

Air Quality Management Sub Plan




Project Name:	Sydney Metro West		
Client Name:	Sydney Metro		
Project Address:	Delta will demolish buildings across the following sites: <ol style="list-style-type: none"> 1. Parramatta 2. Clyde 3. Westmead 		
Project Description/Scope:	Delta Pty Ltd (Delta) is responsible for the full structural demolition of existing structures including removal of all hazardous materials of the Sydney Metro West Demolition Project.		
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Authorised By: (Project Director):	Name: [REDACTED]	Signature: [REDACTED]	Date:25/08/2021

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1 AUTHORISATION AND CONTROL

1.1 Authorisation

This Plan is authorised by the Project Director. All project personnel are to ensure that their work activities and those of Project Consultants, Contractors and Suppliers are carried out in accordance with the requirements of this Plan.

1.2 Distribution

This Plan is a Controlled Document and must be distributed and revised under the guidance of the Project Manager. People who hold Controlled copies are responsible for maintaining their copies up-to-date.

1.3 Revision

The Project Director will monitor the implementation of this Plan and review the need for change or improvements having due regard to:

- Change in work scope, client comments etc.
- Internal and external audits
- Suggestions and comments from project personnel
- Incidence and frequency of non-conformance
- Necessity for corrective or preventative action
- Legal Update and Requirements
- Review by Delta Groups Management team
- Annual Review

All changes must be formally approved by the Project Director. Changes to the recent revision will be highlighted.

The following table provides a record of amendments made to this document.

<i>Rev</i>	<i>Date</i>	<i>Description</i>	<i>Page</i>	<i>Developed By</i>	<i>Approved By</i>
0	25/08/21	Draft – Issued for comment	All	W. Duffy	Ben Shum
1	24/09/21	Updated to satisfy comments	All	W. Duffy	Ben Shum
2	13/10/21	Updated to satisfy comments	All	W. Duffy	Ben Shum
3	16/03/22	Updated to capture archaeological investigations and asbestos in soils removal at Westmead	All	W. Duffy	Ben Shum

<i>Distribution Register</i>			
<i>Rev No.</i>	<i>Date of Issue</i>	<i>Name of Recipient</i>	<i>Position / Organisation</i>
0	25/08/21		<i>Principal Representative / Sydney Metro</i>
1	24/09/21		<i>Principal Representative / Sydney Metro</i>
2	13/10/21		<i>Principal Representative / Sydney Metro</i>
3	16/03/22		<i>Principal Representative / Sydney Metro</i>

2 INTRODUCTION

2.1 Purpose

This Air Quality Management Sub Plan (AQMSP) has been prepared by Delta Pty Ltd. (Delta) to comply with the requirements of Section 13 of the Sydney Metro Construction Environmental Management Framework (CEMF) and the Minister's Conditions of Approval (CoA) is for State Significant Infrastructure (SSI) 10038 Sydney Metro West - Concept and Stage 1.

Delta has been engaged to carry out the demolition of buildings and described in Section 3. The demolition of these buildings and structures is defined in this AQMSP as "the Project".

This AQMSP provides specific management measures to ensure that Delta's demolition works are carried out so as to manage to minimise and control the generation of dust and emissions and, where possible, provide enhanced environmental outcomes.

Implementing the AQMSP effectively will ensure that the Project meets regulatory and contract requirements in a systematic manner and continually improves its performance.

2.2 Scope of the AQMSP

This AQMSP addresses air quality aspects and measures associated with the Project. It covers all areas where physical works will occur and areas that may be impacted by the demolition works.

This plan forms part of the project management documentation that has been prepared in accordance with the requirements of the Contract. The Project will be guided by Delta's Integrated Management System (IMS). Delta's IMS is certified as meeting the requirements of:

- AS/NZS4801 Occupational Health and Safety Management Systems;
- ISO14001 Environmental management; and
- ISO9001 Quality Management Systems.

All Delta staff and subcontractors are required to comply fully with the requirements of this AQMSP.

2.3 Environmental Policy

Delta is committed to minimising the environmental impacts associated with its operations. The Environmental Policy outlines that we will strive to prevent pollution, look for better ways to do things, and get it "Right First Time."

2.4 Air Quality Management Objectives

Delta's objectives for air quality management are:

- To effectively manage air quality throughout the works to protect the environment, local community and worker safety;
- Minimise gaseous and particulate pollutant emissions from construction activities as far as feasible and reasonable; and
- Identify and control potential dust and air pollutant sources.

3 Project Description

3.1 Overall

The Sydney Metro West project is a new 24-kilometre metro line with stations confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street in the Sydney CBD.

In order to enable the next phase of the overall Sydney Metro West Project, the Principal requires the demolition of all structures, and clearance of all vegetation (with the exception of riparian vegetation at Clyde) within three sites located in Clyde, Parramatta and Westmead. **Figures 2, 3 & 4** show each of the sites and specific buildings to be demolished.

Delta will be delivering the Parramatta, Clyde, and Westmead Enabling Works package. This package of works is generally broken down into the following stages including; site establishment works, service disconnections and relocations, hazardous materials (HAZMAT) removal, internal strip-out of structures, demolition of existing structures and site clearing. These stages of works will apply to each of the sites.

3.2 Site establishment works

Site establishment works are required to facilitate the overall works and are generally considered to be relatively low impact works. These activities will generally be undertaken in accordance with the Sydney Metro West Low Impact Works approval pathway in accordance with MCoA A21 or under an approved Site Establishment Management Plan (SEMP) in accordance with MCoA A19. Any SEMP must be submitted to the Planning Secretary for approval one (1) month before the establishment of any ancillary facilities. Once the CEMP and relevant Sub Plans approved, any outstanding site establishment works will be managed in accordance with the project CEMP and relevant sub plans.

Site establishment works will generally include:

- Initial site investigations (e.g., specialist consultant inspections or surveys);
- Establishing perimeter security (e.g., installation of hoarding, fencing and boundary screening);
- Establishing environmental controls (e.g., erosion and sediment controls, and bat roosting boxes (if required));
- Salvaging any potential items identified by the Principal that may have heritage value; and
- Installation of site amenities and associated infrastructure (e.g., site sheds).

3.3 Service disconnections and relocations

Each site has a number of services that require disconnection and/or relocation in order to facilitate the safe demolition of structures and future phases of work on the site. Service disconnection and/or relocation includes:

Service disconnection generally includes:

- Service location, generally using non-destructive techniques where appropriate;
- Accessing services via existing structures or via targeted excavation;
- Disconnecting relevant service in accordance with relevant requirements and approvals;

Relocating services generally includes:

- Service location, generally using non-destructive techniques where appropriate;
- Installing services via existing structures or via targeted excavation; and
- Connecting relevant service in accordance with relevant requirements and approvals;

3.4 Hazardous materials (HAZMAT) removal

Due to the age of various structures to be demolished, there are number of sites that have been identified to contain hazardous materials such as asbestos, lead paint and dust. This material identified through target surveys and will be safely removed by appropriately licensed removalists prior to undertaking the strip-out or demolition.

Hazardous materials removal works will generally include:

- Accessing the site;
- Establishing appropriate controls and exclusion zones for the hazard;
- Licensed removalist will use relevant tools to safely undertake the strip-out;
- Waste is managed and disposed to an appropriately licensed facility; and
- Validation of removal works by an appropriately qualified professional (e.g., Licensed Asbestos Assessor)

3.5 Internal strip-out of structures

To allow safe structural demolition, Delta will perform an internal strip-out of internal materials. This would include items such as; office furniture and internal fixtures and linings.

Internal strip-out works will generally include:

- Accessing the site;
- Using appropriate tools and machinery to remove items;
- Managing waste and recycling; and
- Making safe for the final demolition work.

3.6 Demolition of existing structures and site clearing

Delta has been engaged to undertake the demolition of all structures within the nominated sites down to slab level. Structural demolition works will generally include:

- Use of mechanical demolition methods e.g. Using Excavators with hydraulic attachments to demolish buildings.
 - Demolition will predominantly by completed top-down methodologies;
 - Mechanical demolition will be used either working from the slab on ground reaching up to the height of structure; or
 - Mechanical demolition with excavators working on top of the structure progressively demolishing level by level.
- Managing waste and recycling; and
- Making safe for handover.
- Using appropriate tools and machinery to demolish items;
- Managing waste and recycling; and
- Making safe for handover.

External site clearing of vegetation will be undertaken during demolition and/or concurrently with other stages of the works. Site clearing will generally include:

- Use of available machinery to remove vegetation;
- Use of an arborist to remove trees where there is a safety or ecological requirement (e.g., where there is potential to damage neighbouring buildings or structures to be retained or where an ecologist has noted it is as a requirement);
- Manage the waste; and
- Pre and Post Clearing inspections and reporting

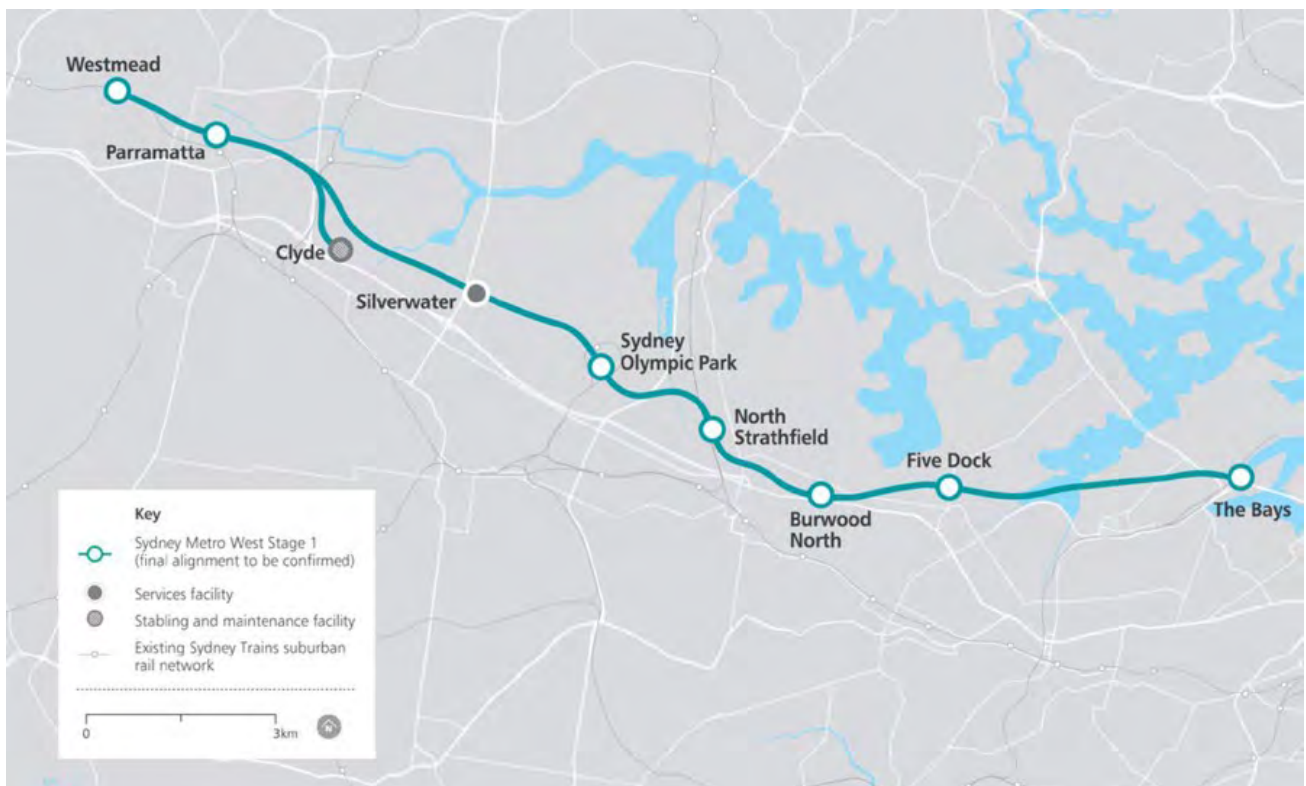


Figure 1 Sydney Metro West project

Source: Sydney Metro

3.7 Asbestos impacted soil removal (Phase C1)

Due to finds of asbestos containing material found within the surface soils at the Westmead site, Delta has been engaged to undertake the removal of approximately 3000 tonnes of asbestos impacted soil. The soil removal works will generally include:

- A soil strip of 0.1m below ground level across the Westmead Site over unsealed areas and underside of slab on ground (approximately 8,670m²) except for Lot 35 DP 4036, Lot 36 DP 4036, Lot 37 DP 4036, SP 67282, SP 61570, Lot 1 DP 949987 and Area 'W3' (see **Figure 4a** below).
- The soil will be classified in accordance with the NSW EPA Waste Classification Guidelines (2014) and disposed of to an appropriately licensed facility.

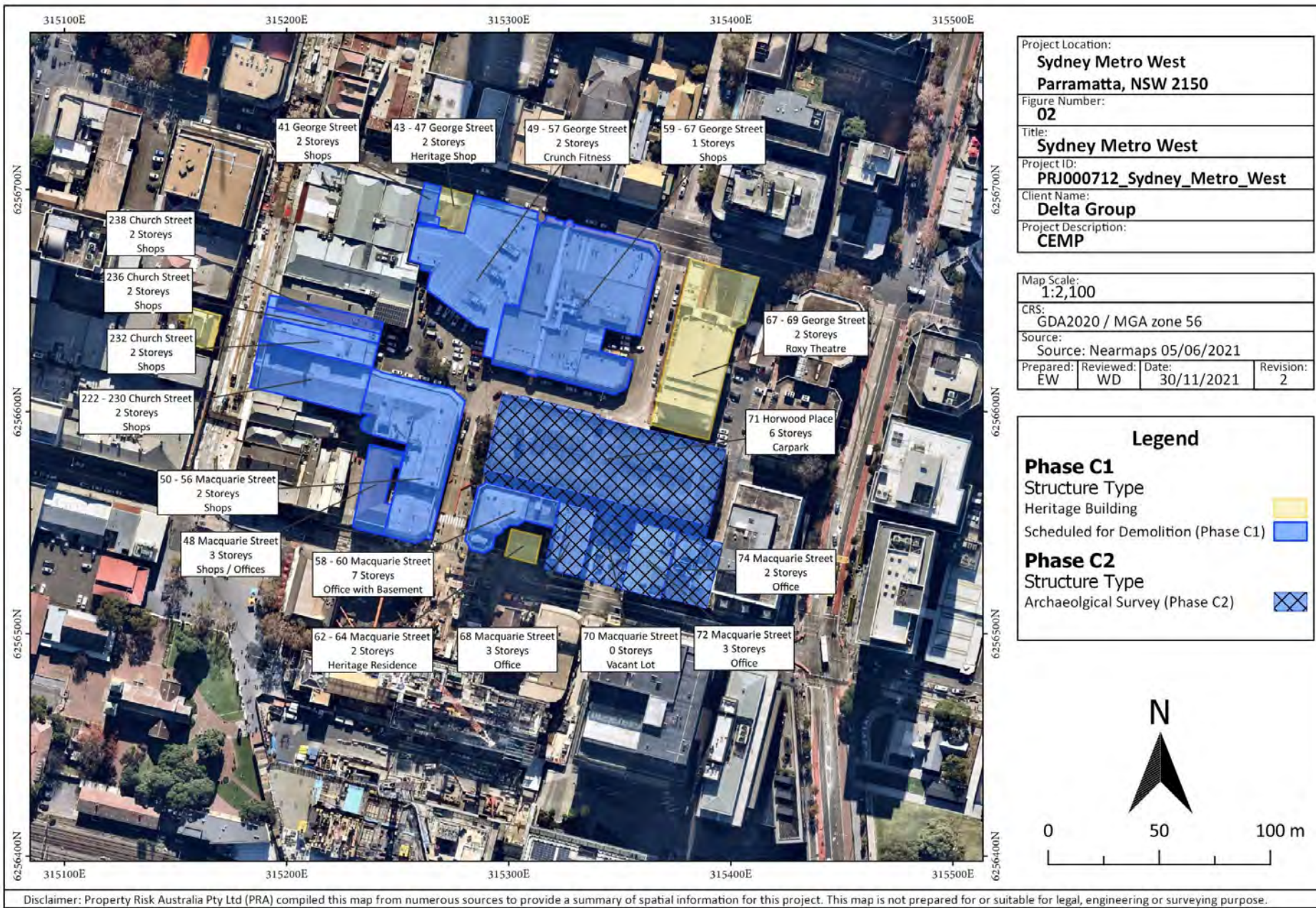
3.8 Archaeological test excavation and related investigations (Phase C2)

Archaeological test excavation and related investigations are required at the Parramatta and Clyde sites as identified in the Aboriginal Cultural Heritage Assessment Report of the EIS Stage 1. Delta will facilitate the excavation and spoil management requirements of the archaeological investigation. The archaeological investigation works will be undertaken by a Heritage specialist in accordance with the Archaeological Research Design and Excavation Methodology (ARDEM) 2021 and AHR 2021. The approximate extent of the Phase C2 works are shown in **Figures 2 and 3** below.

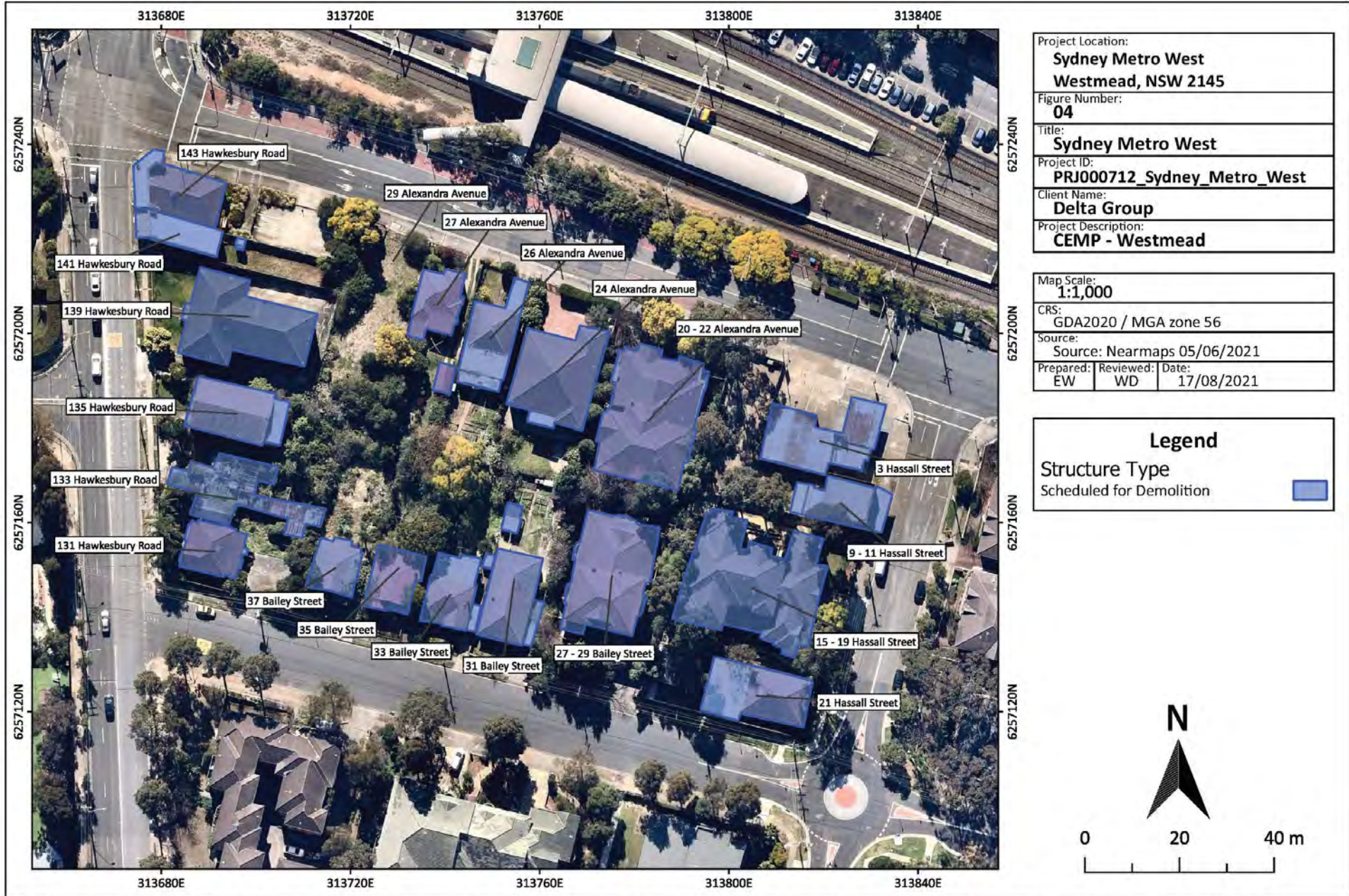
The investigation works will generally include:

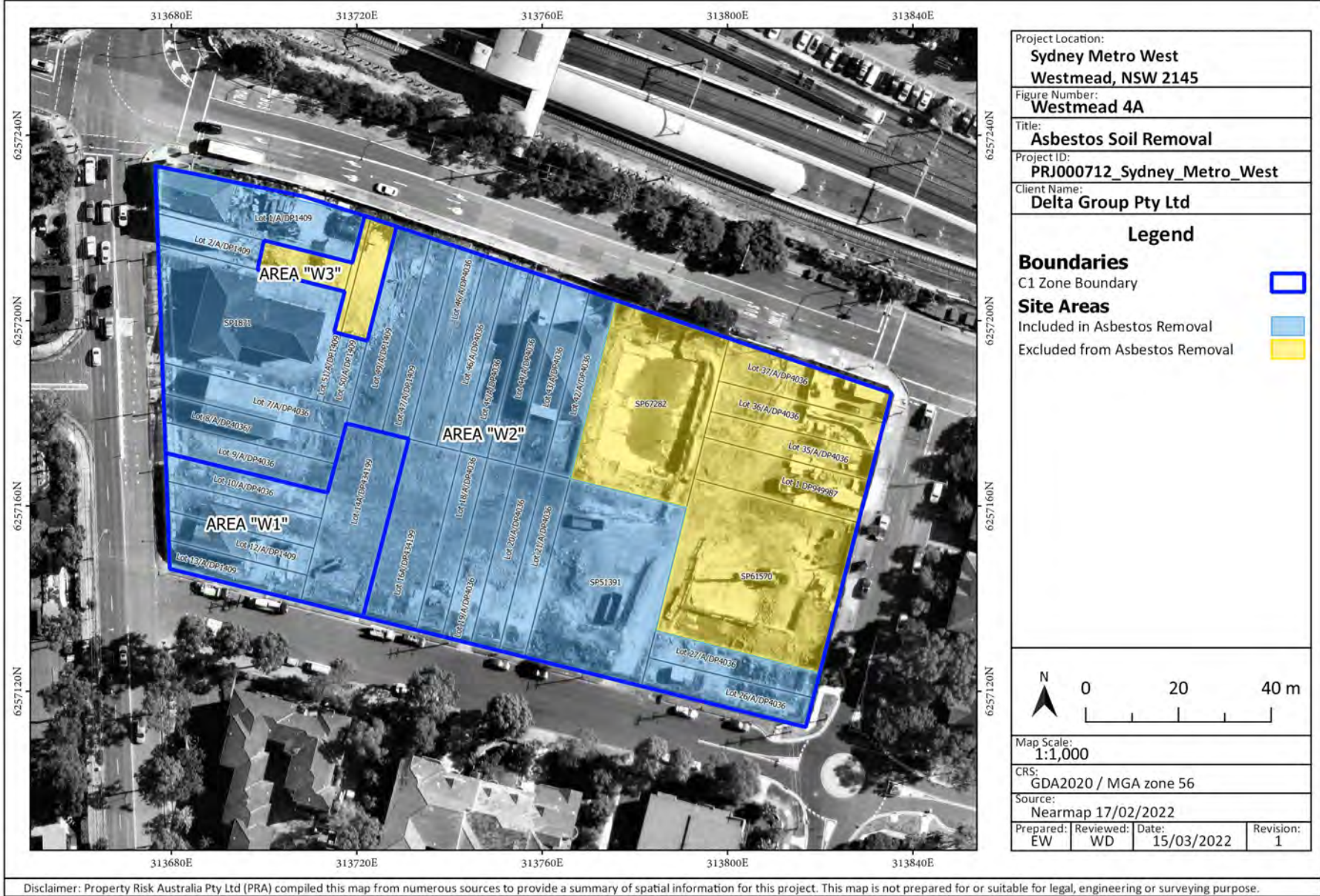
- Test excavation;
- Salvage excavation;
- Archaeological monitoring if localised or shallow excavations are proposed in areas of potential and are not expected to impact significant archaeology; and
- Review for opportunities for conservation/relocation/interpretation of state significant archaeology to salvage.

Approximately 27,000 tonnes of spoil will be generated to facilitate archaeological clearance activities at Clyde and Parramatta. Of this 27,000 tonnes, approximately 20,000 tonnes of spoil will be transported offsite from the Parramatta works and 7,000 tonnes of spoil would be stockpiled at Clyde and used to backfill the trenches created during the archaeological clearance works at Clyde.









Project Location:
Sydney Metro West
Westmead, NSW 2145

Figure Number:
Westmead 4A

Title:
Asbestos Soil Removal

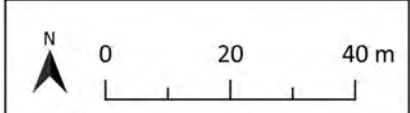
Project ID:
PRJ000712_Sydney_Metro_West

Client Name:
Delta Group Pty Ltd

Legend

Boundaries
C1 Zone Boundary

Site Areas
Included in Asbestos Removal
Excluded from Asbestos Removal



Map Scale:
1:1,000

CRS:
GDA2020 / MGA zone 56

Source:
Nearmap 17/02/2022

Prepared: EW	Reviewed: WD	Date: 15/03/2022	Revision: 1
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Disclaimer: Property Risk Australia Pty Ltd (PRA) compiled this map from numerous sources to provide a summary of spatial information for this project. This map is not prepared for or suitable for legal, engineering or surveying purpose.

4 LEGAL AND OTHER REQUIREMENTS

4.1 Legislation

Delta will carry out its works on the Project in accordance with the following legislation relevant to air quality management:

- *Protection of the Environment Operations Act 1997;*
- *Protection of the Environment Operations (Clean Air) Regulation 2010;* and
- *Work Health and Safety Act 2011.*

4.2 Guidelines and Other Documents

The primary guidelines and policy documents relevant to Delta’s AQMSP include:

- Guidance on the assessment of dust from demolition and construction (IAQM, 2014)
- Guidance on Monitoring in the Vicinity of Demolition and Construction Sites (IAQM, 2018)
- National Environment Protection Council’s (NEPC) – National Environment Protection Measure (NEPM) for Ambient Air Quality; (2021; F2021C00475)
- AS/NZS 3580.1.1:2016 Methods for sampling and analysis of ambient air - Guide to siting air monitoring equipment
- AS/NZS 3580.12.1:2015 Methods for sampling and analysis of ambient air - Determination of light scattering - Integrating nephelometer method
- NSW EPA 2016 Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales
- SafeWork NSW (2019) How to manage and control asbestos in the workplace Code of Practice
- Delta IMS Procedure 01 Asbestos Management and Removal;
- Delta IMS SWMS Demolition with Asbestos Contractors or Materials;

4.3 Minister’s Conditions of Approval

Delta notes that the Project must be carried out generally in accordance with the description provided in the EIS as amended by the Submissions Report and the Conditions of Approval (CoA).

Delta must carry out Stage 1 of the CSSI in accordance with the conditions of this approval and generally in accordance with the:

- Sydney Metro West – Westmead to The Bays and Sydney CBD Environmental Impact Statement dated 15 April 2020;
- Sydney Metro West – Westmead to The Bays and Sydney CBD Submissions Report dated 20 November 2020; and
- Sydney Metro West – Westmead to The Bays and Sydney CBD Amendment Report dated 20 November 2020.
- Sydney Metro West – Westmead to The Bays and Sydney CBD Modification Request Letter dated 21 June 2021.

The relevant MCoAs addressed by this AQMSP are:

Table 1 Relevant Conditions of Approval

CoA	Relevant requirement	Where addressed
A21	Lunch sheds, office sheds, portable toilet facilities, and the like, can be established and used where they have been assessed in the documents listed in Condition A1 of this schedule or satisfy the following criteria: (a) are located within or adjacent to the Construction Boundary; and (b) have been assessed by the ER to have: (i) minimal amenity impacts to surrounding residences and businesses, after consideration of matters such as compliance with the ICNG, traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts, and (ii) minimal environmental impact with respect to waste management and flooding, and (iii) no impacts on biodiversity, soil and water, and Heritage items beyond those already approved under other conditions of this approval.	CEMP and SEMP
D1	All reasonably practicable measures must be implemented to minimise the emission of dust and other air pollutants during construction.	Section 6.4

4.4 Sydney Metro Requirements

Sydney Metro Requirements for air quality are provided within the Construction Environmental Management Framework (CEMF). The relevant air quality requirements addressed by this AQMSP are addressed in **Table 2** below.

Table 2 Relevant Sydney Metro Requirements

CEMF Section	Relevant requirement	Where addressed
13.1a.	The following air quality management objectives will apply to construction: <ol style="list-style-type: none"> i. Minimise gaseous and particulate pollutant emissions from construction activities as far as feasible and reasonable; and ii. Identify and control potential dust and air pollutant sources. 	Section 2.4, 6.3 and Table 6
13.2a.	Principal Contractors will develop and implement an Air Quality Management Plan which will include, as a minimum:	This Plan
	<ol style="list-style-type: none"> i. The air quality mitigation measures as detailed in the environmental approval documentation; 	Section 4.5
	<ol style="list-style-type: none"> ii. The requirements of any approval and applicable licence conditions; 	Table 1
	<ol style="list-style-type: none"> iii. Site plans or maps indicating locations of sensitive receivers and key air quality / dust controls; 	Appendix A
	<ol style="list-style-type: none"> iv. The responsibilities of key project personnel with respect to the implementation of the plan; 	Section 5
	<ol style="list-style-type: none"> v. Air quality and dust monitoring requirements; and vi. Compliance record generation and management. 	Section 7 Section 6.6
13.2b.	Air quality and dust monitoring will involve the following as a minimum:	Section 7
	<ol style="list-style-type: none"> i. Meteorological conditions will be monitored and appropriate responses will be organised and undertaken periodically by the Principal Contractor; 	Table 7
	<ol style="list-style-type: none"> ii. Regular visual monitoring of dust generation from work zones; and iii. Monitoring emissions from plant and construction vehicles to ensure they have appropriate emission controls and are being maintained correctly. 	Table 7 Table 7
13.2c.	The following compliance records will be kept by the Principal Contractor: <ol style="list-style-type: none"> i. Records of any meteorological condition monitoring; ii. Records of any management measures implemented as a result of adverse, windy weather conditions; and iii. Records of air quality and dust inspections undertaken. 	Section 6.6

4.5 Revised Environmental Mitigation Measures (REMMs)

Table 3 Relevant Air Quality REMMs

REMM	Relevant requirement	Where addressed
AQ1	The following best-practice dust management measures would be implemented during all construction works:	
	<ul style="list-style-type: none"> • Regularly wet-down exposed and disturbed areas including stockpiles, especially during dry weather 	AQ02
	<ul style="list-style-type: none"> • Adjust the intensity of activities based on measured and observed dust levels and weather forecasts 	AQ05 and Table 7
	<ul style="list-style-type: none"> • Minimise the amount of materials stockpiled and position stockpiles away from surrounding receivers 	AQ03
	<ul style="list-style-type: none"> • Regularly inspect dust emissions and apply additional controls as required • Consider all relevant measures listed in the UK IAQM corresponding to the highest level of risk determined around each Stage 1 construction site. 	Section 7.4 and Throughout Table 6 Table 6 measures consistent with UK IAQM
AQ2	Plant and equipment would be maintained in a proper and efficient manner. Visual inspections of emissions from plant would be carried out as part of pre-acceptance checks.	AQ010 & AQ011
AQ3	The following best-practice odour management measures would be implemented during relevant construction works:	

REMM	Relevant requirement	Where addressed
	<ul style="list-style-type: none"> The extent of opened and disturbed contaminated soil at any given time would be minimised 	AQ031
	<ul style="list-style-type: none"> Temporary coverings or odour suppressing agents would be applied to excavated areas where appropriate 	AQ032 and AQ033
	<ul style="list-style-type: none"> Regular monitoring would be conducted during excavation to verify that no offensive odours are detected beyond the site boundary. 	Table 7

5 ROLES AND RESPONSIBILITIES

Table 4 below provides the key roles and responsibilities for air quality management under the AQMSP. A complete list of roles and responsibilities, including interfaces between the various roles, is provided in the Construction Environmental Management Plan.

Table 4 Key Roles and Responsibilities

Project Role	Responsibilities
Project Director	<ul style="list-style-type: none"> Engaged full-time across each and all Packages and Portions throughout Delta’s Activities to ensure that Delta meets all Contract obligations. Primary contact with the Principal's Representative on all aspects of the Project. Approve and ensure implementation of this AQMSP. Approve monthly reports and issue to the Principal.
Project Manager	<ul style="list-style-type: none"> Implement the AQMSP. Organise on-site personnel with regard to their responsibilities within the AQMSP. Carry out periodic audits of air quality management processes. Manage non-conformances and initiate corrective action as required. Lead by example and promote best air quality management practices. Review reports and follow up on recommendations.
Demolition Site Manager	<ul style="list-style-type: none"> Implement the AQMSP. Provide advice and assistance on the AQMSP to employees. Decide when training is required. Undertaking inspection of the contracted or planned works to ensure that AQMSP measures are implemented and effective. Lead by example and promote best air quality management practices. Carry out weekly toolbox talks. Manage the Site Folder and ensure all AQMSP requirements are compiled.
Environment and Sustainability Manager	<ul style="list-style-type: none"> Maintain the AQMSP. Ensure relevant information from the AQMSP is incorporated into project inductions. Prepare monthly reports and submit to the Project Director. Identify air quality management opportunities and support those identified by others. Communicate the requirements of the AQMSP and ensure these are addressed. Ensure subcontractor documentation captures the requirements of the AQMSP. Conduct audits and inspections of the site. Participate in Principal-led site audits. Update the AQMSP as required. Attend toolbox meetings and inductions. Ensure that air quality management defects are identified, actioned and closed out. Lead by example and promote best air quality management practices. Attend on-site meetings to ensure air quality is raised for review.

6 IMPLEMENTATION

6.1 Existing Environment

The following section generally summarises the existing environment for both the Parramatta and Clyde sites which correspond to Chapter 23 of the EIS.

Ambient air quality throughout the Sydney Basin is influenced by a number of factors, including topography, prevailing meteorological conditions (such as wind and temperature, which vary seasonally) and local and regional air pollution sources (such as motor vehicles, industrial facilities and bushfires). Consequently, regional air quality can be highly variable and impacted by events occurring a significant distance away.

The NSW Office of Environment and Heritage uses a standardised measurement known as the air quality index to characterise air quality and the acceptability of air quality at a location and compare it in relative terms with other locations throughout NSW.

Air quality data presented in the Chapter 23 of the EIS, sourced from monitoring stations at Prospect and Parramatta North is summarised in **Table 5**.

The data shows the existing concentrations of air pollutants were generally below the applicable air quality impact assessment criteria during the 2014 to 2018 reporting periods for sulfur dioxide, nitrogen dioxide and carbon monoxide. The exception is that on occasional days the 24-hour average concentration levels of:

- PM10 exceeded the 24-hour impact assessment criterion of 50 micrograms per cubic metre
- PM2.5 exceeded the 24-hour impact assessment criterion of 25 micrograms per cubic metre.

These occurrences are generally the result of natural events including dust storms, bushfires and sea spray arising from on-shore winds. Annually averaged PM10 concentrations generally complied with the 25 micrograms per cubic metre criterion, whereas annually averaged PM2.5 concentrations exceeded the eight micrograms per cubic metre criterion at the Prospect and Parramatta North monitoring stations.

Table 5 Background Air Quality

Pollutant	Averaging period	Air quality impact assessment criteria	Prospect				Parramatta North				
			2015	2016	2017	2018	2014	2015	2016	2017	2018
PM10 (µg/m ³)	Maximum 24-hour	50	69	110	61	113	-	-	-	-	107
	95th percentile 24-hour	50	30	34	32	37	-	-	-	-	39
	Annual	25	18	19	19	22	-	-	-	-	22
PM2.5 (µg/m ³)	Maximum 24-hour	25	30	85	30	48	-	-	-	-	42
	95th percentile 24-hour	25	16	18	15	16	-	-	-	-	17
	Annual	8	8.2	8.7	7.7	8.5	-	-	-	-	9.2
Carbon monoxide (mg/m ³)	Maximum 1-hour	30	2	2	2	2	-	-	-	-	2
Nitrogen dioxide (µg/m ³)	Maximum 1-hour	246	100	100	113	96	-	-	-	-	120
	Annual	62	18	19	19	17	-	-	-	-	-
Sulfur dioxide (µg/m ³)	Maximum 1-hour	570	71	55	60	66	-	-	-	-	55
	Annual	60	3	3	3	3	-	-	-	-	-

Source: Sydney Metro West – Stage 1 EIS

6.2 Sensitive Receivers

6.2.1 Parramatta

Potential sensitive receivers nearest to Parramatta site include:

- Educational facilities including the University of New England, University of Western Sydney, Richmond School of Business, and Lead College within 50 metres of the construction site, and Arthur Phillip High School and the Sydney Graduate School of Management over 100 metres to the east
- Civic places such as Centenary Square, Parramatta Town Hall and the future Parramatta Square, opposite the site, south of Macquarie Street
- Leigh Memorial Church and St John's Anglican Church which adjoins Parramatta Square
- Residents in the closest residential apartment building about 200 metres to the west at 31-39 Macquarie Street
- Ecological receivers associated with Parramatta River, located about 300 metres to the north of the construction site.

6.2.2 Clyde

Potential sensitive receivers nearest to Clyde site include:

- Residential receivers in Rosehill about 50 metres to the west of the construction site, separated by James Ruse Drive a major arterial road.
- Attendees at a Fun2Learn Early Learning Centre (within the Rosehill residential area) about 100 metres to the west of the construction site, separated by James Ruse Drive, a major arterial road.
- Attendees at Rosehill Gardens racecourse immediately adjacent to the northern boundary of the construction site. This also includes horses stabled at the racecourse.
- Duck Creek, the nearest ecological receiver, located adjacent to the site.

6.3 Potential Sources of Air Emissions

The primary source of air pollution likely to be expected from the demolition works on site are as follows:

- Particulates and dust:
 - Generated by most construction activities; and
 - May cause dust deposition on surfaces, visible dust plumes and temporary elevation of particulate matter (PM10) concentrations.
- Exhaust emissions – carbon monoxide (CO), sulfur dioxide (SO₂), oxides of nitrogen (NO/NO₂) and particulates:
 - Generated by machinery and vehicles used on site as well as delivery vehicles; and
 - May cause elevation of atmospheric concentrations of greenhouse gases, visible smoke plumes, odours, temporary elevation of exhaust gas and fine particulate concentrations.
- Odour:
 - Unlikely to be a primary source of air pollution during the proposed works.
 - Minor potential for odours associated with crib / toilet facilities including waste removal.

The EIS air quality assessment identified the following potential dust impact risk ratings for unmitigated demolition each site.

Table 7 Risk of potential unmitigated dust impacts

Site	Magnitude of potential emissions	Potential nuisance impacts	Potential human health impacts (high sensitivity)	Potential ecological impacts
Parramatta	Large	(high sensitivity)	(medium sensitivity)	N/A
		High risk	High risk	
Clyde	Large	(high sensitivity)	(medium sensitivity)	(medium sensitivity)
		High risk	High risk	High risk
Westmead	Small	(high sensitivity)	(high sensitivity)	N/A
		Medium risk	Medium risk	

6.4 Site Control Measures

Site specific controls, monitoring, reporting and performance measurements have been identified in this AQMSP to minimise and where possible, prevent air quality impacts resulting from construction on the environment and community. The mitigation measures have been prepared in accordance with the UK Institute of Air Quality Management (IAQM) guidelines and to capture the REMMs. These “Mitigation Measures” are described in **Table 6** below.

Table 6 Mitigation Measures, reporting and reactive management strategy

Ref.	Mitigation Measure	Works				Site			Responsibility	Monitoring and Reporting	Targets	Reactive Mgt. Strategy
		Low Impact works & Site Set-up	Internal Strip-out	Hardstand Demolition	Demobilisation	Parramatta	Clyde	Westmead				
AQ01.	Real-time PM ₁₀ & PM _{2.5} air monitoring with provision for alarms.			✓		✓			Site Manager, Sub-contractors	Real-time PM ₁₀ & PM _{2.5} monitoring and reporting.	See Table 7 below.	See Table 7 below.
AQ02.	Regularly wet-down exposed and disturbed areas including stockpiles, especially during dry weather			✓		✓	✓	✓	Site Manager, Sub-contractors	Daily surveillance. Weekly/monthly inspection checklist.	No visible dust beyond site boundary. No dust related complaints.	Re-assess and implement dust controls.
AQ03.	Minimise the amount of materials stockpiled and position stockpiles away from surrounding receivers	✓	✓	✓		✓	✓	✓	Site Manager, Sub-contractors	Daily surveillance. Weekly/monthly inspection checklist.	No dust emissions from stockpiles.	Re-assess and implement dust controls.
AQ04.	Demolition and excavation works with the potential to generate dust emissions should be dampened slightly to prevent dust from becoming airborne but should not be wet to the extent that run-off occurs.			✓	✓	✓	✓	✓	Sub-contractors	Daily surveillance. Weekly/monthly inspection checklist.	No visible dust beyond site boundary. Dust related complaints.	Re-assess and implement dust controls.
AQ05.	Adjust the intensity of activities based on measured and observed dust levels and weather forecasts	✓		✓		✓	✓	✓	Site Manager, Sub-contractors	Daily surveillance. Weekly/monthly inspection checklist.	Minimise exposed areas.	Adjust intensity of work.
AQ06.	Meteorological conditions will be monitored and appropriate responses will be organised and undertaken periodically	✓		✓		✓	✓	✓	Site Manager, Sub-contractors	Daily surveillance. Weekly/monthly inspection checklist. Monthly Report	No visible dust beyond site boundary. No dust related complaints.	Re-assess and implement dust controls due to meteorological conditions.

Ref.	Mitigation Measure	Works				Site			Responsibility	Monitoring and Reporting	Targets	Reactive Mgt. Strategy
		Low Impact works & Site Set-up	Internal Strip-out	Hardstand Demolition	Demobilisation	Parramatta	Clyde	Westmead				
AQ07.	Minimise the amount of materials stockpiled and position stockpiles away from surrounding receivers	✓		✓		✓	✓	✓	Site Manager, Sub-contractors	Daily surveillance. Weekly/monthly inspection checklist.	Minimal stockpiled materials on site. No visible dust beyond site boundary.	Increase frequency of stockpile removal.
AQ08.	Regularly inspect dust emissions and apply additional controls as required	✓	✓	✓	✓	✓		✓	Site Manager, Sub-contractors	Daily surveillance. Weekly inspection checklist.	No visible dust beyond site boundary. No dust related complaints.	Re-assess and implement dust controls.
AQ09.	Machinery mounted water sprayers or alternative wetting methods as appropriate			✓		✓			Site Manager, Sub-contractors	Daily surveillance. Weekly inspection checklist.	No visible dust beyond site boundary. No dust related complaints.	Re-assess and implement dust controls.
AQ010.	Plant and equipment would be maintained in a proper and efficient manner. Visual inspections of emissions from plant to ensure that visible emissions are not emitted for more than 10 consecutive seconds as part of pre-acceptance checks.	✓	✓	✓	✓	✓	✓	✓	Site Manager, Sub-contractors	Delta plant and equipment check	Emissions not visible for >10secs (as a general rule).	Perform maintenance on plant or remove from site.
AQ011.	Operate plant in a proper and efficient manner.	✓		✓	✓	✓		✓	Site Manager, Sub-contractors	Plant onboarding procedure. Daily surveillance. Weekly/monthly inspection checklist.	Emissions not visible for >10secs (as a general rule).	Perform maintenance on plant or remove from site.
AQ012.	Turn engines off while parked on site.	✓		✓	✓	✓		✓	Sub-contractors	Daily surveillance. Weekly/monthly inspection checklist.	Limited engine idling. Complaints related to idling.	Toolbox talk drivers regarding requirement.

Ref.	Mitigation Measure	Works				Site			Responsibility	Monitoring and Reporting	Targets	Reactive Mgt. Strategy
		Low Impact works & Site Set-up	Internal Strip-out	Hardstand Demolition	Demobilisation	Parramatta	Clyde	Westmead				
AQ013.	Maintain hardstand areas where possible.	✓		✓	✓			✓	Site Manager, Sub-contractors	Daily surveillance. Weekly/monthly inspection checklist.	Minimise the removal of hardstand where possible.	Maintain hardstand.
AQ014.	Delineate haul roads and place crushed rock down, where possible, to limit dust generation.			✓	✓	✓	✓	✓	Site Manager, Sub-contractors	Daily surveillance. Weekly/monthly inspection checklist.	No loose dust and debris. No visible dust beyond site boundary. Dust related complaints.	Apply crushed rock to haul roads where dust is generated.
AQ015.	Impose and signpost a maximum speed limit of 15 km/h on surfaced and unsurfaced haul roads and inside work areas	✓		✓	✓			✓	Site Manager, Sub-contractors	Daily surveillance. Weekly/monthly inspection checklist.	No visible dust beyond site boundary. No dust related complaints.	Toolbox talk drivers regarding requirement.
AQ016.	Where practicable, use non-powered hand tools or portable power tools that incorporate dust suppression or dust extraction attachments	✓	✓	✓	✓	✓	✓	✓	Site Manager, Sub-contractors	Daily surveillance. Weekly/monthly inspection checklist.	No visible dust beyond site boundary. No dust related complaints.	Re-assess and implement dust controls.
AQ017.	Use water for dust suppression being careful not to generate run off.			✓	✓	✓	✓	✓	Site Manager, Sub-contractors	Daily surveillance. Weekly/monthly inspection checklist.	No loose dust and debris. No visible dust beyond site boundary. No dust related complaints.	Re-assess and implement air quality controls.
AQ018.	Erect Scaffold with chain and mesh and/or hoardings on the perimeters of the site	✓		✓	✓	✓			Site Manager	Daily surveillance. Weekly inspection checklist.	Hoardings installed.	Install required perimeter protection.

Ref.	Mitigation Measure	Works				Site			Responsibility	Monitoring and Reporting	Targets	Reactive Mgt. Strategy
		Low Impact works & Site Set-up	Internal Strip-out	Hardstand Demolition	Demobilisation	Parramatta	Clyde	Westmead				
AQ019.	Use enclosed chutes and conveyors and covered skips		✓	✓		✓			Site Manager, Sub-contractors	Daily surveillance. Weekly inspection checklist.	Enclosed chutes and conveyors, and covered skips.	Install appropriate equipment.
AQ020.	Ensure trucks used for transport of demolition materials are enclosed sided vehicles such as tippers			✓		✓	✓	✓	Site Manager, Sub-contractors	Daily surveillance. monthly inspection checklist.	All trucks transporting demolition materials are enclosed sided.	Re-assess and implement dust controls.
AQ021.	Ensure vehicles carrying demolition materials leaving sites are appropriately covered to prevent escape of materials during transport			✓	✓	✓	✓	✓	Site Manager, Sub-contractors	Daily surveillance. monthly inspection checklist.	All trucks appropriately covered leaving the site.	Re-assess and implement dust controls.
AQ022.	All sites will have a hazmat survey and register completed prior to commencing any demolition works on site.	✓	✓	✓	✓	✓	✓	✓	Site Manager, Sub-contractors	Daily surveillance. Monthly inspection checklist. Hazmat Report	Hazmat materials identified in reports Hazmat Reports finalised prior to demolition works commencing.	Cease any demolition and close out hazmat report. For finds of unidentified hazmat materials implement the Unexpected Finds Protocol
AQ023.	Appropriate notifications to SafeWork NSW prior to Demolition and asbestos removal works		✓	✓		✓	✓	✓	Project Manager, Site Manager, Sub-contractors	Notification in place	All demolition and asbestos removal works in accordance with notifications to SafeWork	Cease any demolition or asbestos removal works and make the appropriate notifications

Ref.	Mitigation Measure	Works				Site			Responsibility	Monitoring and Reporting	Targets	Reactive Mgt. Strategy
		Low Impact works & Site Set-up	Internal Strip-out	Hardstand Demolition	Demobilisation	Parramatta	Clyde	Westmead				
AQ024.	Appropriate asbestos air monitoring will be in place during Removal	✓	✓	✓	✓	✓	✓	✓	Site Manager, Sub-contractors	Daily surveillance. Weekly/monthly inspection checklist. Daily Air Monitoring Report	Daily monitoring below exposure limits.	See Table 9 below
AQ025.	Ensure all vehicles leaving site (or moving from unsealed to sealed roads) are clean prior to exiting, with physical removal of dirt / mud using water if required.			✓		✓	✓	✓	Site Manager, Sub-contractors	Daily surveillance Weekly inspection checklist	No loose dust and debris. No visible dust beyond site boundary. No dust related complaints.	Clean areas with deposited dust and debris.
AQ026.	Close gates between vehicle movements, and fit them with shade cloth (or equivalent).	✓		✓	✓	✓	✓	✓	Site Manager, Sub-contractors	Daily surveillance Weekly inspection checklist	No visible dust beyond site boundary. No dust related complaints.	Re-assess and implement dust controls.
AQ027.	Sweep and water hardstand haul routes, materials handling areas site entry points and other areas as needed.			✓	✓	✓	✓	✓	Sub-contractors	Daily surveillance Weekly inspection checklist	No loose dust and debris. No visible dust beyond site boundary. No dust related complaints.	Clean areas with deposited dust and debris.
AQ028.	Preference to use mains power where available and suitable.	✓		✓	✓	✓	✓	✓	Site Manager, Sub-contractors	Daily surveillance Weekly inspection checklist	Complaints related to particulate matter associated with generator use.	Convert generator to mains power or limit operation of the generator.
AQ029.	Undertake additional dust suppression if needed during dust generating conditions (e.g. dry and windy weather) or during longer non-working			✓	✓	✓	✓	✓	Sub-contractors	Daily surveillance Weekly inspection checklist.	No visible dust beyond site boundary. No dust related complaints.	Re-assess and implement dust controls.

Ref.	Mitigation Measure	Works				Site			Responsibility	Monitoring and Reporting	Targets	Reactive Mgt. Strategy
		Low Impact works & Site Set-up	Internal Strip-out	Hardstand Demolition	Demobilisation	Parramatta	Clyde	Westmead				
	periods (e.g. long weekends, holidays).											
AQ030.	In the event of visible dust generation being observed onsite, additional controls are to be implemented to minimise the dust being generated.	✓		✓	✓	✓	✓	✓	Sub-contractors	Daily surveillance. Weekly inspection checklist.	No visible dust generated within the site. No visible dust beyond site boundary. No dust related complaints.	Re-assess and implement dust controls.
AQ031.	The extent of opened and disturbed contaminated soil at any given time would be minimised to reduce potential odour generation.	✓		✓		✓	✓	✓	Site Manager, Sub-contractors	Daily surveillance. Weekly inspection checklist.	All odorous material covered. No odour beyond site boundary. No odour related complaints.	Re-assess and implement odour controls.
AQ032.	Temporary coverings or odour suppressing agents would be applied to excavated areas where appropriate.	✓		✓		✓	✓	✓	Site Manager, Sub-contractors	Daily surveillance. monthly inspection checklist.	All odorous material covered. No odour beyond site boundary. No odour related complaints.	Re-assess and implement odour controls.
AQ033.	Any offensive odours generated as a result of the work will be managed in accordance with the Unexpected Finds Protocol.			✓	✓	✓	✓	✓	Site Manager, Sub-contractors	Daily surveillance. monthly inspection checklist.	No offensive odours beyond site boundary. No odour related complaints.	Implement Unexpected Finds Protocol.

6.5 Training

All Delta personnel and subcontractors working on a Delta Project site will undergo site induction training, which includes environmental due diligence training, and environmental training in relation air quality management. The induction will address:

- The Air Quality Management Sub Plan;
- Relevant environmental legislation; and
- The Conditions of Approval;

Records will be kept of all personnel that have undertaken the site induction, including the nature of the training, the time and date of the training, and the name of the trainer/s.

Toolbox training will be provided weekly, in accordance with Delta's IMS, and will address waste management when the need arises, such as where existing procedures are not followed, new procedures are to be introduced, or where new hazards or opportunities are identified.

6.6 Record Keeping

Delta will retain compliance records in relation to air quality management including records of inspections and audits. Records will be made available in a timely manner to the Principal (or their representative) as required in the Contract. Records will be made available to the ER, DPIE and EPA if requested.

Delta will meet the Principal's reporting requirements by maintaining appropriate records of:

- Site inspections, audits, monitoring, reviews or remedial actions;
- Meteorological condition monitoring will be sourced and maintained from the Bureau of Meteorology (BOM) or equivalent;
- Management measures implemented as a result of adverse, windy weather conditions will be captured within the Monthly Report;
- Documentation as required by performance conditions, approvals, licences, and legislation;
- Modifications to site environmental documentation; and
- Other records as required by the AQMSP.

Records will be retained by Delta for the duration of works, and thereafter for a period of at least seven (7) years following completion of the Project.

7 MONITORING AND INSPECTIONS

7.1 Air Quality Monitoring

Air quality monitoring, site action levels and response is to be undertaken in accordance with **Tables 7** throughout the works. Real-time monitoring of PM₁₀ & PM_{2.5} is to be undertaken by the Occupational Hygienist/Environmental consultant in the monitoring locations as identified in **Appendix A**.

Responsibility for implementation, management and response belongs to Delta and the relevant sub-contractors.

Table 7 – Ambient Air Quality Monitoring

Parameter	Data Source	Frequency	Method	Locations	Site Action Level	Response
Visible Exhaust	Site Inspection	Daily	Site inspection Plant and equipment onboarding	All sites	Emitting smoke for more than 10 seconds continuously	Maintenance requirements reviewed. Remove plant/equipment from site if unable to be rectified.
Visible Dust	Site Inspection Complaint	Daily	Site inspection Plant and equipment onboarding	All sites	Visible dust identified onsite or leaving the boundary	Review possible dust sources, review effectiveness of controls and implement existing and additional controls (if identified).
Odour	Site Inspection Complaint	Daily	Site inspection	All sites	Offensive odour outside the site boundary.	Review possible odour sources, review effectiveness of controls and implement existing and additional controls (if identified).
PM _{2.5}	Light Scatter Instrument (e.g., DustTrak)	Continuous	Real time monitoring	See Appendix A for indicative locations	150 µg/m ³ averaged over a 1-hour period. 25 µg/m ³ 24-hour average ¹ 8 µg/m ³ annual average.	Review possible dust sources operating during the average period. Compare against background data sources, such as the nearest NSW EPA air quality monitors (refer to Appendix B) Effectiveness of controls to be reviewed and improved where appropriate.
PM ₁₀					190 µg/m ³ averaged over a 1-hour period (UK IAQM Oct. 2018) Monthly Reporting criteria (NEPM Ambient Air Quality 2021) 50 µg/m ³ 24-hour average ¹ 25 µg/m ³ annual average.	
Meteorological	BOM	Daily	Daily forecast from BOM or weather alerts and onsite observations	All sites	Elevated wind levels coupled with dry weather forecast or observed with the potential to cause or is causing visible dust or elevated PM _{2.5} or PM ₁₀ readings.	Adjust intensity of work. Review effectiveness of controls and implement existing and additional controls (if identified).

Notes:

¹ 24-hour average of a calendar day defined as midnight to midnight.

7.2 Meteorological Condition Monitoring

In accordance with normal standard construction practices, weather forecasts will be used to guide work activities undertaken on-site. Forecasts from the Bureau of Meteorology (or equivalent) will be checked by the Environment and Sustainability Manager and/or site supervisor at the start of each day and before any new work activity that may be affected by rainfall or adverse weather.

7.3 Asbestos Air Fibre Monitoring

Asbestos fibre air monitoring will be undertaken by a suitably qualified and experienced consultant LAA in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003 (2005)].

7.3.1 Air Fibre Monitoring Process

Air monitoring will be undertaken using SKC portable air sampling pumps placed in strategic locations. The air monitoring pumps are typically used for 6-8 hrs during the work shift. The pumps will be flow tested at the commencement and completion of each monitoring shift in order to draw a known volume of air through the membrane filter. The filters will then be sent to our internal NATA-accredited laboratory for analysis by Phase Contrast Microscopy.

Control monitoring are air samples taken at fixed locations in the workplace known as 'static samples' and so do not provide personal exposure information. These results should be limited to tasks like assessing the effectiveness of hazard control measures. Control samples are a very good tool to give early warning of leaks or other contaminating sources which eventually lead to worker exposures approaching or exceeding the exposure standard.

The number of monitors required for each day will depend on specific work activities. The consultant will make a judgement on in the number of monitors required in consultation with the client.

Air monitoring results will be forwarded to the Delta representatives the following morning after the monitoring was conducted.

7.3.2 Exceedance Notification Process

In the event of an air fibre monitoring exceedance, PRA will verbally inform Delta as soon as practicable. In the event that air monitoring results exceed the established action limits, current controls and the air monitoring program should be reviewed and if deemed necessary, additional controls or amendments to task specific practices should be implemented.

Air monitoring action levels are detailed in **Table 8** overleaf.

Table 9. Asbestos air monitoring action levels

Monitoring & Action Limits	Action
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Air Fibre Monitoring & Analysis</p>	<p>Air Fibre Monitoring</p> <ul style="list-style-type: none"> • Air fibre monitoring required for friable removal works and recommended for non-friable removal. • PRA Competent Sampler to undertake air fibre monitoring onsite (i.e. pumps on and off). <p>Lab Analysis</p> <ul style="list-style-type: none"> • PRA's NATA accredited laboratory analysis provides a count of the fibres collected during the monitoring.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">< 0.01 fibres/ml</p> <p style="text-align: center;">< 0.01 fibres/ml</p> <p style="text-align: right;">Yes</p>	<p>No additional actions</p> <ul style="list-style-type: none"> • Continue with current control measures.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">0.01 - 0.02 fibres/ml</p> <p style="text-align: center;">No</p> <p style="text-align: center;">Between 0.01 - 0.02 fibres/ml</p> <p style="text-align: right;">Yes</p> <p style="text-align: left;">No</p>	<p>Review</p> <ul style="list-style-type: none"> • Review control measures <p>Investigate</p> <ul style="list-style-type: none"> • Investigate the cause of the elevated air fibre counts. • Identify any additional controls required. <p>Implement</p> <ul style="list-style-type: none"> • Ensure current controls are being effectively implemented. • Implement additional controls identified during the investigation.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">> 0.02 fibres/ml</p> <p style="text-align: center;">No</p> <p style="text-align: center;">> 0.02 fibres/ml</p> <p style="text-align: right;">Yes</p>	<p>Stop & Make Safe</p> <ul style="list-style-type: none"> • Stop all removal works • Extend exclusion zone as far as reasonably practical. <p>Notify</p> <ul style="list-style-type: none"> • Notify the regulator by phone followed by a written statement that work has ceased and the results of the air monitoring. <p>Investigate</p> <ul style="list-style-type: none"> • Visually inspect enclosure (if being used) and seal any leaks. • Determine if removal contractor processes or tools are contributing factors and agree improvements. <p>Implement</p> <ul style="list-style-type: none"> • Undertake appropriate cleaning of surrounding areas (wet wipes and/or vacuum) • Implement agreed improvements to removal processes. • Conduct further air fibre monitoring. • Only recommence works when air fibre levels are < 0.01 fibres/ml.

7.4 Air Quality Inspections

Delta will carry out surveillance of environmental measures, including air quality management measures, in accordance with Delta IMS Procedure 24 Inspection, Monitoring and Measurement. Daily Pre-Starts will be carried out by the Site Manager and recorded on Safety and Environmental Form SEF 047 Site Diary - Daily Pre-Start.

Regular site inspections will be carried out by the Site Manager and recorded on SEF 049 Site Inspection Report. Site inspections cover the whole of the Portion, including the site perimeter, and include checking on the air quality control measures on site as well as assessing progress, risk and opportunities, and quality, safety, and environmental aspects of the Project.

Periodic inspections by Delta’s Environmental and Sustainability Manager (or delegate) will be carried out to verify the adequacy of all environmental measures. This will be documented in SEF 049 Site Inspection Report.

A timetable of site inspections is provided in Table 8 below.

Table 8 Site Inspection Timetable

Inspection	Frequency	Content	Reporting
Daily Pre-start	As required	Safety, environment, quality	SEF 047 Site Diary - Daily Pre-Start
Site Inspection	Daily & Weekly	Safety, environment	SEF 047 Site Diary - Daily Pre-Start
Environmental Inspection	Weekly	Environment	SEF 049 Site Inspection Report

7.5 Air Quality

Delta carries out routine safety, environmental, and quality audits of all of its projects. Air quality management will be incorporated into these in accordance with Delta’s IMS Procedure AUD 005 Audit Environmental and as a component of this AQMSP.

The Environment and Sustainability Manager will review air quality documentation to ensure that the project and EMS objectives are being met.

Where Delta performs compliance audits of its systems and procedures, the Principal will be invited to participate in the audit planning and oversee conduct of the audit. Delta will later provide a copy of the audit report to the Principal.

Where sub-contractors are employed to deliver aspects of the Project, Delta will require that its audit and surveillance requirements be maintained by the sub-contractor, and that the evidence be provided that the sub-contractor’s activities are being effectively overseen. If requested by the Principal, Delta will provide evidence of the effective implementation of management systems and procedures by its sub-contractors.

Delta’s management plans, systems, and processes will be subject to audit and surveillance by the Principal to gain assurance that Delta has established effective management systems and processes to meet the requirements of the Contract. The Principal may utilise its own auditors and surveillance officers to perform these activities, supported by subject matter experts where relevant.

Delta will be cooperative in assisting the Principal and ER in undertaking their duties. This will include providing safe access to sites, systems and documentation, providing facilities to perform audits and surveillance, and the participation of Delta and Subcontractor representatives as required.

Delta will cooperate with the ER and government agencies where requested.

A timetable of site audits is provided in Table 9.

Table 9 Site Audit Timetable

Inspection	Frequency	Content
Internal HSEQ Audit	Monthly	Safety, environment (including air quality), and quality
Internal Project Audit	Monthly	Project objectives Project specific management plans and procedures (including AQMSP)
Principal’s Audit	TBA	Project management plans, systems, and processes

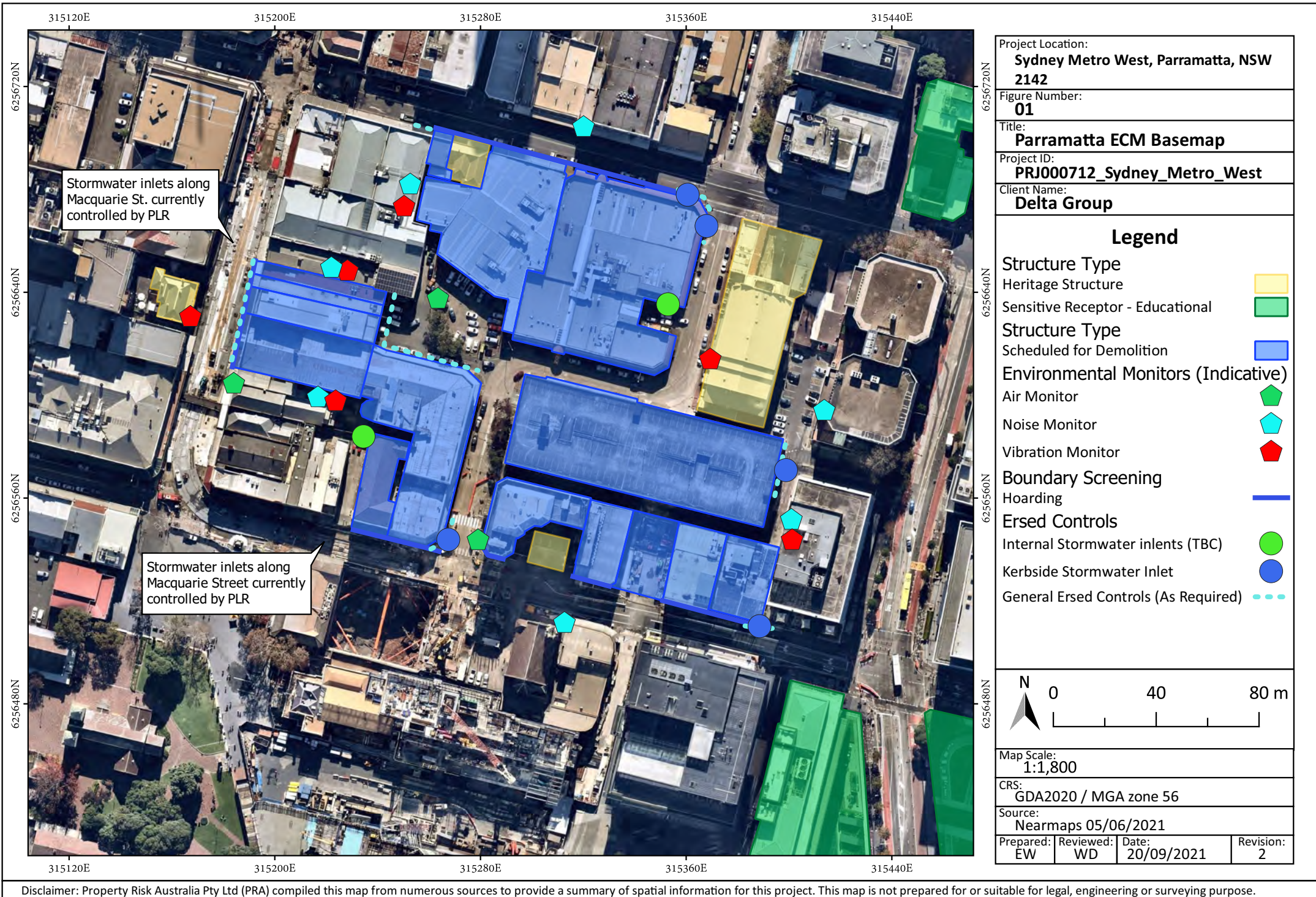
8 REPORTING

Monthly reports summarising all dust monitoring will be prepared and submitted the Principal.
Six (6) monthly construction monitoring report including the air quality monitoring

Air quality reporting will include:

Parameter	Report	Frequency
PM _{2.5} and PM ₁₀	Monthly Air Quality Monitoring Report	Monthly
	Real-time alerts sent to the project team via email or text message.	As required
Summary of: <ul style="list-style-type: none"> Visible observations (by exception) Odour (by exception) Meteorological (by incident) 	Monthly Air Quality Monitoring Report	Monthly
Asbestos Air Fibre Monitoring	Asbestos Fibre Air Monitoring Report	Daily (during asbestos removal works)
Air Quality Incident	Environmental Incident and Non-compliance Notification Report (SM ES-FT-403)	As required

APPENDIX A - INDICATIVE AIR MONITORING LOCATIONS AND SENSITIVE RECEIVERS



Stormwater inlets along Macquarie St. currently controlled by PLR

Stormwater inlets along Macquarie Street currently controlled by PLR

Project Location:
Sydney Metro West, Parramatta, NSW 2142

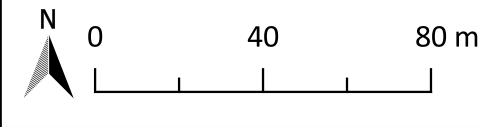
Figure Number:
01

Title:
Parramatta ECM Basemap

Project ID:
PRJ000712_Sydney_Metro_West

Client Name:
Delta Group

Legend	
Structure Type	
Heritage Structure	
Sensitive Receptor - Educational	
Structure Type	
Scheduled for Demolition	
Environmental Monitors (Indicative)	
Air Monitor	
Noise Monitor	
Vibration Monitor	
Boundary Screening	
Hoarding	
Ersed Controls	
Internal Stormwater inlets (TBC)	
Kerbside Stormwater Inlet	
General Ersed Controls (As Required)	



Map Scale:
1:1,800

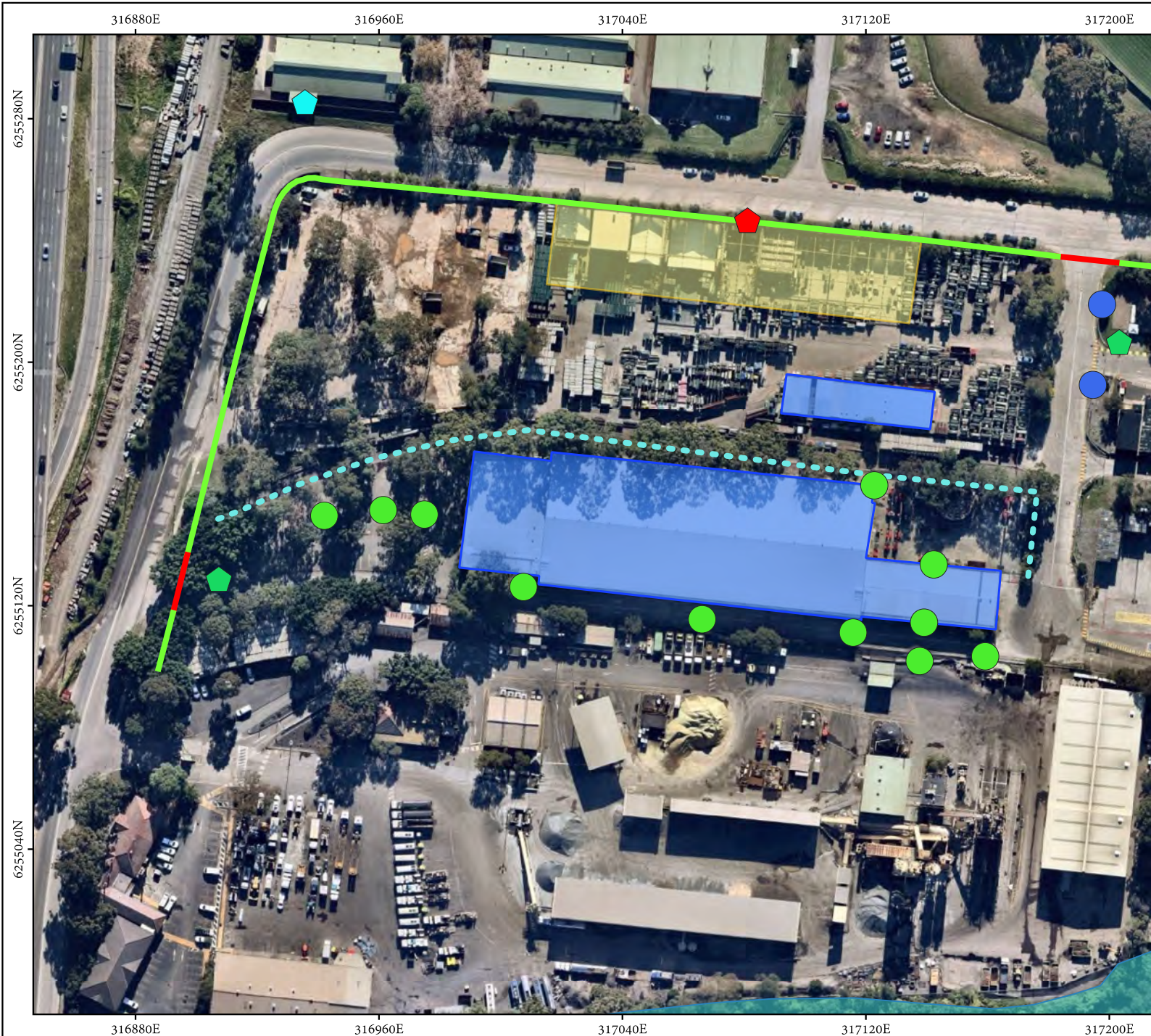
CRS:
GDA2020 / MGA zone 56

Source:
Nearmaps 05/06/2021

Prepared: EW	Reviewed: WD	Date: 20/09/2021	Revision: 2
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Disclaimer: Property Risk Australia Pty Ltd (PRA) compiled this map from numerous sources to provide a summary of spatial information for this project. This map is not prepared for or suitable for legal, engineering or surveying purpose.



Project Location:
Sydney Metro West, Clyde, NSW 2142

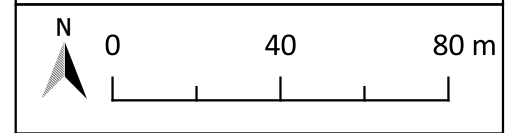
Figure Number:
03

Title:
Clyde Portion 3 ECM Basemap

Project ID:
PRJ000712_Sydney_Metro_West

Client Name:
Delta Group

Legend	
Environmental Constraints	
Riparian Zone	
Heritage Structure	
Structure Type	
Scheduled for Demolition	
Environmental Monitors	
Air Monitor	
Noise Monitor	
Vibration Monitor	
Boundary Screening	
Chain Wire Fence	
Hoarding	
Vehicle Access Gate	
Environmental Exclusion Barrier	
Ersed Controls	
Internal Stormwater inlets (TBC)	
Kerbside Stormwater Inlet	
General Ersed Controls (as required)	



Map Scale:
1:1,800

CRS:
GDA2020 / MGA zone 56

Source:
Nearmaps 01/06/2021

Prepared: EW	Reviewed: WD	Date: 20/09/2021	Revision: 2
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Project Location: Sydney Metro West, Clyde, NSW 2142			
Figure Number: 04			
Title: Clyde Portion 4 ECM Basemap			
Project ID: PRJ000712_Sydney_Metro_West			
Client Name: Delta Group			
Legend			
Environmental Constraints			
Riparian Zone			
Myotis Macropus			
Structure Type			
Scheduled for Demolition			
Environmental Monitors (Indicative)			
Air Monitor			
Noise Monitor			
Boundary Screening			
Chain Wire Fence			
Hoarding			
Vehicle Access Gate			
Environmental Exclusion Barrier			
Ersed Controls			
Internal Stormwater inlets (TBC)			
Kerbside Stormwater Inlet			
General Ersed Controls (as required)			
Map Scale: 1:1,800			
CRS: GDA2020 / MGA zone 56			
Source: Nearmaps 01/06/2021			
Prepared: EW	Reviewed: WD	Date: 20/09/2021	Revision: 2

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APPENDIX B NEAREST EPA AIR MONITORING LOCATION

APPENDIX C STAKEHOLDER CONSULTATION

Sydney Metro West



Figure Number:

06

Project Description:

Distance from Parramatta, Westmead and Clyde to nearest EPA air quality monitors.

ProjectID

PRA000712_Sydney_Metro_West

Client Name:

Delta Group

Prepared:

EW

Reviewed:

WD

Date:

08/10/2021

Legend

EPA Air Quality Monitors

Sydney Metro Site

Distance Marker



0

600

1,200 m

Source:

SixMaps 09/06/2021

Map Scale:

1:32,000

CRS:

GDA2020 / MGA zone 56

APPENDIX D ENVIRONMENTAL REPRESENTATIVE ENDORSEMENT

21 October 2021

██████████
Director Sustainability, Environment
& Planning
Metro West
Sydney Metro
Transport for NSW
PO Box K659
HAYMARKET NSW 1240

REF: 201208(c) AQMSPREV2

Dear ██████████

RE: Sydney Metro Parramatta, Clyde and Westmead Enabling Works: Air Quality Management Sub Plan (AQMSP)

I refer to Sydney Metro's (SM) submission of the following document required by Condition C1 of the Sydney Metro West Infrastructure Approval (SSI 10038) which was approved by the Department of Planning, Industry and Environment (DPIE) on 11 March 2021:

- Sydney Metro West, Delta Group Air Quality Management Sub Plan (AQMSP Rev 2, 13 October 2021).

It is noted that:

- The AQMSP has been developed by Delta for its demolition works to meet the specific requirements of the Construction Environment Management Framework (CEMF), and address specific air quality management requirements of the Infrastructure Approval as these relate to demolition at Parramatta, Clyde and Westmead enabling work sites.
- Previous versions of the document have been reviewed and updated following comments from the ER.
- Sydney Metro has also reviewed and commented on the document.

Following the above reviews the document is considered to contain information required by the Conditions of Approval (SSI 10038) in relation to the C1.

Noting the above, as the approved Environmental Representative for the Metro West and as required by Conditions A30(d) and C8, the air Quality Management Sub Plan (AQMSP Rev 2) is endorsed.

The endorsement is conditional up Delta obtaining and complying with any relevant approval, licence or permit required for the works; complying with relevant Conditions of Approval as they relate to the works; and appropriate notifications being issued prior to the works.

Yours sincerely

[Redacted signature]

[Redacted name]

Environmental Representative – Sydney Metro West

CC: [Redacted email address]

11 April 2022

██████████
Director Sustainability, Environment
& Planning
Metro West
Sydney Metro
Transport for NSW
PO Box K659
HAYMARKET NSW 1240

REF: 201208(c) AQMSPREV3

Dear ██████████

RE: Sydney Metro Parramatta, Clyde and Westmead Enabling Works: Air Quality Management Sub Plan (AQMSP Rev 3 Dated 16 March 2022)

I refer to Sydney Metro's (SM) submission of the following document required by Condition C1 of the Sydney Metro West Infrastructure Approval (SSI 10038) which was approved by the Department of Planning, Industry and Environment (DPIE) on 11 March 2021:

- Sydney Metro West, Delta Group Air Quality Management Sub Plan (AQMSP Rev 3, 16 March 2022).

It is noted that:

- The AQMSP has been developed by Delta for its Phase C – Parramatta, Westmead and Clyde Enabling works to meet the specific requirements of the Construction Environment Management Framework (CEMF) and address specific air quality management requirements of the Infrastructure Approval as these relate to demolition at Parramatta, Clyde and Westmead enabling work sites.
- This revision of the AQMSP includes the addition of Phase C1 - removal of asbestos contaminated soil at Westmead and Phase C2 - Archaeological test excavations and related investigations at the Parramatta and Clyde sites.
- Previous versions of the document have been reviewed and updated following comments from the ER.
- Sydney Metro has also reviewed and commented on the document.

Following the above reviews the document is considered to contain information required by the Conditions of Approval (SSI 10038) in relation to the C1.

Noting the above, as the approved Environmental Representative for the Metro West and as required by Conditions A30(d) and C8, the air Quality Management Sub Plan (AQMSP Rev 3) is endorsed.

The endorsement is conditional up Delta obtaining and complying with any relevant approval, licence or permit required for the works; complying with relevant Conditions of Approval as they relate to the works; and appropriate notifications being issued prior to the works.

Yours sincerely



Environmental Representative – Sydney Metro West

CC: 