Detailed Site Investigation

Laing O'Rourke Compound, 32 - 34 Harris Street, North Saint Marys NSW 2760

Prepared for: Laing O'Rourke Pty Ltd

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Abbreviations

ACM	Asbestos Containing Material
ADE	ADE Consulting Group Pty Ltd
AHD	Australian Height Datum
ASS	Acid Sulfate Soils
BGL	Below ground level
BTEX	Benzene, toluene, ethylbenzene, xylene
BR	Blind Replicate
CoC	Chain of Custody
CoPC	Contaminants of Potential Concern
CRC CARE	Contamination Assessment and Remediation of the Environment
CSM	Conceptual Site Model
BYDA	Before You Did Australia
DEC	Department of Environment and Conservation
DO	Dissolved Oxygen
DP	Deposited Plan
DQO	Data Quality Objectives
DSI	Detailed Site Investigation
EC	Electrical Conductivity
EILs	Ecological Investigation Levels
EPA	NSW Environment Protection Authority
ESLs	Ecological Screening Levels
HDPE	High-Density Polyethylene
HILs	Health Investigation Levels
HSLs	Health Screening Levels
LEP	Local Environmental Plan
LNAPL	Light Non-Aqueous Phase Liquid
m BGL	meters Below Ground Level
MW	Monitoring Well
NATA	National Association of Testing Authorities
NEPC	National Environment Protection Council
NEPM	National Environmental Protection (Assessment of Site Contamination) Measure
NSW	New South Wales
OCP	Organophosphorus Pesticides
OEH	Office of Environment and Heritage
OPP	Organochlorine Pesticides
PACM	Potential Asbestos Containing Material
PAHs	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PID	Photo-ionisation Detector
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance/Quality Control
RAP	Remedial Action Plan
RPD	Relative Percent Difference
SAC	Site Assessment Criteria
SEPP	State Environmental Planning Policy
SMF	Synthetic Mineral Fibres
SLS	Sydney Laboratory Services
SWL	Standing Water Level
TOC	Top of Casing
TRH	Total Recoverable Hydrocarbons
UCL	Upper Confidence Limit
USCS	Unified Soil Classification System
VOC	Volatile Organic Compounds

Executive Summary

Laing O'Rourke intends to develop a station plaza at 32-34 Harris Street, North Saint Marys NSW 2760, to be referred to as 'the Site', as part of ongoing development associated to North Saint Marys Station and as a part of Sydney Metro – Western Sydney Airport new metro railway line. The site does not include soil surface or subsoils located beneath developed or temporary building located at 32-34 Harris Street, North Saint Marys NSW 2760. Site development will encompass a carpark, station plaza, footbridge access way to North Saint Marys Station, lift shaft and staircase. (refer to *Appendix H - Site Development Plans*). ADE Consulting Group Pty Ltd (ADE) was engaged by Laing O'Rourke (the client) to undertake a Detailed Site Investigation (DSI) to assess the contamination status of the site and suitability for the proposed development while adhering to the Minister's Conditions of Approval CSSI 10051, specifically Condition E92.

The client provided ADE with previous groundwater, geotechnical and environmental reports relating to the site which were used to develop an internal Sampling Analysis and Quality Plan (SAQP). The SAQP identified the contaminants of potential concern (CoPCs) as: asbestos and Per- and Polyfluoroalkyl Substances (PFAS), heavy metals, Polycyclic Aromatic Hydrocarbons (PAHs), Volatile Organic Compounds (VOCs), Total Recoverable Hydrocarbons (TRH), Benzene, Toluene, Ethylbenzene, and Xylene (BTEX), Polychlorinated biphenyls (PCBs), Phenols, Cyanide, Organochlorine Pesticides/Organophosphorus Pesticides (OCP/OPP).

Additional analytes such as soil acidity and Cation Exchange Capacity (CEC), Total Organic Carbon (TOC), and Clay Content were added to the analytical suite as test parameters to assist ecological investigation level (EIL) development.

The objectives of the DSI are to:

- Present an assessment of the areas of concern identified in the preliminary desktop study with reference to the internal SAQP prepared by ADE in late 2023.
- Provide an assessment on the suitability of the site for the proposed development in accordance with National Environmental Protection (Assessment of Site Contamination) Measure 2013.

ADE conducted sampling at 12 soil locations across the subject area. Test pitting was advanced using an excavator provided by the client. Following a review of previous studies of soil and groundwater and soil analytical data collected during the investigation, ADE found that:

- All soil samples collected during this investigation reported chemical concentrations below the adopted site assessment criteria. Visual inspection of the subject materials did not identify indicators of PASS, hydrocarbon odours / staining and or ACM.

- Groundwater analytical data adapted from *CPBG Baseline Groundwater Report (Project-wide),* 6 June 2023 identified exceedances of zinc, nickel, lead and copper from onsite monitoring well SMGW-BH-A401 sampled December 2022 against ANZG 95% and 95% Freshwater guidelines. The source of these exceedances could not be located onsite and could not be attributed to contaminants leaching through soil due to minor detection reported in laboratory analysis of soils.

In summary, ADE is of the opinion that all areas of concern outlined in ADE's internal SAQP have been addressed in reference to soil contamination. Groundwater sample exceedances in zinc, nickel, lead and copper as identified within *CPBG Baseline Groundwater Report (Project-wide)* is not attributed to onsite contamination due to the low leachability of heavy metals within the soil samples. Furthermore, none of the analysed soil samples reported concentration of heavy metals above the site assessment criteria refer to *Appendix G – Analytical Reports and Chain of Custody Documentation.*

ADE's review of historical data has indicated that the groundwater level within SMGW-BH-A401 as reported in CPBG Baseline Groundwater Report (Project-wide), Report Reference. SMWSASBT-CPG-SWD-SW000-GE-RPT-040405, June 2023 was encountered at 2.64mbgl. Additionally, ADE Geotechnical Investigation Factual Report, Report Reference A201021.0125.02_v1f, September 2023 noted groundwater seepage in BH06 at 6mbgl, however did not encounter groundwater inflow within the adjacent bore BH07 at a depth of 9.4mbgl.

Due to the variation and uncertainty of groundwater depth encountered throughout the site, ADE cannot accurately provide an estimate of depth to groundwater. In the event of groundwater being encountered during piling and excavation, LOR will manage dewatering in accordance with the procedures outlined in the CEMP.

1 Introduction

1.1 Background and General Information

ADE Consulting Group Pty Ltd (ADE) was engaged by Laing O'Rourke (the client) to undertake a phase II detailed site investigation (DSI) at 32-34 Harris Street, North Saint Marys 2760 New South Wales (NSW) (refer to *Appendix A –Figures*) (the site). The detailed site investigation was undertaken in accordance with Minister's Conditions of Approval CSSI 10051 and under Section 105 of Contaminated Land Management Act 1997 (NSW).

The investigation was designed to assess the site regarding contaminants of potential concern (CoPCs) identified in the previous investigations (Refer to Section 3.5 Previous Investigation Reports) and in accordance with ADE's internal Sampling, Analysis and Quality Plan (SAQP) to determine if the site is suitable for the proposed development.

The fieldworks for this investigation were undertaken on 10 April 2024, which involved the collection and subsequent analysis of soil samples in accordance with relevant industry guidelines. Selected samples were analysed in NATA accredited laboratory and analytical results were compared against the adopted Site Assessment Criteria (SAC) outlined within Section 5, to determine if the site is suitable for the proposed development**.** The current investigation excluded any groundwater sampling, however ADE used monitoring data from an existing groundwater monitoring well located at site.

The purpose of this report is to assess the nature and extent of potential contamination within soil and groundwater at the site. This was undertaken through:

- Completion of a desktop review of previous investigations and known information sources
- Conduct a detailed soil investigation for the identified CoPCs
- Review of pre-existing groundwater monitoring well analytical data to assess the chemical characteristics of the local groundwater system and potential for contamination.
- Submission select collected soil samples to NATA accredited laboratories and
- Preparation of a DSI report outlining the investigations methodology and interpretation of the results to make conclusions and recommendations concerning contamination status of the site in relation to suitability for proposed development

1.2 Proposed Development

Based on conceptual plans provided by the client, ADE understands the proposed development will include a single storey carpark, station plaza, footbridge access way to North Saint Marys Station, lift shaft and staircase as well as landscaped areas. The site development will include a single storey carpark under commercial/industrial land use, and station plaza, with landscaped sections of the site as ecologically exposed portions of site. ADE notes that the proposed site operations will also include trenching for utility connections and/or services required on site.

1.3 Objectives

The primary objective of this investigation is to characterise the vertical and lateral extent of soil and groundwater contamination (if present) within the site and to determine the site suitability for the proposed development. The detailed site investigation was undertaken in accordance with the

Minister's Conditions of Approval CSSI 10051 and under Section 105 of Contaminated Land Management Act 1997 (NSW).

1.4 Scope of Work

The scope of work for the investigation generally involved the following:

- Desktop review including client supplied plans, summary of previous environmental and geotechnical investigations of the site
- Assessment of the contamination status of the site, which may have been impacted by past / present land use and/or off-site contamination from the surrounding area
- Completion of an intrusive investigation program developed in accordance with the *Contaminated Land Guidelines: Sampling design part 1 - application* (NSW EPA 2022) and National Environment Protection (Assessment of Site Contamination) Measure 1999, 2013 Amendment (NEPC 2013)
- Assessment and description of the source, type, extent and level of contamination by comparing the collected soil data against the adopted SAC outlined in guidelines including, but not limited to, NEPM (NEPC 2013), PFAS National Environmental Management Plan Version 2.0 (HEPA 2020) and other relevant guidelines, as outlined throughout this report
- Determination of the potential risks posed to human health and environment (if present) and
- Provision of an assessment of the site and development of recommendations for remedial works or ongoing management based on the findings (if required).

The scope is further split into four phases where details of each phase is provided below:

1.4.1 Phase One – Desktop Review

- Desktop review of the site plans and previous environmental investigations
- Obtain and review Before You Dig Australia (BYDA) documentation.

1.4.2 Phase Two – Field Investigation

- Understand and sign on to a job specific Safety, Health & Environmental Work Method Statement (SH&EWMS) and the completion of a toolbox talk before undertaking works
- Intrusive soil investigation of 12 test pits with a client-supplied 12 tonne excavator,
- Field logging of soil profile as per unified soil classification system (USCS) and site observations
- Soil sampling of the fill and natural profiles
- Field screening of collected samples for Volatile Organic Compounds (VOCs) using a Photo-ionisation Detector (PID) calibrated at 100ppm isobutylene gas.
- Cold storage of all soil samples collected and dispatch of samples to NATA accredited laboratory under chain of custody condition

1.4.3 Phase Three – Analytical Test Work

- Analysis of selected soil samples for the following analytes based on ADE's internal SAQP and preliminary Conceptual Site Model (CSM):
  - Asbestos (500 mL samples),
  - Per- and Polyfluoroalkyl Substances (PFAS),
  - Heavy metals,
  - Polycyclic Aromatic Hydrocarbons (PAHs),

- Total Recoverable Hydrocarbons (TRH),
- Benzene, Toluene, Ethylbenzene, and Xylene (BTEX),
- Polychlorinated biphenyls (PCBs),
- Phenols,
- Cyanide,
- Organochlorine Pesticides/Organophosphorus Pesticides (OCP/OPP),
- pH and Cation Exchange Capacity,
- Total Organic Carbon (TOC); and
- Clay Content (%).

ADE note that potential contamination sources such as former fuel and chemical storage as well as other offsite industrial land uses have been identified in the EIS. The absence of VOCs in the analytical suite may not significantly impact the overall assessment due to alternative parameters like TRH being considered and reporting concentrations below the site assessment criteria. Additionally, a photo-ionisation detector (PID) was used to screen for the presence of VOCs in which no abnormal (1.3 ppm or less) detections were observed during the investigation event, refer to *Appendix E – Data Quality Assessment* and **Table 24 -** *PID reading ranges* for further information.

1.4.4 Phase Four – Data Assessment and Conclusions

- Interpretation of analytical results and field observations in accordance with relevant guidelines described below in Section 1.5
- Preparation of a DSI report outlining the investigation, interpretation of results, and including conclusions and recommendations with reference to the suitability of proposed development with respect to contamination perspective.

1.5 Legislative Requirements and Regulatory Framework

The regulatory framework for this report is based on Australian Standards, Acts and Regulations, and federal and state guidelines that have been made or approved by the NSW Environment Protection Authority (EPA) and includes the following:

- ANZG. (2018). Australian and. New Zealand Guidelines for Fresh and Marine Water Quality
- National Environmental Protection (Assessment of Site Contamination) Measure 1999, amended in 2013
- New South Wales Environment Protection Authority. (2022). Contaminated Land Guidelines - Sampling design part 1 – application.
- New South Wales Environment Protection Authority. (2015). Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997
- New South Wales Environment Protection Authority. (2017). Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme. 3rd Ed
- New South Wales Environment Protection Authority. (2020). Guidelines for Consultants Reporting on Contaminated Land
- NSW Government State Environmental Planning Policy (Resilience and Hazards) 2021
- NSW Government, National Health and Medical Research council (2008). Guidelines for Managing Risks in Recreational Water
- Contaminated Land Management Act 1997
- PFAS National Environmental Management Plan Version 2.0 (2020)
- Protection of the Environment Operations Act 1997
- Protection of the Environment Operations (Waste) Regulation 2014

- Standards Australia. (2004). Australian Standard AS4964-2004: Method for the qualitative identification of asbestos in bulk samples. Sydney, NSW
- Western Australian Department of Health. (2009). Guidelines for the assessment, remediation and management of asbestos contaminated sites
- Work, Health and Safety Act 2011
- Work, Health and Safety Regulation 2017

2 Site Identification

2.1 Site Location

The site is located at 32 - 34 Harris Street, North Saint Marys NSW 2760. Refer to *Appendix A – Figure 1.*

Figure 1. Site layout.

2.2 Summary of Site Details

Table 1 - Summary of Site Details and Information

	Site Details
Site Address	32 - 34 Harris Street, North Saint Marys NSW 2760
Titles Identification	Lot 1, DP 1127305
Site Area	Approximately 2,635 m^2
Current Land Use Zoning	Commercial industrial: E4: General Industrial (Commuter car park and concourse)
Proposed Use	General Industrial/commercial with public access
Local Council	Penrith City Council
Local Environmental Plan (LEP)	Penrith Local Environmental Plan 2010

2.3 Site Condition Summary

The current site condition is summarised in

Table 2 .

Table 2 - Site condition and surrounding environment

Direction	Description
Current and Surrounding Land Use	The surrounding land uses currently surrounding the site are as follows: • North: Harris Street, commercial/industrial buildings are directly to the north, followed by a scrap yard. • West: Saint Marys Station multistorey commuter carpark followed by Forrester Road and further industrial/commercial properties and businesses. • East: Commercial/industrial warehouses and office spaces, with a Speedway petrol station approximately 405 meters north east of the site. • SP2 Railway (Saint Marys Station) followed by small commercial businesses.
Surface Cover and Condition	The site is predominantly covered under asphalt hardstand (former carpark) with 1 freestanding Sydney Metro office building, exposed soil mostly covered with geofabric was observed on the southern boundary of the site. ADE noted multiple temporary demountable buildings are situated on site being used for the surrounding construction activities. No vegetation was observed during the site investigation. Some building debris were observed in sporadic locations across the site. Ballast was observed to cover the southwestern portion of the site, adjacent to the rail corridor. No stockpiles of soil or other waste were observed during the site walkover (refer to *Appendix B – Photographs*).
Other Site Features	One groundwater monitoring well exists within the site from previous geotechnical investigation work. The well (identified as SMGW-BH-A401) has monument covers and appeared to be in good condition. Laing O'Rourke has installed mesh fencing and/or hoarding around the perimeter of the site.

2.4 Local Geology and regional setting

A summary of the known site geology is presented in
Table 3 below**.** This information has been sourced from previous environmental investigations as outlined in Section 3.5 *Previous Investigation Reports*. A summary of the hydrogeological and geological setting for the site is shown in **Table 4**.

Table 3 - Summary of site geology.

Layer	Material Description	Depth of the layer (m BGL)
Fill	SAND / Sandy GRAVELL	Soil surface to maximum depths of approximately 0.1-0.4 m BGL.
Natural	CLAY, medium plasticity	Below fill to maximum depths of approximately 0.4 – 0.6 m BGL.

Table 4 - Regional geological and hydrogeological setting.

Attribute	Description
Site Topography	The site is located at approximately 36 m AHD, with gentle incline to 37 m AHD on the eastern site boundary, sloping to 35 m AHD on the western site boundary. SMGW-BH-A401 is located on the southeastern corner of the site with an approximate AHD of 37 m.
Local Geology and Soils	As per the soil landscape map soil profile report located at SEED, local natural geology includes:

Attribute	Description
	Landscapes: gentle undulating rises on Wianamatta Group Shales, Local relief to 30m. Slopes usually >5%. Broad round crests and ridges with gently inclined slopes. Cleared Eucalypt and open-forest. Soils: shallow to moderately deep (>100cm) hard setting mottled texture contrast soils, Red and Brown Podzolic soils on crests, grading to Yellow Podzolic soils on lower slopes and drainage lines. Observations: moderately reactive highly plastic subsoil, low soil fertility, poor soil drainage. ADE's field observations were consistent with the above.
Acid Sulfate Soils	No indicators of PASS were observed in the materials inspected. As such, the subject soils are not considered to contain PASS/ASS.
Hydrogeology	Local groundwater flow is likely to follow the slope of the site and flow north and north-west, towards Harris Street. There were no existing off-site bores identified within 500 m of the site.
Nearby Surface Water Features	The nearest permanent watercourse, South Creek, is located approximately 930 m southwest of the site.
Salinity	Area of moderate salinity, refer to Appendix *J – Supporting Documents.*

3 Site History

This section outlines the relevant information pertaining to the site history, including a summary of previous investigations provided by the client.

3.1 Heritage Items

St Marys Railway Station Group was identified as heritage item (Listing No: 01249) was listed under the NSW Heritage Act 1977 within a 200 m radius of the site.

3.2 Contaminated Land Record Search

A review of the EPA *'Contaminated Land – Record of Notices'* listed by the NSW EPA under the *Contaminated Land Management Act 1997* (CLM Act 1997) did not identify any notices within a 1 km radius of the site.

A review of the '*List of NSW Contaminated Sites Notified to the EPA*' listed by the NSW EPA under the CLM Act (1997) identified four petrol service stations, Regulation under the CLM Act (1997) is not required for each site, one chemical industry - Regulation under CLM Act not required and four other Industry - Regulation under CLM Act not required / Under assessment within 2km from site.

3.3 Before You Dig Australia

An online search for utilities located within the site was conducted and is summarised in **Table 5.** Asset owners were notified and provided information on their utilities.

Table 5 - Summary of Utilities Located on or Adjacent to the site.

Asset Owner	Utility Type	Utility Location
Endeavour	Energy	Streetlight columns, underground cables and padmount substation are located at the northern portion of the site.

3.4 Groundwater Bore Search

There is one existing groundwater monitoring well on the site (identified as SMGW-BH-A401), as shown in Appendix A - Figures. Analytical results of SMGW-BH-A401 are provided in Annexure C - Laboratory Reports within CPB Contractors Ghella JV Baseline Groundwater Report (Project-wide), 6 June 2023.

CPB Contractors Ghella JV Baseline Groundwater Report noted exceedances of copper, lead, nickel and zinc above the adopted site assessment criteria, refer to *Section 6.2.3 – Groundwater* for additional information.

3.5 Previous Investigation Reports

Previous environmental investigations undertaken at the wider Sydney Metro ST Mary development site or related to the subject site and provided to ADE have been summarized below:

- Sydney Metro – Western Sydney Airport, Chapter 16 – Soils and Contamination
- Sydney Metro – Western Sydney Airport, Technical Paper 8 – Contamination

- Sydney Metro – Western Sydney Airport, Technical Paper Chapter 15 – Groundwater and Geology
- Sydney Metro – Western Sydney Airport, Technical Paper 7 – Groundwater
- ADE Consulting Group - Geotechnical Investigation Factual Report, St Marys Train Station, St Marys NSW 2760) A201021.0125.02_v1f | Date: 24 September 2023.

The above-mentioned reports from Sydney Metro concerning the construction of the Western Sydney Airport and associated infrastructure detail comprehensive assessments of environmental concerns, particularly focusing on soils, contamination, and groundwater.

The assessment of soils and contamination at various sites around St Marys identifies potential sources of contamination, including historical industrial activities such as fuel storage, chemical use, and manufacturing operations. The reports place emphasis on the importance of managing potential risks to prevent soil and water pollution during and after construction. Groundwater flow patterns are also evaluated, with attention to potential changes due to construction activities. Careful monitoring and management to mitigate impacts on nearby water sources and ecosystems are highlighted within the above-mentioned reports.

Detailed analyses of groundwater dynamics in the St Marys area reveal potential drawdown during construction, with measures in place to minimize impacts on groundwater levels and quality. Tanking structures are designed to control groundwater ingress, ensuring post-construction recovery of water levels. Furthermore, ongoing monitoring and management plans are outlined to address potential data gaps and ensure compliance with environmental standards.

ADE's review of historical data has indicated that the groundwater level within SMGW-BH-A401 as reported in CPBG Baseline Groundwater Report (Project-wide), Report Reference. SMWSASBT-CPG-SWD-SW000-GE-RPT-040405, June 2023 was encountered at 2.64mbgl. Additionally, ADE Geotechnical Investigation Factual Report, Report Reference A201021.0125.02_v1f, September 2023 noted groundwater seepage in BH06 at 6mbgl, however did not encounter groundwater inflow within the adjacent bore BH07 at a depth of 9.4mbgl.

Due to the variation and uncertainty of groundwater depth encountered throughout the site, ADE cannot accurately provide an estimate of depth to groundwater. In the event of groundwater being encountered during piling and excavation, LOR will manage dewatering in accordance with the procedures outlined in the CEMP.

3.6 Preliminary Conceptual Site Model

Based on the previous reports, ADE have summarised the preliminary conceptual site model in the sub-sections below.

Prior to works commencing, ADE developed a preliminary Conceptual Site Model (pCSM) in accordance with Schedule B2 – NEPM (2013) to assess the plausible connections between potential contamination source and the receptors. The CSM provides a framework to identify the potential sources of contamination and understand the migration and exposure pathways to sensitive receptors. The main components of the CSM include the sources, pathways and receptors which are discussed below.

The potential contamination sources identified during the pCSM (ADE 2023) included historical use, fill material of unknown origin and surrounding land use. The potential Areas of Environmental

Concern (AEC) and their associated Contaminants of Potential Concern (CoPCs) for the site were identified. These are summarised in Section 3.6.1 & 3.6.2.

3.6.1 Sources and Processes

Potential sources of contamination identified on site or within close proximity to the site, identified in the preliminary CSM and within Sydney Metro – Western Sydney Airport, Technical Paper 8 – Contamination included:

- Uncontrolled fill within the site
- Demolition of commercial / industrial properties
- Use of pesticides beneath/ surrounding previous residential properties
- Soil, groundwater and surface water contamination from on-site migration from offsite sources.
- Hazardous building materials in former site structures
- Former industrial businesses located north of the site (offsite)
- Past industrial land uses including a former wrecker's yard and adjacent former businesses including a bus depot with potential former underground storage tanks (USTs) and plastic manufacturing businesses along Harris Street in St Marys within the construction footprint
- Potential former fuel storage in the Sydney Trains Incident Emergency Response Depot at 1 Station Street in St Marys construction footprint
- Former rail siding within the bus interchange area in Station Street; and rail activities, stockpiling and filling within the existing rail corridor in the St Marys construction footprint
- Up-gradient off-site sources of the St Marys construction footprint and tunnel alignment in St Marys including former dry cleaners and service stations
- potential chemical storage or use and activities at the stabling and maintenance facility including:
  - chemical and oil storage and use within the infrastructure maintenance shed
  - train wash facilities (oil and grease and cleaning chemicals)
  - oil within the traction substation
  - wheel lathe (heavy metals)
  - water quality treatment and on-site detention basin (secondary source of contamination)

3.6.2 Contaminants of Potential Concern (CoPCs)

- Heavy metals (As, Cd, Cr, Cu, Pb, Hg, Ni, Zn)
- Total recoverable hydrocarbons (TRHs)
- Polycyclic aromatic hydrocarbons (PAHs)
- Polychlorinated biphenyls (PCBs)
- Benzene, toluene, ethyl-benzene and total xylenes (BTEX)
- Organochlorine pesticides (OCPs)
- Organophosphorus pesticides (OPPs)
- Polyfluoroalkyl Substances (PFAS)
- Perfluorooctane sulfonate (PFOS) + perfluorohexane sulfonate (PFHxS)
- Phenols
- Cyanide (Total)
- Volatile organic compounds (VOCs), and
- Asbestos

3.6.3 Potential pathways

The primary transport mechanisms for migration of contamination at the site may include:

- Transport of contaminants by human and/or mechanical disturbance (e.g., earthworks)
- On-site migration of contaminants from off-site sources via groundwater/surface water pathways
- Infiltration and leaching from unsaturated soils to groundwater
- Volatilization from soil and/or groundwater into vapour

Exposure pathways to the human receptors include:

- Potential dermal, inhalation and oral exposure to impacted soils present at the surface and shallow depths and/or accessible by future excavations within the site
- Potential dermal and oral exposure to groundwater during excavation/ dewatering works, and
- Inhalation of airborne contaminated media (e.g., vapour, dust, asbestos).

3.6.4 Potential receptors

Potential receptors include:

- Future users of the site, such as:
  - Workers at the proposed development site
  - General public
  - Commercial/ retail operators and customers
- Future maintenance workers involved in subsurface excavations
- Future construction workers during redevelopment of the site
- Vegetations introduced as part of the redevelopment
- Human and ecological receptors in nearby water bodies – South Creek (offsite).

Table 6 was developed by ADE in conjunction with Sydney Metro – Western Sydney Airport, Technical Paper 8 – Contamination (Table 1-7 Preliminary CSM – St Marys construction footprint [AEC 1: Commuter car park at 36-38 Harris Street, St Marys North]) to identify any outstanding data gaps pertaining to the site contamination status. Prior to fieldwork commencing at the site, a preliminary SAQP was developed to establish a sampling plan, methodology and investigation pattern which is detailed in the following sections.

Table 6 - Preliminary Conceptual Site Model

Potential Contamination Source	COPCs	Potential Exposure Pathways and Transport Mechanisms	Receptors
Uncontrolled fill within the site	TRH, BTEX, OCP, OPP, VOC, PCB,PAHs heavy metals and asbestos	- Dermal, oral exposure - Inhalation of dust/fibres - Leaching to groundwater and lateral migration - Disturbance during construction	- On-site construction Workers - Off-site human receptors - Future site users - South Creek - Ecological receptors (vegetation) - Off-site commercial/industrial
Demolition of commercial/industrial properties	Heavy metals, asbestos, PCB's		
Former industrial land uses including a former wrecker's yard and adjacent former businesses, underground storage tanks	TRH, BTEX, VOCs, SVOCs, heavy metals, (soil and groundwater)		

Potential Contamination Source	COPCs	Potential Exposure Pathways and Transport Mechanisms	Receptors
Use of pesticides beneath/surrounding previous residential properties	OCP/OPP	- Volatilization and inhalation of vapours - Surface water runoff - Vapour intrusion	
Soil, groundwater, and surface water (run off) contamination from on-site migration from offsite sources.	TRH, BTEX, VOCs, PFAS, heavy metals	- Workers encountering groundwater during excavation - Ecological interaction with groundwater	
Hazardous building materials in former site structures	Asbestos, PFAS, heavy metals, PCBs (in soil)	- Dermal, oral exposure - Inhalation of dust/fibres - Disturbance during construction - Volatilization and inhalation of vapours	- Construction Workers - Off-site human receptors
Potential former fuel storage in the Sydney Trains Incident Emergency Response Depot at 1 Station Street in St Marys construction footprint	TRH, BTEX, PAHs, VOCs, SVOCs, heavy metals, (soil and groundwater)	- Dermal contact - inhalation exposure - Leaching to groundwater and lateral migration - Soil contamination	Construction Workers
Former rail siding within the bus interchange area in Station Street; and rail activities, stockpiling and filling within the existing rail corridor in the St Marys construction footprint	Phenols, cyanide, TRH, BTEX, VOCs, PAHs		Construction Workers
Potential chemical storage or use and activities at the stabling and maintenance facility including	Heavy metals, TRHs, BTEX, PAH's		- Workers involved with construction, ecological receptors (vegetation)
Off-site industrial land-use, groundwater	TRH, VOCs and PFAS	Vapour intrusion	On-site intrusive maintenance workers

3.6.5 Data Gaps

Based on the available data and summary of previous reports provided above, ADE considers the following data gaps were required to be assessed in the DSI:

- Asbestos gravimetric assessment as per NEPM (2013) throughout the site to confirm suitability of soils to remain on site or be re-used in other areas of the site following basement excavation
- Additional chemical assessment of soils to provide full site coverage

- Assessment of legacy groundwater investigation data
- Waste classification of soils requiring offsite disposal

The results of the investigation and discussion of the above data gaps is presented in the following sections.

ADE's review of historical data has indicated that the groundwater level within SMGW-BH-A401 as reported in CPBG Baseline Groundwater Report (Project-wide), Report Reference. SMWSASBT-CPG-SWD-SW000-GE-RPT-040405, June 2023 was encountered at 2.64mbgl. Additionally, ADE Geotechnical Investigation Factual Report, Report Reference A201021.0125.02_v1f, September 2023 noted groundwater seepage in BH06 at 6mbgl, however did not encounter groundwater inflow within the adjacent bore BH07 at a depth of 9.4mbgl.

Due to the variation and uncertainty of groundwater depth encountered throughout the site, ADE cannot accurately provide an estimate of depth to groundwater. In the event of groundwater being encountered during piling and excavation, LOR will manage dewatering in accordance with the procedures outlined in the CEMP.

4 Sampling Plan, Methodology and Investigation Pattern

4.1 Pre-work Procedure

Before mobilisation to site, a job-specific safety, health & environmental work method statement (SH&EWMS) was developed, presented in a pre-start meeting before the commencement of works and signed on to by ADE staff and contractors.

After completing the preliminaries, an experienced environmental consultant undertook a detailed site walkover to identify potential sources of contamination or areas of concern. Upon completion, the proposed test pit locations were marked out across the site based on accessibility and observations noted during the walkover. Before the commencement of intrusive activities, each proposed test pit location was 'cleared' for underground services via persisting survey data.

4.2 Sampling Design Plan Strategy and Rationale

The site investigation and sampling procedures were developed in consultation with the NSW EPA *Contaminated Land Guidelines: Sampling design part 1 – application* (2022). The sampling plan consisted of a representative sampling approach to adequately cover the site while avoiding services and address data gaps.

4.3 Soil Sampling Methodology

Test pits were excavated using an excavator. Each test pit was visually inspected for any signs of contamination i.e., staining, odours etc. Soil samples were collected directly from the excavator bucket.

Soil samples for asbestos assessment were collected for quantitative assessment (DoH, WA 2009) as endorsed by NEPM (2013). 10L samples of soil were collected from fill materials within each test pit, directly below the asphalt hardstand, weighed, and screened on site for the presence of ACM. A 500 mL soil sample was collected from each test pit, at varying depths across the test pits All of the 12 collected samples were analysed for asbestos fines (AF) / fibrous asbestos (FA) as per NEPM (2013) guidelines.

All soil samples were screened for the presence of VOCs using a PID calibrated with isobutylene gas at 100 ppm. Procedure involved placing the soil sample in a resealable plastic zip lock bag, agitating the sample then inserting the PID tip into the headspace and recording the reading.

Test pits were logged to the Unified Soil Classification System (USCS), making appropriate observations based on visual or olfactory evidence of contamination i.e., staining or odours.

A total of 12 test pits were advanced on 10 April 2024, a total of 17 fill samples were collected for the purpose of analytical testing form from depths ranging between 0.1 – 0.4 mbgl and 8 natural samples from depths ranging between 0.4 – 0.6 mbgl.

4.4 Equipment Decontamination

ADE undertook soil sampling from an excavator bucket. ADE ensured the sampling bucket was visually free of any soil materials between sample locations, with samples collected from the centre of the bucket where the soil material was not in contact with the bucket itself. Decontamination was

undertaken for all non-disposable sampling equipment prior to sampling and between each sampling point.

4.5 Documentation

A test pit log was recorded at each sampling point. Details recorded include:

- Sample ID
- Soil profile
- Sampling methodology
- Sample identification
- Sample description
- Field measurements
- Any relevant notes or observations
- Sample point measurements

4.6 Contaminants of potential concern

Based on the review of former site history and previous investigations undertaken for the site and the contaminants of potential concern outlined in Section 3.6.2, ADE proposed the following analytical schedule for the soil assessment:

- Asbestos (500 mL samples),
- Per- and Polyfluoroalkyl Substances (PFAS),
- Heavy metals,
- Polycyclic Aromatic Hydrocarbons (PAHs),
- Total Recoverable Hydrocarbons (TRH),
- Benzene, Toluene, Ethylbenzene, and Xylene (BTEX),
- Polychlorinated biphenyls (PCBs),
- Phenols,
- Cyanide,
- Organochlorine Pesticides/Organophosphorus Pesticides (OCP/OPP),
- Soil pH and Cation Exchange Capacity,
- Total Organic Carbon (TOC); and
- Clay Content (%).

4.7 Laboratory Submission and Analytical Plan

Soil samples were analysed by Sydney Laboratory Services (SLS) (primary laboratory) and Envirolab (secondary laboratory) specifically:

- 23 primary soil samples collected by ADE on 10 April 2024 for analysis of Heavy Metals, TRHs, PAHs, BTEX, PCB, OCPs, OPPs, pH/EC, asbestos, PFAS, Cyanide, and Phenols (4 samples analysed for PFAS, Cyanide, and Phenols) were submitted to SLS
- 2 secondary soils samples collected by ADE on 10 April 2024 for analysis of pH/EC, Total Organic Carbon (TOC), Iron, Carbon Exchange Capacity (CEC) and Clay Content were submitted to Envirolab
- 2 blind replicate soil sample (QAQC) collected by ADE on 10 April 2024 for analysis of Heavy Metals, TRHs, PAHs, BTEX, PCBs, OCPs, and OPPs were submitted to SLS
- 2 split replicate soil collected by ADE on 10 April 2024 for analysis of Heavy Metals, TRHs, PAHs, BTEX, OCPs, OPPs were submitted to Envirolab.

- 1 trip blank/spike samples (QAQC) collected on 10 April 2024 for analysis of BTEX were submitted to SLS

The fill and natural materials encountered throughout the investigation were consistent across the site and were observed visually to be consistent. Samples were collected and analysed at a density which was in accordance with the *Contaminated Land Guidelines: Sampling design part 1 - application* (NSW EPA 2022).

4.7.1 Deviations from the SAQP (ADE 2022)

ADE notes that the original proposed test pit locations were amended onsite and ground truthed against a service location investigation to avoid contact with live or redundant services. The test pit frequency was also reduced from 13 to 12 test pit locations.

All test pit locations remained representative of the subject area post amendment.

4.7.2 Sample Analytical Program

Table 7 outlines the sampling and analytical program for analysis of soil, sediment and groundwater samples collected during this investigation. Refer to *Appendix G – Analytical Reports* and *Chain of Custody* for the analytical methods by the selected laboratories.

Table 7- Sampling and Analytical Program (Soil)

Sample ID	Depth (m)	Sample Type	Analysis												
			Standard Chemical	Asbestos[2] 500mL	Asbestos 10L Screen	PID Field Screening	On Hold	PFAS Short Suite	Cyanide	Phenols	pH/EC	Total Organic Carbon	Iron	Cation exchange	Clay Content
21.0125.DSI_TP1_Fill(0.1)	0.1	Fill	X	X	X	X									
21.0125.DSI_TP1_Fill(0.3)	0.3	Fill	X												
21.0125.DSI_TP1_NAT(0.4)	0.4	Natural					X								
21.0125.DSI_TP2_Fill(0.1)	0.1	Fill	X	X	X	X									
21.0125.DSI_TP2_Fill(0.4)	0.4	Fill					X								
21.0125.DSI_TP2_NAT(0.5)	0.5	Natural	X												
21.0125.DSI_TP3_Fill(0.1)	0.1	Fill	X	X	X	X		X	X	X					
21.0125.DSI_TP3_Fill(0.4)	0.4	Fill	X												
21.0125.DSI_TP3_NAT(0.5)	0.5	Natural					X								
21.0125.DSI_TP4_Fill(0.1)	0.1	Fill	X	X	X	X									
21.0125.DSI_TP4_Fill(0.3)	0.3	Fill													
21.0125.DSI_TP4_NAT(0.4)	0.4	Natural	X												
21.0125.DSI_TP5_Fill(0.1)	0.1	Fill	X	X	X	X									
21.0125.DSI_TP5_Fill(0.2)	0.2	Fill					X								
21.0125.DSI_TP5_NAT(0.3)	0.3	Natural					X								
21.0125.DSI_TP6_Fill(0.1)	0.1	Fill	X	X	X	X		X	X	X					
21.0125.DSI_TP6_Fill(0.3)	0.3	Fill	X												
21.0125.DSI_TP6_NAT(0.5)	0.5	Natural	X												
21.0125.DSI_TP7_Fill(0.1)	0.1	Fill	X	X	X	X									
21.0125.DSI_TP7_Fill(0.2)	0.2	Fill					X								
21.0125.DSI_TP7_NAT(0.3)	0.3	Natural					X								
21.0125.DSI_TP8_Fill(0.1)	0.1	Fill	X	X	X	X									

Sample ID	Depth (m)	Sample Type	Analysis												
			Standard Chemical	Asbestos[2] 500mL	Asbestos 10L Screen	PID Field Screening	On Hold	PFAS Short Suite	Cyanide	Phenols	pH/EC	Total Organic Carbon	Iron	Cation exchange	Clay Content
21.0125.DSI_TP8_Fill(0.3)	0.3	Fill	X												
21.0125.DSI_TP8_NAT(0.4)	0.4	Natural	X												
21.0125.DSI_TP9_Fill(0.1)	0.1	Fill	X	X	X	X		X	X	X					
21.0125.DSI_TP9_Fill(0.3-0.4)	0.3-0.4	Fill					X								
21.0125.DSI_TP9_NAT(0.5)	0.5	Natural					X								
21.0125.DSI_TP10_Fill(0.1)	0.1	Fill	X	X	X	X									
21.0125.DSI_TP10_Fill(0.2)	0.2	Fill					X								
21.0125.DSI_TP10_NAT(0.4)	0.4	Natural	X												
21.0125.DSI_TP11_Fill(0.1)	0.1	Fill	X	X	X	X									
21.0125.DSI_TP11_Fill(0.4)	0.4	Fill					X								
21.0125.DSI_TP11_NAT(0.5)	0.5	Natural					X								
21.0125.DSI_TP12_Fill(0.1)	0.1	Fill	X	X	X	X		X	X	X					
21.0125.DSI_TP12_Fill(0.3)	0.3	Fill	X												
21.0125.DSI_TP12_NAT(0.6)	0.6	Natural	X												
21.0125.01_TP3	0.1	Fill									X	X	X	X	X
21.0125.01_TP12	0.1	Fill									X	X	X	X	X
21.0125.DSI_BR1	0.1	Fill	X												
21.0125.DSI_BR2	0.1	Fill	X												
21.0125.DSI_SR1	0.1	Fill	X												
21.0125.DSI_SR2	0.1	Fill	X												

Notes to Table 7

1 – Standard suite of analysis includes BTEX, Heavy Metals, OCPs / OPPs, PAHs, PCB, TRHs, vTRHs

2 – 500 mL asbestos sample, as per NEPM (2013)

3 – Replicate suite of analysis includes Heavy Metals, OCPs / OPPs, PAHs, TRH and BTEXN

5 Site Assessment Criteria

5.1 Soil Assessment Criteria

The assessment criteria specified in the following publications were considered for this assessment:

- National Environment Protection Council [NEPC], National Environmental Protection Measure [NEPM] Schedule B1 (2013)
- New South Wales EPA [NSW EPA], Waste Classification Guidelines. Part 1: Classifying Waste (2014)
- Heads of the EPA, PFAS National Environmental Management Plan [PFAS NEMP], Version 2.0 (2018)

5.1.1 Soil Health Investigation Levels (HILs)

The NEPM (NEPC 2013) guidelines stipulate four generic land use settings for assessment used in the first stage (Tier 1 or 'screening') of potential risks to human health for a broad range of metals and organic substances. The HILs are applicable for assessing human health risk via all relevant pathways of exposure. The four HIL categories are used to assess human health risk via all relevant pathways of exposure for the following broad land use categories:

- HIL-A - Residential with garden/accessible soil (home grown produce <10% fruit and vegetable intake, no poultry, also includes children's day care centres, preschools, and primary schools
- HIL-B - Residential with minimal opportunities for soil access includes dwellings with fully and permanently paved yard space such as high-rise buildings and flats
- HIL-C - Public open space such as parks, playgrounds, playing fields (e.g., ovals), secondary schools and footpaths. It does not include undeveloped public open space (such as urban bushland and reserves) which should be subject to a site-specific assessment where appropriate
- HIL-D - Commercial / industrial such as shops, offices, factories, and industrial sites

Based on available information, which includes future land use as commercial/industrial, a summary of the decision-making process is provided in **Table 8**. Noting that there will be access to soils through landscaped areas and garden beds, ADE considers that adopting the HIL-D assessment criteria at this location is warranted.

Table 8 - Decision making process for health investigation/screening level application.

Site area	Applicable HIL / HSL criteria
Commercial / industrial	HIL-D / HSL-D

5.1.2 Soil Health Screening Levels (HSLs)

HSLs have been developed for selected petroleum compounds and fractions and are applicable to assessing human health risk via the inhalation and direct contact pathways. The HSLs depend on specific soil physicochemical properties, land use scenarios, and the characteristics of building structures.

Health screening levels for petroleum hydrocarbon compounds are outlined in Section 2.4 of Schedule B1 of NEPM (NEPC 2013). These include tier 1 screening criteria for BTEX, naphthalene, TRH fractions C_6-C_{10} and C_{10}-C_{16} for vapour intrusion as well as TRH fractions C_{16}-C_{34} and C_{34}-C_{40} for direct contact. HIL-D screening levels will be adopted across the site (**Table 9**) for both vapour intrusion and direct contact pathways.

The soil HSLs that have been adopted for the site are for shallow depth (0m to <1m) as it is expected that natural soils will be encountered at depths less than 1 mBGL and/or be covered in hardstand. The soil type selected for the assessment criteria is sand to adopt a conservative approach.

5.1.3 Management Limits

In accordance with Section 2.9 of Schedule B1 of the ASC NEPM (NEPC 2013), consideration of Management Limits for petroleum hydrocarbons will be undertaken to assess whether the reported soil conditions have the potential to pose a risk to buried infrastructure, or the formation of non-aqueous phase liquid (NAPL). Values for coarse grained soils from Table 1 B(6) of Schedule B1 of the NEPM (NEPC 2013) will be adopted.

A summary of the adopted TRH management limits for this site is provided in **Table 9**.

Table 9 - Summary of adopted TRH Management Limits

Chemical	Units	Management Limits (commercial/industrial)	HSL-D for Direct Contact
F1 C_6-C_{10}	mg/kg	700	26,000
F2 C_{10}-C_{16}	mg/kg	1,000	20,000
F3 >C_{16}-C_{34}	mg/kg	3,500	27,000
F4 >C_{34}-C_{40}	mg/kg	10,000	38,000
Benzene	mg/kg	NL	430
Toluene	mg/kg	NL	99,000
Ethylbenzene	mg/kg	NL	27,000
Xylene	mg/kg	NL	81,000
Naphthalene	mg/kg	NL	11,000

5.1.4 Soil HSLs for Asbestos

Further characterisation of in-situ fill material was assessed against NEPM (NEPC 2013) for asbestos in soils. The action criteria outlined in **Table 10** was adopted as per the specific land use scenario for the specific portion of the site.

Table 10 - Summary of adopted HSLs for asbestos contamination in soil

Form of Asbestos	Health Screening Level (w/w) – Commercial/Industrial D
Bonded ACM	0.05%
FA and AF (friable asbestos)	0.001%
All forms of asbestos	No visible asbestos for surface soils

5.1.5 PFAS NEMP 2.0

The HEPA *PFAS National Environmental Management Plan Version 2.0 (2020)* provides guidance on the management of PFAS impacted soils. The classes of soil criteria defined in the PFAS NEMP Version 2.0 (HEPA 2020) for human Health Investigation Levels (HIL) and ecological investigation levels are presented in **Table 11**.

Table 11 – Summary of PFAS Human Health Soil Criteria

Soil Criteria (Human Health)	PFOS + PFHxS (mg/kg)	PFOA (mg/kg)
Commercial/Industrial (HIL-D)	20	50

Table 12 - Summary of PFAS Ecological Soil Criteria

Soil Criteria (Ecological) – all land uses	PFOS (mg/kg)	PFOA (mg/kg)
Ecological direct exposure	1	10
Ecological indirect exposure	0.01	N/A
Ecological indirect exposure in areas of low accessible soil	0.14	N/A

The proposed development will have a significant proportion of the land covered by hard surfaces however, majority of the site will be accessible by the public as per the provided site development plans given to ADE. Using a conservative approach, ADE will apply PFAS NEMP (HEPA 2020) commercial / industrial exposure guideline values to all areas of the site.

ADE notes that there is a PFAS NEMP 3.0 draft (HEPA, unpublished) which is released for public consultation and has reviewed these guidelines for updates to assessment criteria. The only guideline value to have changed is for ecological indirect exposure for PFOA to be 0.005 mg/kg. The results for this assessment showed no detections of PFOA at the LOR of 0.005 mg/kg, thus ADE considers the updated guidelines to not have an impact on the assessment of the site's suitability for the proposed development.

5.1.6 Ecological investigation and screening levels (EILs / ESLs)

Generally, Ecological Investigation Levels (EILs) are associated with selected metals and organic compounds and have been developed for assessing risk to terrestrial ecosystems under areas of ecological significance, urban residential/open space, and commercial/industrial land use scenarios. They apply to the top 2 m of accessible soil, which corresponds to the root zone and habitation zone of many species.

The proposed development as outlined in Section 5.1.1 contains commercial/industrial land use with accessible soils only present within the garden bed and landscaped areas of the site. As such, assessment of ecological risks against recreational ecological criteria is warranted for these areas.

Additionally, ecological screening levels (ESLs) have been developed for selected petroleum compounds and fractions and are applicable for assessing risk to terrestrial ecosystems. The ESLs broadly apply to coarse-grained soils and are applicable to the top 1 m of accessible soil.

The EILs and ESLs (commercial/ industrial) for TRH, BTEX and benzo(a)pyrene in soils from Schedule B1 in the ASC NEPM (NEPC 2013) are summarised in **Table 13**.

Using a conservative approach, ADE has adopted generic EILs for commercial, industrial uses, using the lower criteria for coarse or fined-grained soils as limited site data currently exists.

Table 13 - Ecological Investigation and Screening Levels in Soil

Chemical	Units	Ecological Investigation Level (EIL) For Commercial/ Industrial	Ecological Screening Level (ESL) for Commercial/ Industrial
Arsenic	mg/kg	160	
Chromium (III)	mg/kg	680	
Copper	mg/kg	330	
Lead	mg/kg	1,800	
Nickel	mg/kg	770	
Zinc	mg/kg	1200	

Chemical	Units	Ecological Investigation Level (EIL) For Commercial/ Industrial	Ecological Screening Level (ESL) for Commercial/ Industrial
Naphthalene	mg/kg	370	
DDT[1]	mg/kg	640	
F1 C_6-C_{10} (minus BTEX)	mg/kg		215
F2 C_{10}-C_{16}	mg/kg		170
F3 >C_{16}-C_{34}	mg/kg		1,700
F4 >C_{34}-C_{40}	mg/kg		3,300
Benzo(a)pyrene[2]	mg/kg		0.7
Benzene	mg/kg		75
Toluene	mg/kg		135
Ethylbenzene	mg/kg		165
Xylenes	mg/kg		180

5.2 Groundwater Criteria

The criteria specified below have been adopted for the groundwater investigation as shown in **Table 14** and **Table 15**.

- Assessment of Site Contamination, National Environment Protection (Assessment of Site Contamination) Measure, 2013 (NEPC 2013)
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality, 2018 (ANZG, 2018)
- PFAS National Environmental Management Plan [PFAS NEMP], Version 2.0 (HEPA 2020)
- PFAS National Environment Management Plan [PFAS NEMP] draft Version 3.0 (HEPA)

Fresh water criteria have been adopted for both NEPM GILs and ANZG 2018 water quality guidelines due to the locality of the St. Marys catchment being influenced by freshwater conditions. As such, groundwater criteria of 95% species protection have been adopted. Groundwater HSLs for vapour intrusion for residential and commercial/industrial land use scenarios are also provided for assessment of the inhalation exposure pathway.

PFAS NEMP 2.0 (2020) guidelines were adopted for the assessment of PFAS in the groundwater. While there were no guideline exceedances in the soil, it should be noted that low levels of PFAS can leach into the groundwater and potentially exceed acceptable thresholds. However, no PFAS exceedances were reported during soil analytical testing, the leaching risk to groundwater is considered low. This was supported by groundwater analysis conducted in December 2022 by CPBG Baseline Groundwater Report, which found zero PFAS detections.

Table 14 - Site Assessment Criteria (NEPM and ANZG) for groundwater (µg/L)

Analyte	NEPM 2013, Groundwater Investigation Levels (GILs)	NEPM 2013, Groundwater HSLs for vapour intrusion (sand) 2m to < 4m	ANZG 2018, Water Quality Guidelines	CPBG Baseline Groundwater Report (Project-wide) SMGW-BH-A401
	Fresh Waters (µg/L)[3]	Commercial/Industrial (µg/L)	Toxicant Default Guideline Values for Freshwater Level of Protection (95% species) (µg/L)	
Arsenic (total)	24 (As III) 13 (As V)	-	24 (As III) 13 (As V)	<10
Cadmium[1]	0.2	-	0.2	<1[7]
Chromium Cr (VI)	1[2]	-	1.0	<10[7]
Copper[1]	1.4	-	1.4	**3240**
Lead[1]	3.4	-	3.4	**45**
Mercury (Total)	-	-	0.6	<0. 1
Nickel[1]	11	-	11	**107**
Zinc[1]	8[3]	-	8	**207**
DDT	0.006[1]	-	0.006[5]	<4[7]
Benzo(a)pyrene	-	-	-	<0.5
Aldrin and Dieldrin	-	-	-	<0.4
Chlordane	0.08[1]	-	0.03[5]	<0.5[7]
Endosulfan	0.02[1]	-	0.2[2]	<0.5[7]
Endrin	0.02[1]	-	0.01[5]	<2[7]
Heptachlor	0.09[1]	-	0.01[5]	<2[7]
Chlorpyrifos	0.01[1]	-	0.01	<2[7]
Benzene	950	5000	950	<1
Toluene	NL	NL	180	<2
Ethyl Benzene	NL	NL	80	<2
P Xylene	200[4]	NL	200[4]	<2
m Xylene	-	-	75	<2
o Xylene	350	-	350	<2
Lindane	0.2	-	0.2	NR
Styrene	-	-	-	<5
Bromophos-ethyl	-	-	-	<0.5
Diazinon	0.01	-	0.01	<2[7]
Dichlorvos	-	-	-	<2
Dimethoate	0.15	-	0.15	<2[7]
Ethion	-	-	-	<2
Fenitrothion	0.2	-	0.2	NR
Methoxychlor	-	-	-	<2.0
Phenol	320	-	320	<2
Naphthalene	16	NL	16	<5
1,2-dichlorobenzene	160	-	160	<2
1,4-dichlorobenzene	60	-	60	<2
Chlorobenzene	55	-	-	<5
1,1-dichloroethene	700	-	-	<5
1,2-dichloroethane	1,900	-	-	<5
Hexachlorobutadiene	-	-	-	<2[7]

Analyte	NEPM 2013, Groundwater Investigation Levels (GILs)	NEPM 2013, Groundwater HSLs for vapour intrusion (sand) 2m to < 4m	ANZG 2018, Water Quality Guidelines	CPBG Baseline Groundwater Report (Project-wide) SMGW-BH-A401
	Fresh Waters (µg/L)[3]	Commercial/Industrial (µg/L)	Toxicant Default Guideline Values for Freshwater Level of Protection (95% species) (µg/L)	
Tetrachloroethene	70	-	-	<5[7]
TRH C6-C10	-	6000	-	<20
TRH C10-C16	-	NL	-	<100
PFHxS	-	-	-	<0.01
PFOS	-	-	-	<0.01
PFOA	-	-	-	<0.01

Notes to Table 14
NL Not Limiting
NR Not Reported
1 – Chemical for which possible bioaccumulation and secondary poisoning effects should be considered.
2 – Figure may not protect key species from chronic toxicity.
3 – Investigation levels apply to typical slightly-moderately disturbed systems.
4 – Xylene as p-xylene.
5 – Due to the bioaccumulative nature of these toxicants, the 99 protection level is recommended
6 – Based on the updated ADWG (NHMRC 2011)
7 – Value of LOR (Limit of Reporting)

Table 15 - PFAS Groundwater Criteria

Soil Criteria (Ecological)	Units	PFOS	PFOA	PFHxS	Sum of PFOS and PFHxS
PFAS NEMP 2020 Freshwater – 95% Species protection	µg/L	0.13	220		

5.3 Aesthetics

As outlined in Section 3.6 of NEPM Schedule B1, the aesthetic quality of accessible soils should be considered even if analytical testing demonstrates that concentrations of CoPCs are within the SAC.

There are no quantifiable guidelines in determining if soils are appropriately aesthetic. As advised by the NEPM, professional judgement should be employed regarding quantity, type, and distribution of foreign materials and/or odours in relation to the specific land use.

The following examples would trigger further aesthetic assessment:

- Hydrocarbon sheen on groundwater
- Presence of anthropogenic materials and/or soil staining
- Odorous soils or groundwater (i.e., hydrocarbon or hydrogen sulphide odours)
- Asbestos or other foreign materials on soil surface

6 Results

6.1 Field Observations

6.1.1 Site Soil and Sub-Surface Geology

The typical soil stratigraphy encountered during the field investigation is detailed in **Table 16** (refer *Appendix B – Photographs* and *Appendix F – Borehole Logs*). The upper soil profile around the site varied depending on the location. The depths of fill across the site were generally shallow, limited to the top 400mm below soil surface. The fill was predominantly consistent across the site, majority of test pits encountered demonstrated more than one fill lithology.

Table 16 - Encountered sub-surface lithology

Layer	Depth Range (mBGL)	Material Description	General Observations
Fill/Topsoil	0.0 – 0.3	SAND: medium grained sand, poorly sorted with mixed gravels, dark brown, moist.	Topsoil was encountered within all test pits across all areas of the site. This was typically limited to the top 0.3 lithological strata. Building debris and other foreign materials were encountered in select western test pit locations.
Fill / Reworked Materials	0.3 - 0.4	Sandy GRAVEL: medium grained sand, light and dark brown in colour, small to large size gravels, moist.	Imported fills encountered throughout the entirety of the site. This ranged from beneath the topsoil and beneath other imported fill materials down to the natural layers.
Natural Clay	0.4 – 0.6	CLAY: moderate plasticity, light brown with grey orange and red inclusions, some fines.	Typically occurred below layers of imported local material or imported fill material.

6.1.2 Groundwater

Groundwater analytical data adapted from *CPBG Baseline Groundwater Report (Project-wide),* 6 June 2023 identified exceedances of heavy metals including zinc, lead, nickel and copper from onsite monitoring well SMGW-BH-A401 sampled in December 2022 against ANZG 2018 (95% species protection - Freshwater guidelines). The source of these exceedances may not be attributed to on-site contamination leaching through soil.

ADE's review of historical data has indicated that the groundwater level within SMGW-BH-A401 as reported in CPBG Baseline Groundwater Report (Project-wide), Report Reference. SMWSASBT-CPG-SWD-SW000-GE-RPT-040405, June 2023 was encountered at 2.64mbgl. Additionally, ADE Geotechnical Investigation Factual Report, Report Reference A201021.0125.02_v1f, September 2023 noted groundwater seepage in BH06 at 6mbgl, however did not encounter groundwater inflow within the adjacent bore BH07 at a depth of 9.4mbgl.

Due to the variation and uncertainty of groundwater depth encountered throughout the site, ADE cannot accurately provide an estimate of depth to groundwater. In the event of groundwater being encountered during piling and excavation, LOR will manage dewatering in accordance with the procedures outlined in the CEMP.

6.2 Summary of Analytical Results

6.2.1 Soil Chemical Results

A total of 12 soil test pits were excavated at a selected rate of 12 test pits, 27 soil samples assessed for chemical contamination with 12 test pit location assessed and screened for asbestos within the top fill horizon.

Soil analytical results from the 12 test pits submitted for chemical analysis are presented in *Appendix G – Analytical Results* at the end of this report. For full analytical suite of test pits assessed see **Table 7-** Sampling and Analytical Program (Soil). Chemical concentrations reported for soil samples were less than the adopted health and ecological-based investigation and screening levels, a total of 27 soil samples were analysed for the suite of analysis Refer to **Table 7-** Sampling and Analytical Program (Soil).

6.2.2 Asbestos

10L screening was undertaken at all 12 test pit locations, with one 10L sample collected for screening form the top fill horizon within each test pit. No Fragments of fibre cement were observed within any of the 10L samples collected or visually identified during fieldworks.

ADE collected twelve, 500 mL soil samples for analysis of asbestos fines (AF) and fibrous asbestos (FA) in accordance with NEPM guidance. There were no detections of AF/FA within any of the twelve, 500mL soil samples submitted for analysis. Collection of 500 mL samples was undertaken within the fill layer at each location, noting that fill did not exceed 0.4 m depth at any of the test pit locations. No soil samples were collected for asbestos analysis from the natural profile.

6.2.3 Groundwater

The historical data from groundwater monitoring well SMGW-BH-A401 collected by CPBG noted exceedances of heavy metals (refer to *Appendix A - Figures, Appendix D – Results Table* and *Appendix G – Analytical Reports and Chain of Custody*). **Table 17** below identifies the exceedance the subject monitoring well.

The exceedances of the CoPCs analysed included the following:

- Heavy Metals: exceedances of ANZG 95%, and ANZG 95% Freshwater for copper, lead, nickel and zinc.

Table 17 - Groundwater Exceedances for Dissolved Heavy Metals (SMGW-BH-A401) dated 15-Dec-2022.

Contaminant	Units	Analyte Result	Exceedance Criteria
Copper	µg/L	3,240	ANZG Freshwater 95% LOSP Toxicant DGVs (0.0014 mg/L)
Zinc	µg/L	207	ANZG Freshwater 95% LOSP Toxicant DGVs (0.008 mg/L)
Nickel	µg/L	107	ANZG Freshwater 95% LOSP Toxicant DGVs (0.0011 mg/L)
Lead	µg/L	45	ANZG Freshwater 95% LOSP Toxicant DGVs (0.0034 mg/L)

7 Revised Conceptual Site Model

7.1 Current contamination status of site

None of the CoPC's identified within the pCSM exceeded the SAC, ADE consider the potential sources of contamination identified within the pCSM appropriately addressed within this investigation. ADE considers that the risk of chemical contamination on human and ecological health to be low. Refer to **Table 24** for PID reading ranges.

Table 18, which was developed in conjunction with Sydney Metro – Western Sydney Airport, Technical Paper 8 – Contamination (Table 1-7 Preliminary CSM – St Marys construction footprint [AEC 1: Commuter car park at 36-38 Harris Street, St Marys North]) below shows the relevant contaminated sources, CoCPs, potential exposure pathways, receptors, and an assessment of the status of the pathway.

Table 18 – Revised Conceptual Site Model.

Potential Contamination Source	COPCs	Potential Exposure Pathways and Transport Mechanisms	Receptors	SPR Link Comments	Potentially Complete SPR	Potential Risk
Uncontrolled fill within the site	TRH, BTEX, OCP, OPP, PCB,PAHs heavy metals and asbestos	- Dermal, oral exposure - Inhalation of dust/fibres - Leaching to groundwater and lateral migration - Disturbance during construction - Volatilization and inhalation of vapours	Construction Workers - Future site users - South Creek - Ecological receptors (vegetation)	COPCs were not detected above the SAC .	No	Low
Demolition of commercial/industrial properties	Heavy metals, asbestos, PCB's				No	Low
Former industrial land uses including a former wrecker's yard and adjacent former businesses	TRH, BTEX, VOCs, heavy metals				No	Low
Use of pesticides beneath/surrounding previous residential properties	OCP/OPP				No	Low
Soil, groundwater, and surface water (run off) contamination from on-site migration from offsite sources.	TRH, BTEX, VOCs, PFAS, heavy metals	- Workers encountering groundwater during excavation - Ecological interaction with groundwater		COPCs were not detected above the SAC Groundwater well SMGW-BH-A401, located in the upgradient part of the site (capturing	No	Low

Potential Contamination Source	COPCs	Potential Exposure Pathways and Transport Mechanisms	Receptors	SPR Link Comments	Potentially Complete SPR	Potential Risk
				water from offsite sources), did not exceed any SAC, with the exception of some heavy metals which are attributed to regional groundwater.		
Hazardous building materials in former site structures	Asbestos, PFAS, heavy metals	- Dermal, oral exposure - Inhalation of dust/fibres - Disturbance during construction - Volatilization and inhalation of vapours	Construction Workers	COPCs were not detected above the SAC	No	Low
Potential former fuel storage in the Sydney Trains Incident Emergency Response Depot at 1 Station Street in St Marys construction footprint	TRH, BTEX, VOCs, PAHs	- Dermal contact - inhalation exposure - Leaching to groundwater and lateral migration - Soil contamination	Construction Workers		No	Low
Former rail siding within the bus interchange area in Station Street; and rail activities, stockpiling and filling within the existing rail corridor in the St Marys construction footprint	Phenols, cyanide, TRH, BTEX, VOCs, PAHs		Construction Workers		No	Low
Potential chemical storage or use and activities at the stabling and maintenance facility including	Heavy metals, TRHs, BTEX, PAH's		- Workers involved with construction, ecological receptors (vegetation)		No	Low

Potential risks are considered limited and manageable and are presented in Table 18 (Workers encountering groundwater during excavation, Ecological interaction with groundwater). Therefore, there is low potential human health and ecological impact if groundwater is encountered during piling.

ADE has been advised by LOR if groundwater is encountered during piling works, the groundwater will be transferred to on-site detention tanks for holding until piling works are completed and thereby discharged in

line with CEMP. If encountered, workers will be wearing appropriate PPE (i.e. splash guards), and spill kits will be available (provided, proper controls are implemented).

Soil samples reported concentrations below the adopted health and ecological criteria, against ecological screening levels for commercial/industrial, coarse-grained soils. Additionally, all 27 samples analysed for BTEX, TRH, Phenols, PFAS, OCP/OCP, PAH, PCBs and TPH reported concentrations below the limit of reporting.

All samples submitted for heavy metals analysis reported concentrations above the limit of reporting, however, did not exceed the site assessment criteria.

7.1.1 Asbestos

During this investigation, no bulk asbestos fibre cement fragments were identified at any of the 12 test pit locations, or during visual inspection of the soil surface and test pit walls. Although ACM was not encountered during ADE's investigation, there is a possibility to encounter ACM across the site due to historic activities on site. Where offsite disposal of soils is considered, the potential widespread nature of ACM must be accounted for.

8 Discussion

8.1 Soil

Health and ecological investigation levels and health screening levels from Schedule B1 of the NEPM (2013) have been adopted to assess the soil contamination of the site. HILs and HSL-D for commercial and industrial land uses were selected as the appropriate criteria based on the proposed development.

None of the samples exceeded the respective site assessment criteria. Based on the information collected during this assessment, no significant or widespread contamination was identified in soil samples that may have caused risk of groundwater contamination.

ADE considers that the soils onsite are within the adapted site assessment criteria. The investigation has assessed the site as a whole and the soils were consistent throughout the site. The soil composition and characteristics are not likely to change with the proposed land uses at the site.

8.2 Asbestos

ADE undertook a robust sampling regime for asbestos onsite to investigate the extent of asbestos contamination due to the site history. 12 test pits were excavated for the purpose of chemical and asbestos assessment whereby all 12 test pits were screened onsite using a 10L sample through a sieve (7mm*7mm) and visually inspection for the presence of asbestos. No ACM was observed visually during the site investigation or within samples submitted for analytical testing.

8.3 Groundwater

Groundwater level of monitoring well SMGW-BH-A401 was reported to be 32.9 mAHD within the CPBG Baseline Groundwater Report (Project-wide), 6 June 2023. SMGW-BH-A401 is located within the north-eastern corner of the site. ADE had adopted groundwater analytical data from CPBG Baseline Groundwater Report (Project-wide), 6 June 2023.

Groundwater analytical data adapted from *CPBG Baseline Groundwater Report (Project-wide),* 6 June 2023 identified exceedances of zinc, nickel, lead and copper from onsite monitoring well SMGW-BH-A401 sampled December 2022 against ANZG 95% and 95% Freshwater guidelines. The exceedances above the SAC reported within the groundwater sample is most likely attributed to the regional industrial setting of site. The soils on site are of low leachability and hence unlikely contributing to the heavy metal exceedances in the groundwater.

ADE's review of historical data has indicated that the groundwater level within SMGW-BH-A401 as reported in CPBG Baseline Groundwater Report (Project-wide), Report Reference. SMWSASBT-CPG-SWD-SW000-GE-RPT-040405, June 2023 was encountered at 2.64mbgl. Additionally, ADE Geotechnical Investigation Factual Report, Report Reference A201021.0125.02_v1f, September 2023 noted groundwater seepage in BH06 at 6mbgl, however did not encounter groundwater inflow within the adjacent bore BH07 at a depth of 9.4mbgl.

Due to the variation and uncertainty of groundwater depth encountered throughout the site, ADE cannot accurately provide an estimate of depth to groundwater. In the event of groundwater being encountered during piling and excavation, LOR will manage dewatering in accordance with the procedures outlined in the CEMP.

8.4 Duty to Report under Section 60 CLM Act 1997

Under Section 60 of the Contaminated Land Management Act 1997, the owner of the land is required to notify contamination in circumstances as indicated in the NSW EPA (2015) *Guidelines on Duty to Report Contamination under the Contaminated Land Management Act 1997*. Each requirement of Sections 2.3.1, 2.3.5 & 2.3.6 of the NSW Guidelines was assessed with the evidence collected and a summary of that assessment is shown in the following tables **(**Table **19, Table 20** and **Table 21)**

Table 19 - Trigger Notification Assessment (Chemical Contamination - Soil)

Section 2.3.1 Notification Triggers On-site soil contamination	Findings	Trigger
The concentration of a contaminant in an individual soil sample is equal to or more than 250% of the HIL / HSL, and	All results were below the health investigation/screening criteria or LOR	No
A person has been or foreseeably will be exposed to the contaminant or a by-product of the contaminant	As above	No

Table 20 - Trigger Notification Assessment - Asbestos in soil

Section 2.3.3 Notification Triggers Asbestos in, or on, soil	Findings	Trigger
Asbestos fragments present on soil on the land; and	No ACM was located within any of the 10 L screening samples or analytically identified within the 12 500mL samples.	No
A person has been, or foreseeably will be, exposed to elevated levels of asbestos fibres by breathing them into their lungs	As above	No

Table 21 - Trigger Notification Assessment – Groundwater and Surface water

Section 2.3.5 Notification Triggers Groundwater or surface water	Findings	Trigger
The contaminant has entered or will foreseeably enter groundwater or surface water, and	Heavy metals were detected across the site exceeding the adopted criteria (NEPM and ANZG guidelines). Should groundwater be encountered, LOR will manage dewatering as per requirements outlined in the CEMP.	No
The concentration of the contaminant in the groundwater or surface water is, or will foreseeably be, above the groundwater investigation level for that contaminant as specified in Section 6, Schedule B1 of the National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC 2013), and	As above	No
The concentration of the contaminant in the groundwater or surface water will foreseeably continue to remain above the specified concentration.	As above	No

Due to limitations in data reliability, and unknown source of exceedances in groundwater, ADE considers that there is no duty to report to the NSW EPA under Section 60(3)(a) of the CLM Act.

9 Materials Analysis and Classification

9.1 Waste Classification Assessment

ADE was engaged by the client to conduct a Waste Classification & Analysis Report to the subject in-situ materials. A sampling event was conducted 10 April 2024 where 25 soil collected and analytically compared against the Waste Classification Guidelines Part 1: Classifying Waste 2014 (NSW EPA 2014) and VENM Assessment as per the POEO Act 1997. Samples reported concentrations of all analytes below the adopted contaminant threshold (CT) 1 criteria with the exception of lead (Pb) in samples TP11_Fill(0.1), TP12_Fill(0.1) and TP12_Fill(0.3), which were run for TCLP - lead analysis. The TCLP - lead results were reported to be below the adopted TCLP1 criteria. ADE notes that all soil results were below the adopted specific contaminant concentration (SCC) 1 criteria, as well as the TCLP1 criteria. **Table 22** below represents a summary of the classification details, Refer to ADE Material Classification Report *A101021.0125.01.MAC1* for further information.

Table 22 - Material classification and ADE comments.

	Horizon A	Horizon B
Waste description:	• (FILL) SAND: medium grained sand, poorly sorted with mixed gravels, dark brown, moist. • (FILL) Sandy GRAVEL: medium grained sand, light and dark brown in colour, small to large size gravels, moist.	• (NATURAL) CLAY: moderate plasticity, light brown with grey orange and red inclusions, some fines.
Approximate waste volume:	1,053m^3 as provided by client survey by ADE (refer to *Appendix A – Figure*)	TBC
Waste classification:	**General Solid Waste (Non-putrescible)**	**Virgin Excavated Natural Materal**
ADE comments:	ADE notes that all soil results were below the adopted specific contaminant concentration (SCC) 1 criteria, as well as the TCLP1 criteria, the materials may be suitable for recycling at a suitably licensed facility. It is at the discretion of the client to determine the suitability dependent upon the receiving facilities license conditions.	Includes horizon B layer only, and does not include upper fill. It is the responsibility of the client to ensure removal of Horizon A material prior to export of VENM

10 Conclusions and Recommendations

Based on the findings of the site investigation the following is concluded:

10.1 Soil and Groundwater Assessment

- All soil samples collected during this investigation reported concentrations below the site chemical assessment criteria
- No ACM were visually located on the ground surface during site walkover or within any of the subject test pits excavated for screened for asbestos fragments. Analytical results did not identify any ACM in any of the 12 *500mL samples submitted for testing.
- Should groundwater be encountered, LOR will manage dewatering as per requirements outlined in the CEMP.
- Potential risks are considered limited and manageable and are presented in Table 18 (Workers encountering groundwater during excavation, Ecological interaction with groundwater). Therefore, there is no potential human health and ecological impact if groundwater is encountered during piling.
- ADE has been advised by LOR if groundwater is encountered during piling works, the groundwater will be transferred to on-site detention tanks for holding until piling works are completed and thereby discharged in line with CEMP. If encountered, workers will be wearing appropriate PPE (i.e. splash guards), and spill kits will be available (provided, proper controls are implemented).

10.2 Site Suitability

Based on the information and data collected as part of this assessment, ADE considers that the low likelihood of onsite contamination and the site is suitable for proposed development.

Any soils requiring removal from the site as part of future site works should be disposed of in accordance with ADE Material Classification Report A101021.0125.01.MAC1.

11 Limitations and Disclaimer

This report has been prepared for the exclusive use of the client and is limited to the scope of the work agreed in the terms and conditions of contract (including assumptions, limitations and qualifications, circumstances, and constraints). ADE has relied upon the accuracy of information and data provided to it by the client and others.

ADE has used a degree of care and skill ordinarily exercised in similar investigations by reputable members of the environmental industry in Australia. No other warranty, expressed or implied, is made or intended. No one section or part of a section, of this report should be taken as giving an overall idea of this report. Each section must be read in conjunction with the whole of this report, including its appendixes and attachments. The report is an integral document and must be read in its entirety.

To the fullest extent permitted by law, ADE does not accept or assume responsibility to any third party (other than the client) for the investigative work, the report or the opinions given.

The scope of work conducted, and report herein may not meet the specific needs (of which ADE is not aware) of third parties. ADE cannot be held liable for third party reliance on this document. Any third party who relies upon this report does so at its own risk.

The subsurface environment can present substantial uncertainty due to it complex heterogeneity. The conclusions presented in this report are based on limited investigation of conditions at specific sampling locations chosen to be as representative as possible under the given circumstances. However, it is possible that this investigation may not have encountered all areas of contamination at the site due to the limited sampling and testing program undertaken.

The material subject to classification pertains only to the site and subject area outlined within the report and must be consistent with the waste description reported. If there are any unexpected finds that are not consistent with this classification, ADE must be notified immediately.

ADE does not verify the accuracy or completeness of, or adopt as its own, the information or data supplied by others and excludes all liability with respect to such information and data. To the extent that conditions differ from assumptions set out in the report, and to the extent that information provided to ADE is inaccurate or incomplete or has changed since it was provided to ADE, the opinions expressed in this report may not be valid and should be reviewed.

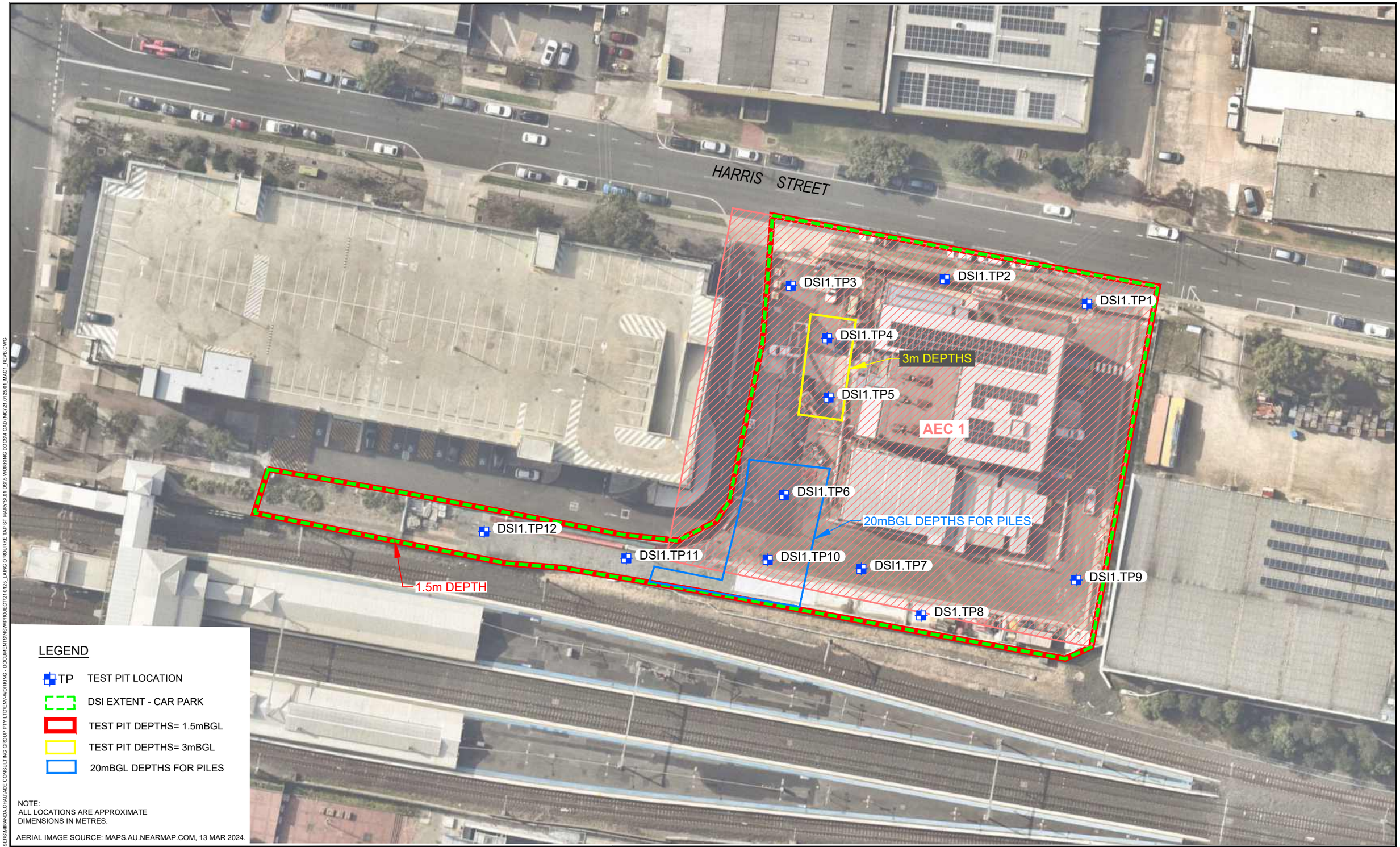
ADE's professional opinions are based upon its professional judgement, experience, training, and results from analytical data. In some cases, further testing and analysis may be required, thus producing different results and/or opinions. ADE has limited its investigation to the scope agreed upon with its client.

This Limitation and Disclaimer must accompany every copy of this report.

12 References

- ANZG. (2018). Australian and. New Zealand Guidelines for Fresh and Marine Water Quality
- ADE Consulting Group - Geotechnical Investigation Factual Report, St Marys Train Station, St Marys NSW 2760) A201021.0125.02_v1f | Date: 24 September 2023.
- National Environmental Protection (Assessment of Site Contamination) Measure 1999, amended in 2013
- New South Wales Environment Protection Authority. (2015). Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997
- New South Wales Environment Protection Authority. (2017). Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme. 3rd Ed.
- New South Wales Environment Protection Authority. (2020). Guidelines for Consultants Reporting on Contaminated Land
- New South Wales Environment Protection Authority. (2022). Contaminated Land Guidelines: Sampling design part 1 – application
- NSW Government State Environmental Planning Policy (Resilience and Hazards) 2021
- NSW Government, National Health and Medical Research council (2008). Guidelines for Managing Risks in Recreational Water
- Contaminated Land Management Act 1997
- Protection of the Environment Operations Act 1997
- Protection of the Environment Operations (Waste) Regulation 2014
- Standards Australia. (2004). Australian Standard AS4964-2004: Method for the qualitative identification of asbestos in bulk samples. Sydney, NSW
- Sydney Metro – Western Sydney Airport, Technical Paper 8 – Contamination
- Sydney Metro – Western Sydney Airport, Technical Paper 7 – Groundwater
- Sydney Metro – Western Sydney Airport, Technical Paper Chapter 15 – Groundwater and Geology
- Sydney Metro – Western Sydney Airport, Chapter 16 – Soils and Contamination
- Western Australian Department of Health. (2009). Guidelines for the assessment, remediation and management of asbestos contaminated sites
- Work, Health and Safety Act 2011.

Appendix A – Figures



LEGEND

- TP — TEST PIT LOCATION
- DSI EXTENT - CAR PARK
- TEST PIT DEPTHS= 1.5mBGL
- TEST PIT DEPTHS= 3mBGL
- 20mBGL DEPTHS FOR PILES

NOTE:
ALL LOCATIONS ARE APPROXIMATE
DIMENSIONS IN METRES.

AERIAL IMAGE SOURCE: MAPS.AU.NEARMAP.COM, 13 MAR 2024.

revision	no.	description	drawn	approved	date
	A	FIRST ISSUE	EM	MK	24/04/23
	B	EXTEND DSI AREA	MC	MK	11/07/24

0 6 12 18 24 30
SCALE 1:600 @A3 METRES

drawn	MC
approved	MK
date	11/07/2024
scale	AS SHOWN
original size	A3

client: LAING O'ROURKE PTY LTD

project: MATERIAL ANALYSIS AND CLASSIFICATION REPORT
32 - 34 HARRIS STREET, SAINT MARYS NSW 2760

title: SAMPLE LOCATION PLAN

project no: A101021.0125.01.MAC1 | figure no: FIGURE 2 | rev: B

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PLOT DATE: 11/07/2024 4:35:24 PM DWG FILE: C:\USERS\MIRANDA.CHAU\ADE CONSULTING GROUP PTY LTD\ENV-WORKING - DOCUMENTS\NSW\PROJECT\21\0125_LAING O'ROURKE TAP ST MARY'S\01 DSI\5 WORKING DOCS\4 CAD (MC)\21.0125.01_MAC1_REVB.DWG

Appendix B – Photographs

Photograph 1: Subject area (facing south). Date: 10 April 2023.

Photograph 2: Subject area (facing east). Date: 10 April 2023.

Photograph 3: Subject area (facing west). Date: 10 April 2023.

Photograph 3: Northern boundary subject area (facing west). Date: 10 April 2023.

Photograph 5: Soil profile at TP1. Date: 10 April 2023.

Photograph 6: Soil profile at TP4. Date: 10 April 2023.

Photograph 7: Soil profile at TP8. Date: 10 April 2023.

Photograph 8: Soil profile at TP12. Date: 10 April 2023.

Appendix C – Data Quality Objectives

The investigation was designed using the data quality objectives (DQO) as defined by the US EPA and the NSW EPA in the "Guidelines for the NSW DEC Site Auditor Scheme" (3rd Edition), (NSW EPA, 2017) and *Contaminated Land Guidelines: Sampling design part 1 - application* (NSW EPA 2022)

The DQO process consists of a seven-step planning approach to facilitate the development of qualitative and quantitative statements that specify the quality of the data required to support decision making within the scope of the investigation. This process utilises systematic planning and statistical hypothesis testing to differentiate between two or more clearly defined alternatives.

Step 1 – State the Problem
The project involves redevelopment of the site into commercial / industrial land use. The development will include the construction of a carpark, station plaza, footbridge access way to North Saint Marys Station, lift shaft and staircase. ADE's investigation have identified a low risk of significant chemical contamination on the site and low risk of further ACM contamination.

There were data gaps and uncertainty surrounding the status of groundwater contamination of the site. Exceedances against the site assessment criteria could not be located onsite and could not be attributed off site sources or onsite leaching. Due to site development excavations not intersecting with groundwater, ADE are of the opinion that no additional groundwater assessment or management is warranted.

Step 2 – Identify the Decision
The overall objective of the investigation was to assess if the site is suitable in its current state for the proposed mixed-use development. Additional questions considered in this decision were:

- Has the site been appropriately characterised, with all data gaps addressed?
- What is the nature and extent of contamination within the site?
- Is there any evidence of offsite migration of contaminants from the site?
- Is there any risk to human health or the environment based on data collected by ADE during field investigations in the context of the proposed use of the site?
- Are remediation activities required to render the site suitable for the proposed development?

Step 3 - Identify Information Inputs
Samples of soil collected to answer the above principal study questions. Groundwater analytical data was taken from a previous report. Key considerations regarding the information inputs are:

- An understanding of the potential contaminating activities that may have occurred at the site
- Information available from previous contamination investigations carried out on-site as summarised in Section 3
- Observations made by ADE during a site walkover
- Soil and groundwater analytical results
- Relevant regulatory guidelines and criteria for soil and groundwater.

Step 4 – Define the Boundaries of the Study

The lateral study boundaries for both soil and groundwater are defined by the boundaries of the site as shown in *Figure 1* The vertical boundary that was considered in the investigation was the surface level of natural

material (approximately encountered 0.4mBGL) noting that based on the shallow depth to natural soils, contamination is not likely to extend to the depth, sampling was limited to the start of natural soils.

Constraints of the investigation included the following:

- Underground services
- Vertical limit of excavator for test pits

Step 5 – Develop a Decision Rule
The primary objectives of the contamination investigation were to assess the potential for unknown contamination at the site to present a risk in the proposed commercial/industrial development. The decision rules to assess the suitability of the site were as follows:

- QA/QC assessment indicating that the data is usable
- Where contaminant concentrations for each sample were below the adopted investigation levels, no further assessment/remediation is required with respect to that chemical/media/area
- Where contaminant concentrations are reported to exceed the adopted investigation levels, then additional investigation and/or management (including remediation) is required

Step 6 – Specify Performance or Acceptance Criteria
There are two sources of error for input to decisions:

- Sampling errors, which occur when the samples collected are not representative of the conditions within the investigation area; and
- Measurement errors, which occur during sample collection, handling, preparation, analysis, and data reduction.

The null hypothesis for this study is:

- Contaminant concentrations within the soil or groundwater beneath the site are above the adopted investigation levels.

These errors may lead to the following decision errors:

- Type I - deciding that the soil and/or groundwater is not contaminated and, therefore, the site is suitable for the proposed development when the reverse is true; and
- Type II - deciding that the soil and/or groundwater is contaminated and, therefore, the site is not suitable for the proposed development when the reverse is true.

The acceptable limit on decision errors is a 5% probability of a false negative (i.e., assessing that the average concentrations of COPC are less than the adopted soil and groundwater investigation levels when they are greater than the investigation levels).

Step 7 – Optimise the Design for Obtaining Data
The organisation of the data collection and analysis design for optimising the generation of data to satisfy the DQOs and the objective of the investigation has been achieved via the following procedures outlined in **Table 23.**

Table 23 - Summary of Procedures to be Undertaken to Optimize the Design for Obtaining Data.

Pre-approved Work Plan	**The sampling plan for the investigation at the site has been developed to assess the concentrations of contaminants present in soils at the site through the implementation of the components outlined within NEPM (2013), *Contaminated Land Guidelines:* (NSW EPA 2022) and AS/NZS 5667.1 (1998).**
Compliance with EPA Guidelines	• Use of appropriate techniques for the sampling, storage and transportation of samples. • Implementation of NATA certified laboratory using analytical procedures as outlined in NEPM (2013). • Use of a secondary laboratory for split samples which is NATA certified for the required analyses.

Appendix D – Analytical Results Table

									Other	Halogenated Benzenes	Herbicides	Perfluoroalkane Carboxylic Acids										Perfluoroalkane Sulfonic Acids							
	4,6-Dintro-o-cyclohexyl phenol	4-chloro-3-methylphenol	4-Nitrophenol	Cresol Total	Pentachlorophenol	Phenol	Phenols	Phosalone	Hexachlorobenzene	Dinoseb	Perfluorobutanoic acid (PFBA)	Perfluorohexanoic acid (PFHxA)	Perfluoropentanoic acid (PFPeA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonic acid (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Moisture Content	Electrical Conductivity (Non Compensated)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	µS/cm
EQL	5	0.2	4	0.4	0.2	0.2	0.05	0.1	0.1	5	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.1	1
NSW 2014 General Solid Waste CT1 (No Leaching)				4,000																								
NSW 2014 General Solid Waste SCC1 (with leached)				7,200		518									18													
NSW 2014 General Solid Waste TCLP1 (leached)																												
PFAS NEMP 2020 Industrial/ commercial (HIL D)															50									20		20		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																												
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																												
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																												
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																												
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																												
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				25,000	660	240,000			80																			
Field ID	**Lithology**	**Date**																												
21.0125.01_SR1	**Fill**	**10 Apr 2024**								<0.1	<0.1																	27	
21.0125.01_SR2	**Fill**	**10 Apr 2024**								<0.1	<0.1																	12	
21.0125.01_TP6	**Fill**	**10 Apr 2024**																										7.6	48
21.0125.01_TP12	**Fill**	**10 Apr 2024**																										17	170
21.0125.DSI_BR1	**Fill**	**10 Apr 2024**									<0.10																	25.9	
21.0125.DSI_BR2	**Fill**	**10 Apr 2024**									<0.10																	9.5	
TP1_Fill(0.1)	**Fill**	**10 Apr 2024**									<0.10																	21.3	
TP1_Fill(0.3)	**Fill**	**10 Apr 2024**									<0.10																	26.7	
TP2_Fill(0.1)	**Fill**	**10 Apr 2024**									<0.10																	13.5	
TP2_NAT(0.5)	**Natural**	**10 Apr 2024**									<0.10																	17.0	
TP3_Fill(0.1)	**Fill**	**10 Apr 2024**	<5.0	<0.20	<4.0	<0.40	<0.20	<0.20	<0.050		<0.10	<5.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	6.0	
TP3_Fill(0.4)	**Fill**	**10 Apr 2024**									<0.10																	6.7	
TP4_Fill(0.1)	**Fill**	**10 Apr 2024**									<0.10																	7.6	
TP4_NAT(0.4)	**Natural**	**10 Apr 2024**									<0.10																	16.8	
TP5_Fill(0.1)	**Fill**	**10 Apr 2024**									<0.10																	6.5	
TP6_Fill(0.1)	**Fill**	**10 Apr 2024**	<5.0	<0.20	<4.0	<0.40	<0.20	<0.20	<0.050		<0.10	<5.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	5.6	
TP6_Fill(0.3)	**Fill**	**10 Apr 2024**									<0.10																	4.7	
TP6_NAT(0.5)	**Natural**	**10 Apr 2024**									<0.10																	17.5	
TP7_Fill(0.1)	**Fill**	**10 Apr 2024**									<0.10																	9.1	
TP8_Fill(0.1)	**Fill**	**10 Apr 2024**									<0.10																	22.4	
TP8_Fill(0.3)	**Fill**	**10 Apr 2024**									<0.10																	12.3	
TP8_NAT(0.4)	**Natural**	**10 Apr 2024**									<0.10																	18.2	
TP9_Fill(0.1)	**Fill**	**10 Apr 2024**	<5.0	<0.20	<4.0	<0.40	<0.20	<0.20	<0.050		<0.10	<5.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	6.6	
TP10_Fill(0.1)	**Fill**	**10 Apr 2024**									<0.10																	8.9	
TP10_NAT(0.4)	**Natural**	**10 Apr 2024**									<0.10																	19.1	
TP11_Fill(0.1)	**Fill**	**10 Apr 2024**									<0.10																	12.3	
TP12_Fill(0.1)	**Fill**	**10 Apr 2024**	<5.0	<0.20	<4.0	<0.40	<0.20	<0.20	<0.050		<0.10	<5.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	17.2	
TP12_Fill(0.3)	**Fill**	**10 Apr 2024**									<0.10																	17.9	
TP12_NAT(0.6)	**Natural**	**10 Apr 2024**									<0.10																	15.1	
Statistics																														
Number of Detects			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**29**	**2**
Minimum Concentration			**<5**	**<0.2**	**<4**	**<0.4**	**<0.2**	**<0.2**	**<0.05**	**<0.1**	**<0.1**	**<5**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**4.7**	**48**
Maximum Concentration			**<5**	**<0.2**	**<4**	**<0.4**	**<0.2**	**<0.2**	**<0.05**	**<0.1**	**<0.1**	**<5**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**27**	**170**
Average Concentration *			**2.5**	**0.1**	**2**	**0.2**	**0.1**	**0.1**	**0.025**	**0.05**	**0.05**	**2.5**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**14**	**109**
Standard Deviation *			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6.7**	**86**
95% UCL (Student's-t) *			**2.5**	**0.1**	**2**	**0.2**	**0.1**	**0.1**	**0.025**	**0.05**	**0.05**	**2.5**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**0.0025**	**16.18**	**494.1**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)
HEPA, January 2020, PFAS NEMP 2020 Industrial/ commercial (HIL D)
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil

	NA	Particle Size	BTEX								TRH							Phenols										
	2-Methyl-4,6-dinitrophenol	Clay in soils <2um	Naphthalene (VOC)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	C6-C10 Fraction (F1)	C6-C10 (F1 minus BTEX)	>C10-C16 Fraction (F2)	>C10-C16 Fraction (F2 minus Naphthalene)	>C16-C34 Fraction (F3)	>C34-C40 Fraction (F4)	>C10-C40 Fraction (Sum)	2,3,4,5-Tetrachlorophenol	2,3,4,6-Tetrachlorophenol	2,3,5,6-Tetrachlorophenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,6-Dichlorophenol	2-Chlorophenol	2-Methylphenol	2-Nitrophenol
	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	2		1	0.2	0.5	1	2	1	1	2	25	25	50	50	100	100	50	0.1	0.1	0.1	0.05	0.05	0.05	0.2	4	0.05	0.1	0.2	0.2
NSW 2014 General Solid Waste CT1 (No Leaching)				10	288	600			1,000												8,000	40						4,000	
NSW 2014 General Solid Waste SCC1 (with leached)				18	518	1,080			1,800												14,400	72						7,200	
NSW 2014 General Solid Waste TCLP1 (leached)																													
PFAS NEMP 2020 Industrial/ commercial (HIL D)																													
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay				4 | 6 | 9 | 20								310 | 480																	
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand				3 | 3 | 3 | 3					230			260 | 370 | 630																	
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind			370																										
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil				75	135	165			180			215	170	170	1,700	3,300													
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil				95	135	185			95			215	170	170	2,500	6,600													
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																													
Field ID	**Lithology**	**Date**																											
21.0125.01_SR1	**Fill**	**10 Apr 2024**			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50											
21.0125.01_SR2	**Fill**	**10 Apr 2024**			<1	<0.2	<0.5	<1	<2	<1	<1		<25	<25	<50	<50	<100	<100	<50											
21.0125.01_TP6	**Fill**	**10 Apr 2024**		5																									
21.0125.01_TP12	**Fill**	**10 Apr 2024**		9																									
21.0125.DSI_BR1	**Fill**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
21.0125.DSI_BR2	**Fill**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP1_Fill(0.1)	**Fill**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP1_Fill(0.3)	**Fill**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP2_Fill(0.1)	**Fill**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP2_NAT(0.5)	**Natural**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP3_Fill(0.1)	**Fill**	**10 Apr 2024**	<2.0			<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.20	<4.0	<0.050	<0.10	<0.20	<0.20
TP3_Fill(0.4)	**Fill**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP4_Fill(0.1)	**Fill**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP4_NAT(0.4)	**Natural**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP5_Fill(0.1)	**Fill**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP6_Fill(0.1)	**Fill**	**10 Apr 2024**	<2.0			<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.20	<4.0	<0.050	<0.10	<0.20	<0.20
TP6_Fill(0.3)	**Fill**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP6_NAT(0.5)	**Natural**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP7_Fill(0.1)	**Fill**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP8_Fill(0.1)	**Fill**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP8_Fill(0.3)	**Fill**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP8_NAT(0.4)	**Natural**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP9_Fill(0.1)	**Fill**	**10 Apr 2024**	<2.0			<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.20	<4.0	<0.050	<0.10	<0.20	<0.20
TP10_Fill(0.1)	**Fill**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP10_NAT(0.4)	**Natural**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP11_Fill(0.1)	**Fill**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP12_Fill(0.1)	**Fill**	**10 Apr 2024**	<2.0			<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100	<0.10	<0.10	<0.10	<0.050	<0.050	<0.050	<0.20	<4.0	<0.050	<0.10	<0.20	<0.20
TP12_Fill(0.3)	**Fill**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
TP12_NAT(0.6)	**Natural**	**10 Apr 2024**				<0.50	<0.50	<1.0	<2.0	<1.0	<2.0	<2.00	<35	<35	<50		<100	<100	<100											
Statistics																													
Number of Detects	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration	**<2**	**5**	**<1**	**<0.2**	**<0.5**	**<1**	**<2**	**<1**	**<1**	**<2**	**<25**	**<25**	**<50**	**<50**	**<100**	**<100**	**<50**	**<0.1**	**<0.1**	**<0.1**	**<0.05**	**<0.05**	**<0.05**	**<0.2**	**<4**	**<0.05**	**<0.1**	**<0.2**	**<0.2**
Maximum Concentration	**<2**	**9**	**<1**	**<0.5**	**<0.5**	**<1**	**<2**	**<1**	**<2**	**<2**	**<35**	**<35**	**<50**	**<50**	**<100**	**<100**	**<100**	**<0.1**	**<0.1**	**<0.1**	**<0.05**	**<0.05**	**<0.05**	**<0.2**	**<4**	**<0.05**	**<0.1**	**<0.2**	**<0.2**
Average Concentration *	**1**	**7**	**0.5**	**0.24**	**0.25**	**0.5**	**1**	**0.5**	**0.96**	**1**	**17**	**17**	**25**	**25**	**50**	**50**	**48**	**0.05**	**0.05**	**0.05**	**0.025**	**0.025**	**0.025**	**0.1**	**2**	**0.025**	**0.05**	**0.1**	**0.1**
Standard Deviation *	**0**	**2.8**	**0**	**0.04**	**0**	**0**	**0**	**0**	**0.13**	**0**	**1.3**	**1.3**	**0**	**0**	**0**	**0**	**6.7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *	**1**	**19.63**	**0.5**	**0.252**	**0.25**	**0.5**	**1**	**0.5**	**1.007**	**1**	**17.57**	**17.57**	**25**	**25**	**50**	**50**	**50.34**	**0.05**	**0.05**	**0.05**	**0.025**	**0.025**	**0.025**	**0.1**	**2**	**0.025**	**0.05**	**0.1**	**0.1**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)
HEPA, January 2020, PFAS NEMP 2020 Industrial/ commercial (HIL D)
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil

			Inorganics							Metals										Organic	Organochlorine Pes										
			Exchangeable Calcium	pH 1:5 soil:water	Exchangeable Magnesium	Exchangeable Potassium	Exchangeable Sodium	Cation Exchange Capacity	Cyanide Total	Arsenic	Cadmium	Chromium (III+VI)	Copper	Iron	Lead	TCLP - Lead	Mercury	Nickel	Zinc	Total Organic Carbon	4,4-DDE	a-BHC	Aldrin	b-BHC	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	DDT	DDT+DDE+DDD	Dieldrin
			meq/100g	-	meq/100g	meq/100g	meq/100g	meq/100g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.1		0.1	0.1	0.1	1	5	4	0.3	1	1	10	1	0.5	0.1	1	1	100	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NSW 2014 General Solid Waste CT1 (No Leaching)									320	100	20				100		4	40													
NSW 2014 General Solid Waste SCC1 (with leached)									5,900	500	100				1,500		50	1,050													
NSW 2014 General Solid Waste TCLP1 (leached)																5															
PFAS NEMP 2020 Industrial/ commercial (HIL D)																															
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																															
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																															
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind										160		680	330		1,800			770	1200									640			
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																															
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																															
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil										3,000	900		240,000		1,500		730	6,000	400,000										3,600		
Field ID	**Lithology**	**Date**																													
21.0125.01_SR1	**Fill**	**10 Apr 2024**								5	<0.4	23	34		120	-	<0.1	15	150		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
21.0125.01_SR2	**Fill**	**10 Apr 2024**								15	<0.4	40	23		36	-	<0.1	14	56		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
21.0125.01_TP6	**Fill**	**10 Apr 2024**	0.5	7.2	0.8	<0.1	0.3	1.6						72,000		-				4,700												
21.0125.01_TP12	**Fill**	**10 Apr 2024**	16	8.6	1.9	0.2	0.3	19						61,000		-				8,600												
21.0125.DSI_BR1	**Fill**	**10 Apr 2024**								5.8	0.40	22.4	22.0		96.1	-	<0.10	11.9	117.5		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
21.0125.DSI_BR2	**Fill**	**10 Apr 2024**								6.0	0.44	16.2	28.1		52.8	-	<0.10	9.2	183.1		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP1_Fill(0.1)	**Fill**	**10 Apr 2024**								10.2	0.76	47.9	8.3		50.2	-	<0.10	10.3	29.7		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP1_Fill(0.3)	**Fill**	**10 Apr 2024**								7.6	0.41	19.2	22.9		99.2	-	<0.10	10.8	113.6		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP2_Fill(0.1)	**Fill**	**10 Apr 2024**								8.0	0.46	19.1	6.7		34.3	-	<0.10	2.7	50.9		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP2_NAT(0.5)	**Natural**	**10 Apr 2024**								11.6	0.72	35.5	<5.0		27.8	-	<0.10	3.5	14.7		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP3_Fill(0.1)	**Fill**	**10 Apr 2024**							<5.0	8.0	0.43	26.1	<5.0		10.0	-	<0.10	<1.0	<5.0		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP3_Fill(0.4)	**Fill**	**10 Apr 2024**								21.4	0.96	40.8	<5.0		15.1	-	<0.10	<1.0	<5.0		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP4_Fill(0.1)	**Fill**	**10 Apr 2024**								10.5	0.54	25.6	<5.0		10.5	-	<0.10	<1.0	5.5		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP4_NAT(0.4)	**Natural**	**10 Apr 2024**								7.9	0.36	18.3	<5.0		13.1	-	<0.10	2.2	<5.0		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP5_Fill(0.1)	**Fill**	**10 Apr 2024**								6.4	0.32	18.6	<5.0		20.3	-	<0.10	<1.0	8.4		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP6_Fill(0.1)	**Fill**	**10 Apr 2024**							<5.0	<5.0	<0.30	8.8	<5.0		<5.0	-	<0.10	<1.0	<5.0		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP6_Fill(0.3)	**Fill**	**10 Apr 2024**								<5.0	<0.30	8.2	<5.0		5.8	-	<0.10	<1.0	<5.0		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP6_NAT(0.5)	**Natural**	**10 Apr 2024**								14.8	0.97	57.1	<5.0		32.7	-	<0.10	<1.0	<5.0		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP7_Fill(0.1)	**Fill**	**10 Apr 2024**								5.4	0.33	36.0	<5.0		14.9	-	<0.10	1.2	27.2		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP8_Fill(0.1)	**Fill**	**10 Apr 2024**								5.0	<0.30	18.4	5.7		12.8	-	<0.10	2.8	14.4		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP8_Fill(0.3)	**Fill**	**10 Apr 2024**								12.0	0.46	14.6	14.4		35.0	-	<0.10	9.1	56.7		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP8_NAT(0.4)	**Natural**	**10 Apr 2024**								9.5	0.61	31.8	5.3		22.1	-	<0.10	<1.0	5.6		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP9_Fill(0.1)	**Fill**	**10 Apr 2024**							<5.0	<5.0	<0.30	2.8	<5.0		<5.0	-	<0.10	<1.0	<5.0		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP10_Fill(0.1)	**Fill**	**10 Apr 2024**								<5.0	<0.30	10.6	<5.0		7.5	-	<0.10	2.5	14.6		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP10_NAT(0.4)	**Natural**	**10 Apr 2024**								12.1	0.74	42.5	<5.0		13.3	-	<0.10	2.1	<5.0		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP11_Fill(0.1)	**Fill**	**10 Apr 2024**								5.9	0.46	13.7	17.8		136.0	<0.5	<0.10	10.5	79.2		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP12_Fill(0.1)	**Fill**	**10 Apr 2024**							<5.0	<5.0	0.48	24.8	60.6		217.1	<0.5	0.10	16.8	149.3		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP12_Fill(0.3)	**Fill**	**10 Apr 2024**								<5.0	0.49	16.8	23.8		326.1	<0.5	0.11	4.6	201.0		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TP12_NAT(0.6)	**Natural**	**10 Apr 2024**								<5.0	<0.30	11.2	11.0		64.8	-	<0.10	5.8	35.3		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Statistics																															
Number of Detects			**2**	**2**	**2**	**1**	**2**	**2**	**0**	**20**	**19**	**27**	**14**	**2**	**25**	**0**	**2**	**18**	**19**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration			**0.5**	**7.2**	**0.8**	**<0.1**	**0.3**	**1.6**	**<5**	**5**	**<0.3**	**2.8**	**<5**	**61,000**	**<5**	**<0.5**	**0.1**	**<1**	**<5**	**4,700**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
Maximum Concentration			**16**	**8.6**	**1.9**	**0.2**	**0.3**	**19**	**<5**	**21.4**	**0.97**	**57.1**	**60.6**	**72,000**	**326.1**	**<0.5**	**0.11**	**16.8**	**201**	**8,600**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
Average Concentration *			**8.2**	**7.9**	**1.4**	**0.12**	**0.3**	**10**	**2.5**	**7.6**	**0.43**	**24**	**12**	**66,500**	**55**	**<0.5**	**0.054**	**5.2**	**49**	**6,650**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**
Standard Deviation *			**11**	**0.99**	**0.78**	**0.11**	**0**	**12**	**0**	**4.7**	**0.24**	**13**	**14**	**7,778**	**74**	**NA**	**0.015**	**5.3**	**62**	**2,758**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *			**57.18**	**12.32**	**4.823**	**0.599**	**0.3**	**65.23**	**2.5**	**9.168**	**0.51**	**28.45**	**16.22**	**101,226**	**78.99**	**NA**	**0.0589**	**6.901**	**69.57**	**18,962**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)
HEPA, January 2020, PFAS NEMP 2020 Industrial/ commercial (HIL D)
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil

			icides									Organophosphorous Pesticides																			
			Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Azinophos methyl	Bromophos-ethyl	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Ethoprop	Fenitrothion	Fenthion	Malathion	Methidathion	Methyl parathion	Mevinphos (Phosdrin)	Phorate	Ronnel
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NSW 2014 General Solid Waste CT1 (No Leaching)															4																
NSW 2014 General Solid Waste SCC1 (with leached)															7.5																
NSW 2014 General Solid Waste TCLP1 (leached)																															
PFAS NEMP 2020 Industrial/ commercial (HIL D)																															
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																															
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																															
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind																															
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil																															
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																															
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil						100				50		2,500			2,000																
Field ID	**Lithology**	**Date**																													
21.0125.01_SR1	**Fill**	**10 Apr 2024**	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
21.0125.01_SR2	**Fill**	**10 Apr 2024**	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
21.0125.01_TP6	**Fill**	**10 Apr 2024**																													
21.0125.01_TP12	**Fill**	**10 Apr 2024**																													
21.0125.DSI_BR1	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
21.0125.DSI_BR2	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP1_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP1_Fill(0.3)	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP2_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP2_NAT(0.5)	**Natural**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP3_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP3_Fill(0.4)	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP4_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP4_NAT(0.4)	**Natural**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP5_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP6_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP6_Fill(0.3)	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP6_NAT(0.5)	**Natural**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP7_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP8_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP8_Fill(0.3)	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP8_NAT(0.4)	**Natural**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP9_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP10_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP10_NAT(0.4)	**Natural**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP11_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP12_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP12_Fill(0.3)	**Fill**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
TP12_NAT(0.6)	**Natural**	**10 Apr 2024**	<0.20	<0.20	<0.10	<0.20	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10			<0.10	<0.10		<0.10					<0.10					<0.10			<0.10
Statistics																															
Number of Detects			**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration			**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
Maximum Concentration			**<0.2**	**<0.2**	**<0.1**	**<0.2**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
Average Concentration *			**0.096**	**0.096**	**0.05**	**0.096**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**
Standard Deviation *			**0.013**	**0.013**	**0**	**0.013**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *			**0.101**	**0.101**	**0.05**	**0.101**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)
HEPA, January 2020, PFAS NEMP 2020 Industrial/ commercial (HIL D)
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil

			PAH																PCBs								Pesticides			
			Benzo(b+j+k)fluoranthene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a) pyrene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	PAHs (Sum of positives)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	DEF	Fenamiphos	Mirex	Parathion
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.2	0.1	0.1	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.05	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NSW 2014 General Solid Waste CT1 (No Leaching)								0.8										200									50				
NSW 2014 General Solid Waste SCC1 (with leached)								10										200									50				
NSW 2014 General Solid Waste TCLP1 (leached)																															
PFAS NEMP 2020 Industrial/ commercial (HIL D)																															
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																															
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand																															
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind															370																
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil								1.4																							
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil								1.4																							
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																		4,000									7			100	
Field ID	**Lithology**	**Date**																													
21.0125.01_SR1	**Fill**	**10 Apr 2024**	<0.2	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1
21.0125.01_SR2	**Fill**	**10 Apr 2024**	<0.2	<0.1	<0.1	<0.1	<0.1	0.09	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1		0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1	<0.1
21.0125.01_TP6	**Fill**	**10 Apr 2024**																													
21.0125.01_TP12	**Fill**	**10 Apr 2024**																													
21.0125.DSI_BR1	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
21.0125.DSI_BR2	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP1_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP1_Fill(0.3)	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP2_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP2_NAT(0.5)	**Natural**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP3_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP3_Fill(0.4)	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP4_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP4_NAT(0.4)	**Natural**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP5_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP6_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP6_Fill(0.3)	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP6_NAT(0.5)	**Natural**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP7_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP8_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP8_Fill(0.3)	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP8_NAT(0.4)	**Natural**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP9_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP10_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP10_NAT(0.4)	**Natural**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP11_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP12_Fill(0.1)	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP12_Fill(0.3)	**Fill**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
TP12_NAT(0.6)	**Natural**	**10 Apr 2024**	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.10			
Statistics																															
Number of Detects			**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Minimum Concentration			**<0.2**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.05**	**0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**0.1**	**<0.3**	**<0.05**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
Maximum Concentration			**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**<0.3**	**0.4**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
Average Concentration *			**0.15**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.14**	**0.15**	**0.21**	**0.24**	**0.24**	**0.24**	**0.24**	**0.24**	**0.24**	**0.24**	**0.24**	**0.05**	**0.05**	**0.05**	**0.05**
Standard Deviation *			**0.013**	**0.027**	**0.027**	**0.027**	**0.027**	**0.026**	**0.021**	**0.027**	**0.027**	**0.027**	**0.027**	**0.027**	**0.027**	**0.027**	**0.021**	**0**	**0.27**	**0.053**	**0.053**	**0.053**	**0.053**	**0.053**	**0.053**	**0.053**	**0.053**	**0**	**0**	**0**	**0**
95% UCL (Student's-t) *			**0.151**	**0.151**	**0.151**	**0.151**	**0.151**	**0.152**	**0.151**	**0.151**	**0.151**	**0.151**	**0.151**	**0.151**	**0.151**	**0.151**	**0.151**	**0.15**	**1.396**	**0.253**	**0.253**	**0.253**	**0.253**	**0.253**	**0.253**	**0.253**	**0.253**	**0.05**	**0.05**	**0.05**	**0.05**

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)
HEPA, January 2020, PFAS NEMP 2020 Industrial/ commercial (HIL D)
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil

	TPH				
	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	25	50	100	100	50
NSW 2014 General Solid Waste CT1 (No Leaching)	650				10,000
NSW 2014 General Solid Waste SCC1 (with leached)	650				10,000
NSW 2014 General Solid Waste TCLP1 (leached)					
PFAS NEMP 2020 Industrial/ commercial (HIL D)					
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay					
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand					
NEPM 2013 Table 1B(5) Generic EIL - Comm/Ind					
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil					
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil					
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil					

Field ID	Lithology	Date					
21.0125.01_SR1	Fill	10 Apr 2024	<25	<50	<100	<100	<50
21.0125.01_SR2	Fill	10 Apr 2024	<25	<50	<100	<100	<50
21.0125.01_TP6	Fill	10 Apr 2024					
21.0125.01_TP12	Fill	10 Apr 2024					
21.0125.DSI_BR1	Fill	10 Apr 2024	<25	<50	<100	<100	<100
21.0125.DSI_BR2	Fill	10 Apr 2024	<25	<50	<100	<100	<100
TP1_Fill(0.1)	Fill	10 Apr 2024	<25	<50	<100	<100	<100
TP1_Fill(0.3)	Fill	10 Apr 2024	<25	<50	<100	<100	<100
TP2_Fill(0.1)	Fill	10 Apr 2024	<25	<50	<100	<100	<100
TP2_NAT(0.5)	Natural	10 Apr 2024	<25	<50	<100	<100	<100
TP3_Fill(0.1)	Fill	10 Apr 2024	<25	<50	<100	<100	<100
TP3_Fill(0.4)	Fill	10 Apr 2024	<25	<50	<100	<100	<100
TP4_Fill(0.1)	Fill	10 Apr 2024	<25	<50	<100	<100	<100
TP4_NAT(0.4)	Natural	10 Apr 2024	<25	<50	<100	<100	<100
TP5_Fill(0.1)	Fill	10 Apr 2024	<25	<50	<100	<100	<100
TP6_Fill(0.1)	Fill	10 Apr 2024	<25	<50	<100	<100	<100
TP6_Fill(0.3)	Fill	10 Apr 2024	<25	<50	<100	<100	<100
TP6_NAT(0.5)	Natural	10 Apr 2024	<25	<50	<100	<100	<100
TP7_Fill(0.1)	Fill	10 Apr 2024	<25	<50	<100	<100	<100
TP8_Fill(0.1)	Fill	10 Apr 2024	<25	<50	<100	<100	<100
TP8_Fill(0.3)	Fill	10 Apr 2024	<25	<50	<100	<100	<100
TP8_NAT(0.4)	Natural	10 Apr 2024	<25	<50	<100	<100	<100
TP9_Fill(0.1)	Fill	10 Apr 2024	<25	<50	<100	<100	<100
TP10_Fill(0.1)	Fill	10 Apr 2024	<25	<50	<100	<100	<100
TP10_NAT(0.4)	Natural	10 Apr 2024	<25	<50	<100	<100	<100
TP11_Fill(0.1)	Fill	10 Apr 2024	<25	<50	<100	<100	<100
TP12_Fill(0.1)	Fill	10 Apr 2024	<25	<50	<100	<100	<100
TP12_Fill(0.3)	Fill	10 Apr 2024	<25	<50	<100	<100	<100
TP12_NAT(0.6)	Natural	10 Apr 2024	<25	<50	<100	<100	<100

Statistics

Number of Detects	0	0	0	0	0
Minimum Concentration	<25	<50	<100	<100	<50
Maximum Concentration	<25	<50	<100	<100	<100
Average Concentration *	12	25	50	50	48
Standard Deviation *	0	0	0	0	6.7
95% UCL (Student's-t) *	12.5	25	50	50	50.34

* A Non Detect Multiplier of 0.5 has been applied.

Environmental Standards

NSW EPA, November 2014, NSW 2014 General Solid Waste CT1 (No Leaching)
NSW EPA, November 2014, NSW 2014 General Solid Waste SCC1 (with leached)
NSW EPA, November 2014, NSW 2014 General Solid Waste TCLP1 (leached)
HEPA, January 2020, PFAS NEMP 2020 Industrial/ commercial (HIL D)
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Sand
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Coarse Soil
2013, NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil
2013, NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil

Appendix E – Data Quality Assessment

In order to carry out the assessment of the data acquired in the course of the investigation, the US EPA Guidelines including, but not limited to, the *'Guidance on Assessing Quality Systems'* (2003) and *'Guidance on Systematic Planning Using the Data Quality Objectives Process'* (2006) were used.

The guidelines provide a general strategy for assessing data quality criteria and performance specifications for decision making. The following is the output from most of the steps of the data quality assessment (DQA) Process provided in the guidelines. Quality control reports from the laboratories for sample analyses were reviewed. The review included an assessment of blank, duplicate, control, and spiked samples. The review of the QA/QC program was conducted in accordance with NSW EPA recommendations.

To carry out the data quality assessment for the lab analytical results acquired in the course of this investigation, the US EPA Guidelines were used. The Guidelines provide a general strategy for assessing data quality criteria and performance specifications as part of decision making. The following assessment methodology addresses most of the steps of the data quality assessment (DQA) process provided in the guidelines.

Data Review
Quality control reports from the laboratories subcontracted for sample analyses were reviewed. Laboratory blank samples, duplicate samples, control samples, spiked samples and method blanks were evaluated.

This review was conducted as per the items recommended by the NSW EPA for inclusion in the consultants' reports.

Following the QA/QC assessment, the validity of the results is determined based on the assessment criteria adopted with the results expressed as either valid or invalid data (acceptable or unacceptable). An overall summary of the QA/QC assessment can be found in *Appendix I – QA/QC Output.*

CoC
Contaminated Land Guidelines: Sampling design part 1 - application (NSW EPA 2022) defines the chain-of-custody (CoC) documentation as the link in the transfer of samples between the time of collection and arrival at the laboratory.

The CoC utilised by ADE included the items recommended by the Standard:

- The person transferred the samples;
- The person who received the samples;
- Date the samples were collected;
- Date the samples were received at the laboratory; and
- Contact name and details for the client.

Copies of the CoCs completed during the course of this investigation are provided in *Appendix G – Analytical Reports and Chain of Custody Documentation.*

Field Equipment Calibration
Field equipment requiring calibration included the use of a photo-ionisation detector (PID). The PID was calibrated by an external qualified technician before the sampling events and further calibrated onsite i.e., bump tested (as required) by a suitably qualified environmental consultant (refer to *Appendix J – Supporting Documents* for the attached calibration certificate). The results of PID reading ranges are summarised below in **Table 24**.

Table 24 - PID reading ranges.

Sample Location	Sample Depth (mBGL)	PID Reading (ppm)
Test Pit 1	0.1	0.0
Test Pit 2	0.1	0.0
Test Pit 3	0.1	0.2
Test Pit 4	0.1	0.1
Test Pit 5	0.1	0.4
Test Pit 6	0.1	0.2
Test Pit 7	0.1	0.9
Test Pit 8	0.1	1.3
Test Pit 9	0.1	0.4
Test Pit 10	0.1	0.2
Test Pit 11	0.1	0.4
Test Pit 12	0.1	0.0

Record of Holding Times

The objective is to ascertain the validity of the analytical results based on meeting the holding time for the samples from the time of collection to the time of analysis. The technical holding time criteria for soil and groundwater samples are summarised in **Table 25** below.

Table 25 - Recommended Storage, Preservation and Maximum Holding Times.

Analyte	Container	Recommended Preservation	Maximum Recommended Holding Time	Reference
Metals (excluding Hg & Cr VI)	P (MF)	HNO_3, C	6 months	APHA Table 1060:I
Metals (Cr VI)	P (MF)	NaOH, C	28 days	USEPA 1669
Metals (Hg)	P (MF)	$HN0_3$	28 days	APHA Table 1060:I
Leachable Metals	G	H_2SO_4	28 days	AS 4439.3
VOCs	G	Nil, C	14 days	USEPA SW-846-8260B
Phenols	G	Nil, C	14 days	USEPA SW 846-8015A
PAHs	G	Nil, C	14 days	
PCBs	G	Nil, C	14 days	
TRHs	G	Nil, C	14 days	USEPA 8260D
PFAS	G	Nil, C	14 days	USEPA3510/8270
Phthalates	P	PET, C	24 hours	AS 4276:21-2005
BTEX	P	PET, C	24 hours	AS 4276.5-2007

Notes to Table 25

*Recommended Preservation: ZH - Zero Headspace; C - Chilled; PET- Polyterepthalate

*Containers: G - Glass; P (MF) - Plastic (Metal Free); P - Plastic (Polyethylene)

All samples collected throughout the investigation were submitted within the respective of the holding times and within two days of sampling event. As such, the holding times of the soil samples submitted to their elected laboratories (SLS, ALS and Eurofins) meet the recommended criteria (refer to *Appendix G – Analytical Reports and Chain of Custody Documentation*).

Laboratory Analytical Methodology and Accreditation

All chemical analysis was undertaken by NATA accredited laboratories using US EPA approved methodology. Refer to *Appendix G – Analytical Reports and Chain of Custody Documentation* for the details of the adopted laboratory analytical methods and their respective accreditations. The laboratory methodologies and the respective accreditations of SLS, Envirolab and Eurofins were deemed suitable for the required analyses.

Detection Limits / Practical Quantification Limits

The smallest amount of a substance that can be detected by the laboratories used – SLS and Envirolab above the background method noise in a procedure and within a stated confidence level is referred as detection limit.

Current practice identifies several detection limits including the following: (1) the instrument detection limit (IDL), (2) the lower-level detection limit (LLD), the method detection limit (MDL) and the practical quantitation limit (LOR).

The relationship among these levels is approximately IDL: LLD: MDL: LOR = 1: 2: 4: 10. Refer to SLS and Envirolab for the list of LORs provided by their respective laboratories. When dilution of a sample is involved in the sample preparation, the method detection limit is adjusted by the dilution factor.

Field QA/QC

A summary of the QA/QC samples collected during field works is provided below:

Table 26 - Summary of Field QA/QC Samples

Field QA/QC	Frequency	Sample Details	Field QA/QC Frequency Achieved?
Blind replicate samples	1 per 20 samples	Two blind replicate samples were collected during the investigation: BR1 is a standard intra-laboratory replicate of the primary sample of TP1_0-0.1 BR2 is a standard suite intra-laboratory replicate of the primary sample TP11_0-0.1	Yes
Split Replicate samples	1 per 20 samples	Two split replicate samples were collected during the investigation: SR1 is a standard intra-laboratory replicate of the primary sample of TP1_0-0.1 SR2 is a standard suite intra-laboratory replicate of the primary sample TP11_0-0.1	
Trip Blank	1 per sampling event	One trip blanks sample was utilised across the course of the investigation.	
Trip Spike	1 per sampling event	One trip spike (spiked BTEX) samples were utilised across the course of the investigation.	

Table 27 - List of Field QA/QC Samples.

Sample ID	Description	Sample Type
BR1	Soil Replicate of TP1_0-0.1	Fill
BR2	Soil Replicate of TP11_0-0.1	FIll
SR1	Soil Triplicate of TP1_0-0.1	Fill
SR2	Soil Triplicate of TP11_0-0.1	Fill
TB 10.04	Trip Blank 10.04.2024	Water
TS 10.04	Trip Spike 10.04.2024	Water

Relative Percentage Difference

Contaminated Land Guidelines: Sampling design part 1 - application (NSW EPA 2022) and the NEPM (2013) specifies the typical Relative Percentage Data (RPD) values for replicate samples to be below 30%. If both samples' values are less than the practical quantification limit (PQL), the RPD is not calculated. Valid values are sample concentrations that fall within the control limits of 0-30% described above. Invalid values are concentrations that are outside of the control limits.

Two inter and intra-laboratory blind and split replicate samples were collected to determine the variability of the sampling process. The replicate sample was collected simultaneously from the same source and under identical conditions as the primary samples.
RPD exceedances (>30% in select metals) of variances on the RPD table, this is likely due to a number of reasons:

- the heterogenous nature of the top fill layer of soil is likely to produce disparities in readings for contaminants such as metals being introduced anthropogenically to fill.

- where the limit or reporting (LOR) is a non-detect then the difference appears higher on the RPD table when the relative percentage is calculated.
- low LOR will also have the same effect of making the variance appear higher when the relative percentage is calculated.

Where there were disparities between the primary and replicate samples however, all values excluding the were below the assessment criteria and thus ADE considers that these results are both acceptable under the assessment criteria and for determining quality assurance and control.

Limits of Reporting
Based on the following lines of evidence, ADE considers that the slight variations between the LORs for some contaminants and the guideline values will not represent an impact to the assessment of the site's suitability. There were no onsite observations or indications of any contamination from heavy metals and, there were no offsite sources of potential contamination of these contaminant groups.

Trip Blank Samples
One trip blank sample was prepared for the field investigation. The samples were stored with the collected samples throughout the sampling event. The trip blank sample was then packaged for shipment with the other representative samples and submitted for analysis. Trip blanks are used to determine if samples were contaminated during storage and/or transportation back to the laboratory (a measure of sample handling variability resulting in positive bias in contaminant concentration). The trip blank samples analysed returned results below the detection limit and were considered by ADE to be acceptable.

Trip Spike Samples
One trip spike (spiked BTEX) samples were analysed to estimate the loss of volatile compounds during the storage, handling, and transportation of the investigation samples. The trip spike sample analysed returned results within the adopted criteria being 60 to 140% of the original concentration and were considered by ADE to be acceptable.

Laboratory QA/QC

Laboratory Duplicates
Duplicate sample determinations were provided by the laboratories to demonstrate acceptable method precision at the time of analysis. Duplicates are generally analysed at a frequency of 1 for every 20 samples for standard suite of soil. No groundwater duplicate samples were collected by ADE during this investigation. Australian Standard 4482.1 provides an acceptable range of the RPD values up to 50% for quality control samples, depending on the magnitude of results in comparison to the LOR. The Internal laboratory QA/QC produced results that were acceptable.

Laboratory Blanks
The assessment of blank analysis results was conducted to determine the existence and magnitude of contamination resulting from laboratory activities. No contaminants were found within any of the blanks analysed by the laboratory.

Laboratory Spikes and Surrogates
Laboratory limits of approximately 70-130% for inorganics/metals and 60-140% for organics were used to validate matrix spikes and laboratory surrogate samples. Analysis of spikes and surrogates was acceptable by ADE for the purpose of quality control.

Laboratory Control Samples
Laboratory limit of approximately 70-130% for inorganics/metals and 60-140% for organics were used to validate laboratory control samples. Analysis of the laboratory control samples showed no invalid values and proved to be acceptable.

QA / QC Data Assessment
The qualitative and quantitative descriptors, DQIs were used in interpreting the degree of acceptability of the data acquired during the investigation. The principle DQIs are precision, accuracy, representativeness, comparability, and completeness referred to by the acronym PARCC.

Precision and accuracy are quantitative measures, representativeness and comparability are qualitative, and completeness is a combination of both quantitative and qualitative measures.

Table 28 - Summary of DQO Reconciliation.

QA/QC Item	DQO Criteria	Valid Data	Invalid Data	Completeness	Conclusion
Blind Replicate Samples	75%	153	5	99.97%	Acceptable
Split Replicate Samples	75%	141	7	99.95%	Acceptable
Trip Blank Samples	95%	5	0	100.00%	Acceptable
Trip Spike (BTEX) Samples	75%	5	0	100.00%	Acceptable
Overall Completeness:	**95%**	**304**	**12**	**99.96 %**	**Acceptable**

Following a review of the data, the recorded 'invalid' results can be attributed to the difficulties in obtaining a homogeneous sample from heterogeneous matrices. All lab QAQC results used in this report were deemed to be acceptable. These were retested and passed the internal laboratory methodology and are deemed suitable for this assessment.

ADE considers that both field and laboratory QA/QC is satisfactory and the data collected during the assessment is directly usable for the purpose of this assessment.

Appendix F – Borehole and Test pit Logs

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TEST PIT NUMBER TP1

CLIENT Laing O'Rourke Pty Ltd **PROJECT NAME** Detailed Site Investigation

PROJECT NUMBER A101021.0125.01 **PROJECT LOCATION** 32-34 Harris Street, St Marys, NSW

DATE STARTED 10/4/24 **COMPLETED** 10/4/24 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR **SLOPE** --- **BEARING** ---

EQUIPMENT EXCAVATOR **COORDINATES**

TEST PIT DIAMETER 1x2m **LOGGED BY** MK **CHECKED BY**

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E					SW	**SAND:** dark soil, poorly sorted with fine gravels.					No FM or ASB
					CLS	**Sandy CLAY**: low plasticity, yellow / red in colour, mix grained size.				TP1_0.1	
					CL	**CLAY**: medium plasticity, dark yellow in colour, some organic roots.				TP1_0.4	
			0.5							TP1_0.5	
						TP1 terminated at 0.6m					
			1.0								
			1.5								
			2.0								

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TEST PIT NUMBER TP2

CLIENT Laing O'Rourke Pty Ltd **PROJECT NAME** Detailed Site Investigation

PROJECT NUMBER A101021.0125.01 **PROJECT LOCATION** 32-34 Harris Street, St Marys, NSW

DATE STARTED 10/4/24 **COMPLETED** 10/4/24 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR **SLOPE** --- **BEARING** ---

EQUIPMENT EXCAVATOR **COORDINATES**

TEST PIT DIAMETER 1x2m **LOGGED BY** MK **CHECKED BY**

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E					SW	**SAND:** dark soil, poorly sorted with fine gravels.			0		No FM or ASB
					CLS	**Sandy CLAY**: low plasticity, yellow / red in colour, mix grained size.				TP2_0.1	
					CL	**CLAY**: medium plasticity, dark yellow in colour, some organic roots.				TP2_0.4	
			0.5							TP2_0.5	
						TP2 terminated at 0.6m					
			1.0								
			1.5								
			2.0								

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TEST PIT NUMBER TP3

CLIENT Laing O'Rourke Pty Ltd **PROJECT NAME** Detailed Site Investigation

PROJECT NUMBER A101021.0125.01 **PROJECT LOCATION** 32-34 Harris Street, St Marys, NSW

DATE STARTED 10/4/24 **COMPLETED** 10/4/24 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR **SLOPE** --- **BEARING** ---

EQUIPMENT EXCAVATOR **COORDINATES**

TEST PIT DIAMETER 1x2m **LOGGED BY** MK **CHECKED BY**

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E					SW	**SAND:** medium grained, poorly sorted, dark soils.			0.2		No FM or ASB
					GWS	**Sandy GRAVEL**: mix grain, poorly sorted.	M			TP3_0.1	
							D				
					CL	**CLAY**: moderate plasticity, orange with grey inclusions.				TP3_0.4	
			0.5			TP3 terminated at 0.5m				TP3_0.5	
			1.0								
			1.5								
			2.0								

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TEST PIT NUMBER TP4

CLIENT Laing O'Rourke Pty Ltd **PROJECT NAME** Detailed Site Investigation

PROJECT NUMBER A101021.0125.01 **PROJECT LOCATION** 32-34 Harris Street, St Marys, NSW

DATE STARTED 10/4/24 **COMPLETED** 10/4/24 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR **SLOPE** --- **BEARING** ---

EQUIPMENT EXCAVATOR **COORDINATES**

TEST PIT DIAMETER 1x2m **LOGGED BY** MK **CHECKED BY**

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E					GWS	**Sandy GRAVEL**: mi x grained sands, small-large gravels, poorly sorted, grey.			0.1		No FM or ASB
					SW	**SAND**: mix grained, pooly sorted with small-large gravels cobles, yellow and dark brown.				TP4_0.1	
										TP4_0.3	
					CL	**CLAY**: moderate plasiticity, dark brown and dark red.				TP4_0.4	
			0.5			TP4 terminated at 0.5m					
			1.0								
			1.5								
			2.0								

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TEST PIT NUMBER TP5

CLIENT Laing O'Rourke Pty Ltd **PROJECT NAME** Detailed Site Investigation

PROJECT NUMBER A101021.0125.01 **PROJECT LOCATION** 32-34 Harris Street, St Marys, NSW

DATE STARTED 10/4/24 **COMPLETED** 10/4/24 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR **SLOPE** --- **BEARING** ---

EQUIPMENT EXCAVATOR **COORDINATES**

TEST PIT DIAMETER 1x2m **LOGGED BY** MK **CHECKED BY**

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E					SW	**SAND:** medium grained, poorly sorted, dark soils.			0.4		No FM or ASB
					GWS	**Sandy GRAVEL**: mix grain, poorly sorted.	M			TP5_0.1	
							D			TP5_0.2	
										TP5_0.3	
			0.5		CL	**CLAY**: moderate plasticity, orange with grey inclusions.					
						TP5 terminated at 0.6m					
			1.0								
			1.5								
			2.0								

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TEST PIT NUMBER TP6

CLIENT Laing O'Rourke Pty Ltd **PROJECT NAME** Detailed Site Investigation

PROJECT NUMBER A101021.0125.01 **PROJECT LOCATION** 32-34 Harris Street, St Marys, NSW

DATE STARTED 10/4/24 **COMPLETED** 10/4/24 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR **SLOPE** --- **BEARING** ---

EQUIPMENT EXCAVATOR **COORDINATES**

TEST PIT DIAMETER 1x2m **LOGGED BY** MK **CHECKED BY**

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E					SW	**SAND:** medium grained, poorly sorted, dark soils.			0.2		No FM or ASB
					GWS	**Sandy GRAVEL**: mix grain, poorly sorted.	M			TP6_0.1	
							D			TP6_0.3	
			0.5		CL	**CLAY**: moderate plasticity, orange with grey inclusions.				TP6_0.5	
						TP6 terminated at 0.5m					
			1.0								
			1.5								
			2.0								

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TEST PIT NUMBER TP7

CLIENT Laing O'Rourke Pty Ltd **PROJECT NAME** Detailed Site Investigation

PROJECT NUMBER A101021.0125.01 **PROJECT LOCATION** 32-34 Harris Street, St Marys, NSW

DATE STARTED 10/4/24 **COMPLETED** 10/4/24 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR **SLOPE** --- **BEARING** ---

EQUIPMENT EXCAVATOR **COORDINATES**

TEST PIT DIAMETER 1x2m **LOGGED BY** MK **CHECKED BY**

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E					SW	**SAND:** medium grained, poorly sorted, dark soils.			0.9		No FM or ASB
					GWS	**Sandy GRAVEL**: mix grain, poorly sorted.	M			TP7_0.1	
							D			TP7_0.2	
										TP7_0.3	
			0.5		CL	**CLAY**: moderate plasticity, orange with grey inclusions.					
						TP7 terminated at 0.5m					
			1.0								
			1.5								
			2.0								

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TEST PIT NUMBER TP8

CLIENT Laing O'Rourke Pty Ltd **PROJECT NAME** Detailed Site Investigation

PROJECT NUMBER A101021.0125.01 **PROJECT LOCATION** 32-34 Harris Street, St Marys, NSW

DATE STARTED 10/4/24 **COMPLETED** 10/4/24 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR **SLOPE** --- **BEARING** ---

EQUIPMENT EXCAVATOR **COORDINATES**

TEST PIT DIAMETER 1x2m **LOGGED BY** MK **CHECKED BY**

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E					SC	**Clayey SAND**: mix grained, low plasticity, dark brown / grey.			1.3		No FM or ASB
					CLS	**Sandy CLAY**: low plasticity, grey with orange inclusions.	M			TP8_0.1	Strong rotten odour, could not sieve material.
					CL	**CLAY**: moderate plasticity, orange with yellow / grey inclusions.				TP8_0.3	
			0.5							TP8_0.4	
						TP8 terminated at 0.5m					
			1.0								
			1.5								
			2.0								

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TEST PIT NUMBER TP9

CLIENT Laing O'Rourke Pty Ltd **PROJECT NAME** Detailed Site Investigation

PROJECT NUMBER A101021.0125.01 **PROJECT LOCATION** 32-34 Harris Street, St Marys, NSW

DATE STARTED 10/4/24 **COMPLETED** 10/4/24 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR **SLOPE** --- **BEARING** ---

EQUIPMENT EXCAVATOR **COORDINATES**

TEST PIT DIAMETER 1x2m **LOGGED BY** MK **CHECKED BY**

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E					SW	**'SAND:** medium grained, small gravels, grey in colour.			0.4		No FM or ASB
					SW	**'SAND:** medium grained, small gravels, light grey to yellow.	D			TP9_0.1	
							D			TP9_0.3-0.4	
			0.5		CL	**CLAY**: moderate plasticity, dark orange to red.	D			TP9_0.5	
			1.0			TP9 terminated at 0.6m					
			1.5								
			2.0								

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TEST PIT NUMBER TP10

CLIENT Laing O'Rourke Pty Ltd **PROJECT NAME** Detailed Site Investigation

PROJECT NUMBER A101021.0125.01 **PROJECT LOCATION** 32-34 Harris Street, St Marys, NSW

DATE STARTED 10/4/24 **COMPLETED** 10/4/24 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR **SLOPE** --- **BEARING** ---

EQUIPMENT EXCAVATOR **COORDINATES**

TEST PIT DIAMETER 1x2m **LOGGED BY** MK **CHECKED BY**

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E					SW	**'SAND:** medium grained, poorly sorted, dark soils.			0.2		No FM or ASB
					GWS	**Sandy GRAVEL**: mix grain, poorly sorted.	M			TP10_0.1	
							D			TP10_0.2	
					CL	**CLAY**: moderate plasticity, orange with grey inclusions.				TP10_0.4	
			0.5			TP10 terminated at 0.6m					
			1.0								
			1.5								
			2.0								

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
Telephone: 1300976922

TEST PIT NUMBER TP11

CLIENT Laing O'Rourke Pty Ltd
PROJECT NAME Detailed Site Investigation
PROJECT NUMBER A101021.0125.01
PROJECT LOCATION 32-34 Harris Street, St Marys, NSW

DATE STARTED 10/4/24 **COMPLETED** 10/4/24 **R.L. SURFACE** **DATUM**
EXCAVATION CONTRACTOR **SLOPE** --- **BEARING** ---
EQUIPMENT EXCAVATOR **COORDINATES**
TEST PIT DIAMETER 1x2m **LOGGED BY** MK **CHECKED BY**
NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E					SW	**SAND:** mix grained, angular and pooly sorted with gravels.			0.4		FM include ballast geofabric and glass, no ABS
					SC	**Clayey SAND**: low plasticity, poorly sorted with large gravels and cobbles, dark sands.				TP11_0.1	
			0.5		CL	**CLAY**: low plasticity, dark yellow in colour.				TP11_0.4	
						TP11 terminated at 0.5m				TP11_0.5	
			1.0								
			1.5								
			2.0								

ADE CONSULTING GROUP
UNIT 6 / 7 MILLENNIUM COURT
SILVERWATER NSW 2128
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TEST PIT NUMBER TP12

CLIENT Laing O'Rourke Pty Ltd **PROJECT NAME** Detailed Site Investigation

PROJECT NUMBER A101021.0125.01 **PROJECT LOCATION** 32-34 Harris Street, St Marys, NSW

DATE STARTED 10/4/24 **COMPLETED** 10/4/24 **R.L. SURFACE** **DATUM**

EXCAVATION CONTRACTOR **SLOPE** --- **BEARING** ---

EQUIPMENT EXCAVATOR **COORDINATES**

TEST PIT DIAMETER 1x2m **LOGGED BY** MK **CHECKED BY**

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Moisture Content	Consistency	PID (ppm)	Samples Tests Remarks	Additional Observations
E					SW	**SAND:** mix grained, angular and pooly sorted with gravels.					FM include ballast geofabric and glass, no ABS
					SC	**Clayey SAND**: low plasticity, poorly sorted with large gravels and cobbles, dark sands.				TP12_0.1	
					CL	**CLAY**: low plasticity, dark yellow in colour.				TP12_0.3	
			0.5								
						TP12 terminated at 0.6m				TP12_0.6	
			1.0								
			1.5								
			2.0								

Appendix G – Analytical Reports and Chain of Custody Documentation

Sydney Laboratory Services

A division of A. D. Envirotech Australia Pty Ltd
A.C.N. 093 452 950
Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

Accreditation No.14664
Accredited for compliance with ISO/IEC 17025 - Testing.

This certificate of analysis contains General Comments and Analytical Results. Quality Control Report and Laboratory Quality Acceptance Criteria have been issued separately.

This report supersedes any previous report(s) with this reference. This document shall not be reproduced, except in full.

This report has been electronically signed by authorised signatories below.

Authorised By

Kaiyu Li

General Comments

Samples are analysed on as received basis. Sampling is not covered by NATA accreditation.

Where moisture determination has been performed, results are reported on dry weight basis.

Where the PQL of reported result differs from standard PQL, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Samples were analysed within holding time described by laboratory internal procedures if not stated otherwise. If samples delivered do not meet required analytical criteria, results will be marked with ^.

However surrogate standards are added to samples, results are not corrected for standards recoveries.

Analysis of VOC in water samples are performed on unfiltered waters (as received) spiked with surrogates and injection standards only.

Results for the analysis of metals is only for acid soluble trace metals unless indicated otherwise.

SLS is responsible for all the information in the report, except that provided by the customer.

All sampling information included in the report has been provided by customer.

Information provided by the customer can affect the validity of the results.

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Unit 4/10-11 Millennium Court
Silverwater 2128
Ph: (02) 9648-6669

Certificate of Analysis

Contact:	Matthew Toole	**Date Reported:**	19/04/2024
Customer:	ADE Consulting Group	**No. of Samples:**	25
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	12/04/2024
		Date of Analysis:	12/04/2024
Cust Ref:	A101021.0125.01 001 L05		

Glossary:

*NATA accreditation does not cover the performance of this service
ND-not detected,
NT-not tested
INS-Insufficient material to perform the test
LCS-Laboratory Control Sample
RPD-Relative Percent Difference
N/A-Not Applicable
< less than
> greater than
PQL- Practical Quantitation Limit
^Analytical result might be compromised due to sample condition or holding time requirements
Reaction rate 1 = Slight
Reaction rate 2 = Moderate
Reaction rate 3 = High
Reaction rate 4 = Vigorous

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Silverwater 2128
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Certificate of Analysis

	Sample ID:	2024011769	2024011770	2024011772	2024011774	2024011775	2024011776	2024011778	2024011780	2024011781	2024011784	2024011785
	Sample Name	21.0125.DSI_TP1_Fill(0.1)	21.0125.DSI_TP1_Fill(0.3)	21.0125.DSI_TP2_Fill(0.1)	21.0125.DSI_TP2_NAT(0.5)	21.0125.DSI_TP3_Fill(0.1)	21.0125.DSI_TP3_Fill(0.4)	21.0125.DSI_TP4_Fill(0.1)	21.0125.DSI_TP4_NAT(0.4)	21.0125.DSI_TP5_Fill(0.1)	21.0125.DSI_TP6_Fill(0.1)	21.0125.DSI_TP6_Fill(0.3)
Parameter	*Units*	*PQL*	Sampling Date: 10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024
ESA-P-ORG7 & ORG8													
Benzene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m.p Xylene	mg/kg	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o Xylene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sum of BTEX	mg/kg	2	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
Total Xylenes	mg/kg	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Fluorobenzene (Surr.)	%		83	86	81	94	84	86	84	90	85	74	108
C6-C10	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C10 minus BTEX	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C9	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
ESA-P-38													
Cyanide (Total)	mg/kg	5	-	-	-	-	<5.0	-	-	-	-	<5.0	-
ESA-MP-01,ICP-01													
Arsenic	mg/kg	5	10.2	7.6	8.0	11.6	8.0	21.4	10.5	7.9	6.4	<5.0	<5.0
Cadmium	mg/kg	0.3	0.76	0.41	0.46	0.72	0.43	0.96	0.54	0.36	0.32	<0.30	<0.30
Chromium	mg/kg	1	47.9	19.2	19.1	35.5	26.1	40.8	25.6	18.3	18.6	8.8	8.2
Copper	mg/kg	5	8.3	22.9	6.7	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Lead	mg/kg	5	50.2	99.2	34.3	27.8	10.0	15.1	10.5	13.1	20.3	<5.0	5.8
Mercury	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nickel	mg/kg	1	10.3	10.8	2.7	3.5	<1.0	<1.0	<1.0	2.2	<1.0	<1.0	<1.0
Zinc	mg/kg	5	29.7	113.6	50.9	14.7	<5.0	<5.0	5.5	<5.0	8.4	<5.0	<5.0
ESA-P-12													
% Moisture Content	%		21.3	26.7	13.5	17.0	6.0	6.7	7.6	16.8	6.5	5.6	4.7
ESA-P-ORG(12 - 15)													
Acenaphthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Acenaphthylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30

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Anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[a]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[a]pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[g,h,i]perylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[b,k]fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Chrysene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dibenzo[a,h]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Fluorene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Naphthalene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Phenanthrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
PAHs Total	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo(a)pyrene TEQ (Zero)	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo(a)pyrene TEQ (Half PQL)	mg/kg	0.3	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Benzo(a)pyrene TEQ (PQL)	mg/kg	0.3	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
p-Terphenyl-d14 (Surr.)	%		97	91	84	90	88	96	90	92	83	94	93
aldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
a-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
b-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
d-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
g-BHC (lindane)	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
cis-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
trans-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDD	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDE	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDT	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
dieldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endosulfan I	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endosulfan II	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endosulfan sulfate	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endrin	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

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endrin aldehyde	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endrin ketone	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
heptachlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
heptachlor epoxide	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
hexachlorobenzene	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
methoxychlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TCMX (Surr.)	%		139	135	120	126	127	136	131	130	120	131	128
chlorpyrifos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
chlorpyrifos methyl	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
diazinon	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
fenchlorphos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
methyl parathion	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
prophos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
tributylphosphorotrithioite	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
PCBs Total	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1016	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1221	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1232	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1242	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1248	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1254	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1260	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-fluorobiphenyl (Surr.)	%		95	91	86	85	94	99	99	82	84	86	96
ESA-P-ORG16													
PFBA	ug/kg	5	-	-	-	-	<5	-	-	-	-	<5	-
PFPeA	ug/kg	5	-	-	-	-	<5	-	-	-	-	<5	-
PFBS	ug/kg	5	-	-	-	-	<5	-	-	-	-	<5	-
PFHxA	ug/kg	5	-	-	-	-	<5	-	-	-	-	<5	-
PFPeS	ug/kg	5	-	-	-	-	<5	-	-	-	-	<5	-
PFHpA	ug/kg	5	-	-	-	-	<5	-	-	-	-	<5	-
PFOA	ug/kg	5	-	-	-	-	<5	-	-	-	-	<5	-
PFHpS	ug/kg	5	-	-	-	-	<5	-	-	-	-	<5	-
PFOS	ug/kg	5	-	-	-	-	<5	-	-	-	-	<5	-

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PFDA	ug/kg	5	-	-	-	-	<5	-	-	-	-	<5	-
PFUdA	ug/kg	5	-	-	-	-	<5	-	-	-	-	<5	-
PFDoA	ug/kg	5	-	-	-	-	<5	-	-	-	-	<5	-
PFTrDA	ug/kg	5	-	-	-	-	<5	-	-	-	-	<5	-
PFTeDA	ug/kg	5	-	-	-	-	<5	-	-	-	-	<5	-
PFNA	ug/kg	5	-	-	-	-	<5	-	-	-	-	<5	-
PFHxS	ug/kg	5	-	-	-	-	<5	-	-	-	-	<5	-
MPFBA (Surr.)	%		-	-	-	-	109	-	-	-	-	99	-
M3PFBS (Surr.)	%		-	-	-	-	111	-	-	-	-	95	-
MPFOS (Surr.)	%		-	-	-	-	85	-	-	-	-	79	-
MPFHxA (Surr.)	%		-	-	-	-	103	-	-	-	-	103	-
MPFOA (Surr.)	%		-	-	-	-	112	-	-	-	-	113	-
MPFUdA (Surr.)	%		-	-	-	-	115	-	-	-	-	116	-
ESA-P-ORG17													
Phenol	mg/kg	0.2	-	-	-	-	<0.20	-	-	-	-	<0.20	-
2-Chlorophenol	mg/kg	0.1	-	-	-	-	<0.10	-	-	-	-	<0.10	-
2-Methylphenol	mg/kg	0.2	-	-	-	-	<0.20	-	-	-	-	<0.20	-
3/4-Methylephenol	mg/kg	0.4	-	-	-	-	<0.40	-	-	-	-	<0.40	-
2-Nitrophenol	mg/kg	0.2	-	-	-	-	<0.20	-	-	-	-	<0.20	-
2,4-Dimethylphenol	mg/kg	0.2	-	-	-	-	<0.20	-	-	-	-	<0.20	-
2,4-Dichlorophenol	mg/kg	0.05	-	-	-	-	<0.050	-	-	-	-	<0.050	-
2,6-Dichlorophenol	mg/kg	0.05	-	-	-	-	<0.050	-	-	-	-	<0.050	-
3-Methyl,4-Chlorophenol	mg/kg	0.2	-	-	-	-	<0.20	-	-	-	-	<0.20	-
2,4,6-Trichlorophenol	mg/kg	0.05	-	-	-	-	<0.050	-	-	-	-	<0.050	-
2,4,5-Trichlorophenol	mg/kg	0.05	-	-	-	-	<0.050	-	-	-	-	<0.050	-
2,4-Dinitrophenol	mg/kg	4	-	-	-	-	<4.0	-	-	-	-	<4.0	-
4-Nitrophenol	mg/kg	4	-	-	-	-	<4.0	-	-	-	-	<4.0	-
2,3,5,6-Tetrachlorophenol	mg/kg	0.1	-	-	-	-	<0.10	-	-	-	-	<0.10	-
2,3,4,5-Tetrachlorophenol	mg/kg	0.1	-	-	-	-	<0.10	-	-	-	-	<0.10	-
2,3,4,6-Tetrachlorophenol	mg/kg	0.1	-	-	-	-	<0.10	-	-	-	-	<0.10	-
2-Methyl-4,6-dinitrophenol	mg/kg	2	-	-	-	-	<2.0	-	-	-	-	<2.0	-
Pentachlorophenol	mg/kg	0.2	-	-	-	-	<0.20	-	-	-	-	<0.20	-
Dinoseb	mg/kg	5	-	-	-	-	<5.0	-	-	-	-	<5.0	-

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2-Cyclohexyl-4,6-dinitrophenol	mg/kg	5	-	-	-	-	<5.0	-	-	-	-	<5.0	-
Sum of Positive Phenols	mg/kg	0.05	-	-	-	-	<0.050	-	-	-	-	<0.050	-
Phenol-d6 (Surr.)	%		-	-	-	-	132	-	-	-	-	141	-
2-Chlorophenol-d4 (Surr.)	%		-	-	-	-	124	-	-	-	-	126	-
ESA-P-ORG(3,8)													
>C10-C16	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C16-C34	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C34-C40	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of total)	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C14	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C15-C28	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C29-C36	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C36 (Sum of total)	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100

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Certificate of Analysis

	Sample ID:	2024011786	2024011787	2024011790	2024011791	2024011792	2024011793	2024011796	2024011798	2024011799	2024011802	2024011803
	Sample Name	21.0125.DSI_TP6_NAT(0.5)	21.0125.DSI_TP7_Fill(0.1)	21.0125.DSI_TP8_Fill(0.1)	21.0125.DSI_TP8_Fill(0.3)	21.0125.DSI_TP8_NAT(0.4)	21.0125.DSI_TP9_Fill(0.1)	21.0125.DSI_TP10_Fill(0.1)	21.0125.DSI_TP10_NAT(0.4)	21.0125.DSI_TP11_Fill(0.1)	21.0125.DSI_TP12_Fill(0.1)	21.0125.DSI_TP12_Fill(0.3)
Parameter	*Units*	*PQL*	10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024	10/04/2024
ESA-P-ORG7 & ORG8													
Benzene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m.p Xylene	mg/kg	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o Xylene	mg/kg	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sum of BTEX	mg/kg	2	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
Total Xylenes	mg/kg	2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Fluorobenzene (Surr.)	%		83	96	113	87	79	88	80	83	131	66	81
C6-C10	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C10 minus BTEX	mg/kg	35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35
C6-C9	mg/kg	25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
ESA-P-38													
Cyanide (Total)	mg/kg	5	-	-	-	-	-	<5.0	-	-	-	<5.0	-
ESA-MP-01,ICP-01													
Arsenic	mg/kg	5	14.8	5.4	5.0	12.0	9.5	<5.0	<5.0	12.1	5.9	<5.0	<5.0
Cadmium	mg/kg	0.3	0.97	0.33	<0.30	0.46	0.61	<0.30	<0.30	0.74	0.46	0.48	0.49
Chromium	mg/kg	1	57.1	36.0	18.4	14.6	31.8	2.8	10.6	42.5	13.7	24.8	16.8
Copper	mg/kg	5	<5.0	<5.0	5.7	14.4	5.3	<5.0	<5.0	<5.0	17.8	60.6	23.8
Lead	mg/kg	5	32.7	14.9	12.8	35.0	22.1	<5.0	7.5	13.3	136.0	217.1	326.1
Mercury	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	0.11
Nickel	mg/kg	1	<1.0	1.2	2.8	9.1	<1.0	<1.0	2.5	2.1	10.5	16.8	4.6
Zinc	mg/kg	5	<5.0	27.2	14.4	56.7	5.6	<5.0	14.6	<5.0	79.2	149.3	201.0
ESA-P-12													
% Moisture Content	%		17.5	9.1	22.4	12.3	18.2	6.6	8.9	19.1	12.3	17.2	17.9
ESA-P-ORG(12 - 15)													
Acenaphthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Acenaphthylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30

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Anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[a]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[a]pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[g,h,i]perylene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo[b,k]fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Chrysene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dibenzo[a,h]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Fluorene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Naphthalene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Phenanthrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Pyrene	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
PAHs Total	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo(a)pyrene TEQ (Zero)	mg/kg	0.3	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Benzo(a)pyrene TEQ (Half PQL)	mg/kg	0.3	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Benzo(a)pyrene TEQ (PQL)	mg/kg	0.3	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
p-Terphenyl-d14 (Surr.)	%		91	89	86	91	90	89	93	95	87	93	92
aldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
a-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
b-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
d-BHC	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
g-BHC (lindane)	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
cis-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
trans-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDD	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDE	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4,4'-DDT	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
dieldrin	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endosulfan I	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endosulfan II	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
endosulfan sulfate	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endrin	mg/kg	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

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endrin aldehyde	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
endrin ketone	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
heptachlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
heptachlor epoxide	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
hexachlorobenzene	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
methoxychlor	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TCMX (Surr.)	%		125	123	118	129	126	126	130	136	121	137	131
chlorpyrifos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
chlorpyrifos methyl	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
diazinon	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
fenchlorphos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
methyl parathion	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
prophos	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
tributylphosphorotrithioite	mg/kg	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
PCBs Total	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1016	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1221	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1232	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1242	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1248	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1254	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor 1260	mg/kg	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
2-fluorobiphenyl (Surr.)	%		93	87	79	80	79	87	94	81	89	95	85
ESA-P-ORG16													
PFBA	ug/kg	5	-	-	-	-	-	<5	-	-	-	<5	-
PFPeA	ug/kg	5	-	-	-	-	-	<5	-	-	-	<5	-
PFBS	ug/kg	5	-	-	-	-	-	<5	-	-	-	<5	-
PFHxA	ug/kg	5	-	-	-	-	-	<5	-	-	-	<5	-
PFPeS	ug/kg	5	-	-	-	-	-	<5	-	-	-	<5	-
PFHpA	ug/kg	5	-	-	-	-	-	<5	-	-	-	<5	-
PFOA	ug/kg	5	-	-	-	-	-	<5	-	-	-	<5	-
PFHpS	ug/kg	5	-	-	-	-	-	<5	-	-	-	<5	-
PFOS	ug/kg	5	-	-	-	-	-	<5	-	-	-	<5	-

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PFDA	ug/kg	5	-	-	-	-	-	<5	-	-	-	<5	-
PFUdA	ug/kg	5	-	-	-	-	-	<5	-	-	-	<5	-
PFDoA	ug/kg	5	-	-	-	-	-	<5	-	-	-	<5	-
PFTrDA	ug/kg	5	-	-	-	-	-	<5	-	-	-	<5	-
PFTeDA	ug/kg	5	-	-	-	-	-	<5	-	-	-	<5	-
PFNA	ug/kg	5	-	-	-	-	-	<5	-	-	-	<5	-
PFHxS	ug/kg	5	-	-	-	-	-	<5	-	-	-	<5	-
MPFBA (Surr.)	%		-	-	-	-	-	113	-	-	-	109	-
M3PFBS (Surr.)	%		-	-	-	-	-	109	-	-	-	120	-
MPFOS (Surr.)	%		-	-	-	-	-	82	-	-	-	96	-
MPFHxA (Surr.)	%		-	-	-	-	-	107	-	-	-	90	-
MPFOA (Surr.)	%		-	-	-	-	-	126	-	-	-	82	-
MPFUdA (Surr.)	%		-	-	-	-	-	112	-	-	-	115	-
ESA-P-ORG17													
Phenol	mg/kg	0.2	-	-	-	-	-	<0.20	-	-	-	<0.20	-
2-Chlorophenol	mg/kg	0.1	-	-	-	-	-	<0.10	-	-	-	<0.10	-
2-Methylphenol	mg/kg	0.2	-	-	-	-	-	<0.20	-	-	-	<0.20	-
3/4-Methylephenol	mg/kg	0.4	-	-	-	-	-	<0.40	-	-	-	<0.40	-
2-Nitrophenol	mg/kg	0.2	-	-	-	-	-	<0.20	-	-	-	<0.20	-
2,4-Dimethylphenol	mg/kg	0.2	-	-	-	-	-	<0.20	-	-	-	<0.20	-
2,4-Dichlorophenol	mg/kg	0.05	-	-	-	-	-	<0.050	-	-	-	<0.050	-
2,6-Dichlorophenol	mg/kg	0.05	-	-	-	-	-	<0.050	-	-	-	<0.050	-
3-Methyl,4-Chlorophenol	mg/kg	0.2	-	-	-	-	-	<0.20	-	-	-	<0.20	-
2,4,6-Trichlorophenol	mg/kg	0.05	-	-	-	-	-	<0.050	-	-	-	<0.050	-
2,4,5-Trichlorophenol	mg/kg	0.05	-	-	-	-	-	<0.050	-	-	-	<0.050	-
2,4-Dinitrophenol	mg/kg	4	-	-	-	-	-	<4.0	-	-	-	<4.0	-
4-Nitrophenol	mg/kg	4	-	-	-	-	-	<4.0	-	-	-	<4.0	-
2,3,5,6-Tetrachlorophenol	mg/kg	0.1	-	-	-	-	-	<0.10	-	-	-	<0.10	-
2,3,4,5-Tetrachlorophenol	mg/kg	0.1	-	-	-	-	-	<0.10	-	-	-	<0.10	-
2,3,4,6-Tetrachlorophenol	mg/kg	0.1	-	-	-	-	-	<0.10	-	-	-	<0.10	-
2-Methyl-4,6-dinitrophenol	mg/kg	2	-	-	-	-	-	<2.0	-	-	-	<2.0	-
Pentachlorophenol	mg/kg	0.2	-	-	-	-	-	<0.20	-	-	-	<0.20	-
Dinoseb	mg/kg	5	-	-	-	-	-	<5.0	-	-	-	<5.0	-

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2-Cyclohexyl-4,6-dinitrophenol	mg/kg	5	-	-	-	-	-	<5.0	-	-	-	<5.0	-
Sum of Positive Phenols	mg/kg	0.05	-	-	-	-	-	<0.050	-	-	-	<0.050	-
Phenol-d6 (Surr.)	%		-	-	-	-	-	137	-	-	-	138	-
2-Chlorophenol-d4 (Surr.)	%		-	-	-	-	-	125	-	-	-	129	-
ESA-P-ORG(3,8)													
>C10-C16	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C16-C34	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C34-C40	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C40 (Sum of total)	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C14	mg/kg	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
>C15-C28	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C29-C36	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
>C10-C36 (Sum of total)	mg/kg	100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100

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Certificate of Analysis

	Sample ID:	2024011804	2024011805	2024011806
	Sample Name	21.0125.DSI_TP12_NAT(0.6)	21.0125.DSI_BR1	21.0125.DSI_BR2
Parameter	Units	PQL	10/04/2024	10/04/2024	10/04/2024
ESA-P-ORG7 & ORG8					
Benzene	mg/kg	0.5	<0.50	<0.50	<0.50
Toluene	mg/kg	0.5	<0.50	<0.50	<0.50
Ethylbenzene	mg/kg	1	<1.0	<1.0	<1.0
m.p Xylene	mg/kg	2	<2.0	<2.0	<2.0
o Xylene	mg/kg	1	<1.0	<1.0	<1.0
Sum of BTEX	mg/kg	2	<2.00	<2.00	<2.00
Total Xylenes	mg/kg	2	<2.0	<2.0	<2.0
Fluorobenzene (Surr.)	%		79	81	83
C6-C10	mg/kg	35	<35	<35	<35
C6-C10 minus BTEX	mg/kg	35	<35	<35	<35
C6-C9	mg/kg	25	<25	<25	<25
ESA-MP-01,ICP-01					
Arsenic	mg/kg	5	<5.0	5.8	6.0
Cadmium	mg/kg	0.3	<0.30	0.40	0.44
Chromium	mg/kg	1	11.2	22.4	16.2
Copper	mg/kg	5	11.0	22.0	28.1
Lead	mg/kg	5	64.8	96.1	52.8
Mercury	mg/kg	0.1	<0.10	<0.10	<0.10
Nickel	mg/kg	1	5.8	11.9	9.2
Zinc	mg/kg	5	35.3	117.5	183.1
ESA-P-12					
% Moisture Content	%		15.1	25.9	9.5
ESA-P-ORG(12 - 15)					
Acenaphthene	mg/kg	0.3	<0.30	<0.30	<0.30
Acenaphthylene	mg/kg	0.3	<0.30	<0.30	<0.30
Anthracene	mg/kg	0.3	<0.30	<0.30	<0.30
Benzo[a]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30

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Benzo[a]pyrene	mg/kg	0.3	<0.30	<0.30	<0.30
Benzo[g,h,i]perylene	mg/kg	0.3	<0.30	<0.30	<0.30
Benzo[b,k]fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30
Chrysene	mg/kg	0.3	<0.30	<0.30	<0.30
Dibenzo[a,h]anthracene	mg/kg	0.3	<0.30	<0.30	<0.30
Fluoranthene	mg/kg	0.3	<0.30	<0.30	<0.30
Fluorene	mg/kg	0.3	<0.30	<0.30	<0.30
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	<0.30	<0.30	<0.30
Naphthalene	mg/kg	0.3	<0.30	<0.30	<0.30
Phenanthrene	mg/kg	0.3	<0.30	<0.30	<0.30
Pyrene	mg/kg	0.3	<0.30	<0.30	<0.30
PAHs Total	mg/kg	0.3	<0.30	<0.30	<0.30
Benzo(a)pyrene TEQ (Zero)	mg/kg	0.3	<0.30	<0.30	<0.30
Benzo(a)pyrene TEQ (Half PQL)	mg/kg	0.3	0.35	0.35	0.35
Benzo(a)pyrene TEQ (PQL)	mg/kg	0.3	0.70	0.70	0.70
p-Terphenyl-d14 (Surr.)	%		102	85	89
aldrin	mg/kg	0.1	<0.10	<0.10	<0.10
a-BHC	mg/kg	0.1	<0.10	<0.10	<0.10
b-BHC	mg/kg	0.1	<0.10	<0.10	<0.10
d-BHC	mg/kg	0.1	<0.10	<0.10	<0.10
g-BHC (lindane)	mg/kg	0.1	<0.10	<0.10	<0.10
cis-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10
trans-chlordane	mg/kg	0.1	<0.10	<0.10	<0.10
4,4'-DDD	mg/kg	0.1	<0.10	<0.10	<0.10
4,4'-DDE	mg/kg	0.1	<0.10	<0.10	<0.10
4,4'-DDT	mg/kg	0.1	<0.10	<0.10	<0.10
dieldrin	mg/kg	0.1	<0.10	<0.10	<0.10
endosulfan I	mg/kg	0.2	<0.20	<0.20	<0.20
endosulfan II	mg/kg	0.2	<0.20	<0.20	<0.20
endosulfan sulfate	mg/kg	0.1	<0.10	<0.10	<0.10
endrin	mg/kg	0.2	<0.20	<0.20	<0.20
endrin aldehyde	mg/kg	0.1	<0.10	<0.10	<0.10
endrin ketone	mg/kg	0.1	<0.10	<0.10	<0.10

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heptachlor	mg/kg	0.1	<0.10	<0.10	<0.10
heptachlor epoxide	mg/kg	0.1	<0.10	<0.10	<0.10
hexachlorobenzene	mg/kg	0.1	<0.10	<0.10	<0.10
methoxychlor	mg/kg	0.1	<0.10	<0.10	<0.10
TCMX (Surr.)	%		136	118	123
chlorpyrifos	mg/kg	0.1	<0.10	<0.10	<0.10
chlorpyrifos methyl	mg/kg	0.1	<0.10	<0.10	<0.10
diazinon	mg/kg	0.1	<0.10	<0.10	<0.10
fenchlorphos	mg/kg	0.1	<0.10	<0.10	<0.10
methyl parathion	mg/kg	0.1	<0.10	<0.10	<0.10
prophos	mg/kg	0.1	<0.10	<0.10	<0.10
tributylphosphorotrithioite	mg/kg	0.1	<0.10	<0.10	<0.10
PCBs Total	mg/kg	0.5	<0.50	<0.50	<0.50
Aroclor 1016	mg/kg	0.5	<0.50	<0.50	<0.50
Aroclor 1221	mg/kg	0.5	<0.50	<0.50	<0.50
Aroclor 1232	mg/kg	0.5	<0.50	<0.50	<0.50
Aroclor 1242	mg/kg	0.5	<0.50	<0.50	<0.50
Aroclor 1248	mg/kg	0.5	<0.50	<0.50	<0.50
Aroclor 1254	mg/kg	0.5	<0.50	<0.50	<0.50
Aroclor 1260	mg/kg	0.5	<0.50	<0.50	<0.50
2-fluorobiphenyl (Surr.)	%		100	80	93
ESA-P-ORG(3,8)					
>C10-C16	mg/kg	50	<50	<50	<50
>C16-C34	mg/kg	100	<100	<100	<100
>C34-C40	mg/kg	100	<100	<100	<100
>C10-C40 (Sum of total)	mg/kg	100	<100	<100	<100
>C10-C14	mg/kg	50	<50	<50	<50
>C15-C28	mg/kg	100	<100	<100	<100
>C29-C36	mg/kg	100	<100	<100	<100
>C10-C36 (Sum of total)	mg/kg	100	<100	<100	<100

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Unit 4/10-11 Millennium Court,
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Accreditation No.14664
Accredited for compliance with ISO/IEC 17025 - Testing.

This Quality Control Report contains results of QAQC samples analysis and the Laboratory Acceptance Criteria.

This report supersedes any previous report(s) with this reference. This document shall not be reproduced, except in full.

This report has been electronically signed by authorised signatories below.

Authorised By

Kaiyu Li

General Comments

Duplicate samples and matrix spike may not be prepared on smaller jobs, however are analysed at frequency. QAQC samples shown within the report as e.g. Batch Blank, Batch Matrix Spike were performed on samples not reported on that Certificate of Analysis.

Blank This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in the same manner as for samples.
Duplicate This is the interlaboratory split of a random sample from the processed batch
Matrix Spike A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class.
Surr. (Surrogate Spike) Surrogates are known additions to each sample, blank and matrix spike or LCS in a batch. Surrogates are chosen as a compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Blank shall be < PQL
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals, 60-140% for organics/PFAS is acceptable. Matrix heterogeneity may result in matrix spike analyses falling outside these limits
RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:
Results <10 times the PQL : No Limit
Results between 10-20 times the PQL : RPD must lie between 0-50%
Results >20 times the PQL : RPD must lie between 0-30%
Surrogate Recoveries : Recoveries must lie between 50-150%

SLS is responsible for all the information in the report, except that provided by the customer.

All sampling information included in the report has been provided by customer.

Information provided by the customer can affect the validity of the results.

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Quality Control Report

Contact:	Matthew Toole	**Date Reported:**	19/04/2024
Customer:	ADE Consulting Group	**No. of Samples:**	53
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	12/04/2024
		Date of Analysis:	12/04/2024

Cust Ref: A101021.0125.01 001 L05

Glossary:

*NATA accreditation does not cover the performance of this service
ND-not detected,
NT-not tested
INS-Insufficient material to perform the test
LCS-Laboratory Control Sample
RPD-Relative Percent Difference
N/A-Not Applicable
< less than
> greater than
PQL- Practical Quantitation Limit
^Analytical result might be compromised due to sample condition or holding time requirements
Reaction rate 1 = Slight
Reaction rate 2 = Moderate
Reaction rate 3 = High
Reaction rate 4 = Vigorous

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Quality Control Report

		Sample ID:	D202401140705
		Sample Name	WAC391_TP2
Parameter	*Units*	*PQL*	
ESA-P-ORG17			
Phenol			Pass
2-Chlorophenol			Pass
2-Methylphenol			Pass
3/4-Methylephenol			Pass
2-Nitrophenol			Pass
2,4-Dimethylphenol			Pass
2,4-Dichlorophenol			Pass
2,6-Dichlorophenol			Pass
3-Methyl,4-Chlorophenol			Pass
2,4,6-Trichlorophenol			Pass
2,4,5-Trichlorophenol			Pass
2,4-Dinitrophenol			Pass
4-Nitrophenol			Pass
2,3,5,6-Tetrachlorophenol			Pass
2,3,4,5-Tetrachlorophenol			Pass
2,3,4,6-Tetrachlorophenol			Pass
2-Methyl-4,6-dinitrophenol			Pass
Pentachlorophenol			Pass
Dinoseb			Pass
2-Cyclohexyl-4,6-dinitrophenol			Pass
Phenol-d6	%		114
2-Chlorophenol-d4	%		70

		Sample ID:	D202401177001	D202401178501	D202401180302	D202401194701
		Sample Name	TP1_Fill(0.3)	.TP6_Fill(0.3)	TP12_Fill(0.3)	5A_03a
Parameter	*Units*	*PQL*				
ESA-P-ORG7 & ORG8						
Benzene			Pass	Pass	Pass	Pass

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Toluene			Pass	Pass	Pass	Pass
Ethylbenzene			Pass	Pass	Pass	Pass
m.p Xylene			Pass	Pass	Pass	Pass
o Xylene			Pass	Pass	Pass	Pass
Fluorobenzene (Surr.)	%		88	81	72	70
C6-C10			Pass	Pass	Pass	Pass
C6-C9			Pass	Pass	Pass	Pass
		Sample ID:	**D202401177002**	**D202401178502**	**D202401180303**	**D202401194702**
		Sample Name	**TP1_Fill(0.3)**	**.TP6_Fill(0.3)**	**TP12_Fill(0.3)**	**5A_03a**
Parameter	***Units***	***PQL***				
ESA-P-ORG(12 - 15)						
Acenaphthene			Pass	Pass	Pass	Pass
Acenaphthylene			Pass	Pass	Pass	Pass
Anthracene			Pass	Pass	Pass	Pass
Benzo[a]anthracene			Pass	Pass	Pass	Pass
Benzo[a]pyrene			Pass	Pass	Pass	Pass
Benzo[g,h,i]perylene			Pass	Pass	Pass	Pass
Benzo[b,k]fluoranthene			Pass	Pass	Pass	Pass
Chrysene			Pass	Pass	Pass	Pass
Dibenzo[a,h]anthracene			Pass	Pass	Pass	Pass
Fluoranthene			Pass	Pass	Pass	Pass
Fluorene			Pass	Pass	Pass	Pass
Indeno(1,2,3-cd)pyrene			Pass	Pass	Pass	Pass
Naphthalene			Pass	Pass	Pass	Pass
Phenanthrene			Pass	Pass	Pass	Pass
Pyrene			Pass	Pass	Pass	Pass
p-Terphenyl-d14 (Surr.)	%		98	96	89	92
aldrin			Pass	Pass	Pass	Pass
a-BHC			Pass	Pass	Pass	Pass
b-BHC			Pass	Pass	Pass	Pass
d-BHC			Pass	Pass	Pass	Pass
g-BHC (lindane)			Pass	Pass	Pass	Pass

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cis-chlordane			Pass	Pass	Pass	Pass
trans-chlordane			Pass	Pass	Pass	Pass
4,4'-DDD			Pass	Pass	Pass	Pass
4,4'-DDE			Pass	Pass	Pass	Pass
4,4'-DDT			Pass	Pass	Pass	Pass
dieldrin			Pass	Pass	Pass	Pass
endosulfan I			Pass	Pass	Pass	Pass
endosulfan II			Pass	Pass	Pass	Pass
endosulfan sulfate			Pass	Pass	Pass	Pass
endrin			Pass	Pass	Pass	Pass
endrin aldehyde			Pass	Pass	Pass	Pass
endrin ketone			Pass	Pass	Pass	Pass
heptachlor			Pass	Pass	Pass	Pass
heptachlor epoxide			Pass	Pass	Pass	Pass
hexachlorobenzene			Pass	Pass	Pass	Pass
methoxychlor			Pass	Pass	Pass	Pass
TCMX (Surr.)	%		136	133	128	129
chlorpyrifos			Pass	Pass	Pass	Pass
chlorpyrifos methyl			Pass	Pass	Pass	Pass
diazinon			Pass	Pass	Pass	Pass
fenchlorphos			Pass	Pass	Pass	Pass
methyl parathion			Pass	Pass	Pass	Pass
prophos			Pass	Pass	Pass	Pass
tributylphosphorotrithioite			Pass	Pass	Pass	Pass
Aroclor 1016			Pass	Pass	Pass	Pass
Aroclor 1221			Pass	Pass	Pass	Pass
Aroclor 1232			Pass	Pass	Pass	Pass
Aroclor 1242			Pass	Pass	Pass	Pass
Aroclor 1248			Pass	Pass	Pass	Pass
Aroclor 1254			Pass	Pass	Pass	Pass
Aroclor 1260			Pass	Pass	Pass	Pass
2-fluorobiphenyl (Surr.)	%		97	94	89	102

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	Sample ID:	D202401177003	D202401178503	D202401180304	D202401194703
	Sample Name	TP1_Fill(0.3)	.TP6_Fill(0.3)	.TP12_Fill(0.3)	5A_03a
Parameter	Units	PQL				
ESA-P-ORG(3,8)						
>C10-C16			Pass	Pass	Pass	Pass
>C16-C34			Pass	Pass	Pass	Pass
>C34-C40			Pass	Pass	Pass	Pass
>C10-C14			Pass	Pass	Pass	Pass
>C15-C28			Pass	Pass	Pass	Pass
>C29-C36			Pass	Pass	Pass	Pass

	Sample ID:	D202401177004	D202401178504	D202401180301	D202401194704
	Sample Name	TP1_Fill(0.3)	.TP6_Fill(0.3)	.TP12_Fill(0.3)	5A_03a
Parameter	Units	PQL				
ESA-MP-01,ICP-01						
Arsenic			Pass	Pass	Pass	Pass
Cadmium			Pass	Pass	Pass	Pass
Chromium			Pass	Pass	Pass	Pass
Copper			Pass	Pass	Pass	Pass
Lead			Pass	Pass	Pass	Pass
Mercury			Pass	Pass	Pass	Pass
Nickel			Pass	Pass	Pass	Pass
Zinc			Pass	Pass	Pass	Pass

	Sample ID:	D202401178401
	Sample Name	.TP6_Fill(0.1)
Parameter	Units	PQL	
ESA-P-38			
Cyanide (Total)			Pass

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Sample ID:	**D202401182401**
Sample Name	**MAC29-TP5-0.5-D**

Parameter	*Units*	*PQL*	
ESA-P-ORG16			
PFBA			Pass
PFPeA			Pass
PFBS			Pass
PFHxA			Pass
PFPeS			Pass
PFHpA			Pass
PFOA			Pass
PFHpS			Pass
PFOS			Pass
PFDA			Pass
PFUdA			Pass
PFDoA			Pass
PFTrDA			Pass
PFTeDA			Pass
PFNA			Pass
PFHxS			Pass
MPFBA	%		98
M3PFBS	%		87
MPFOS	%		73
MPFHxA	%		121
MPFOA	%		87
MPFUdA	%		120

Sample ID:	**Q2024002572**
Sample Name	

Parameter	*Units*	*PQL*	Phenols Blank - Soil
ESA-P-ORG17			
Phenol	mg/kg	0.2	<0.20

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2-Chlorophenol	mg/kg	0.1	<0.10
2-Methylphenol	mg/kg	0.2	<0.20
3/4-Methylephenol	mg/kg	0.4	<0.40
2-Nitrophenol	mg/kg	0.2	<0.20
2,4-Dimethylphenol	mg/kg	0.2	<0.20
2,4-Dichlorophenol	mg/kg	0.05	<0.050
2,6-Dichlorophenol	mg/kg	0.05	<0.050
3-Methyl,4-Chlorophenol	mg/kg	0.2	<0.20
2,4,6-Trichlorophenol	mg/kg	0.05	<0.050
2,4,5-Trichlorophenol	mg/kg	0.05	<0.050
2,4-Dinitrophenol	mg/kg	4	<4.0
4-Nitrophenol	mg/kg	4	<4.0
2,3,5,6-Tetrachlorophenol	mg/kg	0.1	<0.10
2,3,4,5-Tetrachlorophenol	mg/kg	0.1	<0.10
2,3,4,6-Tetrachlorophenol	mg/kg	0.1	<0.10
2-Methyl-4,6-dinitrophenol	mg/kg	2	<2.0
Pentachlorophenol	mg/kg	0.2	<0.20
Dinoseb	mg/kg	5	<5.0
2-Cyclohexyl-4,6-dinitrophenol	mg/kg	5	<5.0

Sample ID: **Q2024002573**

Sample Name

Parameter	*Units*	*PQL*	Phenols BlankSp-Soil
ESA-P-ORG17			
2-Chlorophenol	%		118
2-Methylphenol	%		127
3/4-Methylephenol	%		130
2,6-Dichlorophenol	%		105
Dinoseb	%		105
Phenol-d6 (Surr.)	%		131
2-Chlorophenol-d4 (Surr.)	%		135

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	Sample ID:	Q2024002655	Q2024002667
	Sample Name		

Parameter	Units	PQL	BTEX Blank - Soil	BTEX Blank - Soil
ESA-P-ORG7 & ORG8				
Benzene	mg/kg	0.5	<0.50	<0.50
Toluene	mg/kg	0.5	<0.50	<0.50
Ethylbenzene	mg/kg	1	<1.0	<1.0
m.p Xylene	mg/kg	2	<2.0	<2.0
o Xylene	mg/kg	1	<1.0	<1.0
C6-C10	mg/kg	35	<35	<35
C6-C9	mg/kg	25	<25	<25

	Sample ID:	Q2024002656	Q2024002668
	Sample Name		

Parameter	Units	PQL	BTEX Blank Sp-Soil	BTEX Blank Sp-Soil
ESA-P-ORG7 & ORG8				
Benzene	%		99	97
Toluene	%		79	75
Ethylbenzene	%		68	70
m.p Xylene	%		78	79
o Xylene	%		75	89
Fluorobenzene (Surr.)	%		68	72

	Sample ID:	Q2024002657	Q2024002669
	Sample Name		

Parameter	Units	PQL	PCB Blank - Soil	PCB Blank - Soil
ESA-P-ORG(12 - 15)				
Acenaphthene	mg/kg	0.3	<0.30	<0.30
Acenaphthylene	mg/kg	0.3	<0.30	<0.30
Anthracene	mg/kg	0.3	<0.30	<0.30
Benzo[a]anthracene	mg/kg	0.3	<0.30	<0.30
Benzo[a]pyrene	mg/kg	0.3	<0.30	<0.30
Benzo[g,h,i]perylene	mg/kg	0.3	<0.30	<0.30

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Benzo[b,k]fluoranthene	mg/kg	0.3	<0.30	<0.30
Chrysene	mg/kg	0.3	<0.30	<0.30
Dibenzo[a,h]anthracene	mg/kg	0.3	<0.30	<0.30
Fluoranthene	mg/kg	0.3	<0.30	<0.30
Fluorene	mg/kg	0.3	<0.30	<0.30
Indeno(1,2,3-cd)pyrene	mg/kg	0.3	<0.30	<0.30
Naphthalene	mg/kg	0.3	<0.30	<0.30
Phenanthrene	mg/kg	0.3	<0.30	<0.30
Pyrene	mg/kg	0.3	<0.30	<0.30
aldrin	mg/kg	0.1	<0.10	<0.10
a-BHC	mg/kg	0.1	<0.10	<0.10
b-BHC	mg/kg	0.1	<0.10	<0.10
d-BHC	mg/kg	0.1	<0.10	<0.10
g-BHC (lindane)	mg/kg	0.1	<0.10	<0.10
cis-chlordane	mg/kg	0.1	<0.10	<0.10
trans-chlordane	mg/kg	0.1	<0.10	<0.10
4,4'-DDD	mg/kg	0.1	<0.10	<0.10
4,4'-DDE	mg/kg	0.1	<0.10	<0.10
4,4'-DDT	mg/kg	0.1	<0.10	<0.10
dieldrin	mg/kg	0.1	<0.10	<0.10
endosulfan I	mg/kg	0.2	<0.20	<0.20
endosulfan II	mg/kg	0.2	<0.20	<0.20
endosulfan sulfate	mg/kg	0.1	<0.10	<0.10
endrin	mg/kg	0.2	<0.20	<0.20
endrin aldehyde	mg/kg	0.1	<0.10	<0.10
endrin ketone	mg/kg	0.1	<0.10	<0.10
heptachlor	mg/kg	0.1	<0.10	<0.10
heptachlor epoxide	mg/kg	0.1	<0.10	<0.10
hexachlorobenzene	mg/kg	0.1	<0.10	<0.10
methoxychlor	mg/kg	0.1	<0.10	<0.10
chlorpyrifos	mg/kg	0.1	<0.10	<0.10
chlorpyrifos methyl	mg/kg	0.1	<0.10	<0.10

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diazinon	mg/kg	0.1	<0.10	<0.10
fenchlorphos	mg/kg	0.1	<0.10	<0.10
methyl parathion	mg/kg	0.1	<0.10	<0.10
prophos	mg/kg	0.1	<0.10	<0.10
tributylphosphorotrithioite	mg/kg	0.1	<0.10	<0.10
Aroclor 1016	mg/kg	0.5	<0.50	<0.50
Aroclor 1221	mg/kg	0.5	<0.50	<0.50
Aroclor 1232	mg/kg	0.5	<0.50	<0.50
Aroclor 1242	mg/kg	0.5	<0.50	<0.50
Aroclor 1248	mg/kg	0.5	<0.50	<0.50
Aroclor 1254	mg/kg	0.5	<0.50	<0.50
Aroclor 1260	mg/kg	0.5	<0.50	<0.50
		Sample ID:	**Q2024002658**	**Q2024002670**
		Sample Name		

Parameter	***Units***	***PQL***	PCB Blank Sp - Soil	PCB Blank Sp - Soil
ESA-P-ORG(12 - 15)				
Acenaphthene	%		121	106
Anthracene	%		117	106
Fluoranthene	%		109	98
Naphthalene	%		129	113
Phenanthrene	%		122	110
Pyrene	%		103	93
p-Terphenyl-d14 (Surr.)	%		87	76
aldrin	%		102	91
endrin	%		78	66
hexachlorobenzene	%		115	101
TCMX (Surr.)	%		128	111
chlorpyrifos	%		87	74
diazinon	%		100	86
2-fluorobiphenyl (Surr.)	%		99	90
Aroclor 1016	%		101	94

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Sample ID:	**Q2024002659**	**Q2024002671**
Sample Name		

Parameter	*Units*	*PQL*	TRH Blank-Soil	TRH Blank-Soil
ESA-P-ORG(3,8)				
>C10-C16	mg/kg	50	<50	<50
>C16-C34	mg/kg	100	<100	<100
>C34-C40	mg/kg	100	<100	<100
>C10-C14	mg/kg	50	<50	<50
>C15-C28	mg/kg	100	<100	<100
>C29-C36	mg/kg	100	<100	<100

Sample ID:	**Q2024002660**	**Q2024002672**
Sample Name		

Parameter	*Units*	*PQL*	TRH Blank Spike-Soil	TRH Blank Spike-Soil
ESA-P-ORG(3,8)				
>C10-C16	%		93	92
>C10-C14	%		90	89

Sample ID:	**Q2024002661**
Sample Name	

Parameter	*Units*	*PQL*	PFAS Blank - Soil
ESA-P-ORG16			
PFBA	ug/kg	5	<5
PFPeA	ug/kg	5	<5
PFBS	ug/kg	5	<5
PFHxA	ug/kg	5	<5
PFPeS	ug/kg	5	<5
PFHpA	ug/kg	5	<5
PFOA	ug/kg	5	<5
PFHpS	ug/kg	5	<5
PFOS	ug/kg	5	<5
PFDA	ug/kg	5	<5
PFUdA	ug/kg	5	<5

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PFDoA	ug/kg	5	<5
PFTrDA	ug/kg	5	<5
PFTeDA	ug/kg	5	<5
PFNA	ug/kg	5	<5
PFHxS	ug/kg	5	<5
MPFBA (Surr.)	%		107
M3PFBS (Surr.)	%		74
MPFOS (Surr.)	%		77
MPFHxA (Surr.)	%		76
MPFOA (Surr.)	%		77
MPFUdA (Surr.)	%		104

		Sample ID:	**Q2024002662**
		Sample Name	
Parameter	***Units***	***PQL***	PFAS Blank Sp - Soil
ESA-P-ORG16			
PFBA	%		83
PFPeA	%		118
PFBS	%		97
PFHxA	%		87
PFPeS	%		126
PFHpA	%		79
PFOA	%		126
PFHpS	%		121
PFOS	%		126
PFDA	%		83
PFUdA	%		84
PFDoA	%		76
PFTrDA	%		75
PFTeDA	%		124
PFNA	%		105
PFHxS	%		86
MPFBA (Surr.)	%		113

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M3PFBS (Surr.)	%		109
MPFOS (Surr.)	%		92
MPFHxA (Surr.)	%		118
MPFOA (Surr.)	%		122
MPFUdA (Surr.)	%		117

Sample ID:	**Q2024002663**	**Q2024002665**
Sample Name		

Parameter	***Units***	***PQL***	Metals Blank - Soil	Metals Blank - Soil
ESA-MP-01,ICP-01				
Arsenic	mg/kg	5	<5.0	<5.0
Cadmium	mg/kg	0.3	<0.30	<0.30
Chromium	mg/kg	1	<1.0	<1.0
Copper	mg/kg	5	<5.0	<5.0
Lead	mg/kg	5	<5.0	<5.0
Mercury	mg/kg	0.1	<0.10	<0.10
Nickel	mg/kg	1	<1.0	<1.0
Zinc	mg/kg	5	<5.0	<5.0

Sample ID:	**Q2024002664**	**Q2024002666**
Sample Name		

Parameter	***Units***	***PQL***	Metals Blank Sp-Soil	Metals Blank Sp-Soil
ESA-MP-01,ICP-01				
Arsenic	%		95	100
Cadmium	%		117	108
Chromium	%		96	99
Copper	%		93	97
Lead	%		100	104
Mercury	%		89	80
Nickel	%		98	100
Zinc	%		103	107

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		Sample ID:	**Q2024002812**
		Sample Name	
Parameter	***Units***	***PQL***	Cyanide MB - Soil
ESA-P-38			
Cyanide (Total)	mg/kg	5	<5.0

		Sample ID:	**Q2024002813**
		Sample Name	
Parameter	***Units***	***PQL***	Cyanide LCS Vic - Soil
ESA-P-38			
Cyanide (Total)	%		86

		Sample ID:	**S202401140605**
		Sample Name	**WAC391_TP1**
Parameter	***Units***	***PQL***	
ESA-P-ORG17			
2-Chlorophenol	%		138
2-Methylphenol	%		122
3/4-Methylephenol	%		91
2,6-Dichlorophenol	%		82
Dinoseb	%		101
Phenol-d6 (Surr.)	%		114
2-Chlorophenol-d4 (Surr.)	%		121

		Sample ID:	**S202401176901**	**S202401180202**
		Sample Name	**TP1_Fill(0.1)**	**TP12_Fill(0.1)**
Parameter	***Units***	***PQL***		
ESA-P-ORG-07 & 08				
Benzene	%		99	97
Toluene	%		79	75
Ethylbenzene	%		72	70
m.p Xylene	%		78	79
o Xylene	%		78	89
Fluorobenzene (Surr.)	%		68	72

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	Sample ID:	S202401176902	S202401180203
	Sample Name	TP1_Fill(0.1)	TP12_Fill(0.1)
Parameter	Units	PQL		
ESA-P-ORG(12 - 15)				
Acenaphthene	%		119	111
Anthracene	%		116	113
Fluoranthene	%		108	105
Naphthalene	%		129	121
Phenanthrene	%		121	116
Pyrene	%		102	99
p-Terphenyl-d14 (Surr.)	%		91	88
aldrin	%		100	95
endrin	%		62	65
hexachlorobenzene	%		112	104
TCMX (Surr.)	%		131	124
chlorpyrifos	%		86	79
diazinon	%		98	91
Aroclor 1016	%		98	96
2-fluorobiphenyl (Surr.)	%		99	99

	Sample ID:	S202401176903	S202401180204
	Sample Name	TP1_Fill(0.1)	.TP12_Fill(0.1)
Parameter	Units	PQL		
ESA-P-ORG(3,8)				
>C10-C16	%		92	93
>C10-C14	%		90	91

	Sample ID:	S202401176904	S202401180201
	Sample Name	TP1_Fill(0.1)	.TP12_Fill(0.1)
Parameter	Units	PQL		
ESA-MP-01,ICP-01				
Arsenic	%		88	97
Cadmium	%		110	105
Chromium	%		93	92

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Copper	%		93	-
Lead	%		95	91
Mercury	%		95	77
Nickel	%		95	88
Zinc	%		98	126

Sample ID: **S202401177501**

Sample Name **.TP3_Fill(0.1)**

Parameter	*Units*	*PQL*	
ESA-P-38			
Cyanide (Total)	%		77

Sample ID: **S202401181001**

Sample Name **MAC29-TP1-1.0-D**

Parameter	*Units*	*PQL*	
ESA-P-ORG16			
PFBA	%		71
PFPeA	%		121
PFBS	%		89
PFHxA	%		77
PFPeS	%		115
PFHpA	%		92
PFOA	%		107
PFHpS	%		124
PFOS	%		115
PFDA	%		75
PFUdA	%		70
PFDoA	%		74
PFTrDA	%		94
PFTeDA	%		87
PFNA	%		98
PFHxS	%		80
MPFBA (Surr.)	%		120
M3PFBS (Surr.)	%		103

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MPFOS (Surr.)	%		88
MPFHxA (Surr.)	%		76
MPFOA (Surr.)	%		87
MPFUdA (Surr.)	%		123

Sample ID: **S202401184002**

Sample Name

Parameter	*Units*	*PQL*	
ESA-MP-01,ICP-01			
Copper	%		97

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A.B.N. 52 093 452 950

Analysis report: A101021.0125.01
Laboratory LOT NO: 2401570

Date Received: 11.04.2024
Date Analysed: 16.04.2024
Report Date: 16.04.2024
Client: ADE Consulting Group
Job Location: As Received
Analytical method: Polarised Light Microscopy with dispersion staining (ADE method ABI)

*Asbestos identification as per "National Environment Protection (Assessment of site contamination) Measure, Schedule B1" and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" is not coverd by NATA scope of accreditation

Analysis performed by:

Grace (Weichen) Jia
Approved asbestos identifier

Results Authorised By:

Grace (Weichen) Jia
Approved Signatory

General Comments:

Sydney Laboratory Services is responsible for all the information in the report, except that provided by the customer. All sampling information included in the report has been provided by the client.

Sample analysed as received.
Samples are stored for minimum period of 1 month if longer time is not advised by client.
Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.01g/kg (0.001% w/w) for friable asbestos and 0.1g/kg (0.01% w/w) for bonded asbestos.
This form of analysis is outside the scope of NATA accreditation.
Bonded asbestos containing material (bonded ACM) : Bonded ACM comprises asbestos-containing-material which is in sound condition, although possibly broken or fragmented, and where the asbestos is bound in a matrix such as cement or resin.This term is restricted to material that cannot pass a 7 mm x 7 mm sieve.
Fibrous asbestos (FA): FA comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. This type of friable asbestos is defined here as asbestos material that is in a degraded condition such that it can be broken or crumbled by hand pressure. This material is typically unbonded or was previously bonded and is now significantly degraded (crumbling).
Asbestos fines (AF): AF includes free fibres, small fibre bundles and also small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve.
Note: The screening level of 0.001% w/w asbestos in soil for FA and AF (i.e. non-bonded/friable asbestos) only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres.

Client Sample ID.	Laboratory Sample No.	Sample Description/Matrix	Sample Dimensions (cm) unless stated otherwise	Weight (Dry Weight)	Trace Analysis Completed Y/N	Result	Comments
21.0125.DSI_TP1_Fill(0.1)	2024011769	Granulated Dark Soil	500 mL	404 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
21.0125.DSI_TP2_Fill(0.1)	2024011772	Granulated Dark Soil	500 mL	522 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
21.0125.DSI_TP3_Fill(0.1)	2024011775	Granulated Dark Soil	500 mL	692 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
21.0125.DSI_TP4_Fill(0.1)	2024011778	Granulated Dark Soil	500 mL	614 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
21.0125.DSI_TP5_Fill(0.1)	2024011781	Granulated Dark Soil	500 mL	658 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
21.0125.DSI_TP6_Fill(0.1)	2024011784	Granulated Dark Soil	500 mL	650 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
21.0125.DSI_TP7_Fill(0.1)	2024011787	Granulated Dark Soil	500 mL	718 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
21.0125.DSI_TP8_Fill(0.1)	2024011790	Granulated Dark Soil	500 mL	389 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil

Client Sample ID.	Laboratory Sample No.	Sample Description/Matrix	Sample Dimensions (cm) unless stated otherwise	Weight (Dry Weight)	Trace Analysis Completed Y/N	Result	Comments
21.0125.DSI_TP9_Fill(0.1)	2024011793	Granulated Dark Soil	500 mL	540 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
21.0125.DSI_TP10_Fill(0.1)	2024011796	Granulated Dark Soil	500 mL	599 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
21.0125.DSI_TP11_Fill(0.1)	2024011799	Granulated Dark Soil	500 mL	524 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil
21.0125.DSI_TP12_Fill(0.1)	2024011802	Granulated Dark Soil	500 mL	540 grams	Yes, no trace asbestos detected by polarized light microscopy including dispersion staining.	No Chrysotile asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Amosite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Crocidolite asbestos detected by polarized light microscopy including dispersion staining.	Nil
						No Synthetic Mineral Fibres detected by polarized light microscopy including dispersion staining.	Nil
						Organic fibres detected by polarized light microscopy including dispersion staining.	Nil

Sydney Laboratory Services

A division of A. D. Envirotech Australia Pty Ltd
A.C.N. 093 452 950
Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

CLIENT DETAILS

Client	ADE Consulting Group
Contact	Matthew Toole
Samplers	Misha Konarev, Junaid Riaz

SAMPLE RECEIPT DETAILS

Project Number	A101021.0125.01/001/L05		
SLS Reference	2401570		
Number of samples	38		
Date samples received	11.04.2024		
Time samples received	5:30 PM		
Samples Received By	Natalie Chambers		
Temperature upon receipt (°C)	10.4	**Thermometer Ref NO.**	T46
Turn Around Time requested	5 Working Days		
Expected Report Date	**19.04.2024**		

CONDITION OF SAMPLES UPON RECEIVAL

No errors in COC provided.	✓
All samples were received in good condition.	✓
Evidence of chilling for samples.	✓
Appropriate use of sample containers have been used.	✓
Samples were delivered within holding time of analysis requested.	✓
Samples to be tested for volatiles received with zero headspace.	✓
Custody Seal intact (if used)	N/A

COMMENTS

This Report Contains:

Sample receipt non-conformities.
Summary of samples and requested analysis.
Requested report deliverables.

CONTACT US FOR ANY QUERIES

If you have any questions with respect to these samples please contact:

Email	sls@ade.group	**Contact**	Natalie Chambers
Phone	(+61) 0451 524 289	**Signed**	

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INFORMATION SUMMARY

SLS Reference	2401570
Project Number	A101021.0125.01/001/L05
Client	ADE Consulting Group
Contact	Matthew Toole
Samplers	Misha Konarev, Junaid Riaz

ANALYSIS UNDERWAY - Details of the following samples

			SUMMARY OF SAMPLES AND ANALYSIS REQUESTED					
Laboratory Sample ID	Sampling Date	Client Sample ID	OH07	SL01	CH11	CH14	PS02	OH HOLD
2024011769	10.04.2024	21.0125.DSI_TP1_Fill(0.1)	X	X				
2024011770	10.04.2024	21.0125.DSI_TP1_Fill(0.3)		X				
2024011771	10.04.2024	21.0125.DSI_TP1_NAT(0.4)						X
2024011772	10.04.2024	21.0125.DSI_TP2_Fill(0.1)	X	X				
2024011773	10.04.2024	21.0125.DSI_TP2_Fill(0.4)						X
2024011774	10.04.2024	21.0125.DSI_TP2_NAT(0.5)		X				
2024011775	10.04.2024	21.0125.DSI_TP3_Fill(0.1)	X	X	X	X	X	
2024011776	10.04.2024	21.0125.DSI_TP3_Fill(0.4)		X				
2024011777	10.04.2024	21.0125.DSI_TP3_NAT(0.5)						X
2024011778	10.04.2024	21.0125.DSI_TP4_Fill(0.1)	X	X				
2024011779	10.04.2024	21.0125.DSI_TP4_Fill(0.3)						X
2024011780	10.04.2024	21.0125.DSI_TP4_NAT(0.4)		X				
2024011781	10.04.2024	21.0125.DSI_TP5_Fill(0.1)	X	X				
2024011782	10.04.2024	21.0125.DSI_TP5_Fill(0.2)						X
2024011783	10.04.2024	21.0125.DSI_TP5_NAT(0.3)						X
2024011784	10.04.2024	21.0125.DSI_TP6_Fill(0.1)	X	X	X	X	X	
2024011785	10.04.2024	21.0125.DSI_TP6_Fill(0.3)		X				
2024011786	10.04.2024	21.0125.DSI_TP6_NAT(0.5)		X				
2024011787	10.04.2024	21.0125.DSI_TP7_Fill(0.1)	X	X				
2024011788	10.04.2024	21.0125.DSI_TP7_Fill(0.2)						X
2024011789	10.04.2024	21.0125.DSI_TP7_NAT(0.3)						X
2024011790	10.04.2024	21.0125.DSI_TP8_Fill(0.1)	X	X				
2024011791	10.04.2024	21.0125.DSI_TP8_Fill(0.3)		X				
2024011792	10.04.2024	21.0125.DSI_TP8_NAT(0.4)		X				
2024011793	10.04.2024	21.0125.DSI_TP9_Fill(0.1)	X	X	X	X	X	
2024011794	10.04.2024	21.0125.DSI_TP9_Fill(0.3-0.4)						X
2024011795	10.04.2024	21.0125.DSI_TP9_NAT(0.5)						X
2024011796	10.04.2024	21.0125.DSI_TP10_Fill(0.1)	X	X				
2024011797	10.04.2024	21.0125.DSI_TP10_Fill(0.2)						X
2024011798	10.04.2024	21.0125.DSI_TP10_NAT(0.4)		X				
2024011799	10.04.2024	21.0125.DSI_TP11_Fill(0.1)	X	X				
2024011800	10.04.2024	21.0125.DSI_TP11_Fill(0.4)						X
2024011801	10.04.2024	21.0125.DSI_TP11_NAT(0.5)						X
2024011802	10.04.2024	21.0125.DSI_TP12_Fill(0.1)	X	X	X	X	X	
2024011803	10.04.2024	21.0125.DSI_TP12_Fill(0.3)		X				
2024011804	10.04.2024	21.0125.DSI_TP12_NAT(0.6)		X				
2024011805	10.04.2024	21.0125.DSI_BR1		X				
2024011806	10.04.2024	21.0125.DSI_BR2		X				

007

Document Revision Date: 22/08/2022

ESA-F-02 COC - Chain Of Custody (Internal: Sydney Laboratory Services)

ADE CONSULTING GROUP

FULL PROJECT NUMER (e.g., : A201021.1725.05)	A101021.0125.01
PROJECT PHASE (e.g.,: C01)	001
PROJECT TASK (e.g.,: C11)	L05
SAMPLES DELIVERED BY:	MK
SAMPLERS:	MK
TURNAROUND (BUSINESS DAY - BD):	SAME DAY: ☐ 1-BD: ☐ 2-BD: ☐ 3-BD: ☐ 5 BD (STD): ☒
SAMPLING DATE:	
AFTER TEST STORAGE:	ROOM TEMP: ☐ FRIDGE: ☐ FREEZER: ☐ >>4 WEEKS: ☐ OTHER: ☐
REPORT FORMAT:	HARD COPY: ☐ E-MAIL: ☐
CONSULTANTS SIGNATURE:	CONSULTANTS EMAIL: misha.konarev@ade.group ; Juniad.Riaz@ade.group
PROJECT MANAGERS SIGNATURE:	PROJECT MANAGERS E-MAIL: Mathew.Toole@ade.group

LABORATORY REFERENCE NO. (Lab use ONLY):	A101021.0125.01/001/L05
RECEIVED BY: NC	SIGNATURE: N. Chamby
SAMPLES: 38 CHILLED: ☑	PRESERVED: ☐ PRESERVATION METHOD: ☐ CUSTODY SEAL INTACT: ☐
MINIMAL HEADSPACE : ☑	WITHIN HOLDING TIME: ☑
DATE: 11/4/24	TIME: 5:30pm TEMPERATURE UPON RECEIPT: 10.4 °C T46
LIMS LOT NO. 2401570	LIMS/EXCEL SIGNATURE: N. Chamby COMMENTS: On hold in tray #52

SAMPLE DATA				CONTAINER DATA		ANALYSES REQUIRED																		NOTES
LIMS Sample ID (Lab Use)	Sample ID (ADE)	MATRIX	SAMPLE DATE	TYPE & PRESERVATIVE	NO. OF SAMPLE CONTAINERS	OH07	SL01	CH20/CH21 (pH/EC)	CH41 (Phenols)	CH14 (Cyanide)	PS02 (PFAS Short Suite)													POTENTIAL HAZARDOUS CONTAMINANTS: ☐ ASBESTOS ☐ HYDROCARBONS ☐ LEAD/ARSENIC ☐ NO KNOWN CONTAMINATION ☐ OTHER_____ LAB PLEASE *EMAIL COC RECEIPT: ☐ Sample Comments
2024011																								
769	21.0125.DSI_TP1_Fill(0.1)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	2	X	X																	
770	21.0125.DSI_TP1_Fill(0.3)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1		X																	HOLD
771	21.0125.DSI_TP1_NAT(0.4)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1																			
772	21.0125.DSI_TP2_Fill(0.1)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	2	X	X																	HOLD
773	21.0125.DSI_TP2_Fill(0.4)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1																			
774	21.0125.DSI_TP2_NAT(0.5)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1		X																	
775	21.0125.DSI_TP3_Fill(0.1)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	3	X	X		X	X	X													
776	21.0125.DSI_TP3_Fill(0.4)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1		X																	HOLD
777	21.0125.DSI_TP3_NAT(0.5)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1																			
778	21.0125.DSI_TP4_Fill(0.1)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	2	X	X																	HOLD
779	21.0125.DSI_TP4_Fill(0.3)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1																			
780	21.0125.DSI_TP4_NAT(0.4)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1		X																	
781	21.0125.DSI_TP5_Fill(0.1)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	2	X	X																	HOLD
782	21.0125.DSI_TP5_Fill(0.2)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1																			HOLD
783	21.0125.DSI_TP5_NAT(0.3)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1																			
784	21.0125.DSI_TP6_Fill(0.1)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	3	X	X		X	X	X													
785	21.0125.DSI_TP6_Fill(0.3)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1		X																	
786	21.0125.DSI_TP6_NAT(0.5)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1		X																	
787	21.0125.DSI_TP7_Fill(0.1)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	2	X	X																	
788	21.0125.DSI_TP7_Fill(0.2)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1																			HOLD
789	21.0125.DSI_TP7_NAT(0.3)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1																			HOLD
790	21.0125.DSI_TP8_Fill(0.1)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	2	X	X																	
791	21.0125.DSI_TP8_Fill(0.3)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1		X																	
792	21.0125.DSI_TP8_NAT(0.4)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1		X																	
793	21.0125.DSI_TP9_Fill(0.1)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	3	X	X		X	X	X													
794	21.0125.DSI_TP9_Fill(0.3-0.4)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1																			HOLD
795	21.0125.DSI_TP9_NAT(0.5)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1																			HOLD
796	21.0125.DSI_TP10_Fill(0.1)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	2	X	X																	
797	21.0125.DSI_TP10_Fill(0.2)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1																			HOLD
798	21.0125.DSI_TP10_NAT(0.4)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1		X																	
799	21.0125.DSI_TP11_Fill(0.1)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	2	X	X																	
800	21.0125.DSI_TP11_Fill(0.4)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1																			HOLD
801	21.0125.DSI_TP11_NAT(0.5)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1																			HOLD
802	21.0125.DSI_TP12_Fill(0.1)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	3	X	X		X	X	X													
803	21.0125.DSI_TP12_Fill(0.3)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1		X																	
804	21.0125.DSI_TP12_NAT(0.6)	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1		X																	
805	21.0125.DSI_BR1	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1		X																	
806	21.0125.DSI_BR2	Soil	10-Apr	Plastic, Amber Glass, PFAS Container	1		X																	

Comments:

Container Type and Preservative: P = Unpreserved Plastic; PN = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; PNA = Sodium Hydroxide Preserved Plastic; PC = HCl preserved Plastic; VC = Vial HCl Preserved; SP = Sulfuric Preserved Plastic; VS = Vial Sodium Bisulphate Preserved; VS = Vial Sulfuric Preserved; V = Unpreserved Vial; G = Amber Glass Unpreserved; SG = Sulfuric Preserved Amber Glass; F = Formaldehyde Preserved Glass; HS = HCl preserved Speciation bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; I = Unpreserved Glass Jar; ASS = Plastic Bag for Acid Sulfate Soils; B = Unpreserved Bag.

19/4/24

Certificate of Analysis

Contact:	Matthew Toole	**Date Reported:**	18/04/2024
Customer:	ADE Consulting Group	**No. of Samples:**	2
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	12/04/2024
		Date of Analysis:	12/04/2024
Cust Ref:	A101021.0125.01 001 L05		

Glossary: *NATA accreditation does not cover the performance of this service
ND-not detected,
NT-not tested

Certificate of Analysis

			Sample ID:	2024011808	2024011809
			Sample Name	21.0125.01_TB	21.0125.01_TS
Parameter	*Units*	*PQL*	Sampling date: 10/04/2024	10/04/2024	
ESA-P-ORG08 & ORG10					
Benzene		1	<1 ug/L	117%	
Toluene		1	<1 ug/L	81%	
Ethylbenzene		1	<1 ug/L	117%	
m,p Xylene		2	<2 ug/L	124%	
o Xylene		1	<1 ug/L	111%	
Fluorobenzene (Surr.)	%		103	86	

Sydney Laboratory Services
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Accreditation No.14664
Accredited for compliance with ISO/IEC 17025 - Testing.

This Quality Control Report contains results of QAQC samples analysis and the Laboratory Acceptance Criteria.

This report supersedes any previous report(s) with this reference. This document shall not be reproduced, except in full.

This report has been electronically signed by authorised signatories below.

Authorised By

Kaiyu Li

General Comments

Duplicate samples and matrix spike may not be prepared on smaller jobs, however are analysed at frequency. QAQC samples shown within the report as e.g. Batch Blank, Batch Matrix Spike were performed on samples not reported on that Certificate of Analysis.

Blank This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in the same manner as for samples.
Duplicate This is the interlaboratory split of a random sample from the processed batch
Matrix Spike A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class.
Surr. (Surrogate Spike) Surrogates are known additions to each sample, blank and matrix spike or LCS in a batch. Surrogates are chosen as a compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Blank shall be < PQL
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals, 60-140% for organics/PFAS is acceptable. Matrix heterogeneity may result in matrix spike analyses falling outside these limits
RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:
Results <10 times the PQL : No Limit
Results between 10-20 times the PQL : RPD must lie between 0-50%
Results >20 times the PQL : RPD must lie between 0-30%
Surrogate Recoveries : Recoveries must lie between 50-150%

SLS is responsible for all the information in the report, except that provided by the customer.

All sampling information included in the report has been provided by customer.

Information provided by the customer can affect the validity of the results.

Quality Control Report

Contact:	Matthew Toole	**Date Reported:**	18/04/2024
Customer:	ADE Consulting Group	**No. of Samples:**	5
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	12/04/2024
		Date of Analysis:	12/04/2024

Cust Ref: A101021.0125.01 001 L05

Glossary:

*NATA accreditation does not cover the performance of this service
ND-not detected,
NT-not tested
INS-Insufficient material to perform the test
LCS-Laboratory Control Sample
RPD-Relative Percent Difference
N/A-Not Applicable
< less than
> greater than
PQL- Practical Quantitation Limit
^Analytical result might be compromised due to sample condition or holding time requirements
Reaction rate 1 = Slight
Reaction rate 2 = Moderate
Reaction rate 3 = High
Reaction rate 4 = Vigorous

Quality Control Report

		Sample ID:	**D202400759201**	**D202400761001**
		Sample Name	**MAC27-TP1-2.0-D**	**MAC27-TP8-1.0-D**
Parameter	***Units***	***PQL***		
ESA-P-ORG7 & ORG8				
Benzene			Pass	Pass
Toluene			Pass	Pass
Ethylbenzene			Pass	Pass
m.p Xylene			Pass	Pass
o Xylene			Pass	Pass
Fluorobenzene (Surr.)	%		67	63

		Sample ID:	**Q2024002071**
		Sample Name	
Parameter	***Units***	***PQL***	BTEX Blank - Soil
ESA-P-ORG7 & ORG8			
Benzene	mg/kg	0.5	<0.50
Toluene	mg/kg	0.5	<0.50
Ethylbenzene	mg/kg	1	<1.0
m.p Xylene	mg/kg	2	<2.0
o Xylene	mg/kg	1	<1.0

Sample ID:	**Q2024002072**
Sample Name	

Parameter	*Units*	*PQL*	BTEX Blank Sp-Soil
ESA-P-ORG7 & ORG8			
Benzene	%		69
Toluene	%		66
Ethylbenzene	%		69
m.p Xylene	%		73
o Xylene	%		77
Fluorobenzene (Surr.)	%		76

Sample ID:	**S202400759001**
Sample Name	**MAC27-TP1-1.0-D**

Parameter	*Units*	*PQL*	
ESA-P-ORG-07 & 08			
Benzene	%		69
Toluene	%		67
Ethylbenzene	%		64
m.p Xylene	%		73
o Xylene	%		77
Fluorobenzene (Surr.)	%		66

Sydney Laboratory Services

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Silverwater 2128
Ph: (02) 9648-6669

CLIENT DETAILS

Client	ADE Consulting Group
Contact	Matthew Toole
Samplers	Misha Konarev, Junaid Riaz

SAMPLE RECEIPT DETAILS

Project Number	A101021.0125.01/001/L05		
SLS Reference	2401572		
Number of samples	2		
Date samples received	11.04.2024		
Time samples received	5:30 PM		
Samples Received By	Natalie Chambers		
Temperature upon receipt (°C)	10.4	**Thermometer Ref NO.**	T46
Turn Around Time requested	5 Working Days		
Expected Report Date	**19.04.2024**		

CONDITION OF SAMPLES UPON RECEIVAL

No errors in COC provided.	✓
All samples were received in good condition.	✓
Evidence of chilling for samples.	✓
Appropriate use of sample containers have been used.	✓
Samples were delivered within holding time of analysis requested.	✓
Samples to be tested for volatiles received with zero headspace.	✓
Custody Seal intact (if used)	N/A

COMMENTS

This Report Contains:

Sample receipt non-conformities.
Summary of samples and requested analysis.
Requested report deliverables.

CONTACT US FOR ANY QUERIES

If you have any questions with respect to these samples please contact:

Email	sls@ade.group	**Contact**	Natalie Chambers
Phone	(+61) 0451 524 289	**Signed**	

Sydney Laboratory Services

A division of A. D. Envirotech Australia Pty Ltd
A.C.N. 093 452 950
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Ph: (02) 9648-6669

INFORMATION SUMMARY

SLS Reference	2401572
Project Number	A101021.0125.01/001/L05
Client	ADE Consulting Group
Contact	Matthew Toole
Samplers	Misha Konarev, Junaid Riaz

ANALYSIS UNDERWAY - Details of the following samples

			SUMMARY OF SAMPLES AND ANALYSIS REQUESTED
			CH05: BTEX
Laboratory Sample ID	Sampling Date	Client Sample ID	
2024011808	10.04.2024	21.0125.01_TB	X
2024011809	10.04.2024	21.0125.01_TS	X

Document Revision Date: 22/08/2022

ESA-F-02 COC - Chain Of Custody (Internal: Sydney Laboratory Services)

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ADE CONSULTING GROUP
SOLUTIONS THROUGH INNOVATION

FULL PROJECT NUMER (e.g., : A201021.1725.05)	A101021.0125.01
PROJECT PHASE (e.g.,: C01)	001
PROJECT TASK (e.g.,: C11)	L05
SAMPLES DELIVERED BY:	MK
SAMPLERS:	MK
TURNAROUND (BUSINESS DAY - BD):	SAME DAY: ☐ 1-BD: ☐ 2-BD: ☐ 3-BD: ☐ 5 BD (STD): ✠✠✠
SAMPLING DATE:	
AFTER TEST STORAGE:	ROOM TEMP: ☐ FRIDGE: ☐ FREEZER: ☐ > >4 WEEKS: ☐ OTHER: ☐
REPORT FORMAT:	HARD COPY: ☐ E-MAIL: ☐
CONSULTANTS SIGNATURE:	CONSULTANTS EMAIL: misha.konarev@ade.group ; Juniad.Riaz@ade.group
PROJECT MANAGERS SIGNATURE:	PROJECT MANAGERS E-MAIL: Mathew.Toole@ade.group

LABORATORY REFERENCE NO. (Lab use ONLY):	A101021.0125.01/001/L05
RECEIVED BY: NC	SIGNATURE: N. Chrumka
SAMPLES: 2 CHILLED: ☑	PRESERVED: ☐ PRESERVATION METHOD: ☐ CUSTODY SEAL INTACT: ☐
MINIMAL HEADSPACE : ☐	WITHIN HOLDING TIME: ☑
DATE: 11/4/24	TIME: 5:30PM TEMPERATURE UPON RECEIPT: 10.4 °C TR6
LIMS LOT NO. 2401572	LIMS/EXCEL SIGNATURE: N. Chrumka COMMENTS:

SAMPLE DATA				CONTAINER DATA		ANALYSES REQUIRED
LIMS Sample ID (Lab Use)	Sample ID (ADE)	MATRIX	SAMPLE DATE	TYPE & PRESERVATIVE	NO. OF SAMPLE CONTAINERS	BTEX
2024011 M 12/4/24						
808	21.0125.01_TB	WATER	10.04.2024	V	1	X
809	21.0125.01_TS	WATER	10.04.2024	V	1	X

NOTES

POTENTIAL HAZARDOUS CONTAMINANTS:

☐ ASBESTOS ☐ HYDROCARBONS
☐ LEAD/ARSENIC ☐ NO KNOWN CONTAMINATION
☐ OTHER:_____

LAB PLEASE *EMAIL COC RECEIPT: ☐

Sample Comments

Comments:

Container Type and Preservative: P = Unpreserved Plastic; PN = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; PNA = Sodium Hydroxide Preserved Plastic; PC = HCl preserved Plastic; VC = Vial HCl Preserved; SP = Sulfuric Preserved Plastic; VB = Vial Sodium Bisulphate Preserved; VS = Vial Sulfuric Preserved; V = Unpreserved Vial; G = Amber Glass Unpreserved; SG = Sulfuric Preserved Amber Glass; F = Formaldehyde Preserved Glass; HS = HCl preserved Speciation bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottle; ST = Sterile Bottle; J = Unpreserved Glass Jar; ASS = Plastic Bag for Acid Sulfate Soils; B = Unpreserved Bag.

12/4/24

Batch Number : 2401715

Report Number : A101021.0125.01 (989-991) TCLP

Sydney Laboratory Services

A division of A. D. Envirotech Australia Pty Ltd
A.C.N. 093 452 950
Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

Accreditation No.14664
Accredited for compliance with ISO/IEC 17025 - Testing.

This certificate of analysis contains General Comments and Analytical Results. Quality Control Report and Laboratory Quality Acceptance Criteria have been issued separately.

This report supersedes any previous report(s) with this reference. This document shall not be reproduced, except in full.

This report has been electronically signed by authorised signatories below.

Authorised By

Kaiyu Li

General Comments

Samples are analysed on as received basis. Sampling is not covered by NATA accreditation.

Where moisture determination has been performed, results are reported on dry weight basis.

Where the PQL of reported result differs from standard PQL, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Samples were analysed within holding time described by laboratory internal procedures if not stated otherwise. If samples delivered do not meet required analytical criteria, results will be marked with ^.

However surrogate standards are added to samples, results are not corrected for standards recoveries.

Analysis of VOC in water samples are performed on unfiltered waters (as received) spiked with surrogates and injection standards only.

Results for the analysis of metals is only for acid soluble trace metals unless indicated otherwise.

SLS is responsible for all the information in the report, except that provided by the customer.

All sampling information included in the report has been provided by customer.

Information provided by the customer can affect the validity of the results.

Certificate of Analysis

Contact:	Matthew Toole	**Date Reported:**	23/04/2024
Customer:	ADE Consulting Group	**No. of Samples:**	3
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	19/04/2024
		Date of Analysis:	22/04/2024

Cust Ref: A101021.0125.01 001 L05

Glossary:

*NATA accreditation does not cover the performance of this service
ND-not detected,
NT-not tested
INS-Insufficient material to perform the test
LCS-Laboratory Control Sample
RPD-Relative Percent Difference
N/A-Not Applicable
< less than
> greater than
PQL- Practical Quantitation Limit
^Analytical result might be compromised due to sample condition or holding time requirements
Reaction rate 1 = Slight
Reaction rate 2 = Moderate
Reaction rate 3 = High
Reaction rate 4 = Vigorous

Batch Number : 2401715

Report Number : A101021.0125.01 (989-991) TCLP

Certificate of Analysis

	Sample ID:	2024012989	2024012990	2024012991
	Sample Name	TP11_Fill(0.1)	TP12_Fill(0.1)	TP12_Fill(0.3)
Parameter	***Units***	***PQL***	Sampling date: 10/04/2024	10/04/2024	10/04/2024
ESA-MP-01,ICP-01					
Lead	mg/L	0.5	<0.5	<0.5	<0.5
ESA-P-21					
pH A	-		8.2	8.9	9.2
pH B	-		1.3	1.5	1.5
Extraction Fluid	-		1	1	1

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Silverwater 2128
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Batch Number : 2401715

Report Number : A101021.0125.01 (989-991) TCLP

Sydney Laboratory Services

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Unit 4/10-11 Millennium Court,
Silverwater 2128
Ph: (02) 9648-6669

Accreditation No.14664
Accredited for compliance with ISO/IEC 17025 - Testing.

This Quality Control Report contains results of QAQC samples analysis and the Laboratory Acceptance Criteria.

This report supersedes any previous report(s) with this reference. This document shall not be reproduced, except in full.

This report has been electronically signed by authorised signatories below.

Authorised By

Kaiyu Li

General Comments

Duplicate samples and matrix spike may not be prepared on smaller jobs, however are analysed at frequency. QAQC samples shown within the report as e.g. Batch Blank, Batch Matrix Spike were performed on samples not reported on that Certificate of Analysis.

Blank This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in the same manner as for samples.
Duplicate This is the interlaboratory split of a random sample from the processed batch
Matrix Spike A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample): This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class.
Surr. (Surrogate Spike) Surrogates are known additions to each sample, blank and matrix spike or LCS in a batch. Surrogates are chosen as a compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Blank shall be < PQL
Matrix Spikes and LCS: Generally 70-130% for inorganics/metals, 60-140% for organics/PFAS is acceptable. Matrix heterogeneity may result in matrix spike analyses falling outside these limits
RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:
Results <10 times the PQL : No Limit
Results between 10-20 times the PQL : RPD must lie between 0-50%
Results >20 times the PQL : RPD must lie between 0-30%
Surrogate Recoveries : Recoveries must lie between 50-150%

SLS is responsible for all the information in the report, except that provided by the customer.

All sampling information included in the report has been provided by customer.

Information provided by the customer can affect the validity of the results.

Quality Control Report

Contact:	Matthew Toole	**Date Reported:**	23/04/2024
Customer:	ADE Consulting Group	**No. of Samples:**	5
Address:	Unit 6 7 Millennium Court Silverwater NSW	**Date Received:**	19/04/2024
		Date of Analysis:	22/04/2024

Cust Ref: A101021.0125.01 001 L05

Glossary:

*NATA accreditation does not cover the performance of this service
ND-not detected,
NT-not tested
INS-Insufficient material to perform the test
LCS-Laboratory Control Sample
RPD-Relative Percent Difference
N/A-Not Applicable
< less than
> greater than
PQL- Practical Quantitation Limit
^Analytical result might be compromised due to sample condition or holding time requirements
Reaction rate 1 = Slight
Reaction rate 2 = Moderate
Reaction rate 3 = High
Reaction rate 4 = Vigorous

Quality Control Report

		Sample ID:	**D202401029301**	**D202401188001**
		Sample Name	**WAC185_TP1_1.9-2.0**	**WAC4**
Parameter	***Units***	***PQL***		
ESA-MP-01,ICP-01				
Lead			Pass	Pass

		Sample ID:	**Q2024002307**
		Sample Name	
Parameter	***Units***	***PQL***	Metals Blank - TCLP
ESA-MP-01,ICP-01			
Lead	mg/L	0.5	<0.5

		Sample ID:	**Q2024002308**
		Sample Name	
Parameter	***Units***	***PQL***	Metals Blank Sp-TCLP
ESA-MP-01,ICP-01			
Lead	%		107

		Sample ID:	**S202401029201**
		Sample Name	**WAC185_TP1_0.9-1.0**
Parameter	***Units***	***PQL***	
ESA-MP-01,ICP-01			
Lead	%		109

Sydney Laboratory Services
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CERTIFICATE OF ANALYSIS 348753

Client Details

Client	ADE CONSULTING GROUP PTY LTD
Attention	Misha Konarev, Juniad Riaz, Matthew Toole
Address	Unit 6, 7 Millenium Court, Silverwater, NSW, 2128

Sample Details

Your Reference	**21.0125.01.DSI**
Number of Samples	4 Soil
Date samples received	12/04/2024
Date completed instructions received	12/04/2024

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	19/04/2024
Date of Issue	19/04/2024

NATA Accreditation Number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Results Approved By
Diego Bigolin, Inorganics Supervisor
Dragana Tomas, Senior Chemist
Giovanni Agosti, Group Technical Manager
Jenny He, Senior Chemist
Loren Bardwell, Development Chemist
Timothy Toll, Senior Chemist

Authorised By
Nancy Zhang, Laboratory Manager

vTRH(C6-C10)/BTEXN in Soil			
Our Reference		348753-1	348753-2
Your Reference	UNITS	21.0125.01_SR1	21.0125.01_SR2
Depth		0.1	0.1
Date Sampled		10/04/2024	10/04/2024
Type of sample		Soil	Soil
Date extracted	-	16/04/2024	16/04/2024
Date analysed	-	19/04/2024	19/04/2024
TRH C_6 - C_9	mg/kg	<25	<25
TRH C_6 - C_{10}	mg/kg	<25	<25
vTRH C_6 - C_{10} less BTEX (F1)	mg/kg	<25	<25
Benzene	mg/kg	<0.2	<0.2
Toluene	mg/kg	<0.5	<0.5
Ethylbenzene	mg/kg	<1	<1
m+p-xylene	mg/kg	<2	<2
o-Xylene	mg/kg	<1	<1
Naphthalene	mg/kg	<1	<1
Total +ve Xylenes	mg/kg	<1	<1
Surrogate aaa-Trifluorotoluene	%	88	87

svTRH (C10-C40) in Soil			
Our Reference		348753-1	348753-2
Your Reference	UNITS	21.0125.01_SR1	21.0125.01_SR2
Depth		0.1	0.1
Date Sampled		10/04/2024	10/04/2024
Type of sample		Soil	Soil
Date extracted	-	16/04/2024	16/04/2024
Date analysed	-	19/04/2024	19/04/2024
TRH C_{10} - C_{14}	mg/kg	<50	<50
TRH C_{15} - C_{28}	mg/kg	<100	<100
TRH C_{29} - C_{36}	mg/kg	<100	<100
Total +ve TRH (C10-C36)	mg/kg	<50	<50
TRH >C_{10} -C_{16}	mg/kg	<50	<50
TRH >C_{10} -C_{16} less Naphthalene (F2)	mg/kg	<50	<50
TRH >C_{16} -C_{34}	mg/kg	<100	<100
TRH >C_{34} -C_{40}	mg/kg	<100	<100
Total +ve TRH (>C10-C40)	mg/kg	<50	<50
Surrogate o-Terphenyl	%	91	89

PAHs in Soil			
Our Reference		348753-1	348753-2
Your Reference	UNITS	21.0125.01_SR1	21.0125.01_SR2
Depth		0.1	0.1
Date Sampled		10/04/2024	10/04/2024
Type of sample		Soil	Soil
Date extracted	-	16/04/2024	16/04/2024
Date analysed	-	17/04/2024	17/04/2024
Naphthalene	mg/kg	<0.1	<0.1
Acenaphthylene	mg/kg	<0.1	<0.1
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	<0.1	<0.1
Phenanthrene	mg/kg	<0.1	<0.1
Anthracene	mg/kg	<0.1	<0.1
Fluoranthene	mg/kg	<0.1	<0.1
Pyrene	mg/kg	<0.1	0.1
Benzo(a)anthracene	mg/kg	<0.1	<0.1
Chrysene	mg/kg	<0.1	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2	<0.2
Benzo(a)pyrene	mg/kg	<0.05	0.09
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1	0.1
Total +ve PAH's	mg/kg	<0.05	0.4
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5	<0.5
Surrogate p-Terphenyl-d14	%	85	87

Organochlorine Pesticides in soil			
Our Reference		348753-1	348753-2
Your Reference	UNITS	21.0125.01_SR1	21.0125.01_SR2
Depth		0.1	0.1
Date Sampled		10/04/2024	10/04/2024
Type of sample		Soil	Soil
Date extracted	-	16/04/2024	16/04/2024
Date analysed	-	17/04/2024	17/04/2024
alpha-BHC	mg/kg	<0.1	<0.1
HCB	mg/kg	<0.1	<0.1
beta-BHC	mg/kg	<0.1	<0.1
gamma-BHC	mg/kg	<0.1	<0.1
Heptachlor	mg/kg	<0.1	<0.1
delta-BHC	mg/kg	<0.1	<0.1
Aldrin	mg/kg	<0.1	<0.1
Heptachlor Epoxide	mg/kg	<0.1	<0.1
gamma-Chlordane	mg/kg	<0.1	<0.1
alpha-chlordane	mg/kg	<0.1	<0.1
Endosulfan I	mg/kg	<0.1	<0.1
pp-DDE	mg/kg	<0.1	<0.1
Dieldrin	mg/kg	<0.1	<0.1
Endrin	mg/kg	<0.1	<0.1
Endosulfan II	mg/kg	<0.1	<0.1
pp-DDD	mg/kg	<0.1	<0.1
Endrin Aldehyde	mg/kg	<0.1	<0.1
pp-DDT	mg/kg	<0.1	<0.1
Endosulfan Sulphate	mg/kg	<0.1	<0.1
Methoxychlor	mg/kg	<0.1	<0.1
Mirex	mg/kg	<0.1	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	89	84

Organophosphorus Pesticides in Soil			
Our Reference		348753-1	348753-2
Your Reference	UNITS	21.0125.01_SR1	21.0125.01_SR2
Depth		0.1	0.1
Date Sampled		10/04/2024	10/04/2024
Type of sample		Soil	Soil
Date extracted	-	16/04/2024	16/04/2024
Date analysed	-	17/04/2024	17/04/2024
Dichlorvos	mg/kg	<0.1	<0.1
Mevinphos	mg/kg	<0.1	<0.1
Phorate	mg/kg	<0.1	<0.1
Dimethoate	mg/kg	<0.1	<0.1
Diazinon	mg/kg	<0.1	<0.1
Disulfoton	mg/kg	<0.1	<0.1
Chlorpyrifos-methyl	mg/kg	<0.1	<0.1
Parathion-Methyl	mg/kg	<0.1	<0.1
Ronnel	mg/kg	<0.1	<0.1
Fenitrothion	mg/kg	<0.1	<0.1
Malathion	mg/kg	<0.1	<0.1
Chlorpyriphos	mg/kg	<0.1	<0.1
Fenthion	mg/kg	<0.1	<0.1
Parathion	mg/kg	<0.1	<0.1
Bromophos-ethyl	mg/kg	<0.1	<0.1
Methidathion	mg/kg	<0.1	<0.1
Fenamiphos	mg/kg	<0.1	<0.1
Ethion	mg/kg	<0.1	<0.1
Phosalone	mg/kg	<0.1	<0.1
Azinphos-methyl (Guthion)	mg/kg	<0.1	<0.1
Coumaphos	mg/kg	<0.1	<0.1
Surrogate 4-Chloro-3-NBTF	%	89	84

PCBs in Soil			
Our Reference		348753-1	348753-2
Your Reference	UNITS	21.0125.01_SR1	21.0125.01_SR2
Depth		0.1	0.1
Date Sampled		10/04/2024	10/04/2024
Type of sample		Soil	Soil
Date extracted	-	16/04/2024	16/04/2024
Date analysed	-	17/04/2024	17/04/2024
Aroclor 1016	mg/kg	<0.1	<0.1
Aroclor 1221	mg/kg	<0.1	<0.1
Aroclor 1232	mg/kg	<0.1	<0.1
Aroclor 1242	mg/kg	<0.1	<0.1
Aroclor 1248	mg/kg	<0.1	<0.1
Aroclor 1254	mg/kg	<0.1	<0.1
Aroclor 1260	mg/kg	<0.1	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1	<0.1
Surrogate 2-Fluorobiphenyl	%	80	83

Acid Extractable metals in soil					
Our Reference		348753-1	348753-2	348753-3	348753-4
Your Reference	UNITS	21.0125.01_SR1	21.0125.01_SR2	21.0125.01_TP6	21.0125.01_TP12
Depth		0.1	0.1	0.1	0.1
Date Sampled		10/04/2024	10/04/2024	10/04/2024	10/04/2024
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	16/04/2024	16/04/2024	16/04/2024	16/04/2024
Date analysed	-	17/04/2024	17/04/2024	17/04/2024	17/04/2024
Arsenic	mg/kg	5	15	[NA]	[NA]
Cadmium	mg/kg	<0.4	<0.4	[NA]	[NA]
Chromium	mg/kg	23	40	[NA]	[NA]
Copper	mg/kg	34	23	[NA]	[NA]
Lead	mg/kg	120	36	[NA]	[NA]
Mercury	mg/kg	<0.1	<0.1	[NA]	[NA]
Nickel	mg/kg	15	14	[NA]	[NA]
Zinc	mg/kg	150	56	[NA]	[NA]
Iron	mg/kg	[NA]	[NA]	72,000	61,000

Misc Inorg - Soil			
Our Reference		348753-3	348753-4
Your Reference	UNITS	21.0125.01_TP6	21.0125.01_TP12
Depth		0.1	0.1
Date Sampled		10/04/2024	10/04/2024
Type of sample		Soil	Soil
Date prepared	-	12/04/2024	12/04/2024
Date analysed	-	16/04/2024	16/04/2024
pH 1:5 soil:water	pH Units	7.2	8.6
Electrical Conductivity 1:5 soil:water	µS/cm	48	170
Total Organic Carbon (Combustion)	mg/kg	4,700	8,600

CEC			
Our Reference		348753-3	348753-4
Your Reference	UNITS	21.0125.01_TP6	21.0125.01_TP12
Depth		0.1	0.1
Date Sampled		10/04/2024	10/04/2024
Type of sample		Soil	Soil
Date prepared	-	17/04/2024	17/04/2024
Date analysed	-	17/04/2024	17/04/2024
Exchangeable Ca	meq/100g	0.5	16
Exchangeable K	meq/100g	<0.1	0.2
Exchangeable Mg	meq/100g	0.8	1.9
Exchangeable Na	meq/100g	0.3	0.3
Cation Exchange Capacity	meq/100g	1.6	19

Clay 50-120g			
Our Reference		348753-3	348753-4
Your Reference	UNITS	21.0125.01_TP6	21.0125.01_TP12
Depth		0.1	0.1
Date Sampled		10/04/2024	10/04/2024
Type of sample		Soil	Soil
Date prepared	-	17/04/2024	17/04/2024
Date analysed	-	18/04/2024	18/04/2024
Clay in soils <2µm	% (w/w)	5	9

Moisture					
Our Reference		348753-1	348753-2	348753-3	348753-4
Your Reference	UNITS	21.0125.01_SR1	21.0125.01_SR2	21.0125.01_TP6	21.0125.01_TP12
Depth		0.1	0.1	0.1	0.1
Date Sampled		10/04/2024	10/04/2024	10/04/2024	10/04/2024
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	16/04/2024	16/04/2024	16/04/2024	16/04/2024
Date analysed	-	17/04/2024	17/04/2024	17/04/2024	17/04/2024
Moisture	%	27	12	7.6	17

Method ID	Methodology Summary
AS1289.3.6.3	Particle Size Distribution using in house method INORG-107 by way of sieving and/or hydrometer sedimentation testing. Clay fraction at <2µm reported.
Inorg-001	pH - Measured using pH meter and electrode. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-128	Dissolved or Total Carbon or Dissolved or Total Organic/Inorganic Carbon using the combustion method, high temperature catalytic combustion with NDIR.
Metals-020	Determination of various metals by ICP-AES.
Metals-020	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-OES analytical finish.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-021/022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD and/or GC-MS/GC-MSMS. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.

Method ID	Methodology Summary
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			16/04/2024	[NT]	[NT]	[NT]	[NT]	16/04/2024	[NT]
Date analysed	-			19/04/2024	[NT]	[NT]	[NT]	[NT]	19/04/2024	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	106	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	106	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	100	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	103	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	113	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	125	[NT]
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	94	[NT]	[NT]	[NT]	[NT]	95	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			16/04/2024	[NT]	[NT]	[NT]	[NT]	16/04/2024	[NT]
Date analysed	-			19/04/2024	[NT]	[NT]	[NT]	[NT]	19/04/2024	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	133	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	116	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	133	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	116	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate o-Terphenyl	%		Org-020	104	[NT]	[NT]	[NT]	[NT]	111	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			16/04/2024	[NT]	[NT]	[NT]	[NT]	16/04/2024	[NT]
Date analysed	-			17/04/2024	[NT]	[NT]	[NT]	[NT]	17/04/2024	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	86	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	80	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	94	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	94	[NT]	[NT]	[NT]	[NT]	93	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			16/04/2024	[NT]	[NT]	[NT]	[NT]	16/04/2024	[NT]
Date analysed	-			17/04/2024	[NT]	[NT]	[NT]	[NT]	17/04/2024	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
HCB	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	114	[NT]
Endrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	90	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Mirex	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	91	[NT]	[NT]	[NT]	[NT]	93	[NT]

QUALITY CONTROL: Organophosphorus Pesticides in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			16/04/2024	[NT]	[NT]	[NT]	[NT]	16/04/2024	[NT]
Date analysed	-			17/04/2024	[NT]	[NT]	[NT]	[NT]	17/04/2024	[NT]
Dichlorvos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	118	[NT]
Mevinphos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phorate	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethoate	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Disulfoton	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyrifos-methyl	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion-Methyl	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ronnel	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	114	[NT]
Fenitrothion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Malathion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	116	[NT]
Chlorpyriphos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Fenthion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Bromophos-ethyl	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methidathion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fenamiphos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	118	[NT]
Phosalone	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azinphos-methyl (Guthion)	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Coumaphos	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-022/025	91	[NT]	[NT]	[NT]	[NT]	93	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			16/04/2024	[NT]	[NT]	[NT]	[NT]	16/04/2024	[NT]
Date analysed	-			17/04/2024	[NT]	[NT]	[NT]	[NT]	17/04/2024	[NT]
Aroclor 1016	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Aroclor 1260	mg/kg	0.1	Org-021/022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-021/022/025	79	[NT]	[NT]	[NT]	[NT]	83	[NT]

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date prepared	-			16/04/2024	[NT]	[NT]	[NT]	[NT]	16/04/2024	[NT]
Date analysed	-			17/04/2024	[NT]	[NT]	[NT]	[NT]	17/04/2024	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	108	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	106	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Iron	mg/kg	10	Metals-020	<10	[NT]	[NT]	[NT]	[NT]	96	[NT]

QUALITY CONTROL: Misc Inorg - Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			12/04/2024	[NT]	[NT]	[NT]	[NT]	12/04/2024	[NT]
Date analysed	-			16/04/2024	[NT]	[NT]	[NT]	[NT]	16/04/2024	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	101	[NT]
Electrical Conductivity 1:5 soil:water	µS/cm	1	Inorg-002	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Total Organic Carbon (Combustion)	mg/kg	100	Inorg-128	<100	[NT]	[NT]	[NT]	[NT]	100.0	[NT]

QUALITY CONTROL: CEC						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			17/04/2024	[NT]	[NT]	[NT]	[NT]	17/04/2024	[NT]
Date analysed	-			17/04/2024	[NT]	[NT]	[NT]	[NT]	17/04/2024	[NT]
Exchangeable Ca	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	115	[NT]
Exchangeable K	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	115	[NT]
Exchangeable Mg	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	115	[NT]
Exchangeable Na	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	101	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

CHAIN OF CUSTODY FORM - Client

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Project Mgr: Misha Konarev	Envirolab Quote No. :
Sampler: Misha Konarev	Date results required: 5 DAY TAT
Address: Laing O'Rourke Compound adjacent Harris Street, Saint Marys NSW	Or choose: standard / same day / 1 day / 2 day / 3 day *Note: Inform lab in advance if urgent turnaround is required - surcharges apply*
Phone: 04 2441 0724 Mob:	Additional report format: esdat / equis /
Email: Mathew.Toole@ade.group ; Misha.Konarev@ade.group ; Juniad.Riaz@ade.group	Lab Comments:

Sample Information					Tests Required															Comments
Envirolab Sample ID	Client Sample ID or Information	Depth	Date sampled	Type of sample	Standard Suite (PAH, TRH, BTEX, OCP, OPP, PCB, 8 metals)	pH/ EC	Clay Conent	TOC	Fe	CEC										Provide as much information about the sample as you can
1	21.0125.01_SR1	0.1	10.04.2024	Soil	X															
2	21.0125.01_SR2	0.1	10.04.2025	Soil	X															
3	21.0125.01_TP6	0.1	10.04.2026	Soil		X	X	X	X	X										Please use 1kg bag for Clay Content
4	21.0125.01_TP12	0.1	10.04.2027	Soil		X	X	X	X	X										Please use 1kg bag for Clay Content

☐ *Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis*

Relinquished by (Company):	Received by (Company): ELSSYD	*Lab Use Only*	
Print Name:	Print Name: C. WILLIAMS	Job number: 348753	Cooling: Ice / Ice pack / None
Date & Time:	Date & Time: 17/4/24 1455	Temperature: 22	Security seal: Intact / Broken / None
Signature:	Signature:	TAT Req - SAME day / 1 / 2 / 3 / 4 / STD	

Appendix H – Site Development Plan

ST MARYS

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

COVER SHEET

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

TB Security Classification: OFFICIAL

PRELIMINARY

REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE:

NSW GOVERNMENT Transport for NSW

LAING O'ROURKE

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Architectural

DRAWN	ANDREW V. ZANTEN	20.02.2024
DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS
MAIN WEST LINE - 47.420KM
FOOTBRIDGE ST MARYS - TAP3 MC T2
ARCHITECTURE - MAINWORKS
COVER SHEET

FILE No: 00001 | SHEET: 1 OF 1 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-00001	B	01		

File Plotted BIM 360://AAU-30122514-TAP-St Mary's Footbridge/150511-STM-AR-M3D-00101.rvt

Plot Date & Time 28/02/2024 11:41:58 AM

DRAWING INDEX

Sheet Number	Sheet Title	Revision
150511-STM-AR-DRG-00001	COVER SHEET	B
150511-STM-AR-DRG-00002	DRAWING LIST	B
150511-STM-AR-DRG-00003	LEGEND	B
150511-STM-AR-DRG-00101	SITE PLAN - OVERALL	B
150511-STM-AR-DRG-20001	OVERALL PLAN - PLATFORM LEVEL	B
150511-STM-AR-DRG-20021	OVERALL PLAN - MEZZANINE LEVEL	B
150511-STM-AR-DRG-20031	OVERALL PLAN - FOOTBRIDGE LEVEL	B
150511-STM-AR-DRG-20091	OVERALL PLAN - ROOF LEVEL	B
150511-STM-AR-DRG-21011	GA PLATFORM LEVEL PLAN	B
150511-STM-AR-DRG-21021	GA MEZZANINE LEVEL PLAN	B
150511-STM-AR-DRG-21031	GA FOOTBRIDGE LEVEL PLAN	B
150511-STM-AR-DRG-21091	GA ROOF LEVEL PLAN	A
150511-STM-AR-DRG-21111	GA NORTHERN PLAZA	A
150511-STM-AR-DRG-21121	BAZ LOCATION SETOUT	A
150511-STM-AR-DRG-22011	GA DETAIL FLOOR PLAN - PLATFORM LEVEL - SHEET 1 OF 2	B
150511-STM-AR-DRG-22012	GA DETAIL FLOOR PLAN - PLATFORM LEVEL - SHEET 2 OF 2	B
150511-STM-AR-DRG-22021	GA DETAIL FLOOR PLAN - MEZZANINE LEVEL - SHEET 1 OF 2	B
150511-STM-AR-DRG-22022	GA DETAIL FLOOR PLAN - MEZZANINE LEVEL - SHEET 2 OF 2	B
150511-STM-AR-DRG-22031	GA DETAIL FLOOR PLAN - FOOTBRIDGE LEVEL - SHEET 1 OF 2	B
150511-STM-AR-DRG-22032	GA DETAIL FLOOR PLAN - FOOTBRIDGE LEVEL - SHEET 2 OF 2	B
150511-STM-AR-DRG-22991	GA DETAIL FLOOR PLAN - ROOF LEVEL - SHEET 1 OF 2	B
150511-STM-AR-DRG-22992	GA DETAIL FLOOR PLAN - ROOF LEVEL - SHEET 2 OF 2	B
150511-STM-AR-DRG-24011	REFLECTED CEILING PLAN - PLATFORM LEVEL PLAN SHEET 1 OF 2	B
150511-STM-AR-DRG-24012	REFLECTED CEILING PLAN - PLATFORM LEVEL PLAN SHEET 2 OF 2	B
150511-STM-AR-DRG-24021	REFLECTED CEILING PLAN - MEZZANINE LEVEL PLAN SHEET 1 OF 2	B
150511-STM-AR-DRG-24022	REFLECTED CEILING PLAN - MEZZANINE LEVEL PLAN SHEET 2 OF 2	B
150511-STM-AR-DRG-24031	REFLECTED CEILING PLAN - FOOTBRIDGE LEVEL SHEET 1 OF 2	B
150511-STM-AR-DRG-24032	REFLECTED CEILING PLAN - FOOTBRIDGE LEVEL SHEET 2 OF 2	B
150511-STM-AR-DRG-30001	OVERALL ELEVATIONS - SHEET 1 OF 2	B
150511-STM-AR-DRG-30002	OVERALL ELEVATIONS - SHEET 2 OF 2	B
150511-STM-AR-DRG-31001	DETAIL EAST ELEVATIONS – SHEET 1 OF 4	B
150511-STM-AR-DRG-31002	DETAIL WEST ELEVATIONS – SHEET 2 OF 4	B
150511-STM-AR-DRG-31003	DETAIL SOUTH ELEVATIONS – SHEET 3 OF 4	B
150511-STM-AR-DRG-31004	DETAIL NORTH ELEVATIONS – SHEET 4 OF 4	B
150511-STM-AR-DRG-31501	SYDNEY TRAINS BUILDING - DETAIL ELEVATIONS	B
150511-STM-AR-DRG-33001	OVERALL SECTIONS	B
150511-STM-AR-DRG-33004	DETAIL SECTIONS - SHEET 1 OF 2	B
150511-STM-AR-DRG-33005	DETAIL SECTIONS - SHEET 2 OF 2	A
150511-STM-AR-DRG-33501	SYDNEY TRAINS BUILDING - DETAIL SECTIONS	B
150511-STM-AR-DRG-50001	SYDNEY TRAINS BUILDING - GROUND LEVEL PLAN	B
150511-STM-AR-DRG-50011	SYDNEY TRAINS BUILDING - MEZZANINE LEVEL PLAN	B
150511-STM-AR-DRG-50031	SYDNEY TRAINS BUILDING - FOOTBRIDGE LEVEL PLAN	B
150511-STM-AR-DRG-50091	SYDNEY TRAINS BUILDING - ROOF LEVEL PLAN	B
150511-STM-AR-DRG-50201	SYDNEY TRAINS BUILDING - RCP GROUND LEVEL	B
150511-STM-AR-DRG-50211	SYDNEY TRAINS BUILDING - RCP MEZZANINE LEVEL	B
150511-STM-AR-DRG-50231	SYDNEY TRAINS BUILDING - RCP FOOTBRIDGE LEVEL	B
150511-STM-AR-DRG-50701	SYDNEY TRAINS BUILDING - ROOM DATA SHEET - 1002 COMMS ROOM	B
150511-STM-AR-DRG-50702	SYDNEY TRAINS BUILDING - ROOM DATA SHEET - 1003 COMMS AC EQUIPMENT SPACE	B
150511-STM-AR-DRG-50703	SYDNEY TRAINS BUILDING - ROOM DATA SHEET - 1004 ELECTRICAL ROOM	B
150511-STM-AR-DRG-50704	SYDNEY TRAINS BUILDING - ROOM DATA SHEET - 1005 FCC / MECH ROOM	B
150511-STM-AR-DRG-50705	SYDNEY TRAINS BUILDING - ROOM DATA SHEET - 2003 STORAGE ROOM 1	B
150511-STM-AR-DRG-50706	SYDNEY TRAINS BUILDING - ROOM DATA SHEET - 2004 CLEANERS / WASTE	A
150511-STM-AR-DRG-50707	SYDNEY TRAINS BUILDING - ROOM DATA SHEET - 2005 CLEANING MACHINE ROOM	A
150511-STM-AR-DRG-50708	SYDNEY TRAINS BUILDING - ROOM DATA SHEET - 2006 STORAGE ROOM 2	A
150511-STM-AR-DRG-50709	SYDNEY TRAINS BUILDING - ROOM DATA SHEET - 2008 STORAGE ROOM 3	A
150511-STM-AR-DRG-50710	SYDNEY TRAINS BUILDING - ROOM DATA SHEET - 3003 MEETING ROOM	A
150511-STM-AR-DRG-50711	SYDNEY TRAINS BUILDING - ROOM DATA SHEET - 3004 KITCHENETTE	A
150511-STM-AR-DRG-50712	SYDNEY TRAINS BUILDING - ROOM DATA SHEET - 3005 STATION OFFICE	A
150511-STM-AR-DRG-50713	SYDNEY TRAINS BUILDING - ROOM DATA SHEET - 3007 ACCESSIBLE TOILET	A

DRAWING INDEX

Sheet Number	Sheet Title	Revision
150511-STM-AR-DRG-51001	DAY 1 SECURED BICYCLE SHED - FLOOR PLAN, RCP	B
150511-STM-AR-DRG-51002	DAY 1 SECURED BICYCLE SHED - ROOF PLAN, 3D VIEW	B
150511-STM-AR-DRG-51003	DAY 1 SECURED BICYCLE SHED - ELEVATIONS	B
150511-STM-AR-DRG-51004	DAY 1 SECURED BICYCLE SHED - SECTIONS	B
150511-STM-AR-DRG-52332	SSTOM INTERFACE - SECTIONS	B
150511-STM-AR-DRG-53331	FOOTBRIDGE - SECTIONS - SHEET 01 OF 04	B
150511-STM-AR-DRG-53333	FOOTBRIDGE - SECTIONS - SHEET 02 OF 04	B
150511-STM-AR-DRG-53334	FOOTBRIDGE - SECTIONS - SHEET 03 OF 04	B
150511-STM-AR-DRG-53335	FOOTBRIDGE - SECTIONS - SHEET 04 OF 04	B
150511-STM-AR-DRG-53631	FOOTBRIDGE - SECTIONS	A
150511-STM-AR-DRG-53632	CONCOURSE - SECTIONS	A
150511-STM-AR-DRG-54001	PLATFORM CANOPY SECTIONS	A
150511-STM-AR-DRG-54002	PLATFORM CANOPY HERITAGE INTERFACE - SECTIONS	A
150511-STM-AR-DRG-55003	VERTICAL TRANSPORT - PLATFORM STAIR ELEVATIONS	B
150511-STM-AR-DRG-55004	VERTICAL TRANSPORT - PLATFORM STAIR SECTIONS	B
150511-STM-AR-DRG-55102	VERTICAL TRANSPORT - NORTHERN ENTRY STAIR ELEVATIONS	B
150511-STM-AR-DRG-55103	VERTICAL TRANSPORT - NORTHERN ENTRY STAIR SECTIONS	B
150511-STM-AR-DRG-55201	VERTICAL TRANSPORT - CONCOURSE LIFT 3 AND 4 PLANS	B
150511-STM-AR-DRG-55205	VERTICAL TRANSPORT - CONCOURSE LIFT 3 AND 4 SECTIONS	B
150511-STM-AR-DRG-55301	VERTICAL TRANSPORT - NORTHERN ENTRY LIFT 5 PLANS	B
150511-STM-AR-DRG-55303	VERTICAL TRANSPORT - NORTHERN ENTRY LIFT 5 SECTION	B
150511-STM-AR-DRG-55403	VERTICAL TRANSPORT - PLATFORM ESCALATOR ELEVATIONS	B
150511-STM-AR-DRG-55404	VERTICAL TRANSPORT - PLATFORM ESCALATOR SECTIONS	B
150511-STM-AR-DRG-60005	SYDNEY TRAINS BUILDING - TYPICAL PLAN DETAILS	B
150511-STM-AR-DRG-63001	FOOTBRIDGE - TYPICAL DETAILS	B
150511-STM-AR-DRG-63404	CONCOURSE - ROOF DETAILS	A
150511-STM-AR-DRG-64001	PLATFORM CANOPY DETAILS	A
150511-STM-AR-DRG-64002	PLATFORM GLAZING CANOPY DETAILS	A
150511-STM-AR-DRG-80001	SECTIONAL PERSPECTIVE - TYPICAL FOOTBRIDGE	A
150511-STM-AR-DRG-80002	SECTIONAL PERSPECTIVE - TYPICAL ESCALATOR AND LIFT	A
150511-STM-AR-DRG-80003	SECTIONAL PERSPECTIVE - OFFICE BUILDING	A
150511-STM-AR-DRG-90011	DOOR SCHEDULES	B
150511-STM-AR-DRG-90012	DOOR ELEVATIONS - CLADDING	B
150511-STM-AR-DRG-90013	DOOR ELEVATIONS - CLADDING	B
150511-STM-AR-DRG-90014	DOOR ELEVATIONS - INTERNAL	B
150511-STM-AR-DRG-90015	DOOR ELEVATIONS - ROLLER SHUTTER	B
150511-STM-AR-DRG-90021	WINDOW ELEVATIONS - SHEET 1 OF 2	B
150511-STM-AR-DRG-90022	WINDOW ELEVATIONS - SHEET 2 OF 2	A
150511-STM-AR-DRG-90031	WALL SCHEDULE	B
150511-STM-AR-DRG-90041	DIGITAL MATERIALS BOARD	B

Grand total: 99

NOTES ON THIS ISSUE:

THE FOLLOWING DRAWINGS HAVE BEEN RENUMBERED FROM REVISION A TO REVISION B:

REVISION A	REVISION B
150511-STM-AR-DRG-21991 GA ROOF LEVEL PLAN	150511-STM-AR-DRG-21091 GA ROOF LEVEL PLAN
150511-STM-AR-DRG-21001 GA GROUND FLOOR LEVEL PLAN – NORTHERN PLAZA	150511-STM-AR-DRG-21111 GA NORTHERN PLAZA
150511-STM-AR-DRG-21012 BAZ LOCATION SETOUT	150511-STM-AR-DRG-21112 BAZ LOCATION SETOUT

THE FOLLOWING DRAWINGS HAVE BEEN RENAMED FROM REVISION A TO REVISION B:

REVISION A	REVISION B
150511-STM-AR-DRG-31501 DETAIL ELEVATIONS - SYDNEY TRAINS BUILDING	150511-STM-AR-DRG-31501 SYDNEY TRAINS BUILDING - DETAIL ELEVATIONS
150511-STM-AR-DRG-33001 DETAIL EAST ELEVATIONS – SHEET 1 OF 4	150511-STM-AR-DRG-31501 OVERALL SECTIONS
150511-STM-AR-DRG-33004 DETAIL EAST ELEVATIONS – SHEET 1 OF 4	150511-STM-AR-DRG-33004 DETAIL SECTIONS - SHEET 1 OF 2
150511-STM-AR-DRG-50701 SYDNEY TRAINS BUILDING - ROOM INTERNAL ELEVATIONS - SHEET 1 OF 5 A	150511-STM-AR-DRG-50701 SYDNEY TRAINS BUILDING - ROOM DATA SHEET - 1002 COMMS ROOM
150511-STM-AR-DRG-50702 SYDNEY TRAINS BUILDING - ROOM INTERNAL ELEVATIONS - SHEET 2 OF 5 A	150511-STM-AR-DRG-50702 SYDNEY TRAINS BUILDING - ROOM DATA SHEET - 1003 COMMS AC EQUIPMENT SPACE
150511-STM-AR-DRG-50703 SYDNEY TRAINS BUILDING - ROOM INTERNAL ELEVATIONS - SHEET 3 OF 5 A	150511-STM-AR-DRG-50703 SYDNEY TRAINS BUILDING - ROOM DATA SHEET - 1004 ELECTRICAL ROOM
150511-STM-AR-DRG-50704 SYDNEY TRAINS BUILDING - ROOM INTERNAL ELEVATIONS - SHEET 4 OF 5 A	150511-STM-AR-DRG-50704 SYDNEY TRAINS BUILDING - ROOM DATA SHEET - 1005 FCC / MECH ROOM
150511-STM-AR-DRG-50705 SYDNEY TRAINS BUILDING - ROOM INTERNAL ELEVATIONS - SHEET 5 OF 5	150511-STM-AR-DRG-50705 SYDNEY TRAINS BUILDING - ROOM DATA SHEET - 2003 STORAGE ROOM 1
150511-STM-AR-DRG-52332 SSTOM INTERFACE - SECTIONS - SHEET 02 OF 02	150511-STM-AR-DRG-52332 SSTOM INTERFACE - SECTIONS

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REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
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COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE:

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Architectural

DRAWN	ANDREW V. ZANTEN	20.02.2024
DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

DRAWING LIST

FILE No: 00002 | SHEET: 1 OF 1 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-00002	B	01		

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Plot Date & Time 28/02/2024 11:42:03 AM

GENERAL NOTES

1. ARCHITECTURAL DRAWINGS SHOULD BE READ IN CONJUNCTION WITH ALL REPORTS, SCHEDULES & SPECIFICATION THAT FORM PART OF EACH ARCHITECTURAL PACKAGE.

2. FOR SPECIFICATIONS REFER TO THE FOLLOWING DOCUMENTS;
150511-STM-AR-SPE-00001 - ARCHITECTURAL SPECIFICATION
150511-STM-AR-SCH-00001 - T-SCHEDULE
150511-STM-AR-SCH-00002 - FF&E SCHEDULE

3. DRAWINGS TO BE READ IN CONJUNCTION WITH CONSULTANT DISCIPLINES BELOW.
- STRUCTURE
- MEP
- HYDRAULIC
- CIVIL
- FACADE ENGINEERING
- SIGNAGE & WAYFINDING
- HERITAGE REPORT
- BCA
- DDA
- LANDSCAPE

4. ARCHITECTURAL DOCUMENTATION IS ONLY TO BE USED FOR THE PURPOSE OF WHICH IT WAS COMMISSIONED. UNAUTHORISED USE OF THE DOCUMENT IS PROHIBITED.

5. DO NOT SCALE FROM DRAWINGS. USE ONLY FIGURED DIMENSIONS PROVIDED. ANY DISCREPANCIES SHALL BE REPORTED TO THE CONTRACT ADMINISTRATOR BEFORE PROCEEDING.

6. ALL WORKS ARE TO COMPLY WITH THE NATIONAL CONSTRUCTION CODE (NCC) AND ANY AUSTRALIAN STANDARD AND LEGISATION RELEVANT TO THE WORKS.

7. DISCREPANCIES BETWEEN ARCHITECTURAL DOCUMENTATION AND THE ABOVE LISTED INTERDISCIPLINARY PACKAGES SHALL BE REPORTED TO THE DESIGNER'S SITE REPRESENTATIVE BEFORE PROCEEDING.

8. PROPRIETARY PRODUCTS AND SYTEMS ARE TO BE INSTALLED ACCORDING TO MANUFACTURERS DOCUMENTATION.

DRAWING LEGEND

- LIFT ENTRY
- SERVICES ENTRY / ACCESS
- CENTRE LINE TRACK
- FIRE SEPARATION LINE - REFER TO FEB FOR DETAILS
- FSM SCOPE BOUNDARY
- PLATFORM CLEARANCE ZONE
- RL / FLL
- PAID CONCOURSE
- UNPAID CONCOURSE
- ADJACENT DEVELOPMENT SITE
- EXISTING MULTI-DECK CAR PARK
- INDICATIVE BAZ LOCATIONS
- DELINEATION LINE FSM / SSTOM
- SIGNAGE
- FIXED FURNITURE
- NON-FIXED FURNITURE

MEP SCOPE
- MEP ELEMENTS
- MEP ELEMENTS

LANDSCAPE SCOPE
- LANDSCAPE: VEGETATION
- LANDSCAPE: PAVING 1
- LANDSCAPE: PAVING 2
- LANDSCAPE: PARKING
- LANDSCAPE: MULCH

TRANSPORT FUNCTIONS
- TRANSPORT EQUIPMENT

DRAWING CODE DESCRIPTIONS

VIEW TITLE — VIEW 01 (01 / 123456) — DRAWING TITLE; VIEW NUMBER; DRAWING NUMBER

VIEW TITLE [SKETCH] — VIEW 01 (01)

VIEW POINT DIRECTION [DIAGRAM] — 01 — VIEW NUMBER

ELEVATION — 01 / 000000 — VIEW NUMBER; DRAWING NUMBER

SECTION — 01 / 000000 — VIEW NUMBER; TAIL; DRAWING NUMBER

SECTION [SKETCH] — 01 — VIEW NUMBER; TAIL

DOOR CODE — D1 / GL-007 — DOOR NUMBER; ROOM NUMBER

WINDOW & LOUVRE CODE — W1 / GL01 — NUMBER; TYPE

ROOM CODE — PLANT ROOM / GL01 — ROOM NAME; ROOM NUMBER

CEILING CODE — CL-103 / 2400 — CEILING TYPE; HEIGHT AFFL

WALL TYPE CODE — BL90 — GENERAL WALLS

ANNOTATION DESCRIPTIONS

- 2° FALL / 1:10 — INDICATES FALL/ GRADIENT
- STAIR UP DIRECTION
- RAMP UP DIRECTION
- BREAK LINE
- ALIGN — ALIGNMENT - FLUSH
- FACE — ALIGNMENT - FACE
- 1000 — LINEAR DIMENSION
- 45.0° — ANGULAR DIMENSION
- R500 — RADIAL DIMENSION
- Ø 1000 — DIAMETER DIMENSION
- CENTERLINE
- SCOPE OF WORKS / BOUNDARY LINE
- 01 — GRID CODE
- CLOUDED REVISED ITEMS
- ON HOLD — NOTED CLOUDED ITEMS
- ALL ON SHEET REVISED EXCEPT ITEMS CLOUDED WITHIN
- (1) — REVISION MARKER
- N — M.G.A NORTH POINT

WALL CODE DESCRIPTIONS

WALL SYSTEM / PARTITION TYPES

BL	= BLOCKWORK CONCRETE
RC	= REINFORCED CONCRETE IN-SITU
PC	= REINFORCED PRECAST CONCRETE
SP	= STUDWALL WITH PLASTERBOARD
SF	= STUDWALL WITH FIBRE CEMENT
LP	= LINING PLASTERBOARD
LF	= LINING FIBRE CEMENT
LT	= LINING TRANSPARENT
TL	= TILE LINING
LC	= LINING COLORBOND

WALL SYSTEM / PARTITION OVERALL WIDTH

190	= 190mm

ADDITIONAL REQUIREMENTS

C	= CORE FILLED CONCRETE
T	= THERMAL RATED
A	= ACOUSTIC RATED
F	= FIRE RATED (FRL)
W	= MOISTURE RESISTANT
I	= IMPACT RESISTANT

BL190CF + — MULTIPLE WALL TYPES COMBINED

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COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 100

NSW GOVERNMENT Transport for NSW

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Architectural

DRAWN	BRAD SORENSEN	20.02.2024
DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS
MAIN WEST LINE - 47.420KM
FOOTBRIDGE ST MARYS - TAP3 MC T2
ARCHITECTURE - MAINWORKS
LEGEND

FILE No: 00003 | SHEET: 1 OF 1 | A1
STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

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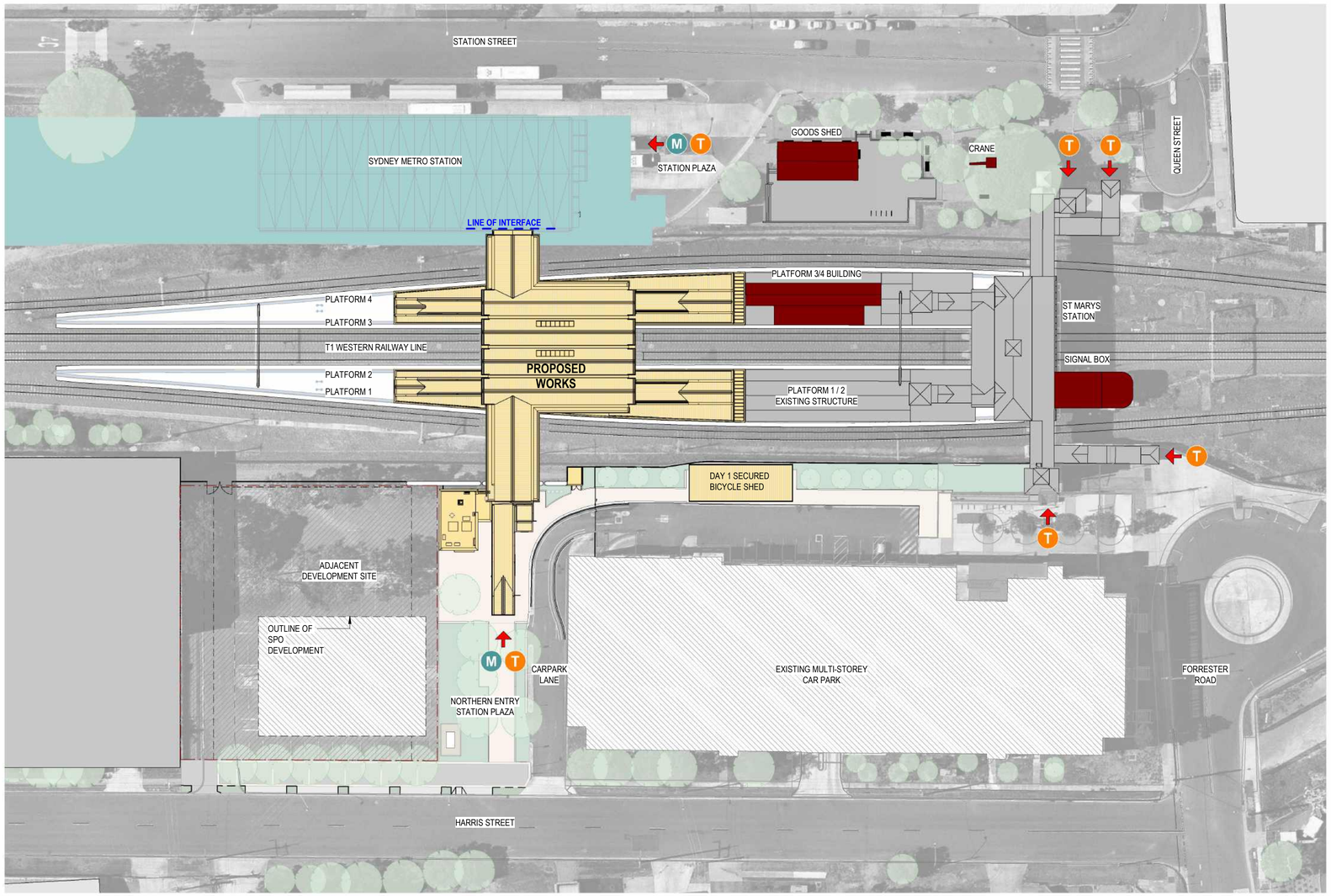
Plot Date & Time 20/02/2024 8:19:04 PM

SYDNEY

PENRITH



1 SITE PLAN - OVERALL

SCALE: 1 : 500

SITE LEGEND

- INDICATIVE LINE OF INTERFACE
- RAIL STATION ENTRY
- METRO STATION ENTRY
- EXISTING FACILITIES
- PROPOSED WORKS
- HERITAGE STRUCTURES
- SSTOM, SYDNEY METRO STATION

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Arcadis Australia Pacific Pty Ltd

Architectural

DRAWN	CAREN MOK	20.02.2024
DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

SITE PLAN - OVERALL

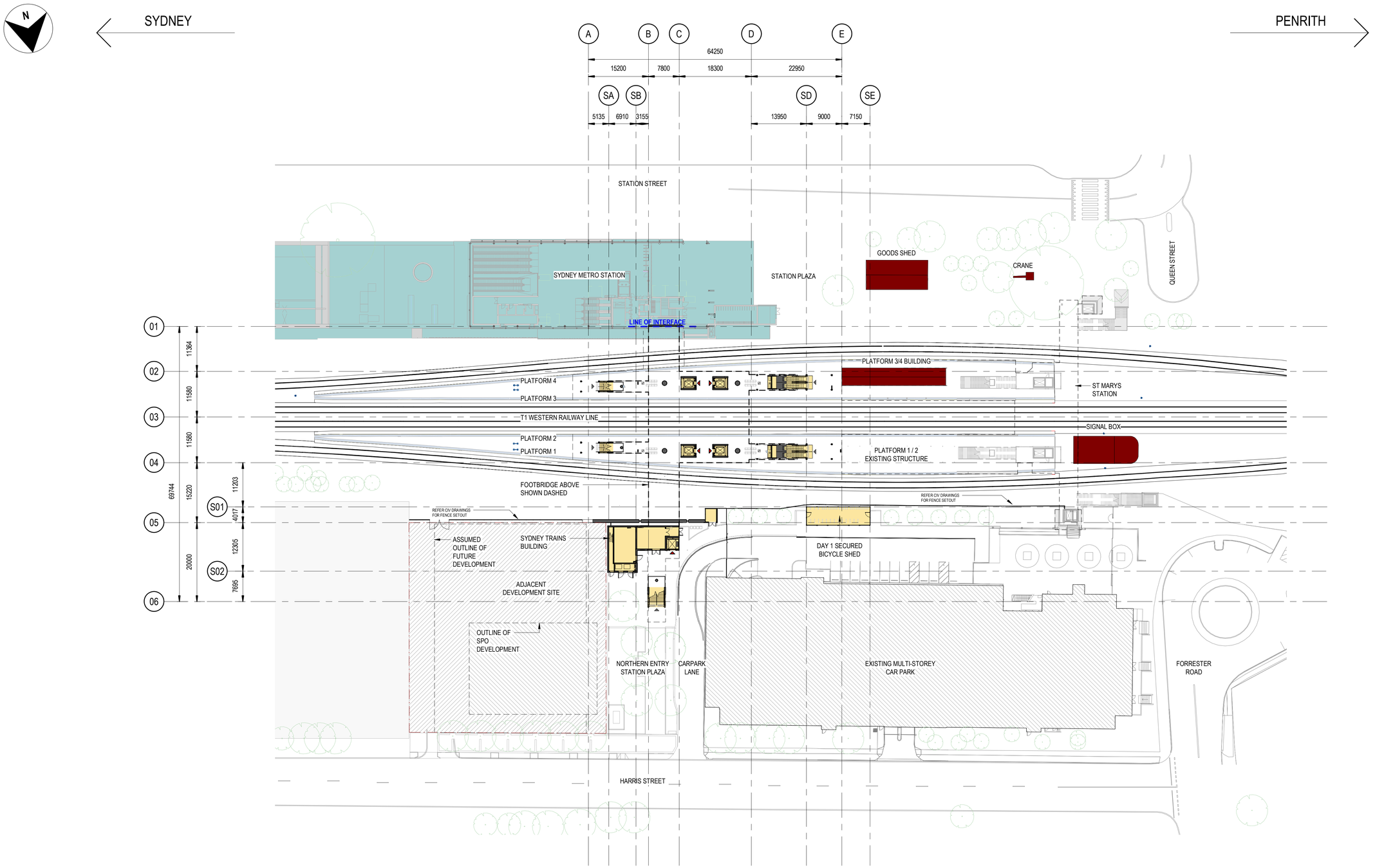
FILE No: 00101 | SHEET: 1 OF 1 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No. 150511-STM-AR-DRG-00101 | REV B | VER 01 | EDMS No: | AMD No:

File Plotted BIM 360://AAU-30122514-TAP-St Mary's Footbridge\150511-STM-AR-M3D-00101.rvt

Plot Date & Time 20/02/2024 8:37:12 PM



1 OVERALL PLAN - PLATFORM LEVEL

SCALE: 1 : 500

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

TB Security Classification: OFFICIAL

PRELIMINARY

LEGEND

- INDICATIVE LINE OF INTERFACE
- LIFT ENTRY
- SERVICE ENTRY / ACCESS
- EXISTING FACILITIES
- PROPOSED WORKS
- HERITAGE STRUCTURES
- SSTOM, SYDNEY METRO STATION

REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 500

NSW GOVERNMENT Transport for NSW

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Architectural

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DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

OVERALL PLAN - PLATFORM LEVEL

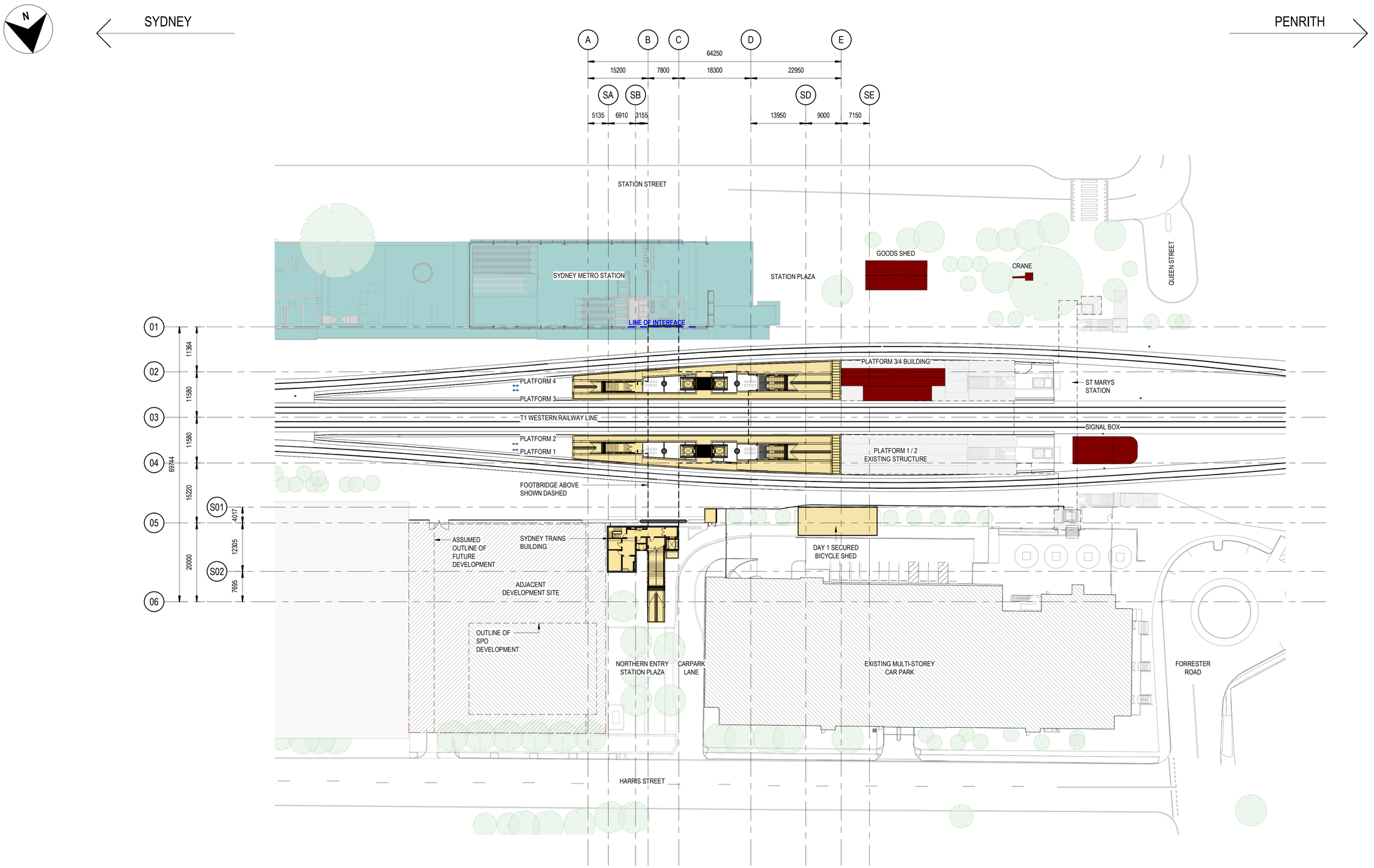
FILE No: 20001 | SHEET: 1 OF 1 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No. 150511-STM-AR-DRG-20001 | REV B | VER 01 | EDMS No: | AMD No:

File Plotted BIM 360://AAU-3012251 4-TAP-St Mary's Footbridge/150511-STM-AR-M3D-00101.rvt

Plot Date & Time 20/02/2024 8:19:26 PM



1 OVERALL PLAN - MEZZANINE LEVEL

SCALE: 1 : 500

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

TB Security Classification: OFFICIAL

PRELIMINARY

LEGEND

- INDICATIVE LINE OF INTERFACE
- LIFT ENTRY
- SERVICE ENTRY / ACCESS
- EXISTING FACILITIES
- PROPOSED WORKS
- HERITAGE STRUCTURES
- SSTOM, SYDNEY METRO STATION

REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 500

NSW GOVERNMENT Transport for NSW

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DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

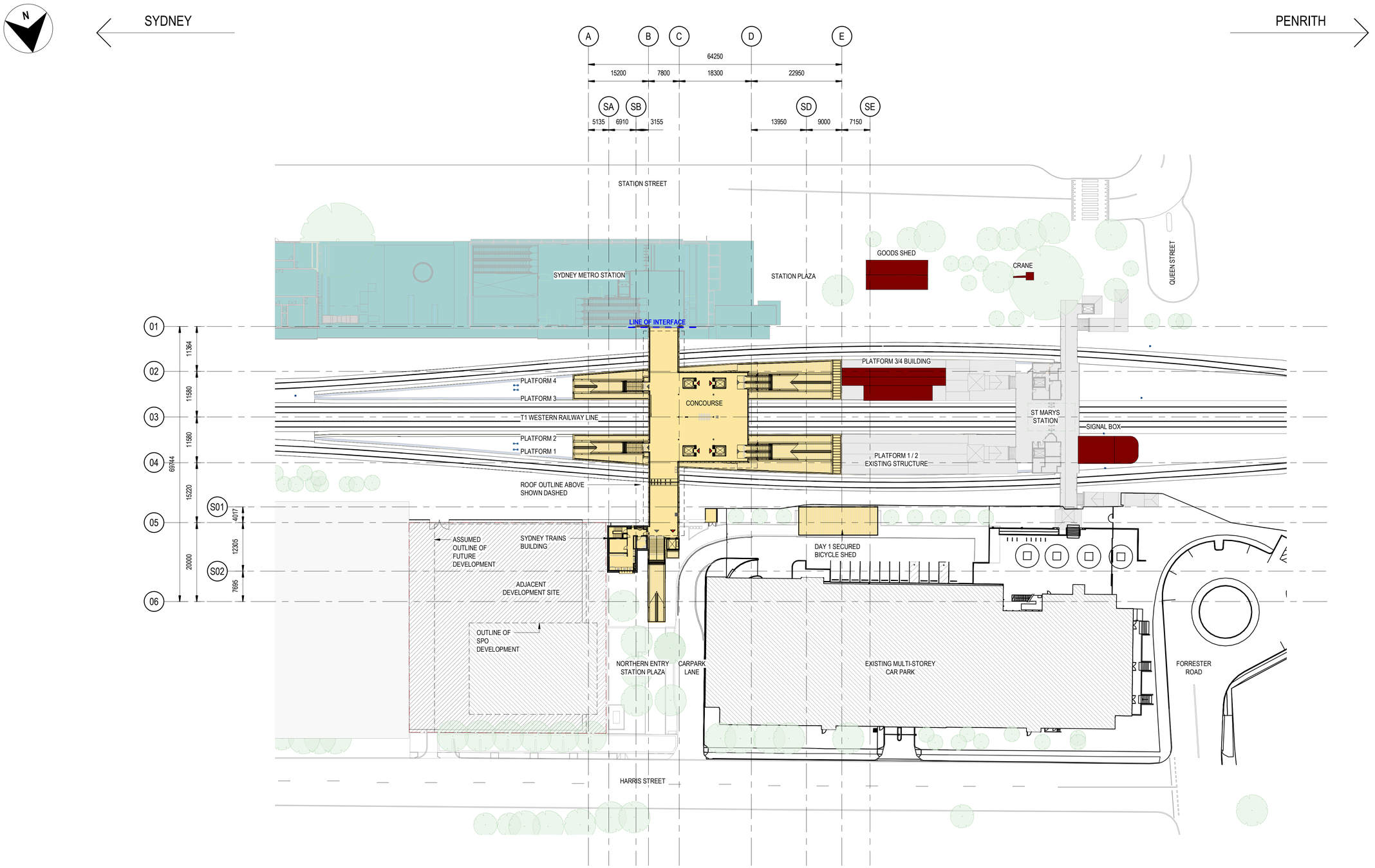
ARCHITECTURE - MAINWORKS

OVERALL PLAN - MEZZANINE LEVEL

FILE No: 20021 | SHEET: 1 OF 1 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-20021	B	01		



1 OVERALL PLAN - FOOTBRIDGE LEVEL

SCALE: 1 : 500

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

TB Security Classification: OFFICIAL

PRELIMINARY

LEGEND

- INDICATIVE LINE OF INTERFACE
- LIFT ENTRY
- SERVICE ENTRY / ACCESS
- EXISTING FACILITIES
- PROPOSED WORKS
- HERITAGE STRUCTURES
- SSTOM, SYDNEY METRO STATION

REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 500

NSW GOVERNMENT Transport for NSW

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DRAWN	CAREN MOK	20.02.2024
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DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

OVERALL PLAN - FOOTBRIDGE LEVEL

FILE No: 20031 | SHEET: 1 OF 1 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

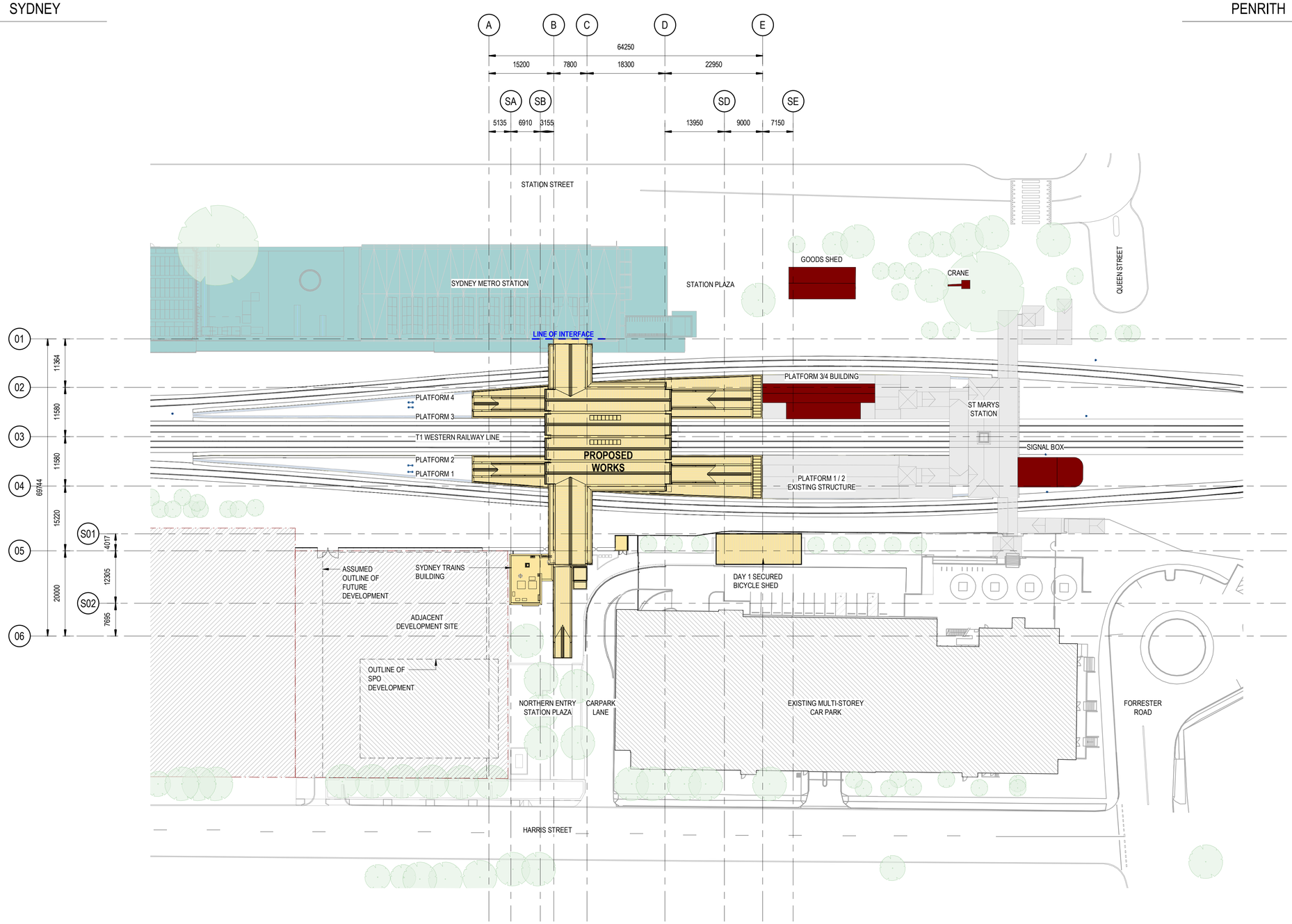
DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-20031	B	01		

File Plotted BIM 360://AAU-30122514-TAP-St Marys Footbridge/150511-STM-AR-M3D-00101.rvt

Plot Date & Time 20/02/2024 8:20:17 PM

SYDNEY

PENRITH



1 OVERALL PLAN - ROOF LEVEL

SCALE: 1 : 500

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

TB Security Classification: OFFICIAL

PRELIMINARY

LEGEND

- INDICATIVE LINE OF INTERFACE
- LIFT ENTRY
- SERVICE ENTRY / ACCESS
- EXISTING FACILITIES
- PROPOSED WORKS
- HERITAGE STRUCTURES
- SSTOM, SYDNEY METRO STATION

REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 500

NSW GOVERNMENT Transport for NSW

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DRAWN	CAREN MOK	20.02.2024
DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

OVERALL PLAN - ROOF LEVEL

FILE No: 20091 | SHEET: 1 OF 1 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-20091	B	01		

File Plotted BIM 360://AAU-30122514-TAP-St Mary's Footbridge/150511-STM-AR-M3D-00101.rvt

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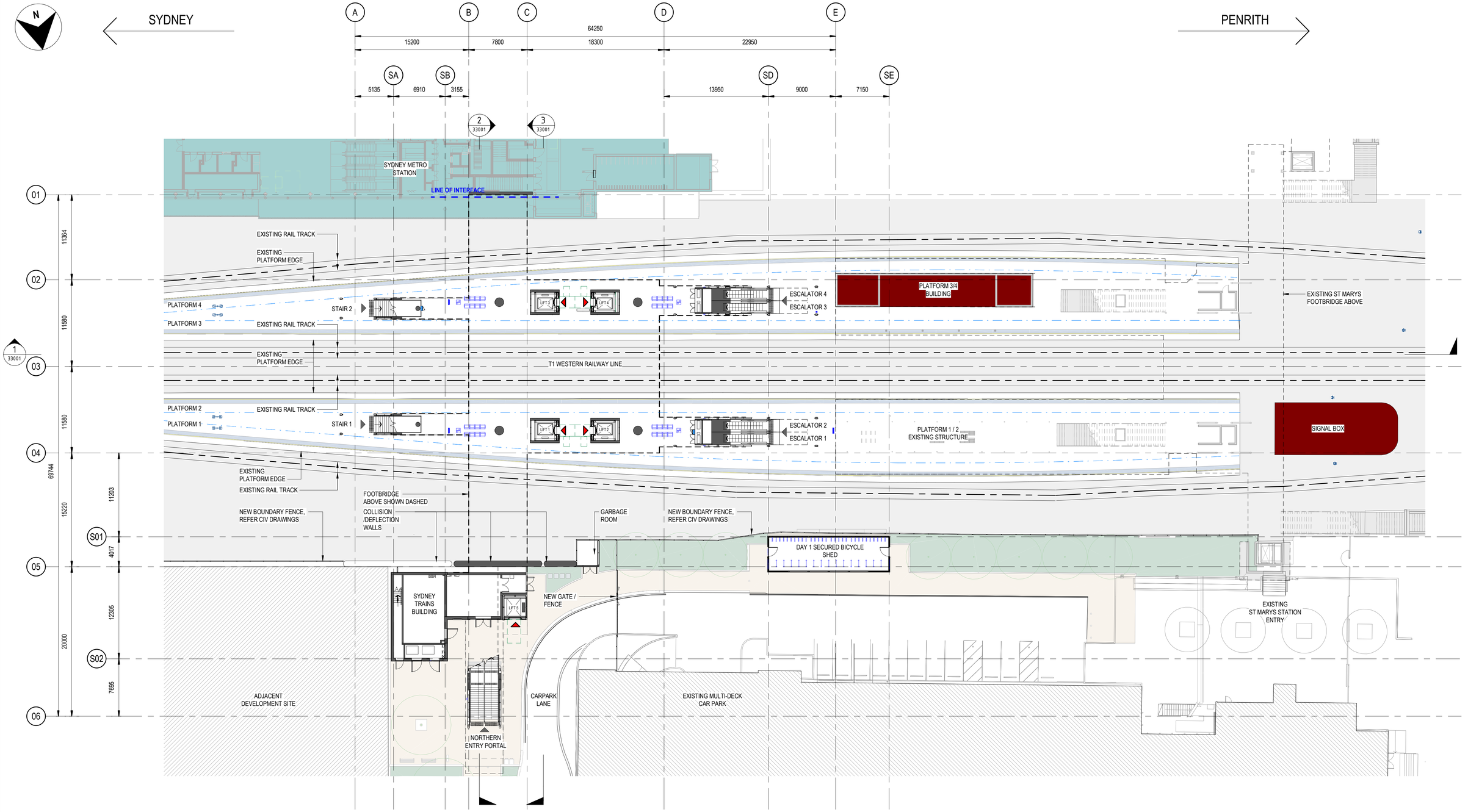

1 GA PLATFORM LEVEL PLAN

SCALE: 1 : 250

NOTE:
FOR BAY LOCATION SETOUT, REFER
150511-STM-AR-DRG-21012

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

TB Security Classification: OFFICIAL

PRELIMINARY

LEGEND

- PAID CONCOURSE
- UNPAID CONCOURSE
- ADJACENT DEVELOPMENT SITE
- EXISTING MULTI-DECK CAR PARK
- INDICATIVE BAZ LOCATIONS
- LIFT ENTRY
- SERVICES ENTRY / ACCESS
- CENTRE LINE TRACK
- FSM SCOPE BOUNDARY
- PLATFORM CLEARANCE ZONE
- RL / FFL
- LANDSCAPE: VEGETATION
- LANDSCAPE: PAVING 1
- LANDSCAPE: PAVING 2
- LANDSCAPE: PARKING
- LANDSCAPE: MULCH

REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 250

NSW GOVERNMENT Transport for NSW

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DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS
MAIN WEST LINE - 47.420KM
FOOTBRIDGE ST MARYS - TAP3 MC T2
ARCHITECTURE - MAINWORKS
GA PLATFORM LEVEL PLAN

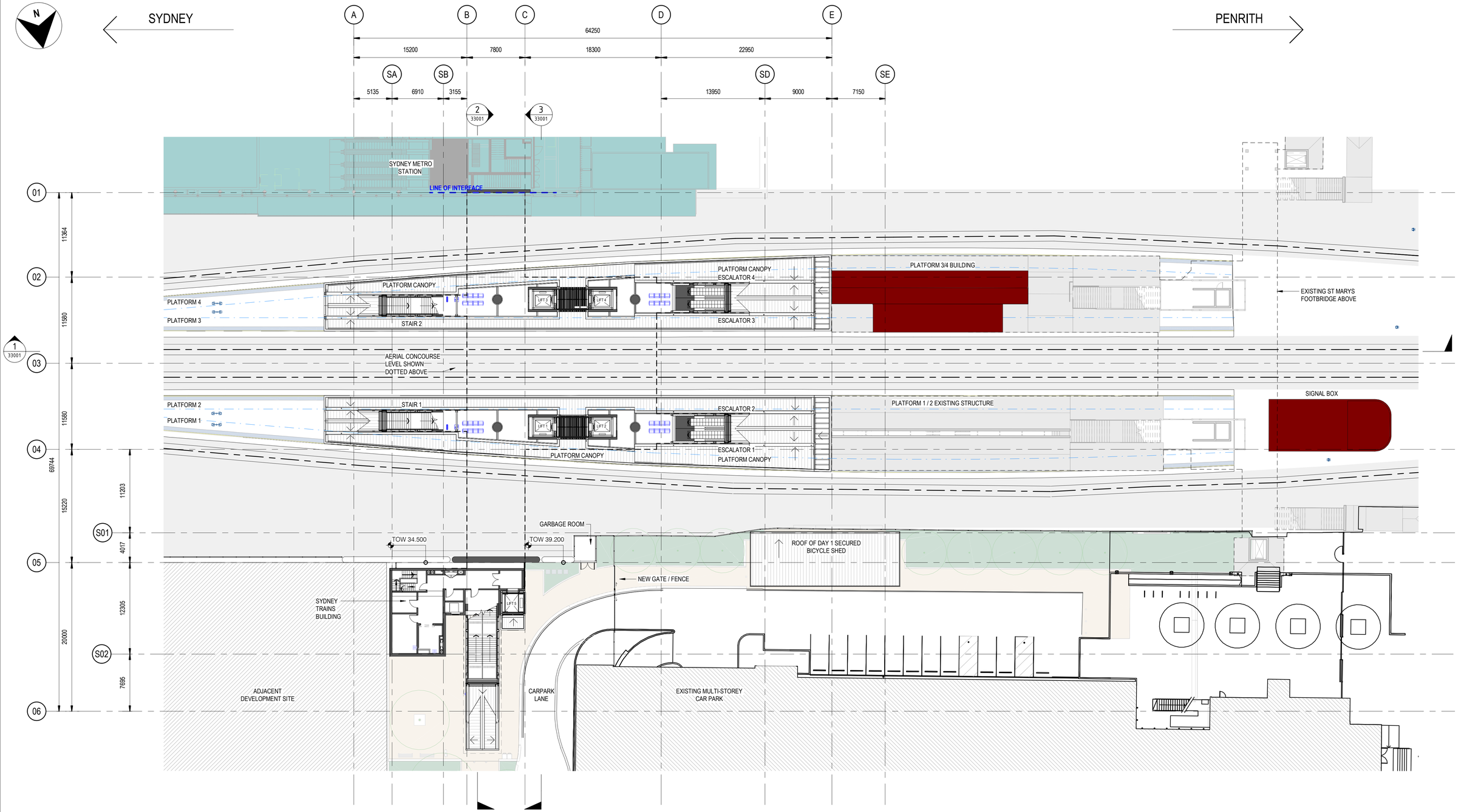
FILE No: 21011 | SHEET: 1 OF 1 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No. 150511-STM-AR-DRG-21011 | REV B | VER 01 | EDMS No: | AMD No:

File Plotted BIM 360://AAU-30122514-TAP-St Mary's Footbridge/150511-STM-AR-M3D-00101.rvt

Plot Date & Time 20/02/2024 8:21:01 PM



1 GA MEZZANINE LEVEL PLAN

SCALE: 1 : 250

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

TB Security Classification: OFFICIAL

PRELIMINARY

LEGEND

- PAID CONCOURSE
- UNPAID CONCOURSE
- ADJACENT DEVELOPMENT SITE
- EXISTING MULTI-DECK CAR PARK
- INDICATIVE BAZ LOCATIONS
- LIFT ENTRY
- SERVICES ENTRY / ACCESS
- CENTRE LINE TRACK
- FSM SCOPE BOUNDARY
- PLATFORM CLEARANCE ZONE
- RL / FFL
- LANDSCAPE: VEGETATION
- LANDSCAPE: PAVING 1
- LANDSCAPE: PAVING 2
- LANDSCAPE: PARKING
- LANDSCAPE: MULCH

REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 250

NSW GOVERNMENT Transport for NSW

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DRAWN	CAREN MOK	20.02.2024
DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

GA MEZZANINE LEVEL PLAN

FILE No: 21021 | SHEET: 1 OF 1 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-21021	B	01		

File Plotted BIM 360://AAU-30122514-TAP-St Mary's Footbridge/150511-STM-AR-M3D-00101.rvt

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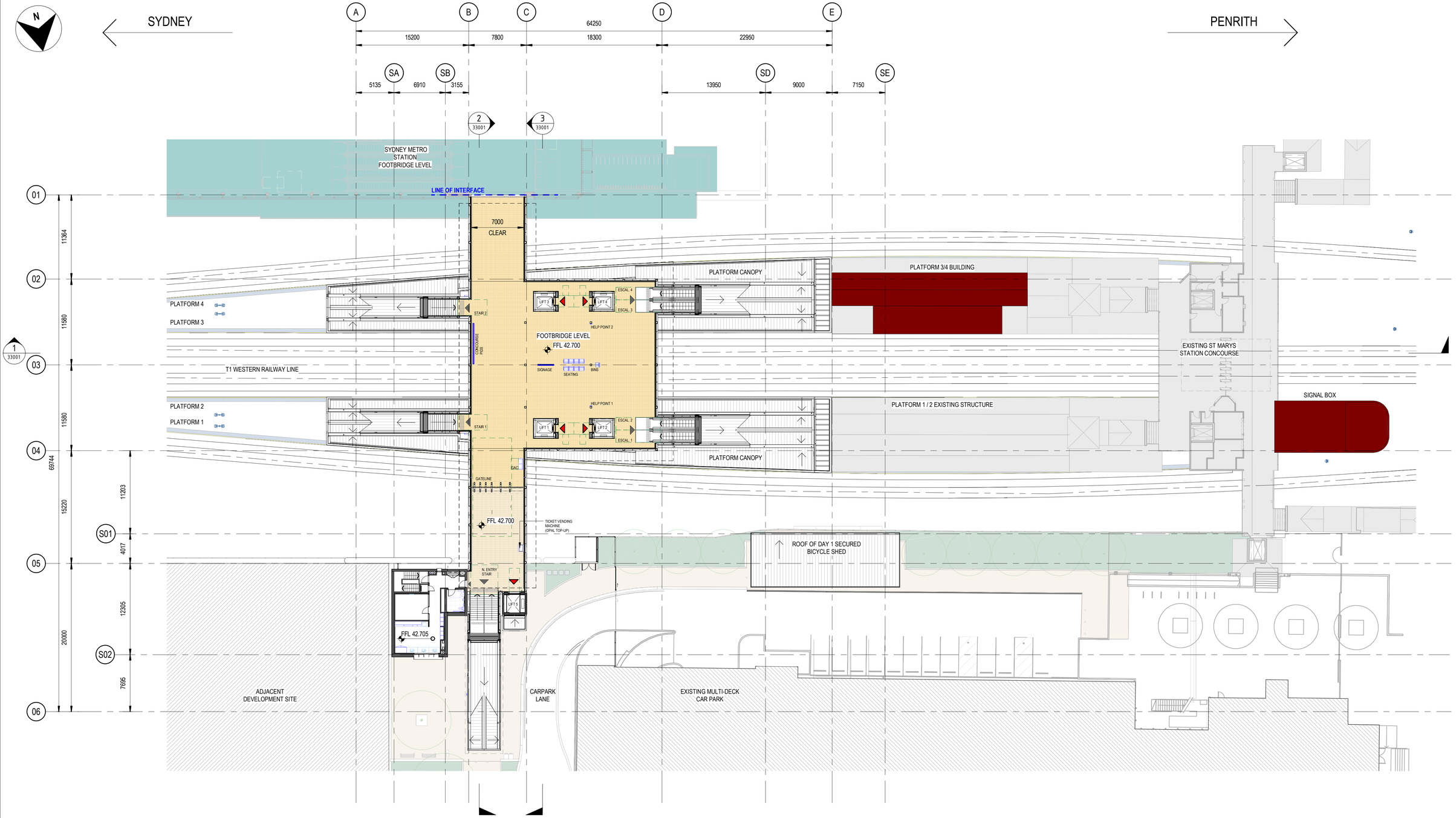

1 GA FOOTBRIDGE LEVEL PLAN

SCALE: 1 : 250

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

TB Security Classification: OFFICIAL

PRELIMINARY

LEGEND

- PAID CONCOURSE
- UNPAID CONCOURSE
- ADJACENT DEVELOPMENT SITE
- EXISTING MULTI-DECK CAR PARK
- INDICATIVE BAZ LOCATIONS
- LIFT ENTRY
- SERVICES ENTRY / ACCESS
- CENTRE LINE TRACK
- FSM SCOPE BOUNDARY
- PLATFORM CLEARANCE ZONE
- RL / FFL
- LANDSCAPE: VEGETATION
- LANDSCAPE: PAVING 1
- LANDSCAPE: PAVING 2
- LANDSCAPE: PARKING
- LANDSCAPE: MULCH

REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 250

NSW GOVERNMENT Transport for NSW

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DRAWN	CAREN MOK	20.02.2024
DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

GA FOOTBRIDGE LEVEL PLAN

FILE No: 21031 | SHEET: 1 OF 1 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-21031	B	01		

File Plotted BIM 360://AAU-30122514-TAP-St Mary's Footbridge/150511-STM-AR-M3D-00101.rvt

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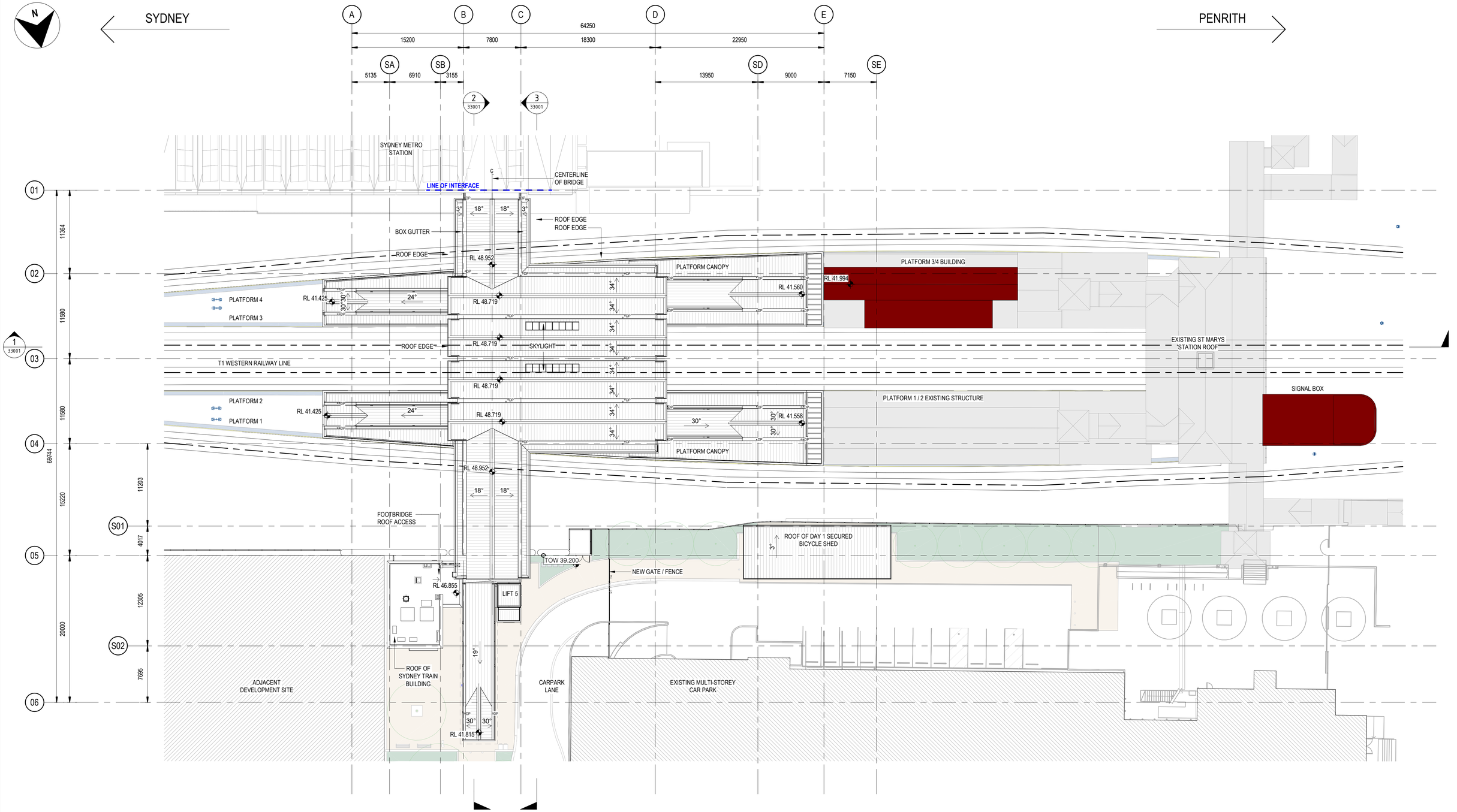

1 GA ROOF LEVEL PLAN

SCALE: 1 : 250

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

TB Security Classification: OFFICIAL

PRELIMINARY

LEGEND

- PAID CONCOURSE
- UNPAID CONCOURSE
- ADJACENT DEVELOPMENT SITE
- EXISTING MULTI-DECK CAR PARK
- INDICATIVE BAZ LOCATIONS
- LIFT ENTRY
- SERVICES ENTRY / ACCESS
- CENTRE LINE TRACK
- FSM SCOPE BOUNDARY
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- RL / FFL
- LANDSCAPE: VEGETATION
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- LANDSCAPE: PAVING 2
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- LANDSCAPE: MULCH

REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
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COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 250

NSW GOVERNMENT Transport for NSW

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DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

GA ROOF LEVEL PLAN

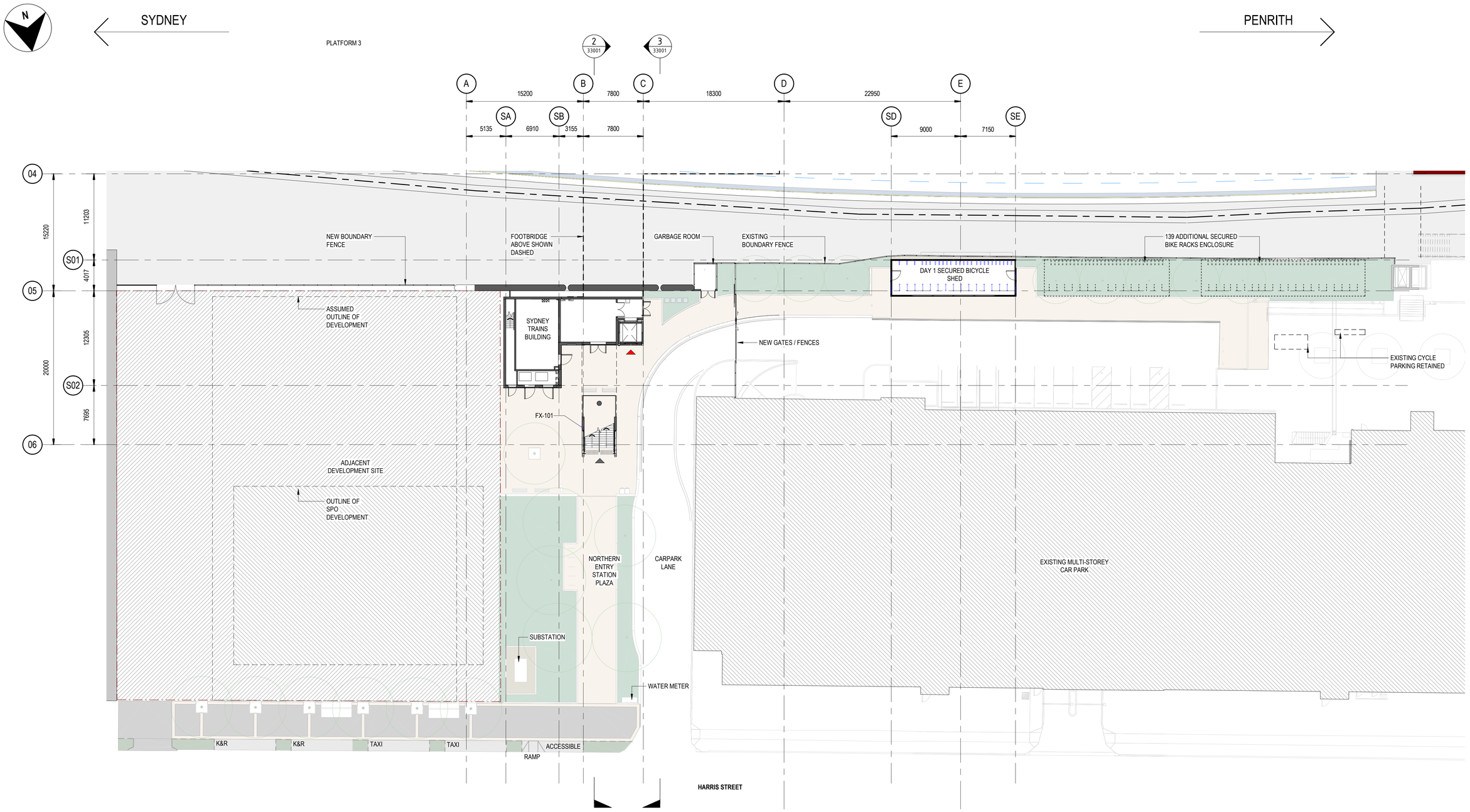
FILE No: 21091 | SHEET: 1 OF 1 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No. 150511-STM-AR-DRG-21091 | REV B | VER 01 | EDMS No: | AMD No:

File Plotted: BIM 360://AAU-30122514-TAP-St Mary's Footbridge/150511-STM-AR-M3D-00101.rvt

Plot Date & Time: 20/02/2024 8:22:00 PM



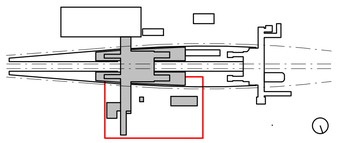
1 GA PLATFORM LEVEL PLAN

SCALE: 1 : 250

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

TB Security Classification: OFFICIAL

PRELIMINARY



REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 250

NSW GOVERNMENT Transport for NSW

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DESIGN CHECK	ANDREW V. ZAINTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

GA NORTHERN PLAZA

FILE No: 21111 | SHEET: 1 OF 1 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

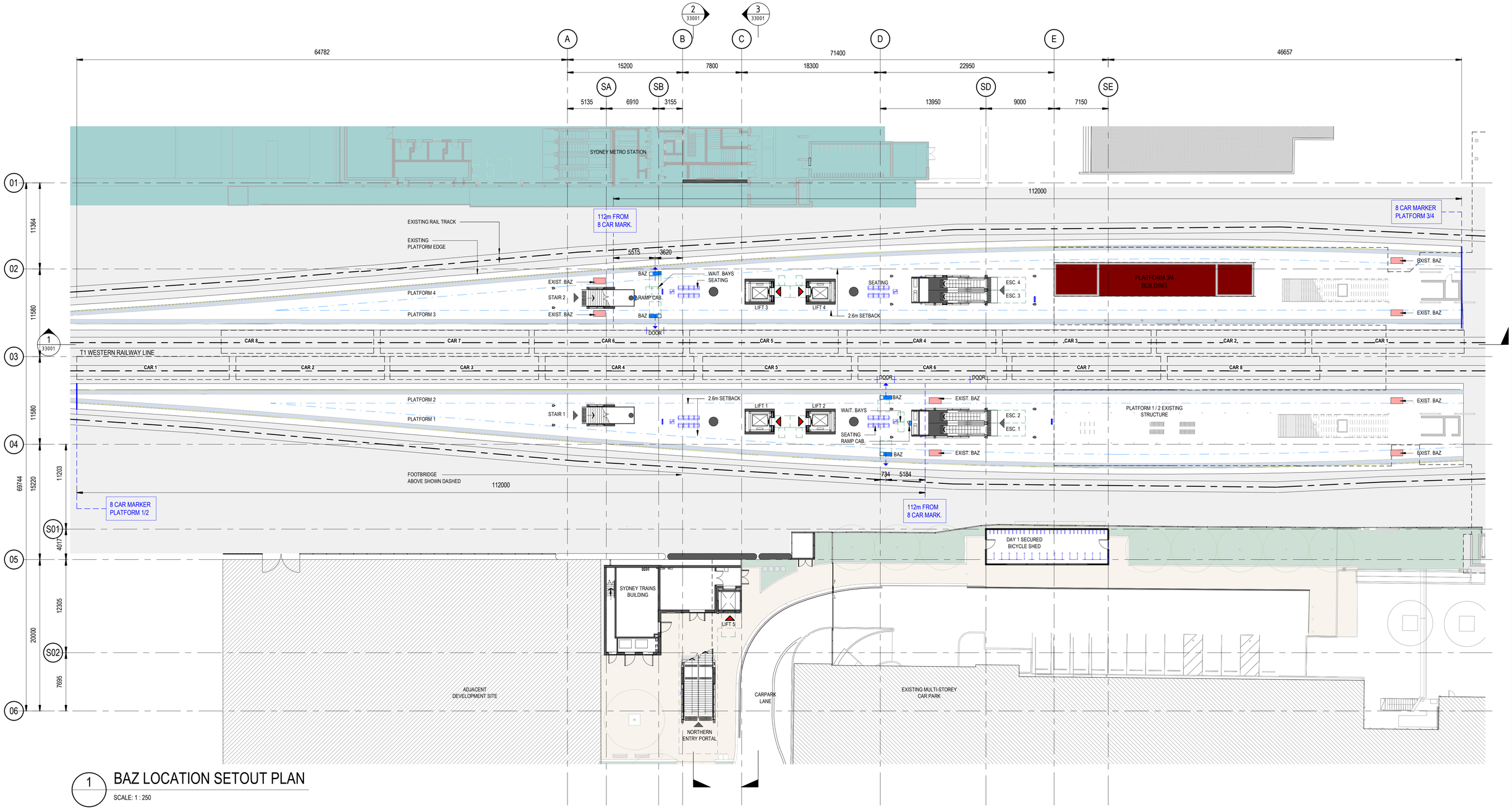
DRG No. 150511-STM-AR-DRG-21111 | REV A | VER 01 | EDMS No: | AMD No:

File Plotted BIM 360://AAU-30122514-TAP-St Mary's Footbridge/150511-STM-AR-M3D-00101.rvt

Plot Date & Time 28/02/2024 11:43:42 AM

SYDNEY

PENRITH



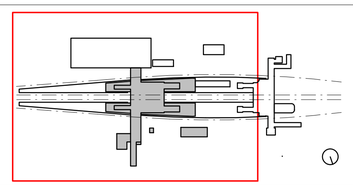
1 BAZ LOCATION SETOUT PLAN

SCALE: 1 : 250

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

TB Security Classification: OFFICIAL

PRELIMINARY



REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 250

NSW GOVERNMENT Transport for NSW

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Architectural

DRAWN	ANDREW V. ZANTEN	20.02.2024
DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

BAZ LOCATION SETOUT

FILE No: 21121 | SHEET: 1 OF 1 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No. 150511-STM-AR-DRG-21121 | REV A | VER 01 | EDMS No: | AMD No:

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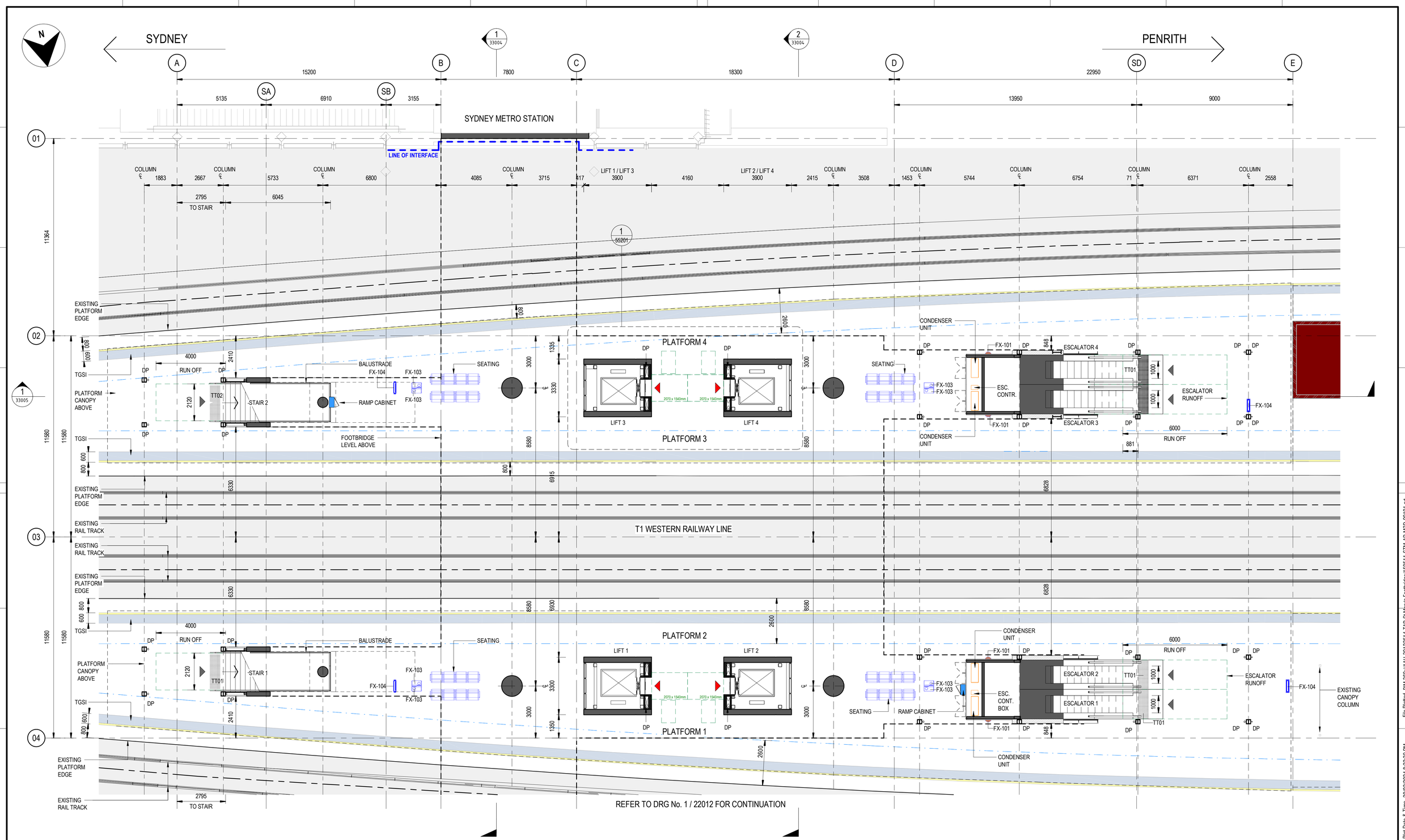
Plot Date & Time 28/02/2024 11:43:55 AM



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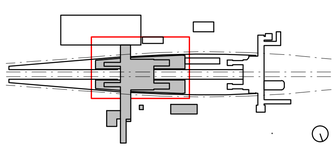
TB Security Classification: OFFICIAL

PRELIMINARY



REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AV2/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AV2/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 100

NSW GOVERNMENT Transport for NSW

LAING O'ROURKE

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Architectural

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DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

GA DETAIL FLOOR PLAN - PLATFORM LEVEL - SHEET 1 OF 2

FILE No: 22011 | SHEET: 1 OF 2 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-22011	B	01		

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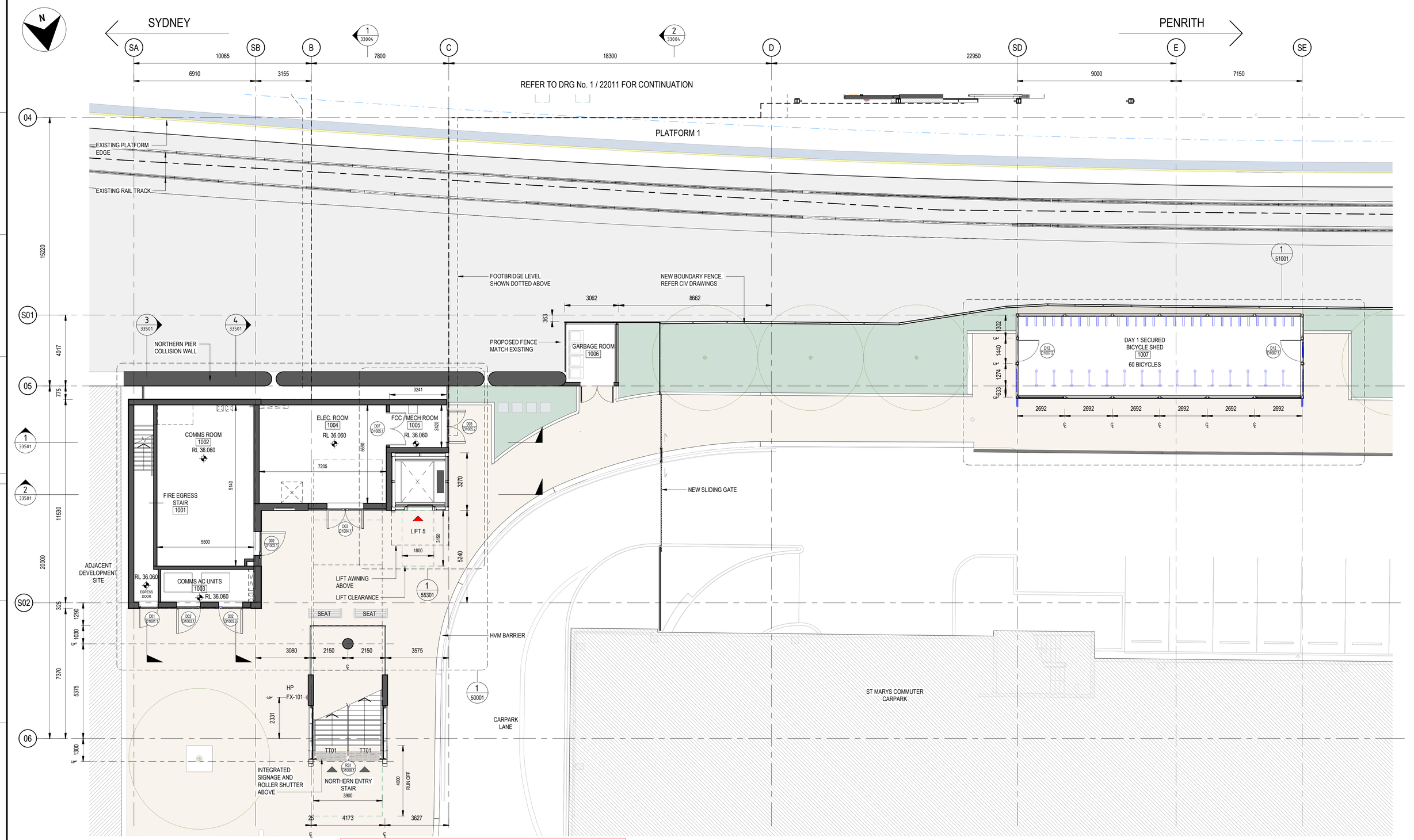
Plot Date & Time 20/02/2024 8:22:39 PM



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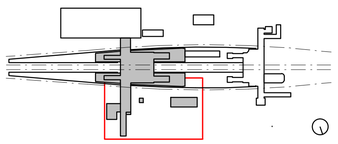

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B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
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COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 100

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DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

GA DETAIL FLOOR PLAN - PLATFORM LEVEL - SHEET 2 OF 2

FILE No: 22012 | SHEET: 2 OF 2 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-22012	B	01		

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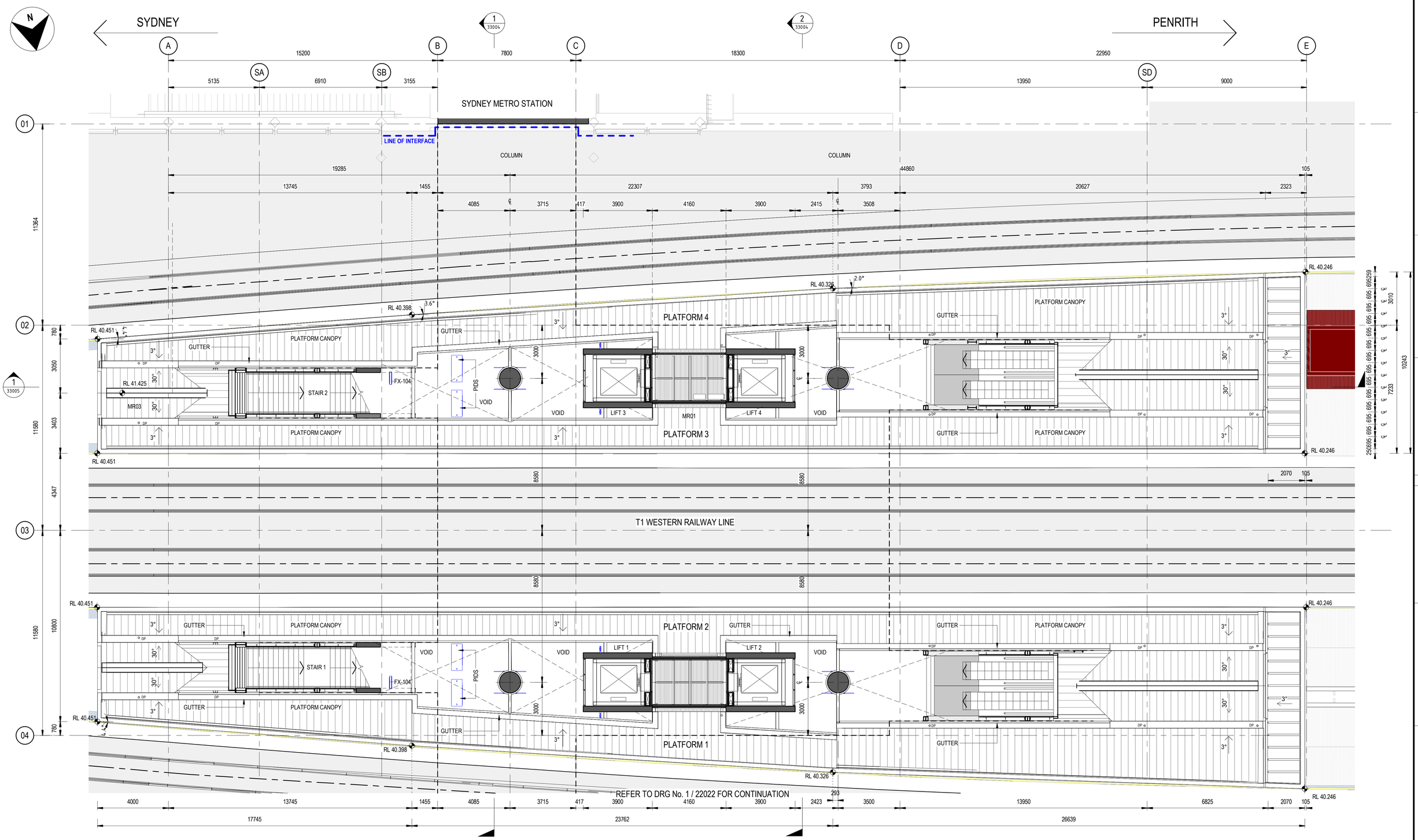

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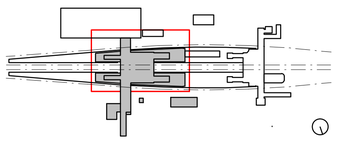
TB Security Classification: OFFICIAL

PRELIMINARY



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B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
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COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 100

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APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

GA DETAIL FLOOR PLAN - MEZZANINE LEVEL - SHEET 1 OF 2

FILE No: 22021 | SHEET: 1 OF 2 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW ©

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-22021	B	01		

File Plotted BIM 360://AAU-30122514-TAP-St Marys Footbridge/150511-STM-AR-M3D-00101.rvt

Plot Date & Time 20/02/2024 8:23:11 PM

SYDNEY

PENRITH

SA | SB | B | C | D | SD | E | SE

6910 | 3155 | 7800 | 18300 | 13950 | 9000 | 7150

1 / 33004 | 2 / 33004

REFER TO DRG No. 1 / 22021 FOR CONTINUATION

04 | S01 | 05 | S02 | 06

11203 | 4017 | 12305 | 7695

ESCALATOR 1

PLATFORM CANOPY

FALL

NEW FENCE

3 / 33501 | 4 / 33501

TOW 37.869

TOW 39.200

FIRE EGRESS STAIR

2750

9600

D04 I220011

D05 I220006.1

D11 I220007.1

CORRIDOR / LANDING 2007

STAFF ONLY

2095

STORE 2 2006

LIFT 5

STORE 1 2003

2730

D05 I220003.1

CORRIDOR 2002

3315

3305

D05 I220004.1

RS2 I220005.1

CLEANERS / WASTE 2004

5270

CLEANING MACHINE ROOM 2005

FALL 3°

LIFT AWNING

ADJACENT DEVELOPMENT SITE

1 / 33501 | 2 / 33501

2 / 55301

1 / 50011

BOUNDARY LINE

30° | 30°

RL 41.815

ROOF OF DAY 1 SECURED BICYCLE SHED

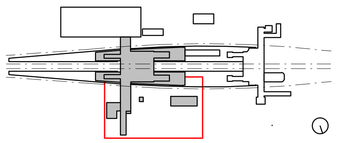
FALL 3°

ST MARYS COMMUTER CARPARK

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

TB Security Classification: OFFICIAL

PRELIMINARY



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COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 100

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Architectural

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APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

GA DETAIL FLOOR PLAN - MEZZANINE LEVEL - SHEET 2 OF 2

FILE No: 22022 | SHEET: 2 OF 2 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-22022	B	01		

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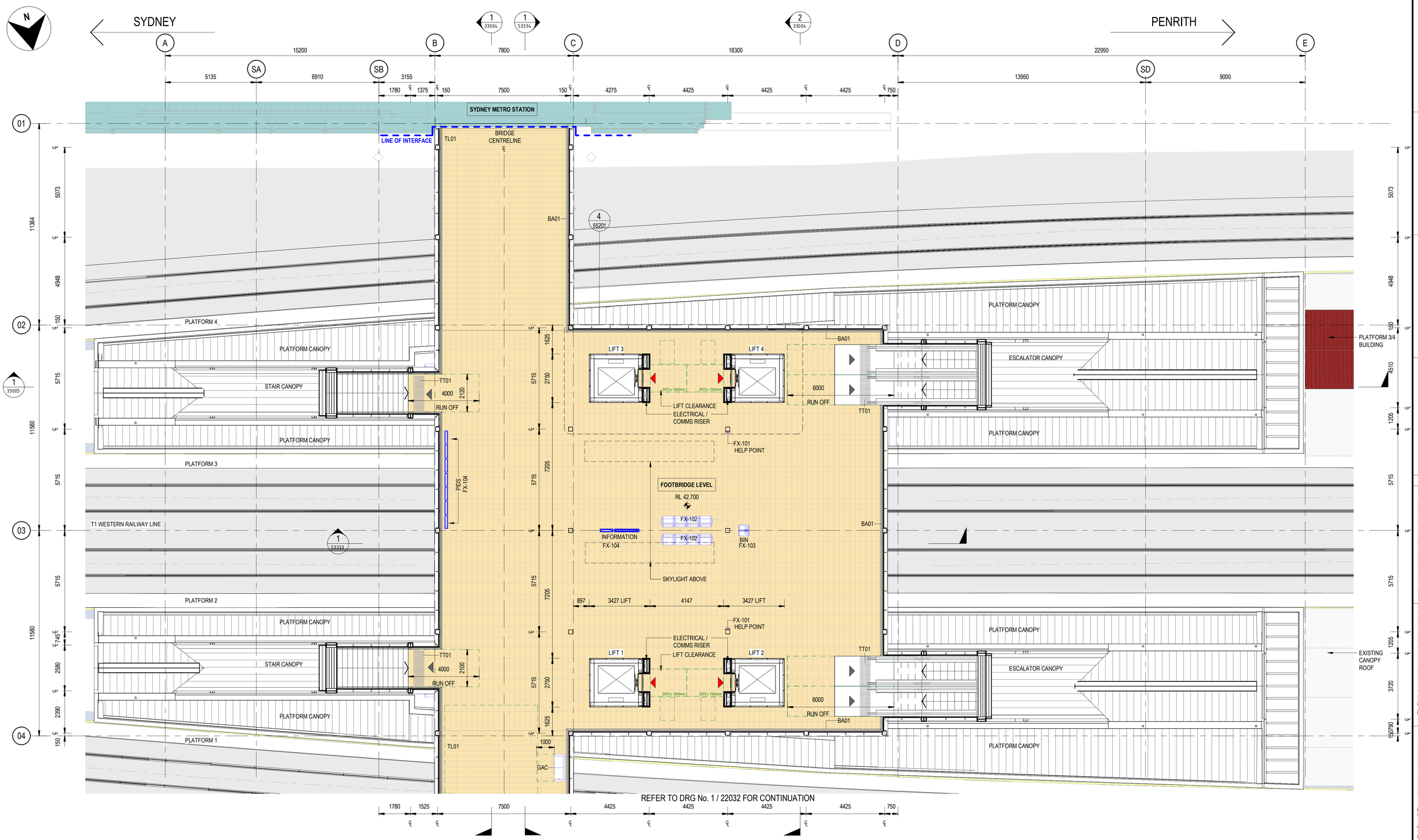
Plot Date & Time 20/02/2024 8:23:21 PM



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TB Security Classification: OFFICIAL

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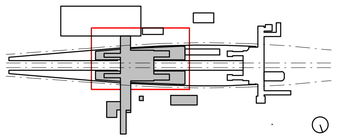

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COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 100

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APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

GA DETAIL FLOOR PLAN - FOOTBRIDGE LEVEL - SHEET 1 OF 2

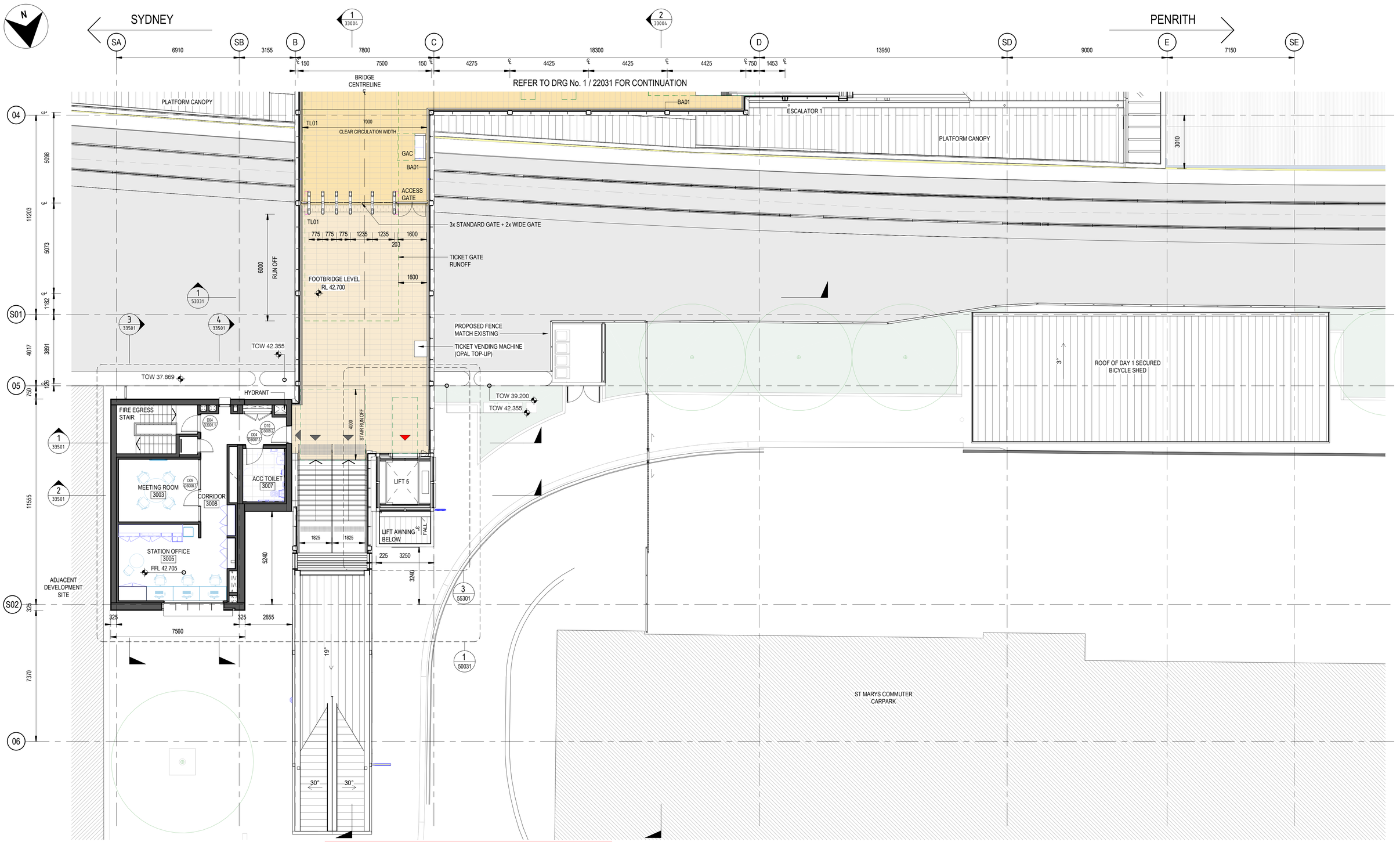
FILE No: 22031 | SHEET: 1 OF 2 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-22031	B	01		

File Plotted BIM 360://AAU-301225514-TAP-St Mary's Footbridge\150511-STM-AR-M3D-D0101.rvt

Plot Date & Time 20/02/2024 8:23:39 PM



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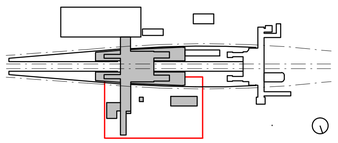

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B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 100

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ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

GA DETAIL FLOOR PLAN - FOOTBRIDGE LEVEL - SHEET 2 OF 2

FILE No: 22032 | SHEET: 2 OF 2 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-22032	B	01		

File Plotted BIM 360://AAU-301225514-TAP-St Mary's Footbridge/150511-STM-AR-M3D-00101.rvt

Plot Date & Time 20/02/2024 8:23:53 PM

SYDNEY

PENRITH

SYDNEY METRO STATION

LINE OF INTERFACE

T1 WESTERN RAILWAY LINE

PLATFORM 4

PLATFORM 3

PLATFORM 2

PLATFORM 1

PLATFORM CANOPY

STAIR CANOPY

ESCALATOR CANOPY

GUTTER

SKYLIGHT

ROOF EDGE

HERITAGE PLATFORM 3/4 BUILDING

EXISTING CANOPY ROOF

RFL-101

MR01

MR03

GL1

RL 40.445

RL 40.451

RL 41.425

RL 41.558

RL 41.994

RL 48.952

RL 49.581

REFER TO DRG No. 1 / 22992 FOR CONTINUATION

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REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
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COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 100

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ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

GA DETAIL FLOOR PLAN - ROOF LEVEL - SHEET 1 OF 2

FILE No: 22991 | SHEET: 1 OF 2 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No. 150511-STM-AR-DRG-22991 | REV B | VER 01 | EDMS No: | AMD No:

File Plotted BIM 360://AAU-30122514-TAP-St Mary's Footbridge/150511-STM-AR-M3D-00101.rvt

Plot Date & Time 20/02/2024 8:24:13 PM

SYDNEY

PENRITH

SA SB B C D SD E SE

6910 3155 1288 3900 7800 3900 1288 18300 13950 9000 7150

1288 125 375 3900 3900 1288 375 125

REFER TO DRG No. 1 / 22991 FOR CONTINUATION

PLATFORM CANOPY

04 S01 05 S02 06

383 11203 15220 4017 3258 12305 7695

GUTTER RL 48.952 GUTTER

18° 18°

TOW 37.869 TOW 39.200

ROOF ACCESS LADDER SOLATUBE ROOF

ROOF LIFT 5 2°

LIFT CANOPY FALL 3°

19°

MR03 NORTHERN STAIR CANOPY

30° 30°

RL 38.565 RL 38.884

ROOF OF DAY 1 SECURED BICYCLE SHED 3°

ST MARYS COMMUTER CARPARK

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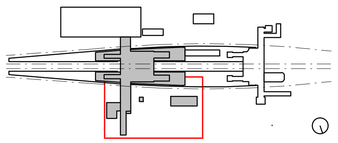
TB Security Classification: OFFICIAL

PRELIMINARY



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B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 100

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ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

GA DETAIL FLOOR PLAN - ROOF LEVEL - SHEET 2 OF 2

FILE No: 22992 | SHEET: 2 OF 2 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW ©

DRG No. 150511-STM-AR-DRG-22992 | REV B | VER 01 | EDMS No: | AMD No:

File Plotted BIM 360://AAU-30122514-TAP-St Mary's Footbridge/150511-STM-AR-M3D-00101.rvt

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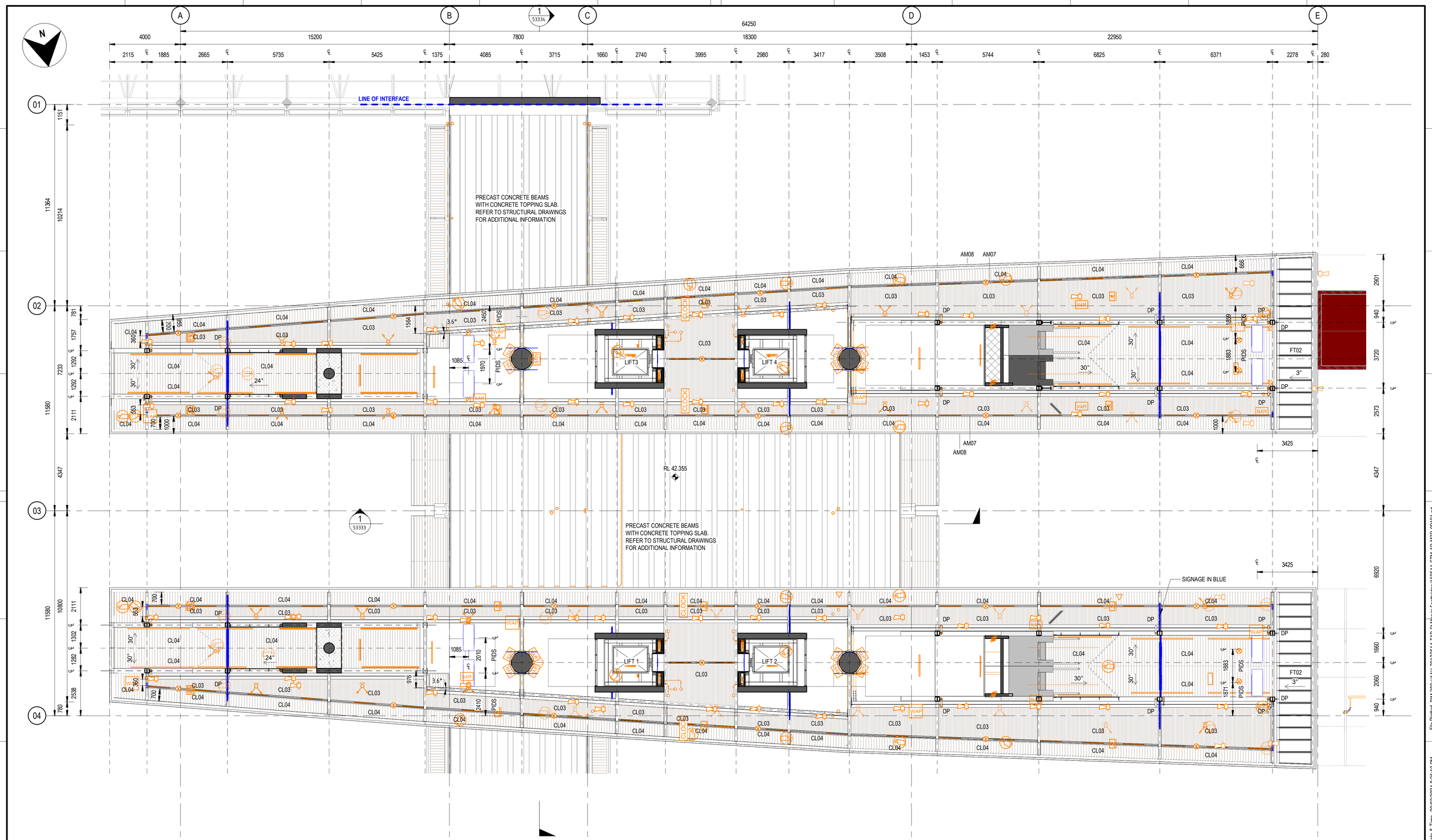

NOTE

SERVICES SHOWN INDICATIVE ONLY.
REFER TO SERVICES ENGINEER'S DOCUMENTATION FOR SERVICES DETAILS. THESE INCLUDE SPEAKERS, CCTV, LIGHTING ETC.

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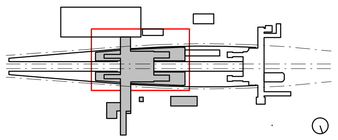

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APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

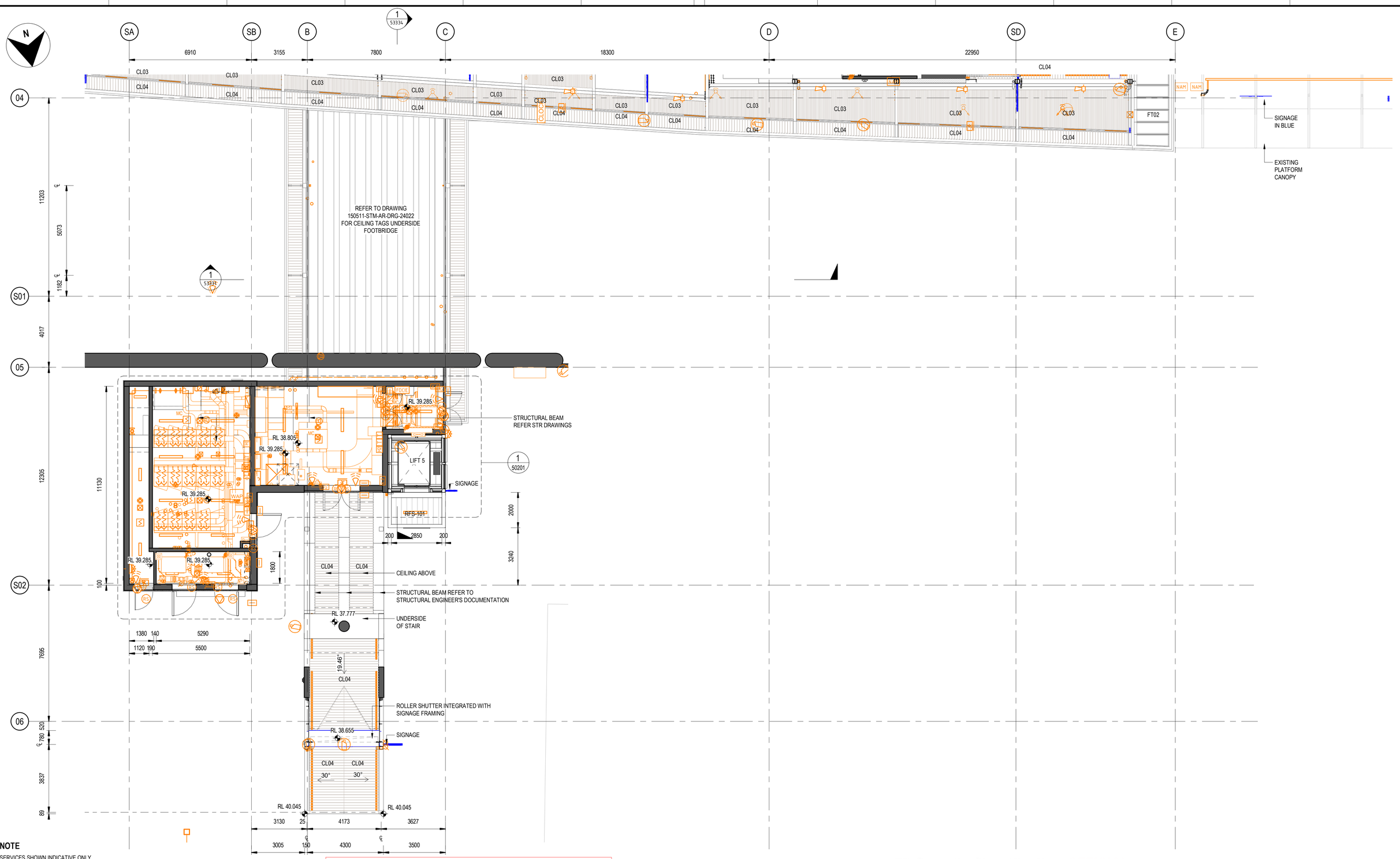
ARCHITECTURE - MAINWORKS

REFLECTED CEILING PLAN - PLATFORM LEVEL PLAN SHEET 1 OF 2

FILE No: 24011 | SHEET: 1 OF 2 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-24011	B	01		



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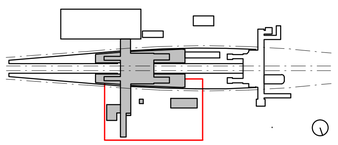
PRELIMINARY



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COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 100

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ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

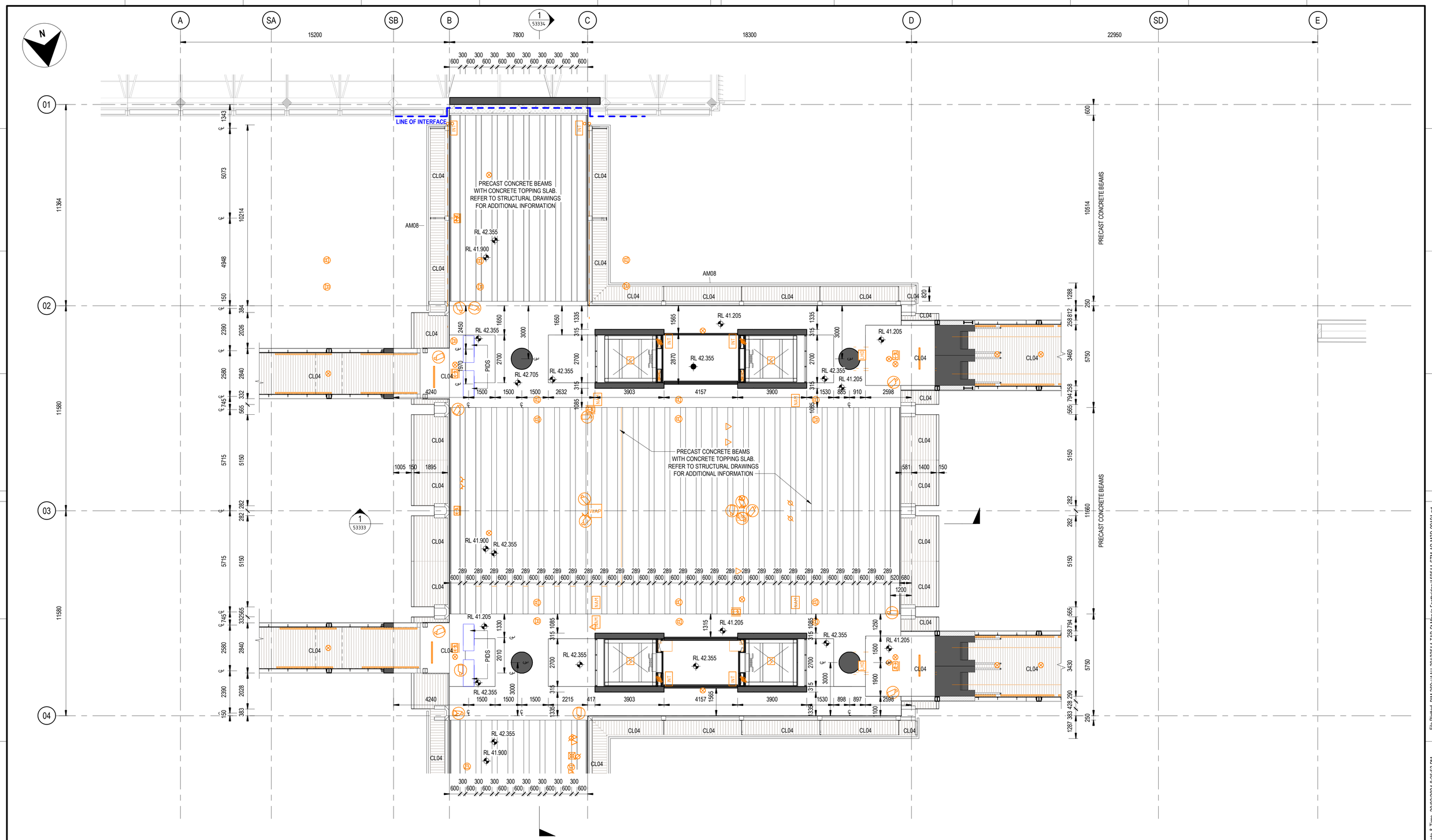
ARCHITECTURE - MAINWORKS

REFLECTED CEILING PLAN - PLATFORM LEVEL PLAN SHEET 2 OF 2

FILE No: 24012 | SHEET: 2 OF 2 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-24012	B	01		



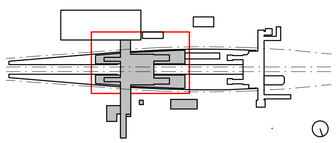
NOTE

SERVICES SHOWN INDICATIVE ONLY.
REFER TO SERVICES ENGINEER'S DOCUMENTATION FOR SERVICES DETAILS. THESE INCLUDE SPEAKERS, CCTV, LIGHTING ETC.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

TB Security Classification: OFFICIAL

PRELIMINARY



REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 100

NSW GOVERNMENT Transport for NSW

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DRAWN	CAREN MOK	20.02.2024
DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

REFLECTED CEILING PLAN - MEZZANINE LEVEL PLAN SHEET 1 OF 2

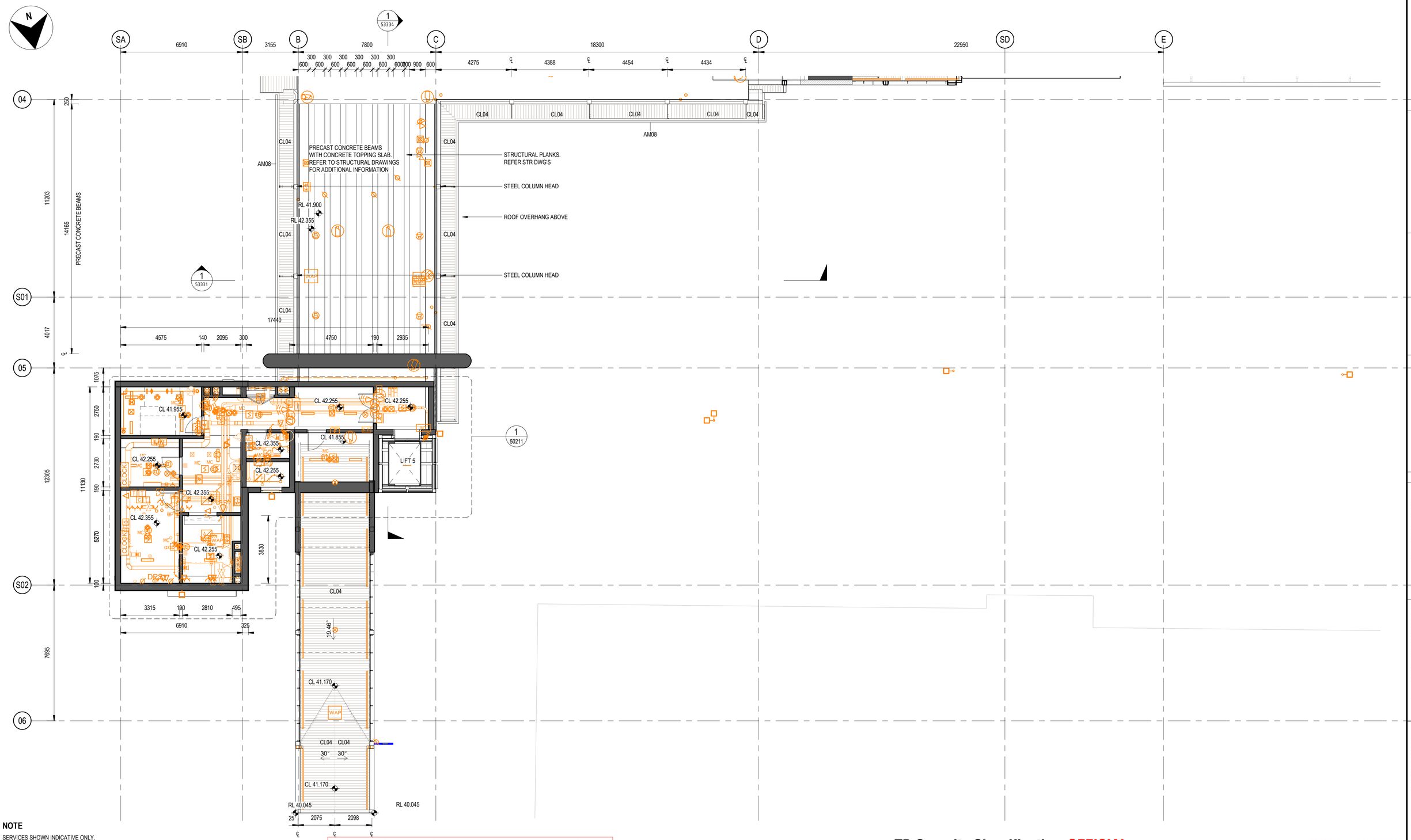
FILE No: 24021 | SHEET: 1 OF 2 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-24021	B	01		

File Plotted BIM 360://AAU-30122514-TAP-St Mary's Footbridge/150511-STM-AR-M3D-00101.rvt

Plot Date & Time 20/02/2024 8:25:52 PM



NOTE

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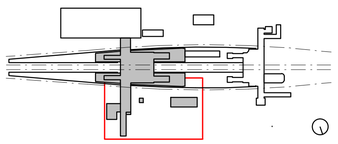
REFER TO SERVICES ENGINEER'S DOCUMENTATION FOR SERVICES DETAILS. THESE INCLUDE SPEAKERS, CCTV, LIGHTING ETC.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

TB Security Classification: OFFICIAL

PRELIMINARY



REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 100

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DRAWN	CAREN MOK	20.02.2024
DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

REFLECTED CEILING PLAN - MEZZANINE LEVEL PLAN SHEET 2 OF 2

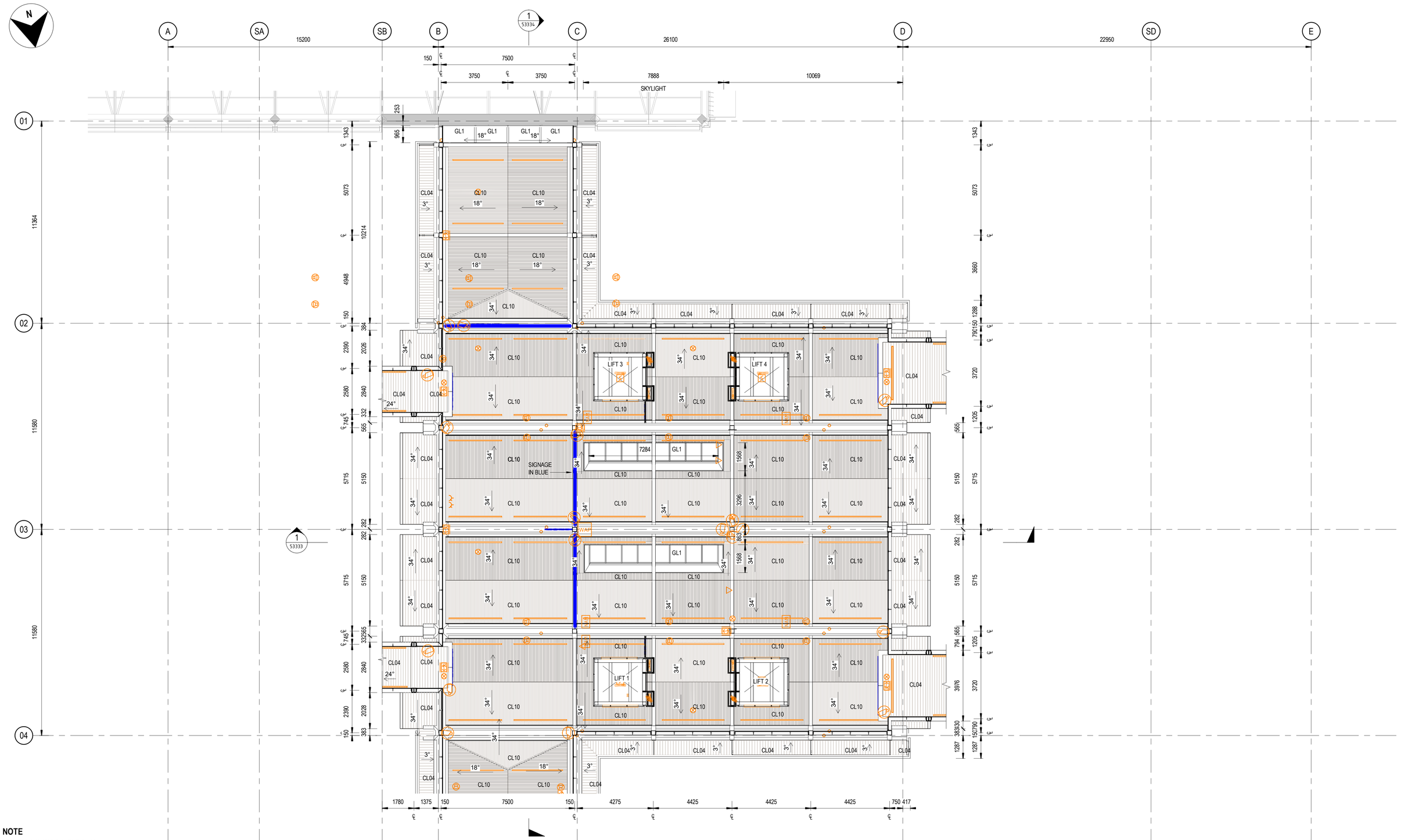
FILE No: 24022 | SHEET: 2 OF 2 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-24022	B	01		

File Plotted BIM 360://AAU-30122514-TAP-St Mary's Footbridge\150511-STM-AR-M3D-00101.rvt

Plot Date & Time 20/02/2024 8:26:03 PM



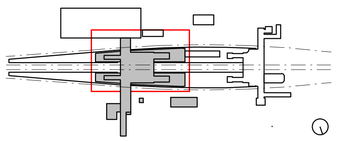
NOTE

SERVICES SHOWN INDICATIVE ONLY.
REFER TO SERVICES ENGINEER'S DOCUMENTATION FOR SERVICES DETAILS. THESE INCLUDE SPEAKERS, CCTV, LIGHTING ETC.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

TB Security Classification: OFFICIAL

PRELIMINARY



REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 100

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DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2
ARCHITECTURE - MAINWORKS
REFLECTED CEILING PLAN - FOOTBRIDGE LEVEL SHEET 1 OF 2

FILE No: 24031 | SHEET: 1 OF 2 | A1
STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW ©

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-24031	B	01		

File Plotted BIM 360://AAU-30122514-TAP-St Mary's Footbridge/150511-STM-AR-M3D-00101.rvt
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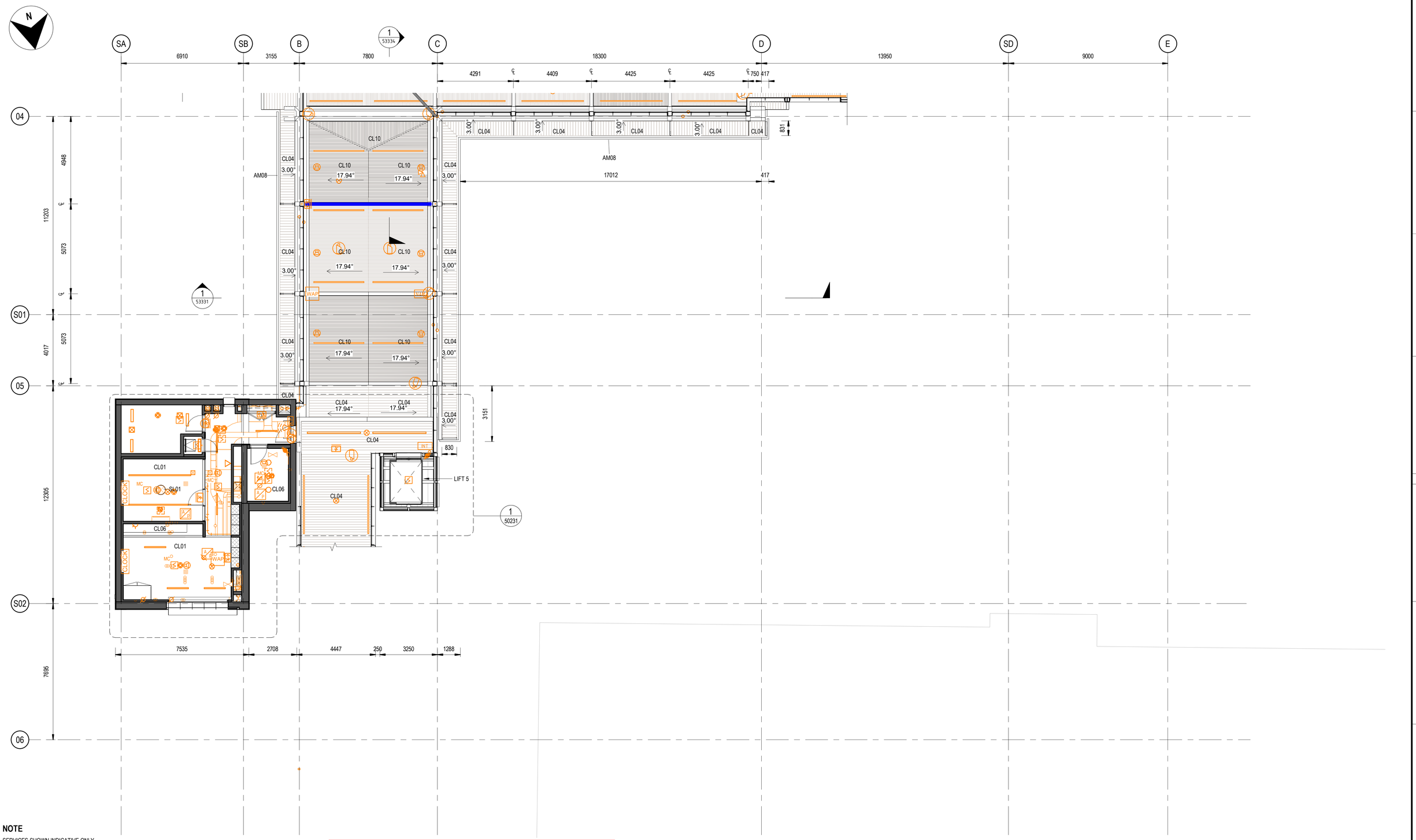


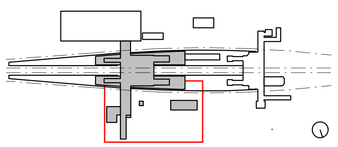
NOTE

SERVICES SHOWN INDICATIVE ONLY.
REFER TO SERVICES ENGINEER'S DOCUMENTATION FOR SERVICES DETAILS. THESE INCLUDE SPEAKERS, CCTV, LIGHTING ETC.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

TB Security Classification: OFFICIAL

PRELIMINARY



REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 100

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DRAWN	CAREN MOK	20.02.2024
DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

REFLECTED CEILING PLAN - FOOTBRIDGE LEVEL SHEET 2 OF 2

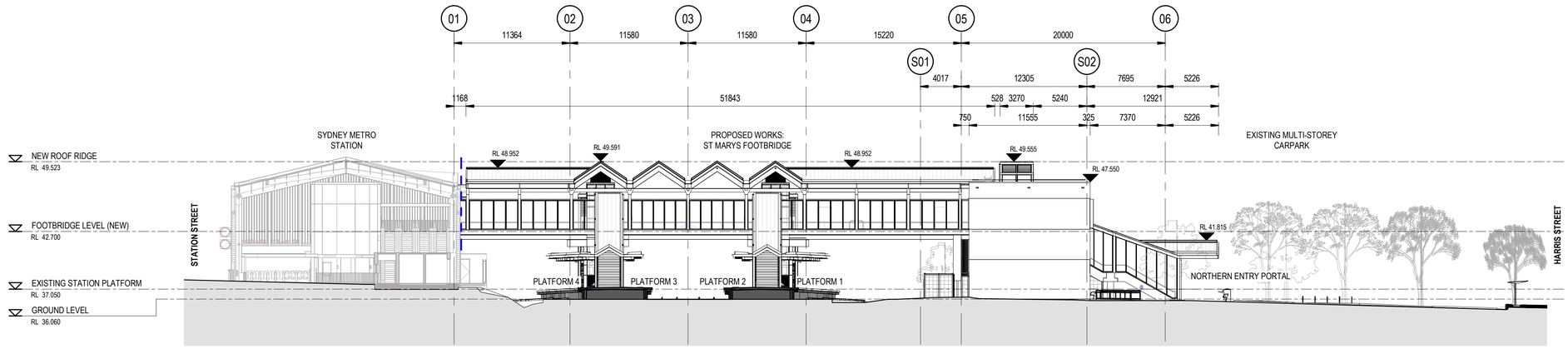
FILE No: 24032 | SHEET: 2 OF 2 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-24032	B	01		

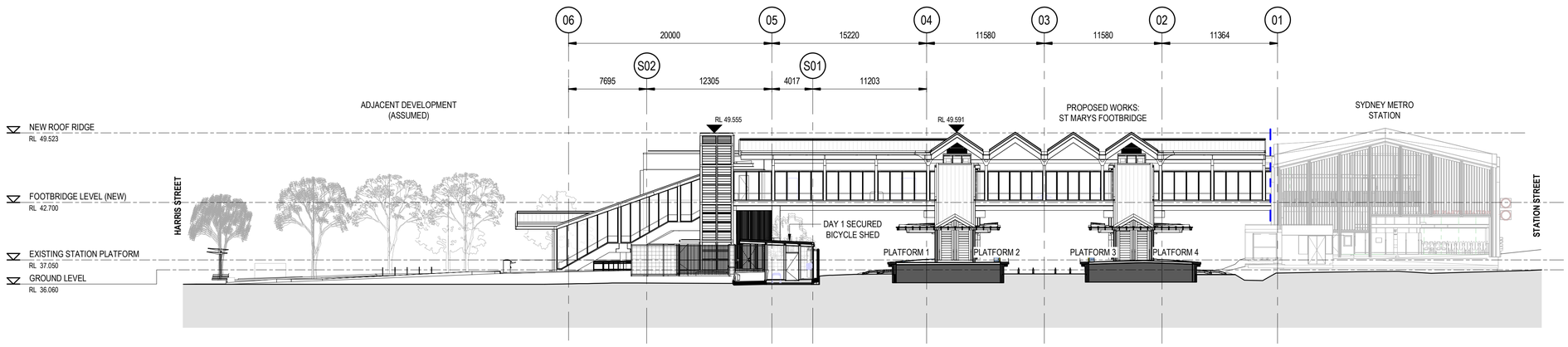
File Plotted BIM 360://AAU-30122514-TAP-St Mary's Footbridge/150511-STM-AR-M3D-00101.rvt

Plot Date & Time 20/02/2024 8:26:28 PM



1 EAST ELEVATION

SCALE: 1 : 250



2 WEST ELEVATION

SCALE: 1 : 250

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TB Security Classification: OFFICIAL

PRELIMINARY

NOTES :

1. SITE LEVELS ARE BASED ON GIS LIDAR DIGITAL SURFACE MODELS (DSM) PROVIDED IN THE DEFINITION DESIGN STAGE
2. EXISTING SURVEY & POINT CLOUD INFORMATION BEING USED, RECEIVED ON APRIL 2020 FROM SYDNEY METRO (EXISTING SURVEY DATA COLLECTED BY RPS)
3. RAIL ALIGNMENT SHOWN IS VERSION 10.0
4. PROPOSALS SHOWN ARE SUBJECT TO ONGOING ENGINEERING INPUTS, SECURITY & CONSTRUCTABILITY ASSESSMENTS.
5. ANY WORKS SHOWN OUTSIDE OF THE DESIGNATED STATION PRECINCT ARE INDICATIVE ONLY

REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: As indicated

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DRAWN	ANDREW V. ZANTEN	20.02.2024
DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

OVERALL ELEVATIONS - SHEET 1 OF 2

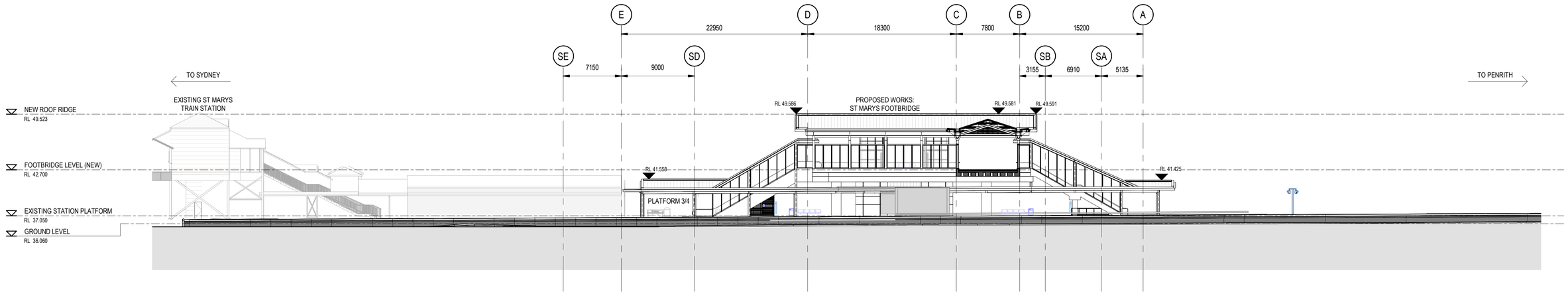
FILE No: 30001 | SHEET: 1 OF 2 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-30001	B	01		

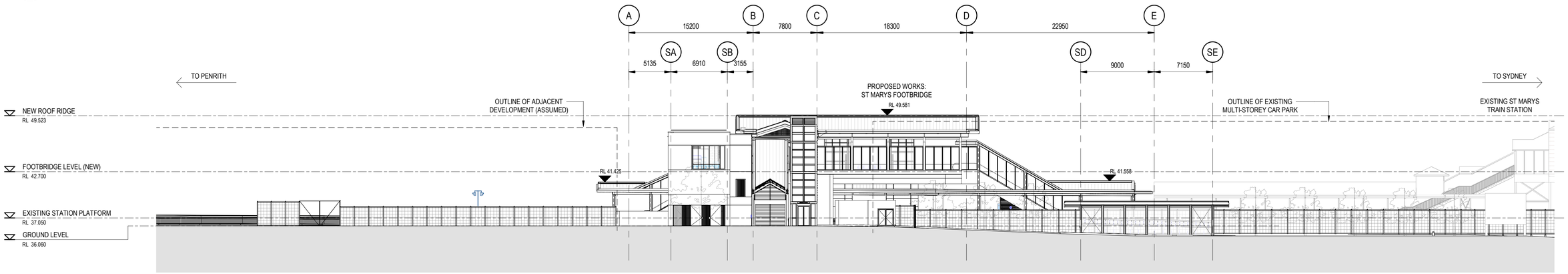
File Plotted BIM 360://AAU-30122514-TAP-St Mary's Footbridge/150511-STM-AR-M3D-00101.rvt

Plot Date & Time 20/02/2024 8:27:05 PM



3 SOUTH ELEVATION

SCALE: 1 : 250



4 NORTH ELEVATION

SCALE: 1 : 250

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TB Security Classification: OFFICIAL

PRELIMINARY

NOTES :

1. SITE LEVELS ARE BASED ON GIS LIDAR DIGITAL SURFACE MODELS (DSM) PROVIDED IN THE DEFINITION DESIGN STAGE
2. EXISTING SURVEY & POINT CLOUD INFORMATION BEING USED, RECEIVED ON APRIL 2020 FROM SYDNEY METRO (EXISTING SURVEY DATA COLLECTED BY RPS)
3. RAIL ALIGNMENT SHOWN IS VERSION 10.0
4. PROPOSALS SHOWN ARE SUBJECT TO ONGOING ENGINEERING INPUTS, SECURITY & CONSTRUCTABILITY ASSESSMENTS.
5. ANY WORKS SHOWN OUTSIDE OF THE DESIGNATED STATION PRECINCT ARE INDICATIVE ONLY

REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: As indicated

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DRAWN	ANDREW V. ZANTEN	20.02.2024
DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

OVERALL ELEVATIONS - SHEET 2 OF 2

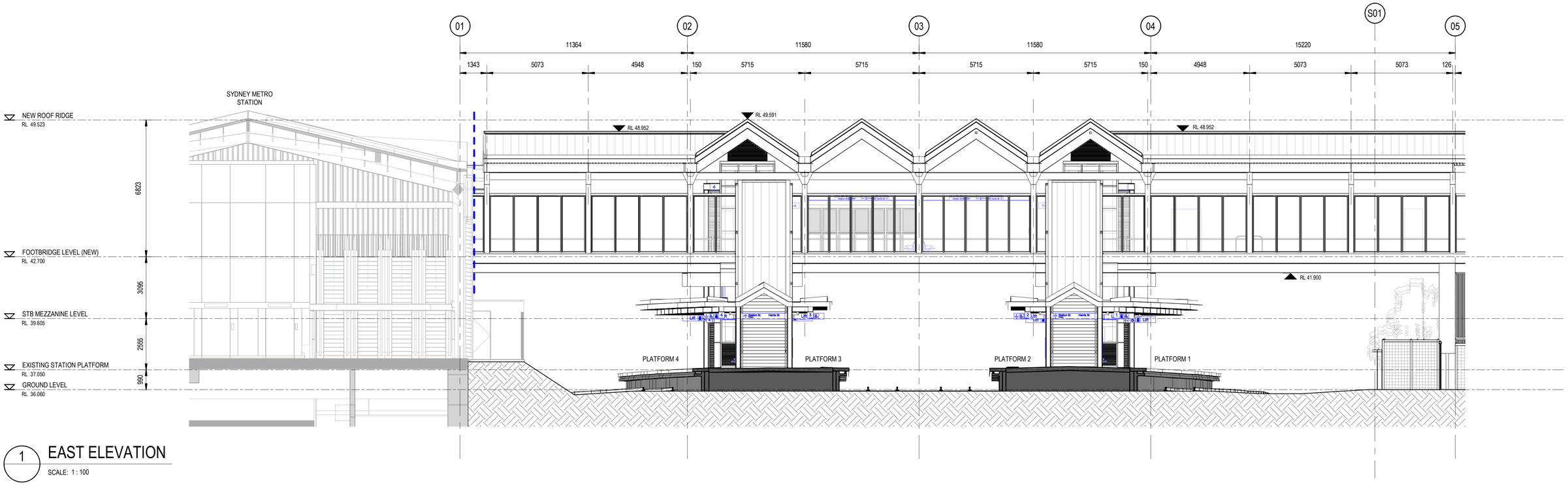
FILE No: 30002 | SHEET: 2 OF 2 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-30002	B	01		

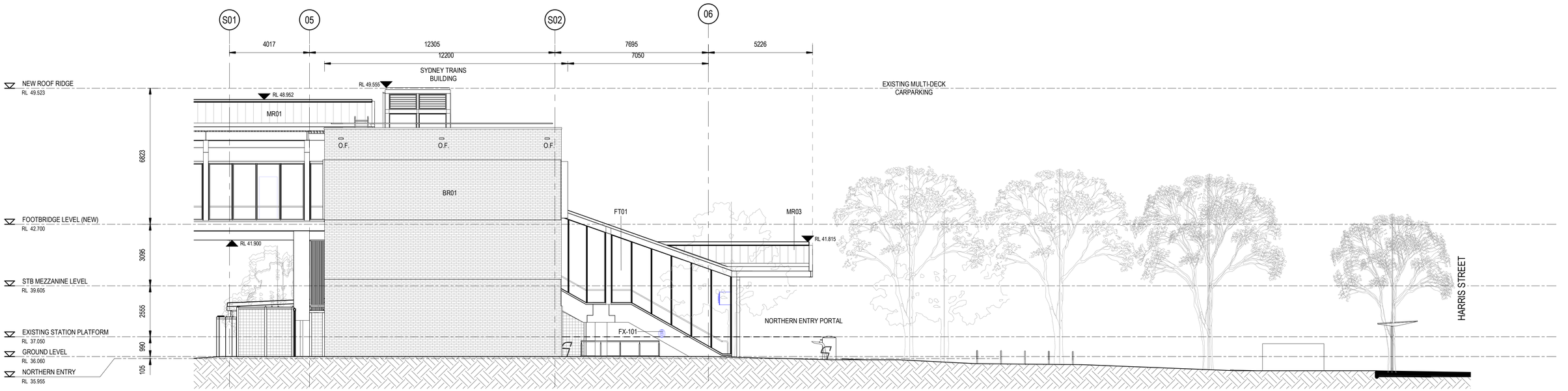
File Plotted BIM 360://AAU-30122514-TAP-St Mary's Footbridge/150511-STM-AR-M3D-00101.rvt

Plot Date & Time 20/02/2024 8:27:28 PM



1 EAST ELEVATION

SCALE: 1 : 100



2 EAST ELEVATION (NORTHERN ENTRY)

SCALE: 1 : 100

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TB Security Classification: OFFICIAL

PRELIMINARY

NOTES :

1. SITE LEVELS ARE BASED ON GIS LIDAR DIGITAL SURFACE MODELS (DSM) PROVIDED IN THE DEFINITION DESIGN STAGE
2. EXISTING SURVEY & POINT CLOUD INFORMATION BEING USED, RECEIVED ON APRIL 2020 FROM SYDNEY METRO (EXISTING SURVEY DATA COLLECTED BY RPS)
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4. PROPOSALS SHOWN ARE SUBJECT TO ONGOING ENGINEERING INPUTS, SECURITY & CONSTRUCTABILITY ASSESSMENTS.
5. ANY WORKS SHOWN OUTSIDE OF THE DESIGNATED STATION PRECINCT ARE INDICATIVE ONLY

LEGEND

35 DEGREE WEATHER PROTECTION LINE

REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 100

NSW GOVERNMENT Transport for NSW

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DRAWN	ANDREW V. ZANTEN	20.02.2024
DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

DETAIL EAST ELEVATIONS – SHEET 1 OF 4

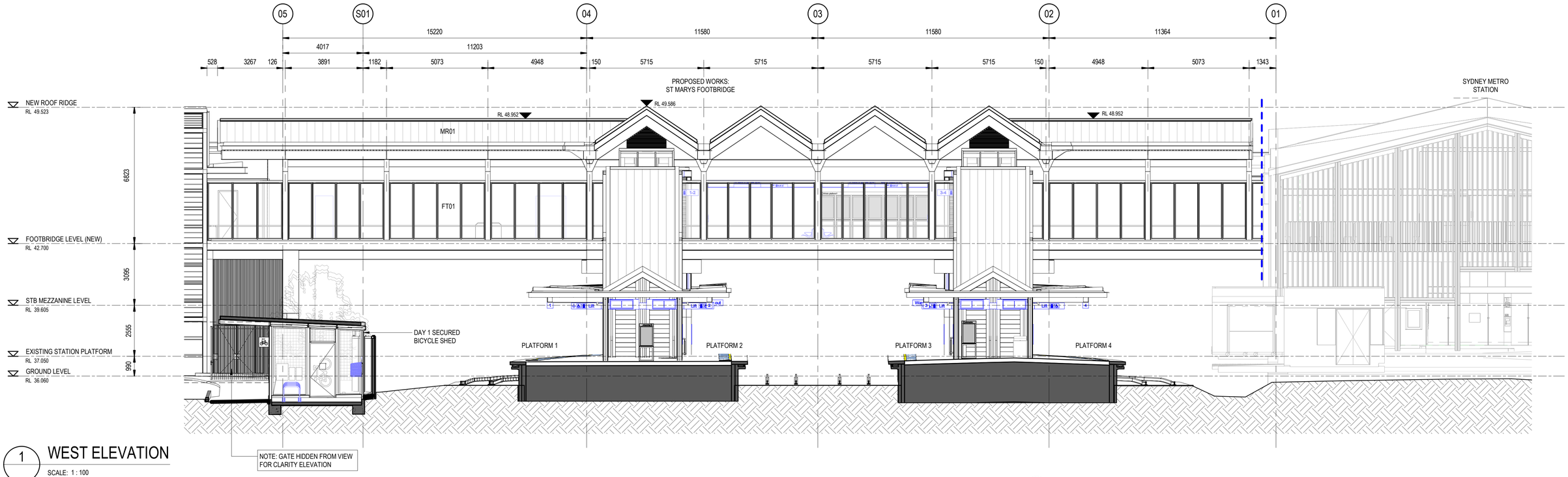
FILE No: 31001 | SHEET: 1 OF 4 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-31001	B	01		

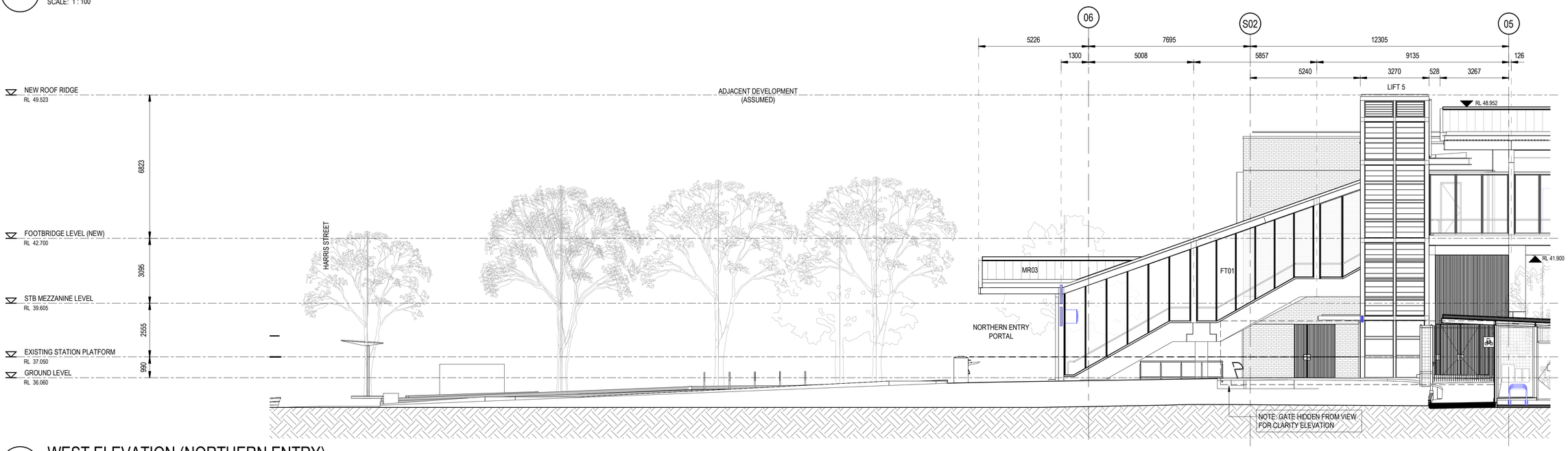
File Plotted BIM 360://AAU-30122514-TAP-St Mary's Footbridge/150511-STM-AR-M3D-00101.rvt

Plot Date & Time 20/02/2024 8:27:52 PM



1 WEST ELEVATION

SCALE: 1 : 100



2 WEST ELEVATION (NORTHERN ENTRY)

SCALE: 1 : 100

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TB Security Classification: OFFICIAL

PRELIMINARY

NOTES :

1. SITE LEVELS ARE BASED ON GIS LIDAR DIGITAL SURFACE MODELS (DSM) PROVIDED IN THE DEFINITION DESIGN STAGE
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3. RAIL ALIGNMENT SHOWN IS VERSION 10.0
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5. ANY WORKS SHOWN OUTSIDE OF THE DESIGNATED STATION PRECINCT ARE INDICATIVE ONLY

LEGEND

35 DEGREE WEATHER PROTECTION LINE

REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 100

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DRAWN	ANDREW V. ZANTEN	20.02.2024
DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

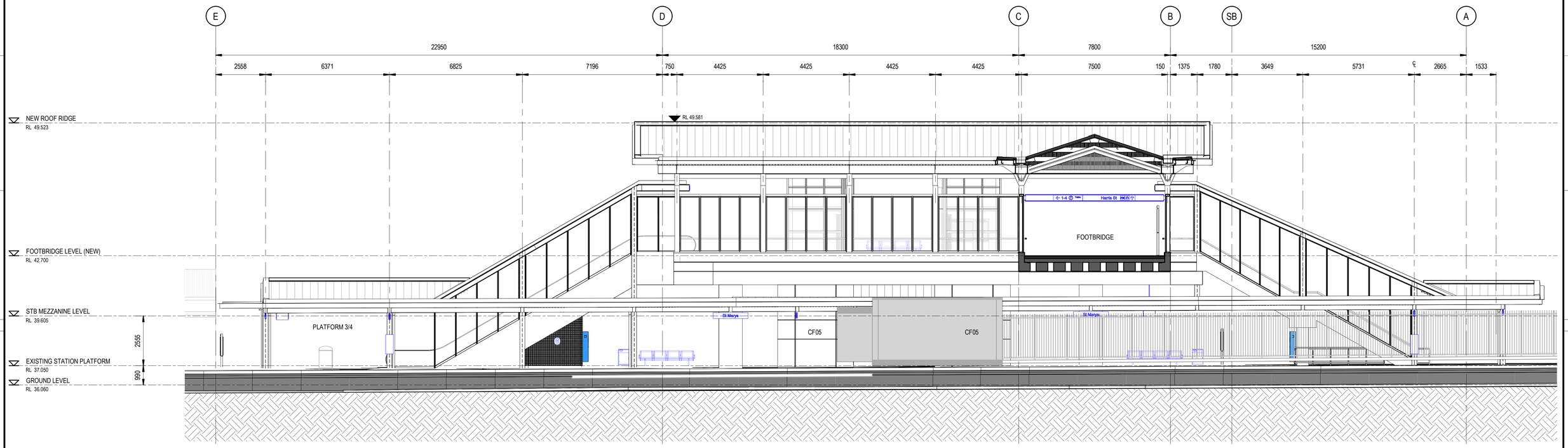
ARCHITECTURE - MAINWORKS

DETAIL WEST ELEVATIONS – SHEET 2 OF 4

FILE No: 31002 | SHEET: 2 OF 4 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-31002	B	01		



1 SOUTH ELEVATION

SCALE: 1 : 100

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

TB Security Classification: OFFICIAL

PRELIMINARY

NOTES :

1. SITE LEVELS ARE BASED ON GIS LIDAR DIGITAL SURFACE MODELS (DSM) PROVIDED IN THE DEFINITION DESIGN STAGE
2. EXISTING SURVEY & POINT CLOUD INFORMATION BEING USED, RECEIVED ON APRIL 2020 FROM SYDNEY METRO (EXISTING SURVEY DATA COLLECTED BY RPS)
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LEGEND

35 DEGREE WEATHER PROTECTION LINE

REV.	DESCRIPTION	DESIGNER INITIAL/DATE	VERIFIED INITIAL/DATE	APPROVED INITIAL/DATE
B	ISSUED FOR PRELIMINARY DESIGN REVIEW	DS/20.02.24	AVZ/20.02.24	LP/20.02.24
A	ISSUED FOR PRELIMINARY DESIGN REVIEW	KC/28.08.23	AVZ/28.08.23	LP/28.08.23

COORDINATE SYSTEM: GDA2020 MGA56 | HEIGHT DATUM: A.H.D. | SCALE: 1 : 100

NSW GOVERNMENT Transport for NSW

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Architectural

DRAWN	ANDREW V. ZANTEN	20.02.2024
DESIGNED	DARIO SPRALJA	20.02.2024
DRG CHECK	NIGEL JUSTINS	20.02.2024
DESIGN CHECK	ANDREW V. ZANTEN	20.02.2024
APPROVED	LUKE PALMER	20.02.2024

ST MARYS

MAIN WEST LINE - 47.420KM

FOOTBRIDGE ST MARYS - TAP3 MC T2

ARCHITECTURE - MAINWORKS

DETAIL SOUTH ELEVATIONS – SHEET 3 OF 4

FILE No: 31003 | SHEET: 3 OF 4 | A1

STATUS: ISSUED FOR PRELIMINARY DESIGN REVIEW (C)

DRG No.	REV	VER	EDMS No:	AMD No:
150511-STM-AR-DRG-31003	B	01		

File Plotted BIM 360://AAU-30122514-TAP-St Marys Footbridge/150511-STM-AR-M3D-00101.rvt

Plot Date & Time 20/02/2024 8:28:50 PM