

Independent Environmental Audit on Sydney Metro City & Southwest – CSM Works

Final Report

5th December 2018

Contract works: Central Station Main Works (CSM)

Scope: Planning Approval compliance relating to Heritage, Spoil and Waste Management

Reference: SM18.19-068-CSW-CSM-ENV

Audit Organisation:	QEM Consulting	Audit Date:	26 th October 2018
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1. Executive Summary

1.1 Introduction

The purpose of this Independent Environmental Audit was to assess Principal Contractor Laing O'Rourke Australia's (LORA) compliance against relevant Planning & Assessment Approvals associated with Construction Heritage, Spoil & Waste Management for the Central Station Main Works contract.

1.2 Background

Planning Approvals issued by the Department of Planning & Environment require Sydney Metro (formerly Transport for NSW) to develop an Environmental Audit Program for independent annual environmental auditing against the terms of the City & Southwest projects Critical State Significant Infrastructure (CSSI) Approval. QEM Consulting Pty Ltd have been engaged by Sydney Metro Delivery Office (SMDO) Safety, Sustainability & Environment (SSE) to deliver a program of Independent Environmental Audits. As required by Planning Approval CSSI 15_7400 Ministers Condition of Approval (MCoA) A39 and the associated Environmental Audit Program, an Independent Environmental Audit was undertaken to assess LORA compliance with relevant Planning Approvals associated with Construction Heritage, Spoil & Waste Management in their delivery of Central Station Main (CSM) infrastructure construction works.

As background, Sydney Metro is delivering the Sydney Metro City & Southwest (C&SW) infrastructure project on behalf of the NSW Government, and have engaged LORA to Design and Construct the CSM component of the project. The CSM contract comprises:

- Sydney Metro Station works including new platforms constructed beneath existing Central Station heavy-rail platforms 12-15;
- Central Station works including new infrastructure, new concourses and adjustments to existing concourses such as the Grand Concourse and Olympic Tunnel; and
- Central Walk works providing enhanced connectivity between existing concourses, plus a new eastern entrance to Central Station.

At the time of this audit, delivery of the CSM construction works had recently progressed from an early enabling works stage.

1.3 Objective and Scope

The objective of the audit was to assess early stage implementation of the LORA Construction Heritage Management Plan (CHMP) and Construction Soil & Water Management Plan (CSWMP) in achieving compliance with associated Planning Approvals including MCoA C3 g) and C3 d) respectively. Audit criteria also included relevant requirements documented in the Sydney Metro C&SW Management Framework (CEMF); LORA Construction Waste & Recycling Management Plan (CWRMP) and implementation of Revised Environmental Mitigation Measures (REMMs) relating to heritage spoil, soil and waste. The audit scope excluded the water component of the CSWMP and recycling component of the CWRMP, focussing on the following:

- Worksite systems, controls and protection measures;
- Construction Heritage Management Plan implementation;
- Soil, Spoil and Waste management; and
- Approval & regulatory compliance records.

1.4 Summary of Findings

The table below provides a summary of key findings noted in this audit and the priority assigned to these findings.

Ref	Description	Priority*
Obs1-2	The Voyage database intended for spoil movement tracking, once customised, could become a project strength if additionally applied to waste. It was also observed that there was a good awareness and practical preparedness around Heritage Management.	Observation
1.	Maintenance and functionality of the interim Waste Tracking System, together with time delays in provision of waste receipt dockets was compromising cradle-to-grave compliance verification and reporting. (Classified as a Planning Approval Non-conformance)	Medium
2.	Spoil Management Plan commitments such as a Sydney Yard weighbridge and the Voyage Waste Tracking database were yet to be provided and/or implemented.	Medium
3.	Review and approval of waste & spoil removal Hold Points specified in the Construction Environmental Management Plan had not been implemented.	Medium
4.	The Construction Heritage Management Plan heritage consultant Hold Point process around recommendations specified in Conservation Actions Schedules could not be evidenced.	Low
5.	Sydney Metro Construction Environmental Management Framework commitments detailing requirements for a "Register of Spoil Receipt Sites" had not been fully implemented as yet.	Low
6.	There were a few documents required by Planning Approvals that were not uploaded on the project website.	Low
7.	NSW Waste Classification Guideline pre-classifications were not strictly being used by site when recording truck loading information.	OFI

* Priority Definition enclosed as Appendix 2

1.5 Overall Assessment

This section summarises the outcomes of the Independent Environment Audit of LORA's implementation of Construction Heritage, Spoil: and Construction Waste Management Plans in achieving compliance with relevant Planning Approvals and Revised Environmental Mitigation Measures (REMMs). Conducted on the 26th October 2018, the audit comprised a collaborative site inspection with the project (independent) Environment Representative, followed by a compliance audit conducted at the (then) Mortuary Station site office.

Based on documentation and information sampled, implementation of the CHMP at the early stage of works was assessed as compliant with Minister's Conditions of Approval MCoA C3 (g). To this end, appointed Heritage Specialists (MCoA E18) were monitoring work (REMM NAH 18); Archaeological Method Statements (AMSS) were developed as required by MCoA E17 and Archival Recording (REMM NAH 1) was taking place progressively. In accordance with REMM NAH 4, Demolition Method Statements had been developed by both LORA and the Demolition Contractor to minimise direct and indirect impacts to heritage items. Sydney Metro and other stakeholder identified items were observed to be tagged, salvaged, recorded and transferred offsite to designated storage locations. A minor Audit Finding was raised around evidencing identified Heritage Consultant Hold Points though.

The audit also observed initial stages of spoil and waste generation resulting from minor excavation works, non-destructive drilling works, ballast removal plus demolition. Whilst fundamentals of contamination assessments, waste classification, recycling/disposal destination verification, tracking of trucks leaving site, and records of compliance disposal were in place, systems and record management thereof was somewhat fragmented. Limitations of an interim tracking system were acknowledged by the contractor, this audit sighting a LORA waste and spoil tracking database which was being customised for the project. An audit Non-compliance against MCoA C3 d) was raised however due to lags in waste disposal receipts, compounded by failures in systems to consistently demonstrate cradle-to-grave waste management information. Four (4) other Audit Findings were raised around Soil and Waste Management Plan commitments not being implemented, these deemed to be more minor in nature.

Otherwise, compliance records were generally available, and controls implemented by site appeared appropriate, acknowledging that major platform demolition works were still to commence. A minor Audit Finding was raised though around a few documents not being published on the Project Website as required.

In conclusion, the audit determined that formal systems and documentation had been developed to manage, protect and conserve identified heritage items. Processes around spoil and waste disposal and/or reuse were mostly established, but required improvement and further implementation to ensure that intended systems of control delivered on project and planning objectives, including compliance.

Report Author (& Auditor):

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Larry Weiss

2. Detailed Findings and Agreed Action Plan

2.1 Audit Findings & Action Plan



This section of the report provides details of audit findings and the agreed action plan, including allocation of responsibility and timeframes.

Ref	Audit Finding	Risk or Impact	Classification (and Priority)	Action Plan
	<i>Observations / potential strengths:</i>			
Obs 1	The Voyage database (not fully functional due to customised enhancement at the time of audit) had the capability of providing GPS vehicle tracking of spoil movement to final destination which is good. If haulage companies supporting this capability were engaged to transport hazardous, restricted or special waste for utilised, this would be a project strength.		Observation	N/A
Obs 2	There appeared to be good awareness and/or promotion of heritage protection requirements.		Observation	N/A
	<i>Audit findings requiring action:</i>			
1.	<p>There was a time lag in provision of waste receipt documentation by certain contractors and service providers, so as to verify lawful disposal of waste including liquid Non-Destructive Drilling excavation slurries and asbestos containing material.</p> <p>As LORA was reliant on estimates of quantities leaving site (another Audit Finding about intended weighbridge) this could pose a compliance risk.</p> <p><u>Planning Approval Requirement satisfaction:</u> MCoA C3 requires that Construction Environmental Management sub-Plans address the Sydney Metro C&SW Construction Environmental Framework (CEMF), in particular s17.2 b) ii) requirements that all waste removed from the site to be appropriately tracked from cradle to grave using waste tracking dockets.</p>	Potential for regulatory non-compliance	Non-compliant with MCoA C3 REMM WM1	<p>Action to be taken by LORA:</p> <ol style="list-style-type: none"> Implement processes to ensure contractors provide disposal dockets in a more timely manner; Engage resource to conduct a waste disposal record gap analysis to identify missing and/or mislaid records, obtain these from contractors concerned and file these as project compliance records. <p>Responsible person: Chris McCallum, LORA Environment Manager</p> <p>Due dates: 16 November 2018</p>

Ref	Audit Finding	Risk or Impact	Classification (and Priority)	Action Plan
	<p><i>Also, REMM WM1 requires appropriate disposal of waste classified in accordance with NSW Waste Classification Guidelines.</i></p> <p>It is acknowledged that an interim Waste Tracking Register (spreadsheet) was in place, however this had inconsistencies in waste disposal data and some disposal dockets had not been received or reconciled. Similarly, reports from liquid waste, NDD and asbestos management contractors were not readily available and/or awaited records in some instances.</p>			
2.	<p>LORA Construction Spoil Management Plan (CSMP) section 6.3 commitments requiring implementation “upon commencement of spoil disposal” were not yet in place, these including:</p> <ul style="list-style-type: none"> a) Provision of a weighbridge in the Sydney Yard b) Implementation of a Spoil Tracking system**, as component of the Waste Register <p>** Refer to Audit Finding acknowledging interim and intended tracking arrangements.</p>	<p>Potential compliance issue & Financial risk</p>	<p>Medium</p>	<p>Action to be taken by LORA:</p> <ul style="list-style-type: none"> a) Install weighbridge prior to commencement of bulk excavation; b) A Spoil Tracking System to be included as a component of the : <ul style="list-style-type: none"> R1. Enhanced (interim) Excel based Waste Tracking Register; R2. Online Fieldview and Voyager Waste Tracking Systems. <p>Responsible person: Chris McCallum, LORA Environment Manager</p> <p>Due dates:</p> <ul style="list-style-type: none"> a) 30 January 2019 b) 16 November 2018 & 21 January 2019 respectively

Ref	Audit Finding	Risk or Impact	Classification (and Priority)	Action Plan
3.	<p>Review and approval of waste and spoil removal process Hold Points specified in the Construction Environmental Management Plan (CEMP) could not be formally evidenced as yet.</p> <p><u>CEMP commitments:</u></p> <p><i>Table 11 of the approved and endorsed CEMP requires verification that both controlled / hazardous waste and spoil have been classified <u>and</u> that disposal locations can lawfully receive the waste or spoil. Additionally, section 13.2 stipulates that proceeding beyond these HOLD POINTS without authorisation by designated functions would constitute a system non-conformance.</i></p> <p>It was acknowledged that waste and spoil were being classified, and that licensing arrangements disposal / processing facilities were checked, however authorisation and robustness of the process could not be readily demonstrated.</p>	Potential compliance or commitment issue	Medium	<p>Action to be taken by LORA</p> <p>a) Implement alternative process to confirm that routine classification and lawful disposal arrangements are correctly implemented i.e.</p> <ul style="list-style-type: none"> ➤ Conduct Waste Management due diligence audits quarterly to confirm classification and disposal compliance, as well as providing supporting evidence to update the LORA CSM Compliance Tracking Register; <p>b) Provide audit reports and supplementary compliance evidence to the (independent) Environmental Representative as basis for decision-making around deleting the Hold Point in the CEMP.</p> <p>Responsible person: Chris McCallum, LORA Environment Manager</p> <p>Due dates:</p> <p>a) Compliance Reporting period ending 31 December 2018, and quarterly thereafter</p> <p>b) Upon CEMP annual review and update.</p>

Ref	Audit Finding	Risk or Impact	Classification (and Priority)	Action Plan
4.	<p>Whilst the Construction Heritage Management Plan (CHMP) section 5.2.1 requires Hold Points associated with heritage recommendations to be specified in Conservation Actions Schedules (CASs) and monitored by the appointed Heritage Architect Specialist, practicalities to ensure this occurred and could be formally evidenced were not yet determined.</p>	Potential heritage fabric damage	Low	<p>Action to be taken by LORA:</p> <ul style="list-style-type: none"> a) Update the CHMP and CAS D to better reflect the intent, that is 'Witness points' rather than 'Hold Points'; b) Collate project compliance evidence of Witness Points to date of the independent audit, including Heritage Architect inspections, meeting minutes, monitoring reports and alternative methodology specifications; c) Maintain project Witness Point evidence, ongoingly. <p>Responsible person: Chris McCallum, LORA Environment Manager</p> <p>Due dates:</p> <ul style="list-style-type: none"> a) 20 December 2018 b) 16 November 2018 c) Ongoing
5.	<p>Whilst initial spoil receipt locations had been identified, CEMF (Construction Environmental Management Framework) requirements for a "Register of Spoil Receipt Sites" which includes the site or project name, location, capacity, site owner and which tier the site is classified as under the spoil reuse hierarchy" had not been fully implemented as yet.</p> <p>It was acknowledged that components of spoil site assessment were implemented, but information was somewhat fragmented at the time.</p>	Potential Planning Approval non-compliance (if not progressed)	Low	<p>Action to be taken by LORA:</p> <p>Include register of approved Spoil Receipt Sites as an Appendix to the Construction Waste & Recycling Management Plan.</p> <p>Responsible person: Chris McCallum, LORA Environment Manager</p> <p>Due date: 20 December 2018</p>

Ref	Audit Finding	Risk or Impact	Classification (and Priority)	Action Plan
6.	<p>There were a few documents that were not uploaded on the project website as required by MCoA B15 such as:</p> <ul style="list-style-type: none"> • Construction Waste & Recycling Management Plan • Archaeological Method Statement, Main Works • Archaeological Method Statement, Aboriginal • Construction Sustainability Management Plan • Construction Carbon and Energy Management Plan 	<p>Potential Planning Approval non-compliance (if not progressed)</p>		<p>Action to be taken by LORA:</p> <ol style="list-style-type: none"> Upload missing documents Ensure that the Quarterly Compliance Tracking process verifies the update and maintenance of the project website. <p><i>Post-audit, and subsequent to finalising <u>this</u> report QEM verified that LORA:</i></p> <ul style="list-style-type: none"> • Had updated the website with all but one of the said documents • Were awaiting approval of an update to the Construction Waste & Recycling Management Plan. <p>Responsible person: Chris McCallum, LORA Environment Manager</p> <p>Due dates:</p> <ol style="list-style-type: none"> 7 December 2018; Compliance Reporting period ending 31 December 2018, and quarterly thereafter.
7.	<p>Truck “loading data” being mapped to GIS locations on GHD Contamination Assessment Aerial Photograph Maps incorrectly notes the content as contaminated bitumen, rather than using NSW Waste Classification Guideline pre-classifications such as hazardous or restricted.</p> <p><i>It was noted that formal waste classification and other downstream processes could potentially obviate this risk.</i></p>	<p>Potential administrative compliance issue</p>		<p>Action taken by LORA:</p> <p>Team member reminded to use correct classification terminology to avoid confusion. The notation has been amended.</p> <p>Responsible person: Chris McCallum, LORA Environment Manager</p> <p>Due date: Claimed by LORA as complete prior to finalisation of <u>this</u> report.</p>

* Priority Definition enclosed as Appendix 2

2.2 Assessment Details

The following summarises plans, methodologies, procedures, systems, processes and activities assessed in order to determine compliance (or otherwise) with required project obligations and outcomes. Specific documentation, information and records are captured in Appendix 1 further.

Site systems and controls

Control and mitigation of site impacts were evidenced and heritage protection requirements were known to LORA personnel and being practiced by contractors. No issues pertaining to heritage, spoil or waste were noted by both Independent parties (refer to the Environmental Representatives Inspection Report cited in Appendix 1 for details). In summary, physical protection measures were observed on station platforms including fencing and hoarding addressing CHMP requirements, as was precautionary steelwork frame constructed beneath Olympic Stairs (Platform 20) to prevent damage to the canopy. Salvage Heritage items inside the Sydney Train Yard 15 Cleaners Building waiting demolition were tagged, whilst others from the Signal Box Building had been removed prior to imminent demolition. The Traffic Co-ordinator and a Site Engineer were actively involved in spoil and waste movement tracking, spoil stockpiles were segregated, waste/recycle bins were being used and a separate sealed bin for potentially toxic Non-Destructive Drilling mud was available. Regarding administrative controls, an updated ECM was posted at the site shed and a Briefing Whitboard was used to communicate important messages around risks and controls.

Construction Heritage Management Plan implementation

Further to the above, but recognising the early stage of CSM works, applicable MCoA C3 g) requirements addressed by the CHMP were being implemented, demonstrating initial compliance with specified management requirements including Demolition & Deconstruction plus Items of Movable & Industrial Heritage. Artefact had been appointed as project Heritage Consultants (MCoA E18), with an initial archaeological monitoring report demonstrating attendance of construction excavation work and documentation of finds (a component of MCoA E16) during this process. The Excavation Director deemed all discoveries in the period to be insignificant and therefore not requiring notification to OEH Heritage Division. Documentation listed further in Appendix 1 was in place to control Demolition and Deconstruction works, this required by REMM NAH4. Project folders of archival recordings were maintained, including Rolling Stock Offices Building, Station Platforms, Canopies and Station Entrance. MCoA E30 requirements for vibration monitoring were stated as not being applicable as yet for current works, although arrangements for sensors were sighted. Records of Heritage Induction comprehension assessments were also maintained. There was one minor Audit Finding on an administrative process defined in the CHMP regarding OCP Heritage Architect hold point witnessing though.

Construction Soil, Spoil & Waste Management Plan implementation

A number of Audit Findings were noted (detailed in section 2.1 previously), predominantly around compliance system immaturity and/or record keeping.

An interim Waste Tracking (Spreadsheet Register) system was in place utilising site-recorded trucking movements overlaid on GIS contamination pictorials, later translated into Spreadsheets recording date; classification report; quantity; truck Identification number and receiver site location. This so called SCM Waste Tracking Register reflected Spoil, Liquid Waste and Demolition Waste movements against Waste Classification Reports designations such as GSW, Hazardous Solid Waste and Ballast. Approved destinations included Sydney Trains Chullora (ballast), Suez Kemps Creek and ETS Blayney (asbestos) and Better Grow (liquid waste). There were a few inconsistencies in waste disposal data though and some disposal dockets had not been received or reconciled.

The Field View / Voyage database (intended Spreadsheet replacement) was sighted, demonstrating promise, but was not fully functional due to customised enhancement at the time of audit. Important items such as docket number, Haulage Company and classification would then be more readily available, compared to current interim system mentioned above.

Otherwise, Soil, Spoil and Waste Management Plans listed in Appendix 1 further were being implemented, evidencing Unexpected Land & Asbestos Finds implementation per CSWMP 6.8 & App. C (awareness of MCoA E69); a Hazardous Material Survey per REMM HR3 and Waste Classifications as required by REMM WM1.

Approval & regulatory compliance records

In addition to the above, records demonstrating compliance with the MCoA C3 g) required CHMP and associated REMMs were available on request. Heritage related information required to be provided to designers per REMM NAH 8 was being facilitated through Designers Woods Bagot, Heritage architects (OCP) and Heritage consultants (Artefact) though their involvement in the Heritage Interpretation Strategy and Plan, with consultation with Register Aboriginal Parties (RAP's) indicated as being planned before year end.

Appendix 1: Audit information

The following indicates key systems, documents, reports, information and records that were reviewed, accessed or sighted during the audit process:

Documentation	Information / Records
0. Sydney Metro Planning Approval related documentation	
Sydney Metro City & Southwest Construction Environmental Management Framework (CEMF) v3.1 dated 15/08/2016	
1. Worksite systems and controls	
Environment Control Map dated 24/10/18	Observations captured in (independent) Environmental Representative Inspection Report #09 dated 26/10/18 Voyage Booking CSMOCT905112 @3:00 PM of 25/10/18 and GPS Journey Tracking
2. Construction Heritage Management Plan implementation	
Construction Heritage Management Plan v7 dated 26/7/2018	Project folders of Archival recordings
Artefact Aboriginal Archaeological Method Statement rev 4 dated August 2018	LORA Salvage Report Table update 2018-10-15, items sent to Metro Stores
Artefact CS Station Box & Yard Archaeological Method Statement rev 4 August 2018	LORA Salvage Report Table updated 2018-10-15, items sent to Sydney Trains Bankstown
Sydney Metro Salvage Recommendations Master List updated 16.07.18 including Bounce Hotel	Artefact CSM Archaeological Monitoring Summary Report (Memo) dated 20/9/18
NASS Enabling Works Demolition Methodology PLN-0001 rev 5 dated 19/10/18	Heritage Induction questionnaires (records)
Enabling Works Demolition CMS LOR-SMC-CM-MST-00006	Environmental Coordinator E-T-8-1227 Environmental Inspection Report dd 17/10/18 Site Meeting Minutes dated 23/10/18 Project Schedule and draft Scope of Work for Weighbridge Various Environmental Representative Inspection Reports
3. Construction Soil, Spoil & Waste Management Plan implementation	
Construction Soil & Water Management Plan (CSWMP) rev 5 dated 18/7/2018	Hazardous Materials Pre-Demolition Survey Report LOR-09-14676 v1 dated 21/8/18 re Cleaner Amenities Bld and Platforms 12-15
Construction Spoil Management Plan (CSMP) rev 3 dated 18/6/2018	Monthly Project Report CSM-LOR-SMC-PM-REP-001002.A.RVW.A.01 dd Sept'2018
Construction Waste & Recycling Management Plan CSM-LOR-SMC-SU-PLN-000078.02.RVW.02.01 rev 2 dated 1/8/2018	Unexpected Finds Register maintained by Safety (used for asbestos pieces)
Construction Environmental Management Plan (CEMP) rev 5 dated 14/7/2018	SCM Waste Tracking Register (spreadsheet)

	Truck tracking mud maps superimposed on GHD Contamination Investigation aerial photography images
	NASS Excavations Transport Certificate 2T 00937329 of 22/10/18 for D220 Hazardous (Lead) Waste
	ETS Blayney Environmental Protection Licence 13230
	Sydney Trains Chullora Ballast & Spoil Recycling Centre delivery dockets
	LORA Asbestos Clearance Certificates folder including Property Risk Australia Inspection Report ER/000165-ACM002
	ADE Waste Analysis & Classification Reports e.g. LOT-09-14544, WAC10
	GHD Contamination Assessment Design Report EP-000204 dated 20/7/18
4. Approval & Regulatory compliance records	
Woods Bagot CSMW Aboriginal Design Input Information Report dated October 2018	LORA project website

Appendix 2: Priority Definition

The priority for findings raised in this report is described in the table below.

Priority	Definition	Guidelines for Implementing Actions
Very High	A significant control weakness / issue or fundamental non-compliance that exposes the project or area under review to a very high level of risk	Requires immediate management attention, with actions plans to be developed and enforced within an agreed time frame. The matter will be escalated immediately to senior management from all parties
High	A control weakness / issue or non-compliance that may expose the project or area under review to a high level of risk	Action plans to be developed and implemented within an agreed time frame. The matter will be escalated to relevant senior executives where it is deemed necessary
Medium	A control weakness / issue or non-compliance that may expose the project or area under review to a moderate level of risk	Action plans to be developed and implemented within an agreed time frame
Low	A control weakness / issue or non-compliance that may expose the project or area under review to a low level of risk	Action plans to be developed and implemented within an agreed time frame
OFI	Opportunity For Improvement (OFI) – opportunity to implement a good or better practice to improve efficiency or further reduce exposure to risk	Suggestion to be considered for implementation
Observation	Good Practice – process / system in place and implemented effectively across business.	Maintain to current standard. Share with other areas of business.

Appendix 3: Personnel Consulted and Timeline

We would like to extend our appreciation to the following individuals involved this audit:

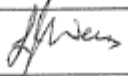
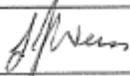



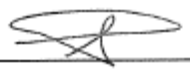


Name	Title
Chris McCallum	Environment Manager, LORA
Lucas Dobrolot	Environmental Coordinator, LORA
Nathan Grace	Senior Project Engineer, Demolition, LORA
Ailish Conway	Logistics Co-ordinator, LORA
Sharanya Iger	Senior Engineer, LORA
Richard Keys	Lead Safety Manager, LORA
Andrew Hendy	Environment Manager, C&SW
Daniel Wedgwood	Contamination Advisor, Nathan Partners
Annabelle Reyes	Environmental Representative, HBI

The Audit timeline is shown in the table below.

Milestone	Date
Briefing Meeting	17 October 2018
Issuance of Terms of Reference	22 October 2018
Desktop Audit	19 October 2018
Audit	26 October 2018
Issuance of Draft Report	15 November 2018
Issuance of Final Report	5 December 2018

Appendix 4: Audit attendance register

QEM AUDIT ATTENDANCE REGISTER

AUDITEE: CSM, LORA			Mortuary Station, Regent Street Chippendale	
AUDIT: Independent Environmental Audit, SM18.19-068-CSW-CSM-ENV (Heritage)				
SITE(s): CSM works			OPENING	CLOSING
NAME (print)	POSITION & ORGANIZATION		26/10/2018	26/10/2018
Larry Weiss	Independent Environment Auditor	QEM		
Daniel Midgwood	Nation Partners - Contam Advisor	NP		
Annabelle Reyes	ER	HRB1		
LUCAS DOBROWOT	LOR - ENVIRO	LOR		
Andrew Hendy	Syd. Metro - Env. Manager	Syd. Metro		

Appendix 5: Audit Credentials

Audit process

This Independent Environment Audit comprised an off-site desktop review, a one (1) day project contractor audit including a collaborative site inspection and a post audit assessment of documentation and records. The audit utilised an assignment specific Audit Checklist based on relevant Planning & Assessment Approvals plus Revised Environmental Mitigation Measures. The entire process was undertaken by Larry Weiss, of QEM Consulting Pty Ltd in accordance with AS / NZS / ISO 19011:2018 – Guidelines for Auditing Management Systems.

Auditor information

Audit Organisation:	QEM Consulting Pty Ltd
Auditor & Report Author	Larry Weiss
Auditor Qualification	EMS Auditor, Exemplar Global Certification 12355
Affiliations	Member, Engineers Australia 938517

Auditor certification

The abovementioned Auditor certifies as having personally undertaken this Independent Audit and preparing the contents of this Independent Audit Report; and that the findings of the audit are reported truthfully, accurately and completely; and that he has exercised due diligence and professional judgement in conducting the audit. The signed Statement of Interests and Association in our services agreement with Sydney Metro confirm our Auditor's independence and absence of pecuniary interest in the audited project.

Audit disclaimer

It should be noted that this report is a snapshot in time, based on selected and supplied documentation, as well as site activities on the day, and does not purport to be a definitive confirmation of overall compliance or vice-versa.

----- **END REPORT** -----