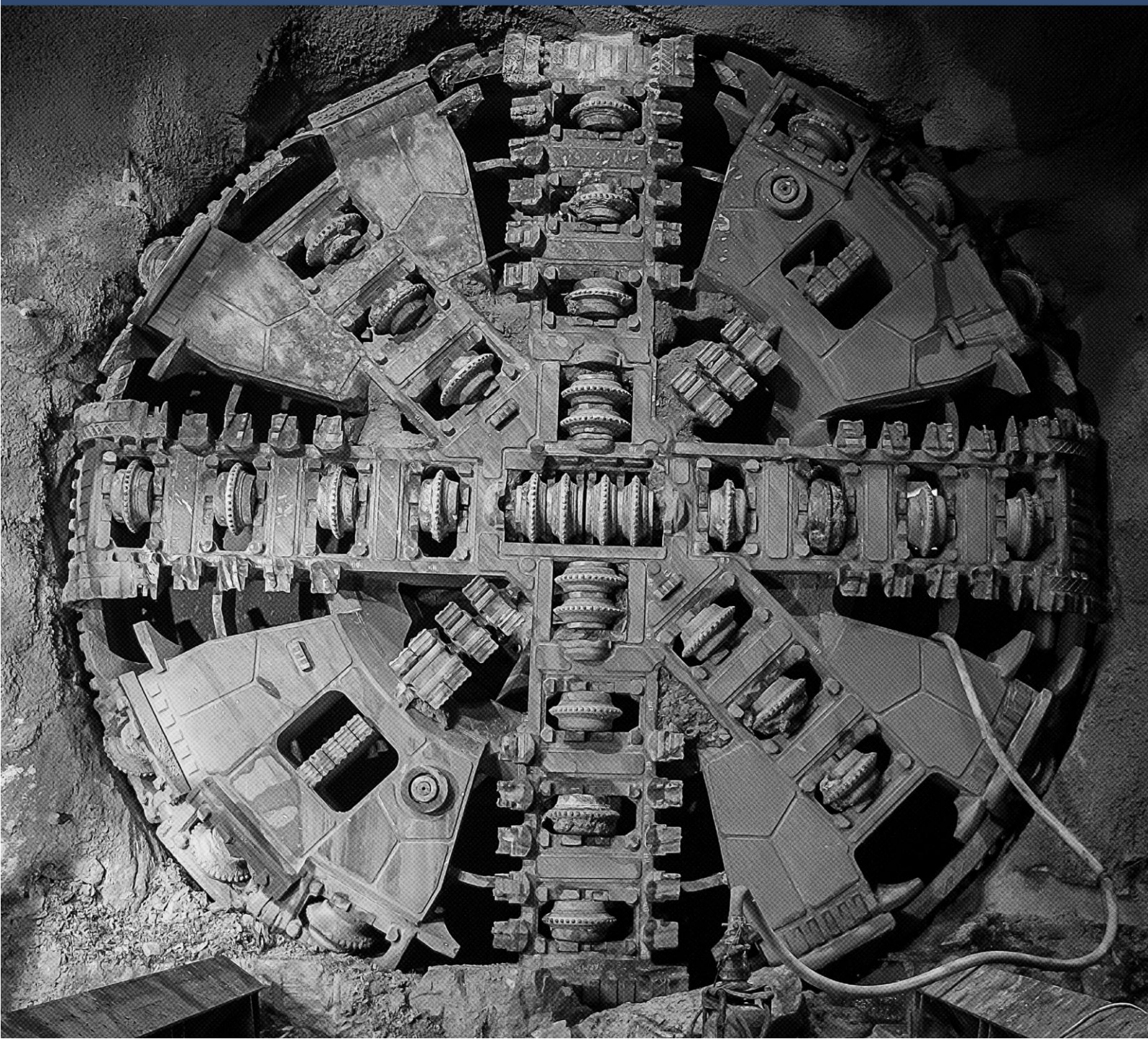
EASTERN TUNNELLING PACKAGE
John Holland CPB Contractors Ghella JV

EPL 21784 POLLUTION MONITORING REPORT

April 2025



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April 2025

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1. Introduction

1.1. Project overview

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

The planning process for Sydney Metro West was assessed as a staged infrastructure application under section 5.20 of the *Environment Planning and Assessment Act 1979 (EP&A Act)*.

Stage 1 of the development, the Sydney Metro West Concept and major civil construction work for Sydney Metro West between Westmead and The Bays (SSI-10038 Schedule 2), was approved on 11 March 2021 and includes:

- Construction and operation of new passenger rail infrastructure between Westmead and the central business district of Sydney, including:
  - Tunnels, stations (including surrounding areas) and associated rail facilities
  - Stabling and maintenance facilities (including associated underground and overground connections to tunnels)
- Modification of existing rail infrastructure, including stations and surrounding areas
- Ancillary development.

The Eastern Tunnelling Package (ETP or this Project) is addressed under the Stage 2 Planning Approval (SSI 19238057). This Project includes all major civil construction work including station excavation (at the Pyrmont Station and Hunter Street Station (Sydney CBD) construction sites) and tunnelling between The Bays and Sydney CBD (Figure 1).

It is noted that the existing Sydney Metro West precast facility at Eastern Creek will be utilised in the delivery of the ETP Works. The facility, which was assessed by Sydney Metro in a Review of Environmental Factors (REF) and approved on 11 March 2021, is outside of the scope of the SWMP.

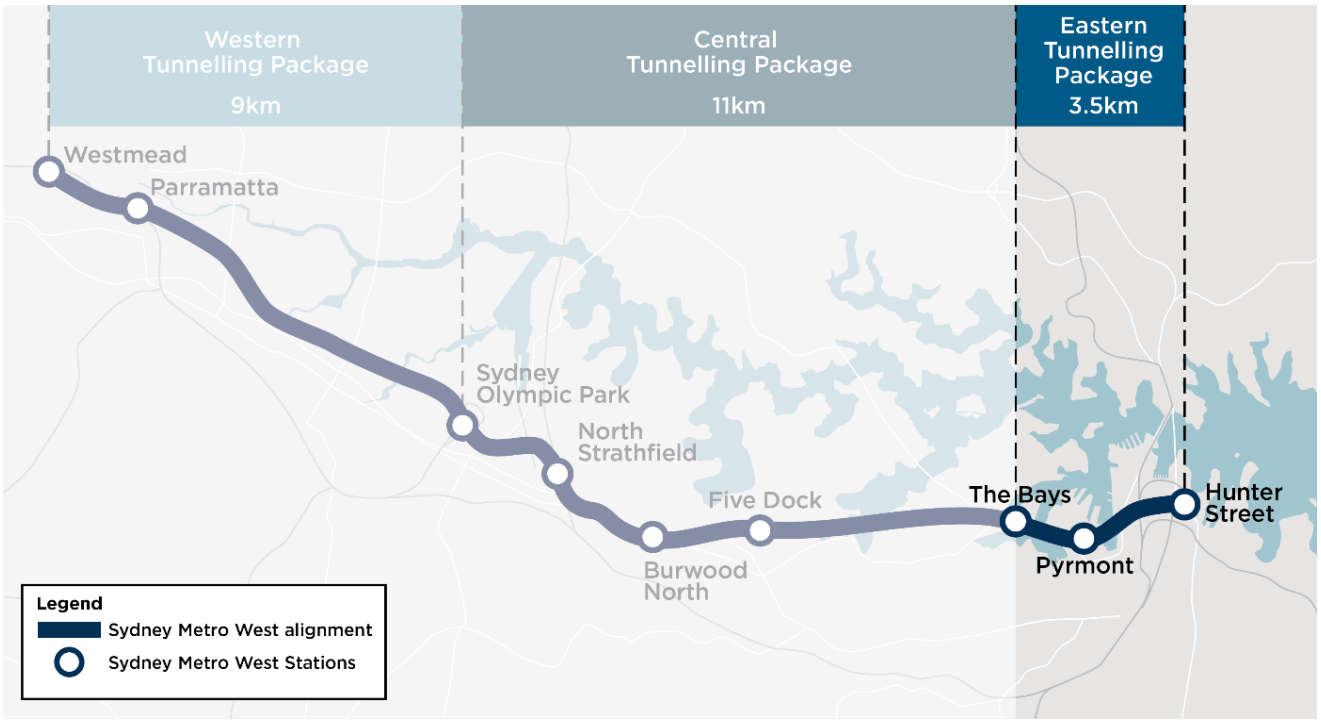

Figure 1: Sydney Metro West alignment

1.2. Project Scope

The ETP Works include design and construction of:

- Demolition of existing buildings at Pyrmont East and West shaft sites and at Hunter Street East and West shaft sites
- Tunnel Boring Machine (TBM) assembly, launch, tunnelling support from an existing shaft at The Bays
- Approximately 2.5 km twin underground eastbound and westbound bored railway tunnels between The Bays and Hunter Street and six cross passages spaced up to 500 metres apart
- Pyrmont Station excavation, including two shaft excavations, associated access adits and nozzle enlargements, including temporary ground support and cast in situ cavern linings
- Excavation and lining of a mined crossover cavern to allow trains to cross from one track to the other
- Hunter Street station mined cavern excavation, including:
    - Two shaft excavations, associated access adits
    - Nozzle enlargements
    - Conversion of an existing temporary connection adit at Bligh Street linking Hunter Street Station to Martin Place Station into a permanent pedestrian connection linking the stations (including temporary ground support and cast in situ linings)
- A turnback extension tunnel, of approximately 675 metres, east of the Hunter Street Station works to enable Sydney Metro train storage and to change tracks and travel direction (eastbound to westbound)
- TBM disassembly and retrieval from Hunter Street East.

1.3. Scope of this report

John Holland CPB Contactors Ghella (JCG) have been issued an Environmental Protection Licence (EPL No. 21784) from the NSW Environment Protection Authority (EPA) for the Sydney Metro West Eastern Tunnelling Package (ETP) Project.

The EPL applies to the works approved under the Infrastructure Approval SSI-19238057 associated with the delivery of the Sydney Metro West Eastern Tunnelling Package (ETP) Project.

This EPL Pollution Monitoring Report provides the results of all pollution monitoring required to be measured or monitored by the licensee of EPL 21784 as required by Section 66 of the Protection of the Environment Operations Act 1997 (POEO Act) and with reference to EPA Publication Requirements for publishing pollution monitoring data (Environment Protection Authority, 2013).

Table 1 provides a summary of the EPL 21784 details.

Table 1 Licence Details

Licence Details	
Number	21784
Copy of Licence	https://apps.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=266460&SYSUID=1&LICID=21784
Anniversary Date	16 March
Licensee	John Holland Pty Ltd
Premises	Sydney Metro West – Eastern Tunnelling Package
Scheduled Activity	Railway activities – railway infrastructure construction

2. Reporting Requirements

Under the POEO Act, holders of environment protection licences (licensees) must publish or make pollution monitoring data available to members of the public.

The POEO Act Section 66 requires:

> "66 Conditions requiring monitoring, certification or provision of information, and related offences
>
> (1) Monitoring The conditions of a licence may require—
>
> (a) monitoring by the holder of the licence of the activity or work authorised, required or controlled by the licence, including with respect to—
>
> (i) the operation or maintenance of premises or plant, and
>
> (ii) discharges from premises, and
>
> (iii) relevant ambient conditions prevailing on or outside premises,
>
> and
>
> (iv) anything required by the conditions of the licence, and
>
> (b) the provision and maintenance of appropriate measuring and recording devices for the purposes of that monitoring, and
>
> (c) the analysis, reporting and retention of monitoring data.
>
> (2) False or misleading information. A holder of a licence who supplies information, or on whose behalf information is supplied, to the appropriate regulatory authority under the conditions of the licence is guilty of an offence if the information is false or misleading in a material respect."

The primary objective of the pollution monitoring reporting requirements is that members of the public have access to the results of all pollution monitoring (which a licence specifies must be carried out) in a way that is meaningful to them. Data for the Sydney Metro West Eastern Tunnelling Package is presented on a monthly sampling period.

The monitoring data that must be published and/or made available on request is any data that is obtained as a result of a monitoring condition on a licence that relates to air, water (surface or groundwater), noise and/or land pollution. The data to be published or provided is limited to data that relates to pollutants generated, discharged or emitted from the licensed premises.

The data is provided in tabular format that is easy for the general public to understand. Tables definitively display raw data values, while graphs and charts are useful for overviews and visualisation of long-term trends. Raw data will be provided upon request.

An upfront note will be included on the licensee's website or in this report to explain why any data may appear to be missing because there is no discharge or the level of pollutant being below the detection level of the measurement instrument.

It is possible from time to time that incorrect data may be published in good faith. As soon as practicable after the licensee becomes aware that the published pollution monitoring data is incorrect or misleading, licensees must then publish a correction log to correct this data that is incorrect or misleading (refer to **4. Correction Log**).

Table 2 provides a summary of the pollution monitoring requirements of EPL 21784.

Table 2 EPL 21784 Pollution Monitoring Requirements

<table>
<tr><th>EPL Condition</th><th>Requirement</th><th>Report Reference</th></tr>
<tr><td colspan="3">Weather</td></tr>
<tr><td>M5.1</td><td>The licensee must monitor and record temperature, humidity, wind direction, wind velocity and rainfall at either the project weather station, or through analysis of equivalent weather information obtained from the Australia Bureau of Meteorology. Monitoring must:
a) be representative of each catchment area;
b) commence prior to any works that may cause sediment to leave the premises; and
c) continue to be operated until soil disturbance activities cease at the premises and the site has been stabilised.</td><td>Section 3.1
Appendix A3.1</td></tr>
<tr><td colspan="3">Noise</td></tr>
<tr><td>L5.9</td><td>In undertaking any works and activities outside of standard construction hours under condition L5.8, the licensee must comply with the following:
a) Prepare a construction noise and vibration impact assessment in accordance with the Interim Construction Noise Guideline (DEC,2009) that is to include:
i. a description of the proposed works and activities outside of standard constructions hours;
ii. predictions of LAeq (15 minute) dB noise levels at noise sensitive receivers from these works and activities, where noise levels are predicted to be greater than those permitted under condition L5.3; and
iii. a monitoring plan to validate the noise predictions, based on monitoring at the boundary of representative sensitive receivers during noise generating activities that are representative of the works and activities, including during the period/s predicted to have the highest noise level impacts.
b) Undertake noise monitoring in accordance with the monitoring plan required by condition L5.9(a)(iii).</td><td>Section 0
Appendix B</td></tr>
<tr><td>M4.4</td><td>The licensee must undertake noise and vibration monitoring as directed by an authorised officer of the EPA. If a licensee is unable to obtain permission, they must provide the response to the EPA.</td><td>N/A</td></tr>
<tr><td colspan="3">Water</td></tr>
<tr><td>P1.1</td><td>The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.
<table>
<tr><th>EPA Identification no.</th><th>Type of Monitoring Point</th><th>Type of Discharge Point</th><th>Location Description</th></tr>
<tr><td>1</td><td>Discharge & Monitoring</td><td>Discharge & Monitoring</td><td>Discharge from the Hunter St Station WTP to Sydney Harbour</td></tr>
<tr><td>2</td><td>Discharge & monitoring</td><td>Discharge & monitoring</td><td>Discharge from the Eastern Creek Precast Facility sediment basin</td></tr>
<tr><td>3</td><td>Discharge & monitoring</td><td>Discharge & monitoring</td><td>Discharge from The Bays temporary WTP to White Bay</td></tr>
<tr><td>4</td><td>Discharge & Monitoring</td><td>Discharge & Monitoring</td><td>Discharge from the Pyrmont Station WTP to Sydney Harbour</td></tr>
<tr><td>5</td><td>Discharge & Monitoring</td><td>Discharge & Monitoring</td><td>Discharge from the Eastern Tunnelling Package Eastern Creek Precast Facility Water Treatment Plant into Ropes Creek</td></tr>
<tr><td>6</td><td>Discharge & Monitoring</td><td>Discharge & Monitoring</td><td>Discharge from The Bays Construction WTP to White Bay</td></tr>
<tr><td>7</td><td>Discharge & Monitoring</td><td>Discharge & Monitoring</td><td>Discharge from Pyrmont East Surface Water Discharge</td></tr>
</table></td><td>Section 3.3</td></tr>
<tr><td>M2.1</td><td>For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns.</td><td>Section 3.3</td></tr>
</table>

EPL Condition	Requirement	Report Reference
M2.2		Section 3.3

POINT 1

Pollutant	Units of measure	Frequency	Sampling Method
Aluminium	micrograms per litre	Monthly during discharge	Grab sample
Ammonia	micrograms per litre	Monthly during discharge	Grab sample
Arsenic (III)	micrograms per litre	Monthly during discharge	Grab sample
Cadmium	micrograms per litre	Monthly during discharge	Grab sample
Chromium (hexavalent)	micrograms per litre	Monthly during discharge	Grab sample
Cobalt	micrograms per litre	Monthly during discharge	Grab sample
Copper	micrograms per litre	Monthly during discharge	Grab sample
Iron	micrograms per litre	Monthly during discharge	Grab sample
Manganese	micrograms per litre	Monthly during discharge	Grab sample
Nitrate	micrograms per litre	Monthly during discharge	Grab sample
Nitrogen (total)	micrograms per litre	Monthly during discharge	Grab sample
Oil and Grease	Visible	Monthly during discharge	Visual Inspection
pH	pH	Daily during any discharge	Probe
Phosphorus (total)	micrograms per litre	Monthly during discharge	Grab sample
TRH C10-C14	micrograms per litre	Monthly during discharge	Grab sample
TSS	milligrams per litre	Monthly during discharge	Grab sample
Zinc	micrograms per litre	Monthly during discharge	Grab sample

POINT 2

Pollutant	Units of measure	Frequency	Sampling Method
Oil and Grease	Visible	Special Frequency 1	Visual Inspection
pH	pH	Special Frequency 1	Probe
TSS	milligrams per litre	Special Frequency 1	Grab sample

POINT 3

Pollutant	Units of measure	Frequency	Sampling Method
Arsenic (III)	micrograms per litre	Monthly during discharge	Grab sample
Manganese	micrograms per litre	Monthly during discharge	Grab sample
Nitrate + nitrite (oxidised nitrogen)	micrograms per litre	Monthly during discharge	Grab sample
Oil and Grease	Visible	Monthly during discharge	Visual Inspection
pH	pH	Daily during any discharge	Probe
Phosphorus (total)	micrograms per litre	Monthly during discharge	Grab sample
TSS	milligrams per litre	Monthly during discharge	Grab sample

POINT 4

Pollutant	Units of measure	Frequency	Sampling Method
Aluminium	micrograms per litre	Monthly during discharge	Grab sample
Ammonia	micrograms per litre	Monthly during discharge	Grab sample
Arsenic (III)	micrograms per litre	Monthly during discharge	Grab sample
Cadmium	micrograms per litre	Monthly during discharge	Grab sample
Chromium (hexavalent)	micrograms per litre	Monthly during discharge	Grab sample
Cobalt	micrograms per litre	Monthly during discharge	Grab sample
Copper	micrograms per litre	Monthly during discharge	Grab sample
Iron	micrograms per litre	Monthly during discharge	Grab sample
Manganese	micrograms per litre	Monthly during discharge	Grab sample
Nitrate	micrograms per litre	Monthly during discharge	Grab sample

EPL Condition	Requirement	Report Reference

Nitrogen (total)	micrograms per litre	Monthly during discharge	Grab sample
Oil and Grease	Visible	Monthly during discharge	Visual Inspection
pH	pH	Daily during any discharge	Probe
Phosphorus (total)	micrograms per litre	Monthly during discharge	Grab sample
TSS	milligrams per litre	Monthly during discharge	Grab sample
Zinc	micrograms per litre	Monthly during discharge	Grab sample

POINT 5

Pollutant	Units of measure	Frequency	Sampling Method
Oil and Grease	Visible	Monthly during discharge	Visual Inspection
pH	pH	Daily during any discharge	Probe
TSS	milligrams per litre	Monthly during discharge	Grab sample

POINT 6

Pollutant	Units of measure	Frequency	Sampling Method
Aluminium	micrograms per litre	Monthly during discharge	Grab sample
Ammonia	micrograms per litre	Monthly during discharge	Grab sample
Arsenic	micrograms per litre	Monthly during discharge	Grab sample
Cadmium	micrograms per litre	Monthly during discharge	Grab sample
Chromium (hexavalent)	micrograms per litre	Monthly during discharge	Grab sample
Cobalt	micrograms per litre	Monthly during discharge	Grab sample
Copper	micrograms per litre	Monthly during discharge	Grab sample
Iron	micrograms per litre	Monthly during discharge	Grab sample
Lead	micrograms per litre	Monthly during discharge	Grab sample
Manganese	micrograms per litre	Monthly during discharge	Grab sample
Mercury	micrograms per litre	Monthly during discharge	Grab sample
Nickel	micrograms per litre	Monthly during discharge	Grab sample
Nitrate + nitrite (oxidised nitrogen)	micrograms per litre	Monthly during discharge	Grab sample
Nitrogen (total)	micrograms per litre	Monthly during discharge	Grab sample
Oil and Grease	Visible	Monthly during discharge	Visual Inspection
pH	pH	Daily during any discharge	Probe
Phosphorus (total)	micrograms per litre	Monthly during discharge	Grab sample
TPH > C10-C40 (sum) Fraction	micrograms per litre	Monthly during discharge	Grab sample
TSS	milligrams per litre	Monthly during discharge	Grab sample
Zinc	micrograms per litre	Monthly during discharge	Grab sample

POINT 7

Pollutant	Units of measure	Frequency	Sampling Method
Oil and Grease	Visible	Monthly during discharge	Visual Inspection
pH	pH	Monthly during discharge	Probe
TSS	milligrams per litre	Monthly during discharge	Grab sample

3. Monitoring

Section 3 presents a summary of the monitoring programs completed in the reporting period from 16 March 2025 to 15 April 2025.

Detailed monitoring results for each program are presented in the Appendices.

3.1. Meteorological Data

Meteorological data for the Project has been mostly taken from the Observatory Hill station but some has also been taken from Fort Denison and Sydney Airport, Bureau of Meteorology Weather Station.

The total rainfall recorded during the reporting period was 146 mm, with 10 days exceeding 1mm and 4 days exceeding 10mm.

During the reporting period, there were 27 days where the maximum wind gust recorded was greater than 25km/h, 5 days where the maximum wind gust recorded was greater than 50km/h and 3 days where the maximum wind gust recorded was greater than 60km/h. Winds recorded during the reporting period varied in the mornings and into the afternoons.

A summary of the weather observations and weather events during the reporting period of relevance to the Soil and Water Management Sub-plan and Air Quality Management Sub-plan Trigger Action Response Plans (TARPs) are summarised in Table 3.

Detailed weather observation records for the reporting period are presented in Appendix A.

Table 3 Weather summary and trigger weather events for the reporting period

Weather Event	Observation
Minimum temperature	14.4 °C
Maximum temperature	37.1 °C
Total rainfall	146 mm
Number of days with rain (>1 mm)	10 days
Number of days with rain (>10 mm)	4 days
>25 km/hr wind	27 days
>50 km/hr wind	5 days
>60 km/hr wind	3 days

3.2. Noise

Table 4 Summary of noise and vibration monitoring completed during the reporting period

Date	Monitoring Location	Method	Description
17/03/2025	Level 3/2 Hunter Street, Sydney	Sound Level Meter	D39 Monitoring - shaft excavation
18/03/2025	Next to The Bays WTP acid bund	Sound Level Meter	Road sweeper - on site sound power level check
18/03/2025	Level 4/285 George St, Sydney	Sound Level Meter	D39 monitoring - excavation
19/03/2025	65 Edward St, Pyrmont	Sound Level Meter	Breaking oversized rock in the PYRE shaft
19/03/2025	27 O'Connell St, Sydney	Sound Level Meter	Metrodeck handrail install at HSTE using boom crane
19/03/2025	27 O'Connell St, Sydney	Sound Level Meter	RJS decking install
19/03/2025	65 Edward St, Pyrmont	Sound Level Meter	Tunnel deliveries to PYRE (entry)
19/03/2025	1-9 Pyrmont Bridge Road	Sound Level Meter	tunnel deliveries at PYRE (exit)
20/03/2025	17 Bligh St, Sydney (Sofitel)	Sound Level Meter	RJS decking install for minor ancillary facility
20/03/2025	Outside 1-5 Harwood St Level 1 balconies	Sound Level Meter	Compressor on Pyrmont East deck (outside shed)
20/03/2025	1-9 Pyrmont Bridge Road	Sound Level Meter	tunnel delivery at PYRE (exit)

Date	Monitoring Location	Method	Description
20/03/2025	65 Edward St, Pyrmont	Sound Level Meter	tunnel delivery to PYRE (entry)
20/03/2025	16 O'Connell St, Sydney	Sound Level Meter	Metrodeck handrail install and crane boom being moved/retracted
28/03/2025	Spice Temple -10 Bligh St, Sydney	Sound Level Meter	D39 Monitoring - Bligh (TS01) decline excavation
31/03/2025	28 Paternoster Row	Sound Level Meter	75T hammering
31/03/2025	196 Harris Street (Newsagency)	Sound Level Meter	75T hammering
03/04/2025	1-9 Pyrmont Bridge Road, Pyrmont	Sound Level Meter	Spoil haulage truck exiting PYRE
03/04/2025	65 Edward St, Pyrmont	Sound Level Meter	Spoil haulage trucks entering PYRE
03/04/2025	65 Edward St, Pyrmont	Sound Level Meter	Spoil haulage truck entering PYRE
03/04/2025	1-9 Pyrmont Bridge Road, Pyrmont	Sound Level Meter	Spoil haulage truck exiting PYRE
04/04/2025	1-9 Pyrmont Bridge Road, Pyrmont	Sound Level Meter	Spoil haulage truck exiting PYRE
04/04/2025	65 Edward St, Pyrmont	Sound Level Meter	Tunnel delivery truck entering PYRE
04/04/2025	65 Edward Street, Pyrmont	Sound Level Meter	Spoil haulage trucks entering PYRE
04/04/2025	1-9 Pyrmont Bridge Road, Pyrmont	Sound Level Meter	tunnel delivery truck exiting PYRE
08/04/2025	Level 2/39 Hunter St, Sydney	Sound Level Meter	D39 Monitoring - shaft excavation (niche)
04/04/2025	1-9 Pyrmont Bridge Road, Pyrmont	Sound Level Meter	spoil haulage truck exiting PYRE
08/04/2025	Level 2/39 Hunter St, Sydney	Sound Level Meter	D39 Monitoring - shaft excavation (niche)

No noise and vibration monitoring were undertaken as a result of a direction by the EPA.

3.3. Discharge to water

Discharge water quality monitoring is a requirement of the following conditions of EPL 21784:

- M2.1 Monitoring the concentration of each pollutant specified using the specified sampling method, units of measure and frequency

During the reporting period sampling was undertaken from:

- Point 2 – Discharge from The Precast Sediment Basin.
- Point 6 – Discharge from The Bays Construction WTP.

Table 5 and Table 6 provides the details of the concentration of pollutants discharged to the environment via stormwater during the reporting period.

Point 1 and Point 4 discharged under their respective Trade Waste Agreements with Sydney Water.

Table 5 Concentration of pollutants discharged from Point 2 during the reporting period

Date			24/03/2025
Pollutant	**Units**	**Criteria**	**Discharge**
Oil and Grease	Visible	Not visible	Not visible
pH	pH	6.5-8.5	8.0
TSS	(mg/L)	50	6.1

Table 6 Concentration of pollutants discharged from Point 6 during the reporting period

Date			17/03/2025
Pollutant	**Units**	**Criteria**	**Discharge**
Aluminium	(µg/L)	250	20
Ammonia	(µg/L)	910	85
Arsenic	(µg/L)	4.5	<1
Cadmium	(µg/L)	0.7	<0.1
Chromium (hexavalent)	(µg/L)	20	10
Cobalt	(µg/L)	1.4	<1
Copper	(µg/L)	2	<1
Iron	(µg/L)	700	<10
Lead	(µg/L)	4.4	<1
Manganese	(µg/L)	1900	<5
Mercury	(µg/L)	0.1	<0.05
Nickel	(µg/L)	70	<1
Nitrate	(µg/L)	660	51
Nitrogen (Total)	(µg/L)	1720	900
Oil and Grease	Visible	Not Visible	Not visible
pH	pH	7.0-8.5	7.5
Phosphorus (total)	(µg/L)	140	100
TPH>C10 – C40 (sum)	(µg/L)	100	<50
TSS	(mg/L)	15	<5
Zinc	(µg/L)	15	<1

4. Correction Log

It is possible from time to time for incorrect data to get published in good faith.

As soon as practicable after the licensee becomes aware that the published pollution monitoring data is incorrect or misleading, licensees must then publish a correction log to correct this data that is incorrect or misleading.

There are no matters included in the correction log for this reporting period.

Appendix A Weather Data

Table 7 Weather Observations. Temperature and Relative Humidity. Observatory Hill BOM Station.

Date	Min temperature (°C)	Max temperature (°C)	Rainfall (mm)	9am Temperature (°C)	9am relative humidity (%)	3pm Temperature (°C)	3pm relative humidity (%)
16/03/2025	24.5	37.1	0	27.7	51	36.8	29
17/03/2025	17.1	22.5	0	18	46	21.5	44
18/03/2025	15.5	25.3	0	17.3	67	24.5	48
19/03/2025	17.3	27.6	0	20.5	79	26.8	57
20/03/2025	20.2	28	0	21.8	80	27.2	64
21/03/2025	20.9	28.1	0	21.9	86	25.2	75
22/03/2025	20	27.5	0.6	20.8	85	25.5	63
23/03/2025	20.8	24.2	8.2	21.3	94	23.4	77
24/03/2025	20.1	27.4	2.8	20.9	96	26.2	68
25/03/2025	20.5	26	0	23.5	78	25.9	68
26/03/2025	19.8	27.8	1	21.1	96	26.3	65
27/03/2025	18.6	26.8	0	20.1	89	25.6	67
28/03/2025	19.6	25.6	9	20.7	90	24.9	72
29/03/2025	19.3	21.2	34	20.1	97	20.3	97
30/03/2025	18.8	25.3	20.2	19.7	95	24.6	69
31/03/2025	17.9	23.4	37.6	18.9	86	22.2	67
1/04/2025	16.9	23.5	2.2	18.6	77	22.1	60
2/04/2025	15.3	25.5	0	16.1	73	25	50
3/04/2025	14.4	27.5	0	15.7	89	27.1	29
4/04/2025	15.5	26	0	17	82	25.1	62
5/04/2025	16.1	27	0	17.2	70	25.8	31
6/04/2025	14.5	27.5	0	20	71	25.5	30
7/04/2025	15.6	27.7	0	20.5	46	24.7	44
8/04/2025	16.1	22.5	3.4	18.3	83	20	77
9/04/2025	16.6	24.4	19.4	18.7	90	23.7	63
10/04/2025	16.5	24.2	0	19.7	80	23.3	69
11/04/2025	16.7	28.5	0	20.8	81	26.5	54
12/04/2025	17.0	26.3	0	21.8	78	24.8	66
13/04/2025	17.4	26.7	0	21.5	87	25.3	63
14/04/2025	17.0	27.3	0	20.6	89	24.1	67
15/04/2025	17.3	Nd	7.6	18.7	89	19.7	76

Note: nd = no data available

Table 8 Wind Observations. Observatory Hill BOM Station.

Date	Direction of max wind gust	Speed of max wind gust (km/h)	Time of max wind gust	9am wind direction	9am wind speed (km/h)	3pm wind direction	3pm wind speed (km/h)
16/03/2025	NW	41	14:53	NNW	20	WNW	17
17/03/2025	SSW	72	23:42	SSW	28	S	26
18/03/2025	E	28	14:09	WNW	15	E	19
19/03/2025	ENE	44	15:25	WNW	11	NE	28
20/03/2025	NNE	50	20:08	NE	6	ENE	20
21/03/2025	SW	31	20:25	WNW	13	WNW	9
22/03/2025	SSW	46	1:41	SSW	15	SE	13
23/03/2025	ESE	31	0:55	W	11	ESE	15
24/03/2025	nd	nd	nd	W	13	E	13
25/03/2025	nd	nd	nd	SSE	17	ENE	15
26/03/2025	E	26	14:15	WNW	9	E	15
27/03/2025	ESE	28	13:10	WNW	9	ESE	20
28/03/2025	ENE	41	12:34	ENE	9	ENE	22
29/03/2025	W	37	22:17	SSE	9	W	13
30/03/2025	SSW	74	2:46	WSW	19	SSW	35
31/03/2025	SSW	67	13:47	SW	22	SSW	39
1/04/2025	SSW	56	13:44	SW	17	SSW	28
2/04/2025	W	30	2:34	W	20	ESE	15
3/04/2025	W	37	13:49	WNW	15	W	22
4/04/2025	WNW	26	5:45	W	15	ESE	17
5/04/2025	W	39	9:49	WNW	9	SSE	24
6/04/2025	WNW	33	10:00	WNW	11	NW	4
7/04/2025	WSW	41	0:53	W	15	ESE	20
8/04/2025	SSE	26	0:19	WNW	13	SE	7
9/04/2025	ENE	39	17:26	NNW	2	ENE	19
10/04/2025	ENE	22	15:05	W	11	ENE	15
11/04/2025	SSW	28	21:33	WNW	13	ENE	15
12/04/2025	SW	30	01:00	W	11	ESE	13
13/04/2025	ENE	28	16:51	WNW	11	E	17
14/04/2025	S	54	15:31	W	13	SSW	30
15/04/2025	Nd	Nd	Nd	SSE	22	S	19

Note: Nd = no data available

Appendix B Noise Monitoring Results

Table 9 Noise Monitoring Results

Date	Time	Works Period	Construction Activity	Activity Location	Monitoring Location	NML (dBA)	Predicted * (dBA)	Recorded Leq, 15min (dBA)	LAmax	Exceedance of Predicted (dBA)	Exceedance of Predicted	Comments
Attended noise monitoring												
17/03/2025	11:17	Day	D39 Monitoring - shaft excavation	Hunter St West	Level 3/2 Hunter Street, Sydney	0	55	37	66.8	-18	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.
18/03/2025	16:00	Day	Road sweeper - on site sound power level check	The Bays	Next to The Bays WTP acid bund	0	107	77	80	-30	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.
18/03/2025	11:45	Day	D39 monitoring - excavation	Hunter St West	Level 4/285 George St, Sydney	0	55	52	72.8	-3	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.
19/03/2025	19:28	Evening	Breaking oversized rock in the PYRE shaft	Pyrmont East	65 Edward St, Pyrmont	52	52	62	81.3	10	Yes	Traffic on Edward St was the dominant noise source during the monitoring round (60dB+). Rock breaking only occurred in short 5 second bursts for approximately 1 minute of the 15 minute reading,
19/03/2025	20:38	Evening	Metrodeck handrail install at HSTE using boom crane	Hunter St East	27 O'Connell St, Sydney	65	64	69	82.4	5	Yes	Traffic on O'Connell St (65dB+) and pedestrians passing (~70dB) were the dominant noise source. Site activities were inaudible over external factors.
19/03/2025	21:06	Evening	RJS decking install	Hunter St East	27 O'Connell St, Sydney	65	66	64	77.6	-2	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.
19/03/2025	22:25	Night	Tunnel deliveries to PYRE (entry)	Pyrmont East	65 Edward St, Pyrmont	50	66	65	74.2	-1	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.
19/03/2025	23:15	Night	tunnel deliveries at PYRE (exit)	Pyrmont East	1-9 Pyrmont Bridge Road	51	70	70	79.6	0	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.
20/03/2025	03:14	Night	RJS decking install for minor ancillary facility	Hunter St East	17 Bligh St, Sydney (Sofitel)	65	67	61	78.8	-6	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.
20/03/2025	00:33	Night	Compressor on Pyrmont East deck (outside shed)	Pyrmont East	Outside 1-5 Harwood St Level 1 balconies	52	47	64	77.9	17	Yes	Noise monitoring of compressor impacted by noise from shaft and traffic on Pyrmont Bridge Road (~70dB).
20/03/2025	02:27	Night	tunnel delivery at PYRE (exit)	Pyrmont East	1-9 Pyrmont Bridge Road	51	70	63	78.5	-7	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.
20/03/2025	02:37	Night	tunnel delivery to PYRE (entry)	Pyrmont East	65 Edward St, Pyrmont	50	66	63	73.4	-3	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.

Date	Time	Works Period	Construction Activity	Activity Location	Monitoring Location	NML (dBA)	Predicted * (dBA)	Recorded Leq, 15min (dBA)	LAmax	Exceedance of Predicted (dBA)	Exceedance of Predicted	Comments
20/03/2025	03:00	Night	Metrodeck handrail install and crane boom being moved/retracted	Hunter St East	16 O'Connell St, Sydney	77	72	62	70	-10	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.
28/03/2025	10:50	Day	D39 Monitoring - Bligh (TS01) decline excavation	Hunter St East	Spice Temple - 10 Bligh St, Sydney	0	55	51	69.2	-4	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.
31/03/2025	12:35	Day	75T hammering	Pyrmont West	28 Paternoster Row	60	55	47	69.8	-8	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.
31/03/2025	12:50	Day	75T hammering	Pyrmont West	196 Harris Street (Newsagency)	60	55	46	62.9	-9	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.
03/04/2025	22:57	Night	Spoil haulage truck exiting PYRE	Pyrmont East	1-9 Pyrmont Bridge Road, Pyrmont	51	70	69	75.9	-1	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.
03/04/2025	22:50	Night	Spoil haulage trucks entering PYRE	Pyrmont East	65 Edward St, Pyrmont	50	66	65	72	-1	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.
03/04/2025	23:15	Night	Spoil haulage truck entering PYRE	Pyrmont East	65 Edward St, Pyrmont	50	66	66	77.8	0	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.
03/04/2025	23:25	Night	Spoil haulage truck exiting PYRE	Pyrmont East	1-9 Pyrmont Bridge Road, Pyrmont	51	70	68	73.9	-2	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.
04/04/2025	02:52	Night	spoil haulage truck exiting PYRE	Pyrmont East	1-9 Pyrmont Bridge Road, Pyrmont	51	70	71	82.8	1	Yes	LAeq within an acceptable range of the predicted noise level.
04/04/2025	01:45	Night	Tunnel delivery truck entering PYRE	Pyrmont East	65 Edward St, Pyrmont	50	66	72	80.3	6	Yes	2-minute reading. Traffic on Pyrmont Bridge Road and Pyrmont St also a contributing factor to the LAeq.
04/04/2025	02:40	Night	Spoil haulage trucks entering PYRE	Pyrmont East	65 Edward Street, Pyrmont	50	66	66	74.9	0	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.
04/04/2025	02:19	Night	tunnel delivery truck exiting PYRE	Pyrmont East	1-9 Pyrmont Bridge Road, Pyrmont	51	70	69	78.7	-1	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.
08/04/2025	14:45	Day	D39 Monitoring - shaft excavation (niche)	Hunter St West	Level 2/39 Hunter St, Sydney	75	55	53	68.7	-2	No	Construction activities monitored did not exceed the predicted noise levels as stated in the relevant DNVIS.

*Predicted Sound Power level as per respective DNVIS

[1] Predicted dBA is for LAmax

+Real time noise and vibration monitoring											
	Continuous	Construction – Noise	Hunter Street	The Ivy (Level 5 External)	*	*	*	*	*	*	Real time noise and vibration monitoring data is available on request.
	Continuous	Construction – Noise	Hunter Street	The Ivy (Level 2 Office Printer Room)	*	*	*	*	*	*	
	Continuous	Construction – Noise	Pyrmont	1-5 Hardwood Ln	*	*	*	*	*	*	
	Continuous	Construction – Noise	Pyrmont East	69 Edward Street, Pyrmont, 2009	*	*	*	*	*	*	
	Continuous	Construction – Noise	Pyrmont West	Site Hoarding on Paternoster Row	*	*	*	*	*	*	
	Continuous	Construction – Noise	Hunter Street	The Radisson Blu Plaza Hotel (Level 1) 27 O'Connell Street, Sydney, 2000	*	*	*	*	*	*	
	Continuous	Construction – Noise	Hunter Street	Hunter East (site)	*	*	*	*	*	*	
	Continuous	Construction – Vibration	Pyrmont	125 Pyrmont St	*	*	*	*	*	*	
	Continuous	Construction – Vibration	Pyrmont	170 Harris Street	*	*	*	*	*	*	
	Continuous	Construction – Vibration	Pyrmont	107 Pyrmont St	*	*	*	*	*	*	
	Continuous	Construction – Vibration	Hunter Street	The Ivy (Basement)	*	*	*	*	*	*	
	Continuous	Construction – Vibration	Hunter Street	The Skinners Hotel (Level 3 South)	*	*	*	*	*	*	
	Continuous	Construction – Vibration	Hunter Street	The Skinners Hotel (Level 1)	*	*	*	*	*	*	
	Continuous	Construction – Vibration	Hunter Street	Pangas House	*	*	*	*	*	*	
	Continuous	Construction – Vibration	Pyrmont East	69 Edward Street, Pyrmont, 2009	*	*	*	*	*	*	
	Continuous	Construction – Vibration	Pyrmont West	28 Paternoster Row, Pyrmont, 2009	*	*	*	*	*	*	

	Continuous	Construction – Vibration	Hunter Street	109 Pitt Street	*	*	*	*	*	*	
	Continuous	Construction – Vibration	Pyrmont	Pyrmont Pharmacy	*	*	*	*	*	*	