/A	<p>25/11/2019 - Initial submission of HMP to City of Sydney Council.</p> <p>2/12/2019 - Elise expressed that if SC does not hear from CoS by due date, then assume that no comments have been made. No response received as of 17/12/2019.</p> <p>17/12/2019 - No response received to date.</p> <p>12/02/2020 - MB has sent a follow up email to EW from City of Sydney Council.</p>	No response received as at 12/02/2020	N/A	N/A	N/A

Document Title: Heritage Management Sub-Plan - C2B Rev 0

Stakeholder	Raised By/Contact	Date	Comment No.	Document reference	Topic	Stakeholder consultation / comment	Project team response	Amendment made, Y/N?	Section	Closed Out
Inner West Council	Manoj Isac	N/A	N/A	N/A	N/A	<p>15/11/2019 - MB initially emailed KW from Inner West Council stating that he has attempted to call Ken and introduced a list of documents (and their associated CoA condition) that were to be sent to councils for consultation.</p> <p>18/11/2019 - KW forwarded this email to Manoj Isac.</p> <p>26/11/2019 - MI asked where he can access the management plans sent out between 19/11/2019-25/11/2019. KT responded, providing dates that plans were provided to MI.</p> <p>26/11/2019 - KT called MI to explain review process, timing, comment response sheet, etc.</p> <p>28/11/2019 - MI requested that MB provide inner plan and project boundaries.</p> <p>29/11/2019 - MB sent MI current council presentation and proposed a workshop be held to provide information on project and plans.</p> <p>9/12/2019 - Presentation held for Inner West Council members, providing details of project scope and requirements for document consultation.</p> <p>17/12/2019 - No response received to date.</p> <p>12/02/2020 - KT has called and emailed NM (who attended workshop to represent heritage matters) seeking confirmation of no comments.</p>	No response received as at 12/02/2020	N/A	N/A	N/A
City of Canterbury Bankstown	Alvin Fung	N/A	N/A	N/A	N/A	<p>4/12/2019 - Initial email from Alvin on stating no comments on other plans. AF advised that he will come back to MB if he has any comments on the heritage plan. A response was sent from Mathew Billings to confirm we had received these comments.</p> <p>Alvin responded on 9/12/2019 that another team in the council was looking at the HMP and requested the response timeframes to be resent to him.</p> <p>Mathew Billings provided review dates on 9/12/2019. Alvin followed up on 10/12/2019 that CBC team members are currently at full capacity and would not get the plan back by 17/12/2019. Mathew Billings advised Alvin that the project targeted having responses back by 17/12/2019, and that if the Council could not provide feedback by this date, it would be reflected in the consultation record.</p>	No response received as at 12/02/2020	N/A	N/A	N/A

Document Title: Heritage Management Sub-Plan - C2B Rev 0

Stakeholder	Raised By/Contact	Date	Comment No.	Document reference	Topic	Stakeholder consultation / comment	Project team response	Amendment made, Y/N?	Section	Closed Out
Heritage NSW (delegated by Heritage Council) *	Siobhan Lavelle	20/12/2019	6	Section 6.1, Table 10 and Section 6.2	Controls	Controls to be implemented for the LW works are listed in Table 10 in Section 6.1 and an unexpected finds procedure in Section 6.2 (which also includes Human Remains and is also described in Appendix C1). These controls are considered adequate.	Noted.	N	N/A	N/A
Heritage NSW (delegated by Heritage Council) *	Siobhan Lavelle	20/12/2019	7	Page 25	Excavation Director's Report	Heritage NSW suggests one change, where p.25 notes that: <i>For any unexpected finds which are determined to be of State significance, an Excavation Director's Report (EDR) will be prepared in consultation with DPIE.</i> It is suggested that consultation should also occur with the Heritage Council or its Delegate.	Noted. Reference added to plan.	Y	Section 6.2	Y
Heritage NSW (delegated by Heritage Council) *	Siobhan Lavelle	19/12/2019	5	Overall	Overall	Overall the HMP is considered sufficient to guide the future works and mitigate the historic heritage impacts of the Line Wide works project.	Noted.	N	N/A	N/A

* Note: This comment was submitted to Systems Connect following issue to DPIE.