



**EPL 21347 POLLUTION  
MONITORING REPORT,  
JANUARY 2020**

**PARRAMATTA LIGHT RAIL**

**Parramatta**  
Connect

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<b>Project number</b>	<b>N81080</b>
<b>Document number</b>	PLR1INF-CPBD-ALL-PE-RPT-000035
<b>Revision date:</b>	09/02/2020
<b>Revision:</b>	A

<b>Rev.</b>	<b>Date</b>	<b>Prepared By</b>	<b>Reviewed By</b>	<b>Approved By</b>	<b>Remarks</b>
A	09/02/2020	O Cooper	P Monsted	D. Corish	



# 1. Introduction

## 1.1. Background

Parramatta Light Rail is one of the NSW Government's major infrastructure projects being delivered to serve a growing Sydney.

Parramatta Light Rail Stage 1 ('Stage 1') will connect Westmead to Carlingford via Parramatta Central Business District (CBD) and Camellia. Stage 1 is expected to be operational in 2023.

Stage 1 will create new communities, connect great places and help both local residents and visitors move around and explore what the region has to offer. The route will link Parramatta's CBD and train station to a number of key locations, including the Westmead Precinct, the Parramatta North Growth Centre, the new Western Sydney Stadium, the Camellia Town Centre, the new Powerhouse Museum and Riverside Theatre arts and cultural precinct, the private and social housing redevelopment at Telopea, the Rosehill Gardens Racecourse and the three Western Sydney University campuses.

In summary, the key features of Stage 1 include:

- A new dual track light rail network of approximately twelve (12) kilometres in length, including approximately seven (7) kilometres within the existing road corridor and approximately five (5) kilometres within the existing Carlingford Line and Sandown Line, replacing current heavy rail services
- Sixteen (16) stops that are fully accessible and integrated into the urban environment including a terminus stop at each end of Westmead and Carlingford
- High frequency 'turn-up-and-go' services operating seven days a week from 5am to 1am. Weekday services will operate approximately every 7.5 minutes in the peak period between 7am and 7pm
- Modern and comfortable air-conditioned light rail vehicles, nominally 45 metres long and driver-operated, each carrying up to 300 passengers.
- Intermodal interchanges with existing public transport services at Westmead terminus, Parramatta CBD and the Carlingford terminus
- Creation of two light rail and pedestrian zones (no general vehicle access) within the Parramatta CBD along Church Street (generally between Market Street and Macquarie Street) and along Macquarie Street (generally between Horwood Place and Smith Street)
- A Stabling and Maintenance (SaM) Facility located in Camellia for light rail vehicles to be stabled, cleaned and maintained
- New bridge structures along the alignment including over James Ruse Drive and Clay Cliff Creek, Parramatta River (near the Cumberland Hospital), Kissing Point Road and Vineyard Creek, Rydalmere
- Alterations to the existing road network including line marking, additional traffic lanes and turning lanes, new traffic signals, and changes to traffic flows
- Relocation and protection of existing utilities
- Public domain and urban design works along the corridor and at Stop precincts

- Closure of the heavy rail line between Carlingford and Clyde
- Active transport corridors and additional urban design features along sections of the alignment and within Stop precincts
- Integration with the Opal Electronic Ticketing System (ETS)
- Real time information in light rail vehicles and at Stops via visual displays and audio.

An overview of Parramatta Light Rail Stage 1 route is shown in Figure 1-1.



**Figure 1-1 Parramatta Light Rail Stage 1 Route**

The Parramatta Light Rail is subject to environmental impact assessment under the Environmental Planning and Assessment Act 1979 (EP&A Act). It is classified as Critical State Significant Infrastructure (CSSI). The EIS assessed impacts for Parramatta Light Rail Stage 1 (Westmead to Carlingford). This covered the light rail and associated works including road enabling work.



Stage 1 received Infrastructure Approval from the Minister for Planning under Section 5.19 of the EP&A Act on 29 May 2018 (Critical State Significant Infrastructure Application SSI-8285), subject to the conditions provided in the Instrument of Approval, specifically Schedule B – Ministerial Conditions of Approval.

The Infrastructure Approval was subsequently modified under Section 5.25 of the EP&A Act on 21 December 2018 and 25 January 2019.

The planning approval, modifications and related environmental assessment documents are located at: [http://majorprojects.planning.nsw.gov.au/index.pl?action=view\\_job&job\\_id=8285](http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8285).

### 1.2.3 Stage 1 Delivery Strategy

Delivery of Stage 1 is achieved through the following five packages of work:

- **Enabling Works** (Package 1) – Local road network improvements including O’Connell Street and George Street (off-alignment)
- **Westmead Precinct Works** (Package 2) – Hawkesbury Road widening and demolition at Cumberland Hospital (east and west Campus)
- **Early Works** (Package 3) – Remediation of the Stabling and Maintenance (SaM) Facility
- **Infrastructure Works (Package 4) (the subject of this Report)** – Design and construction of civil works, public domain and light rail infrastructure up to road level/top of rail and to the top of the concrete slab at stops, including provision of utility services (excluding high-voltage power supply and cabling for rail systems), and decommissioning of the T6 Carlingford Line)
- **Supply, Operate and Maintain Works** (Package 5) – Design and construction of the light rail systems, high-voltage power supply and stops above slab level, the supply of light rail vehicles, and the design and construction of the SaM Facility, including all light rail operations, customer service and asset management.

Each package of work is to be delivered under separate contracts on behalf of the proponent Transport for NSW (TfNSW). While the packages will commence at different times under separate construction approvals, there will be periods during which the package works will overlap. The interactions between the packages are shown in **Figure 1-2**.

Parramatta Connect (the CPB Contractors and Downer EDI Works Joint Venture) has been engaged to deliver the Infrastructure Works. For construction, the Infrastructure Works are divided into portions and sub-portions, each of which is described in Table 1-1 together with significant environmental issues. The portions, light rail stops and precincts are depicted in **Figure 1-3**.

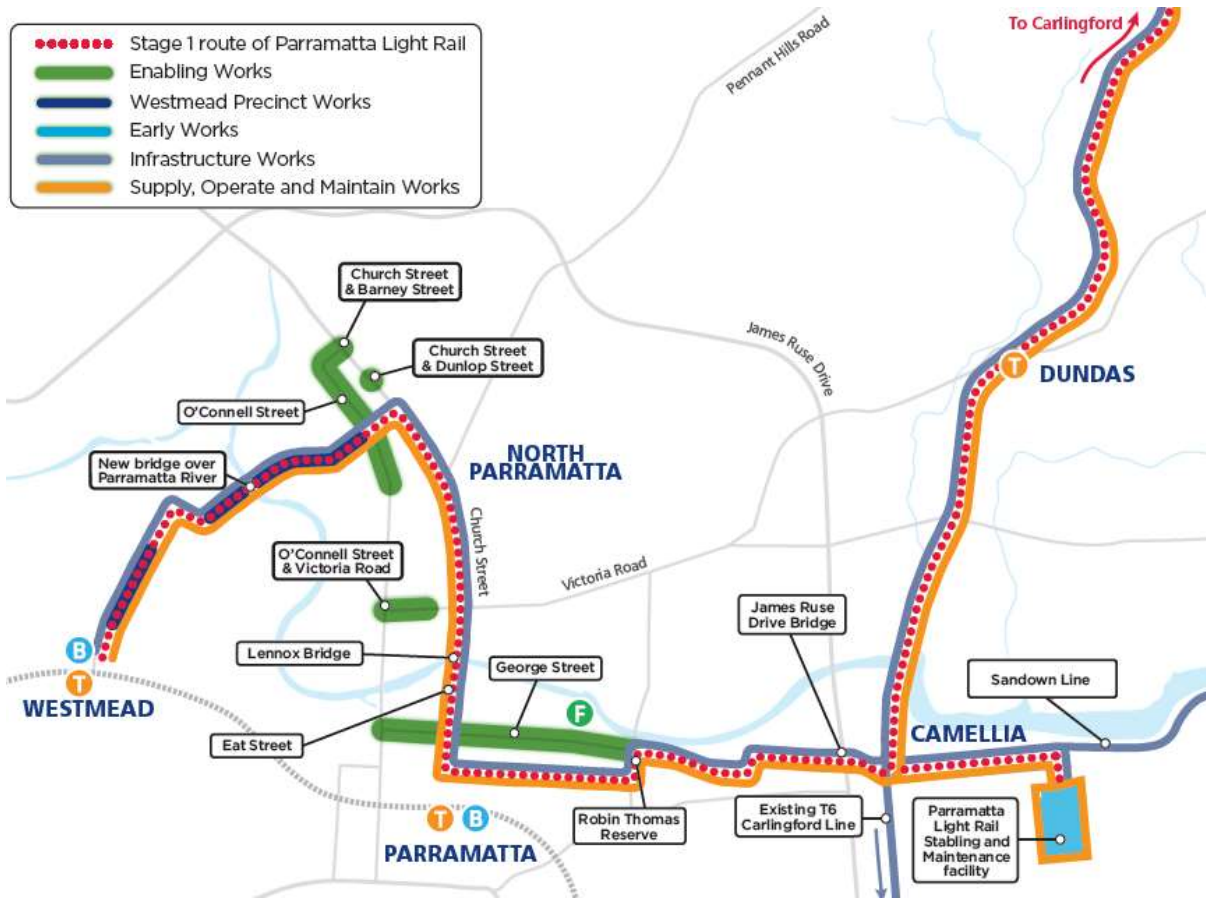


Figure 1-2 Parramatta Light Rail Stage 1 Delivery Strategy

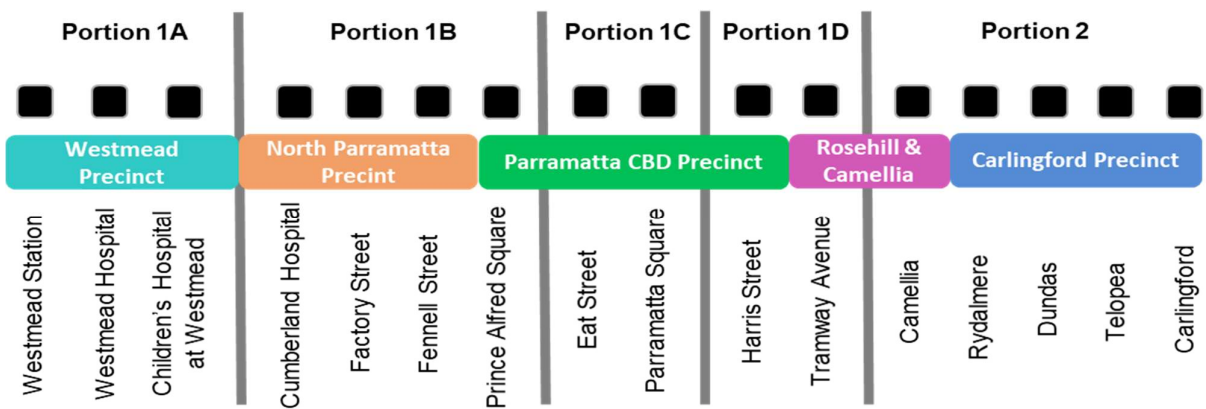


Figure 1-3 Infrastructure Works Portions, Precincts and Stations



## 1.2. Scope of this report

CPB Contractors Pty Limited have been issued an Environmental Protection Licence (EPL No. 21347) from the NSW Environment Protection Authority (EPA) for the Parramatta Light Rail Package 4 - Infrastructure Works on behalf of Parramatta Connect.

The EPL applies to the works approved under the Infrastructure Approval SSI-8285 associated with the delivery of Parramatta Light Rail Stage 1 Infrastructure Works (Package 4) under the operational control of Parramatta Connect. The EPL does not apply to other Parramatta Light Rail Stage 1 works packages.

This EPL Pollution Monitoring Report provides the results of all pollution monitoring required to be measured or monitored by the licensee of EPL 21347 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 1-1 provides a summary of the EPL 21347 details.

**Table 1-1 Licence details**

Licence Details	
Number:	21347
Copy of License	<a href="https://apps.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=177484&amp;SYSUID=1&amp;LICID=21347">https://apps.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=177484&amp;SYSUID=1&amp;LICID=21347</a>
Anniversary Date	03-January
Licensee	CPB Contractors Pty Limited
Premises	Parramatta Light Rail Stage 1 – Westmead to Carlingford, Package 4 Parramatta NSW 2123
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 Parramatta Light Rail Infrastructure Works 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’s possible from time to time that incorrect data may 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 (refer to **Section 4**).



Table 2-1 provides a summary of the pollution monitoring requirements of EPL 21347.

**Table 2-1 EPL 21347 Pollution Monitoring Requirements**

EPL Condition	Requirement	Report Reference
M1.1	Monitor and record hourly temperature, humidity, wind velocity and rainfall	Section 3.1 Appendix A-1
L4.8	Monitoring to validate the noise predictions for works undertaken outside of the standard construction hours as per the construction noise impact assessment	Section 3.2 Appendix A-2
M4.2	Noise monitoring of noise and vibration complaints	Section 3.2 Appendix A-2
M3.3	Noise and vibration monitoring as directed by an authorised officer of the EPA	Section 3.2 Appendix A-2
P1	Discharge of pollutants to water from nominated discharge points	Section 3.3 Appendix A-3
L2.4	Discharge from sediment basins solely as a result of rainfall measured as a result of rainfall exceeding the rainfall depth value	Section 3.3 Appendix A-3



## 3. Monitoring

Section 3 presents summaries of the monitoring programs completed in the reporting period from the 26 December to 25 January 2020.

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

### 3.1. Meteorological Data

EPL Condition M1.1 requires Parramatta Connect to collect and store meteorological data. Meteorological data is not considered to be pollution data and therefore does not have to be published. However, the meteorological data is published with the pollution monitoring data to provide additional context to the water discharge pollution.

The meteorological observations are based data from Sydney Olympic Park AWS (Archery Centre) (station 066212) and Parramatta North (Masons Drive) (station 066124) from the 26 December to 25 January (28 days).

The total rainfall for the month of January was 88.4 mm with 11 rain day (days with >1mm of rain). No rain days exceeded the 80<sup>th</sup> percentile (25.8mm) or the 85<sup>th</sup> percentile (33.1mm) design rainfall events.

A summary of the month's meteorological observations summarised in **Table 3-2**. A comparison between long term monthly means and recorded values can be found in **Figure 3-1** for rainfall and **Figure 3-2** for rain days >1mm. Detailed weather observations are presented in **Appendix A-1**.

**Table 3-1 Weather Summary and Trigger Weather Events for January<sup>1</sup> 2020**

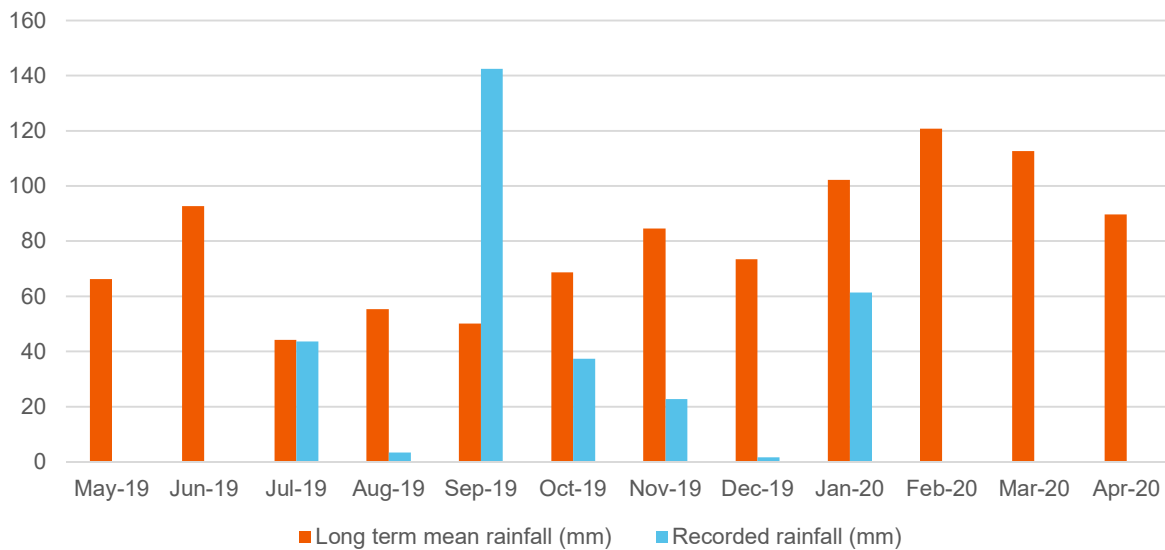
Weather event	Forecast	Observation
Minimum temperature	-	14.5 °C
Maximum temperature	-	47 °C
Total rainfall	-	61.4 mm
Number of days with rain (>1mm)	-	8 day
>80 <sup>th</sup> percentile (25.8mm) rain events	-	0
>85 <sup>th</sup> percentile (33.1mm) rain events	-	0
Flood warning / events	0	0
>25km/hr wind <sup>2</sup>	7 days	28 days
>50km/hr wind	0 days	3 days

1. Weather summary based on data from the 26 December to 25 January (31 days).

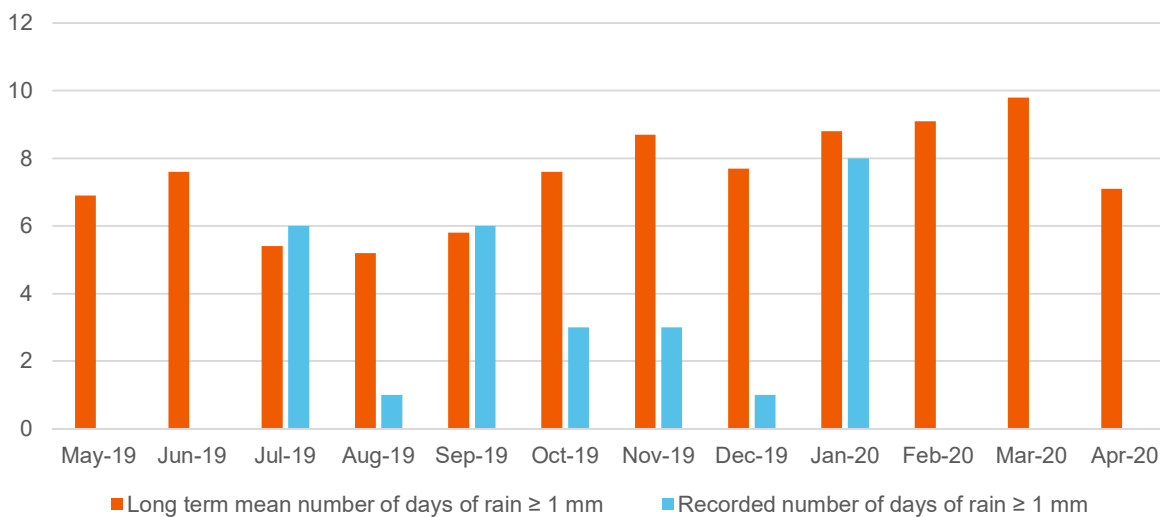


2. Wind data from Sydney Olympic Park AWS (Archery Centre) (station 066212). Weather data from Parramatta North (Masons Drive) (station 066124).

Note: Red text in Observation column indicates observation greater than forecast.



**Figure 3-1 Monthly rainfall comparison**



**Figure 3-2 Monthly rain days comparison**



## 3.2. Noise and Vibration

Noise monitoring is required by the follow conditions of EPL 21347:

- L4.8 Monitoring to validate the noise predictions for works undertaken outside of the standard construction hours as per the construction noise impact assessment
- M4.2 Noise monitoring of noise and vibration complaints
- M3.3 Noise and vibration monitoring as directed by an authorised officer of the EPA

**Table 3-3** provides a summary of noise monitoring events completed in January 2020. Detailed noise monitoring results and comments are presented in **Appendix A-2**.

**Table 3-2 Summary of noise monitoring January 2020**

Date	Monitoring Location	Description
06/01/2020	24 Hamilton Street, Granville	OOHW Period 2: Overhead wire removal for T6 Rail Corridor Decommissioning
08/01/2020	213 Victoria Road, Rydalmere	OOHW Period 2: Overhead wire removal for T6 Rail Corridor Decommissioning
11/01/2020	2-8 East Street, Granville	OOHW Period 2: Piling for the T6 Rail Corridor Decommissioning

## 3.3. Discharge to water

The EPL discharge criteria apply to the sediment basins and settling containers referred to in condition P1.2 are the active basins and discharge points identified and located in the document titled "Parramatta Light Rail Package 4 Discharge Point Register" and maintained on electronic file EF19/29672. The active basins and discharge points during the reporting period are summarised in **Table A-3-1**.

**Table A-3-2** provides a summary of the discharges by Parramatta Connect at the current active monitoring/discharge point or utilisation area that complied with condition L2.1. There were no discharges from these points during the reporting period.

**Table A-3-3** provides a summary discharge events that occurred solely as a result of rainfall measured at the premises exceeding the design rainfall depth value for the corresponding discharge point. There were no discharge events as a result of rainfall exceeding the design rainfall depth value during the reporting period.



## 4. Correction log

It's possible from time to time that incorrect data may 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.



# Appendices

## A-1 Weather Observations

Table A-1-1 Weather Observations: Parramatta North (Masons Drive) {station 066124}.

Date	Temps		Rain mm	Temp °C	RH %	9:00 AM		
	Min	Max				Cld 8th	Dir	Spd km/h
	°C	°C						
26/12/2019	16.2	31.2	0	21.2	86	0	NE	2
27/12/2019	16	30.7	0	23.2	72	0	NNW	2
28/12/2019	15.2	37.5	0	24.5	62	0	NE	4
29/12/2019	16.6	32.5	0	22	76	6	NW	4
30/12/2019	16.3	36.5	0	23.3	76	4	SW	2
31/12/2019	17	44	0	29.2	48	0		
1/01/2020	19	27.5	0	21.5	62	7	SSE	2
2/01/2020	18.6	28	0	21.2	68	8	SSE	2
3/01/2020	20.2	33	0	24.5	71	5	SE	6
4/01/2020	19.2	47	0	29	56	0	NW	4
5/01/2020	21.2	26.8	0	23	59	5	SE	9
6/01/2020	16.5	23.8	0	21	73	8	E	2
7/01/2020	19.5	32.7	4.2	22.7	83	8	NNW	6
8/01/2020	21.2	29	0.4	23	83	8	S	2
9/01/2020	20.2	26	0	21.5	78	8	SE	2
10/01/2020	20.4	35	0	25	73	7	NW	6
11/01/2020	18	23.3	0.4	18.8	83	8	SSW	26
12/01/2020	18.2	21.8	0.2	21.2	58	6	ENE	4
13/01/2020	14.5	26.7	1.2	20.5	73	5	W	2
14/01/2020	15.2	28.4	0	23.5	73	7	E	2
15/01/2020	15.5	30.5	0	23.2	71	6	NE	2
16/01/2020	15.5	30.2	3.4	22	91	8	NW	4
17/01/2020	17.8	22	24	18.3	97	8	SSW	9
18/01/2020	17.6	23.3	14	21.3	82	8	SSW	11
19/01/2020	17.8	25.2	5.6	20.2	91	8	WSW	4
20/01/2020	18.2	32	0.4	24.2	83	5	SE	6
21/01/2020	18.8	33	0.2	25.8	41	0	WSW	9
22/01/2020	17.2	33.8	0	25.4	69	0	NNW	6
23/01/2020	17.2	41.2	0	31	44	3	NW	15
24/01/2020	20.6	29	2.2	22.4	91	7	SSE	2
25/01/2020	21.4	30.6	5.2	23.2	85	7	SE	2



**Table A-1-1 Weather observations: Parramatta North (Masons Drive) {station 066124}.**

Date	Max Wind Gust			9:00 AM		3:00 PM	
	Dir	Spd	Time	Dir	Spd	Dir	Spd
		km/h	local		km/h		km/h
26/12/2019	E	41	14:03	N	11	ENE	17
27/12/2019	NE	43	17:17	N	9	E	20
28/12/2019	E	31	14:08	E	7	E	19
29/12/2019	SE	20	13:01	NW	6	SE	13
30/12/2019	E	31	14:24		Calm	E	17
31/12/2019	SSE	56	17:09		Calm	NNW	20
1/01/2020	SE	37	14:18	SW	4	ESE	20
2/01/2020	ESE	31	14:56	SSE	11	E	20
3/01/2020	NE	43	16:44	NNW	2	E	19
4/01/2020	SSE	48	20:51	WSW	2	WNW	19
5/01/2020	S	41	23:06	S	17	S	22
6/01/2020	E	24	15:16	E	11	ENE	11
7/01/2020	E	26	16:26	NNW	2	NNE	7
8/01/2020	SE	37	15:11	S	11	SSE	20
9/01/2020	SE	26	11:05	S	13	SE	13
10/01/2020	ENE	41	17:14	N	11	E	20
11/01/2020	SE	54	0:47	SE	20	SE	15
12/01/2020	SSE	31	16:26	SE	15	SSE	11
13/01/2020	ESE	35	16:23	W	4	ESE	19
14/01/2020	ESE	35	13:15		Calm	E	19
15/01/2020	E	31	13:13		Calm	E	13
16/01/2020	SSE	37	17:25	NNW	6	NNE	6
17/01/2020	S	35	6:37	SSW	11	S	11
18/01/2020	S	35	8:28	SSW	15	SW	6
19/01/2020	SE	20	16:10	WNW	4	WSW	6
20/01/2020	S	35	16:16	SE	7	ENE	15
21/01/2020	ESE	39	16:39	NW	17	SE	17
22/01/2020	E	39	14:55	NNW	2	ENE	11
23/01/2020	NW	61	12:23	NNW	19	NW	22
24/01/2020	NNW	43	23:04	SSE	9	ESE	11
25/01/2020	ESE	30	12:00	E	11	E	17

Notes:

Blue text indicates a rain event greater than 1mm of rain.

Orange text indicates a rain event greater than the 80<sup>th</sup> percentile of 25.8mm, and a wind speed of greater than 25km/hr

Red text indicates a rain event greater than the 85<sup>th</sup> percentile of 33.1mm, and a wind speed greater than 50km/hr.





## **A-2 Noise Monitoring Results**



**Table A-2-1 Noise monitoring results**

Monitoring Location	Date	Time	Out of Hours Works Period	Construction Activity	Attended or Continuous	Parameter	Predicted (dBA)	Specified Noise Limit	Recorded Value	Analysation method	Construction noise exceedance	Comments
24 Hamilton Street, Granville	06/01/2020	22:00	OOHW Period 2	Overhead wire removal for T6 Rail Corridor Decommissioning	Attended	Leq, 15min (dBA)	52-62	62	62.1	Monitor	No	<p><b>Construction noise audible;</b> Works involve overhead wire removal using EWP. Work noise from EWP quacker when positioning;</p> <p>Road noise from M4 bridge clearly audible during monitoring;</p> <p>Truck and motorcycle noise louder than construction noise.</p>
213 Victoria Road, Rydalmere	08/01/2020	22:00	OOHW Period 2	Overhead wire removal for T6 Rail Corridor Decommissioning	Attended	Leq, 15min (dBA)	48-58	58	43.5	Monitor	No	<p><b>Construction noise audible;</b> Works involve overhead wire removal using EWP and hand equipment. Construction noise from light vehicles and EWP quacker during positioning.</p> <p>Traffic noise from Victoria Road.</p>
2-8 East Street, Granville	11/01/2020	04:00	OOHW Period 2	Piling for the T6 Rail Corridor Decommissioning at the intersection of Parramatta Road and the T6 Rail Line	Attended	Leq, 15min (dBA)	52-62	62	30.7	Monitor	No	<p><b>Construction noise inaudible;</b></p>

Notes:

**Standard hours:** Monday to Friday 7:00 am to 6:00 pm. Saturday 8:00 am to 1:00 pm

**OOHW Period 1** is defined as:

- a) 6:00pm to 10:00pm (evenings) Monday to Saturday
- b) 7:00am to 8:00am and 1:00pm to 10:00pm (day & evening) Saturday and
- c) 8:00am to 6:00pm Sunday and public holidays (days).

**OOHW Period 2** is defined as:

- a) 10:00pm to 7:00am (nights) Monday to Saturday and  
6:00pm to 8:00am (nights) Sundays and public holidays.



## **A-3 Discharge to water**

**Table A-3-1 Parramatta Light Rail Package 4 Discharge Point Register (electronic file EF19/29672) (Rev 1, submitted 24 February 2020)**

ID	Construction Status	Easting	Northing	AMG Zone	Reference System	Description of location of discharge point	Catchment name	Name of nearest waters	Direct discharge to waters	Total catchment area of basin (hectares)	Basin size (operational) m3	Blue Book Criteria	Location description	Date added	Revision Added
nil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Note: no discharge points were approved during this reporting period.**

**Table A-3-2 Discharge water quality**

Discharge monitoring Point ID	P1.2 Identification Number	Type of Monitoring Point	Type of Discharge Point	Date	Discharge Permit #	Oil and Grease (Not visible)	pH (6.5 - 8.5)	Total Suspended Solids (31 milligrams per litre)
nil	-	-	-	-	-	-	-	-

**Note: no discharge points were approved during this reporting period.**

**Table A-3-3 Discharge occurs solely as a result of rainfall measured at the premises exceeding the design rainfall depth value**

Discharge monitoring Point ID	P1.2 Identification Number	Type of Monitoring Point	Type of Discharge Point	Date	Rainfall Event	Comments
nil	-	-	-	-	-	-

**Note: no discharge points were approved during this reporting period.**

