



# **ENVIRONMENTAL MONITORING REPORT, NOVEMBER 2020**

## **PARRAMATTA LIGHT RAIL INFRASTRUCTURE WORKS**

**3 December 2020**

**Parramatta**  
Connect

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# 1. Introduction

## 1.1. Background

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.

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.



### 1.1.1. Statutory Context

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

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).

A Construction Environmental Management Plan (CEMP) has been prepared for the Parramatta Light Rail Package 4 – Infrastructure Works (Infrastructure Works). The purpose of the CEMP and associated Sub-plans is to address the requirements of the:

- Minister’s Conditions of Approval (CoA) SSI-8285
- Revised Environmental Mitigation and Management Measures (REMMMs)
- Environmental Performance Outcomes (EPOs)
- Applicable legislation and contractual requirements, including the PLR Stage 1 Infrastructure Contract Project Deed (ISD-17-6721).

The REMMMs and EPOs are listed in Parramatta Light Rail Stage 1 Westmead to Carlingford via Parramatta CBD and Camellia Environmental Impact Statement (the EIS), as amended by the Parramatta Light Rail (Stage 1) Westmead to Carlingford via Parramatta CBD and Camellia Submissions Report (incorporating Preferred Infrastructure Report) (March 2018) (the SPIR). The CEMP and associated Sub-plans were approved the Secretary on the 21 November 2019.

## 1.2. Scope

The scope of this report is to present monthly results of the inspection and monitoring programs outlined in the Infrastructure Works CEMP and associated Sub-plans, including the results of the construction monitoring programs referred to in Condition C9 of the Planning Infrastructure Approval.

Environmental inspections and monitoring are undertaken to:

- Validate the predicted impacts of the Infrastructure Works
- Measure the effectiveness of environmental controls
- Track progress against targets and objectives of the CEMP.

The monitoring requirements for nominated aspects are included in the relevant Sub-plans and summarised in **Table 1-1**.

Where relevant, data will be presented on a progressive basis (i.e. monthly summary) to identify trends.

The data of the monitoring programs will also be reviewed annually in the Annual Environment Reports.



**Table 1-1 Monthly Environmental Monitoring Reporting Requirements**

<b>CEMP or Sub-plan</b>	<b>Monitoring program</b>	<b>Distribution</b>
Noise and Vibration Management Sub-plan	<ul style="list-style-type: none"> <li>- Locations and descriptions of monitoring undertaken</li> <li>- Noise monitoring results</li> <li>- Summary of any exceedance of the nominated criteria</li> <li>- Corrective actions</li> </ul>	<ul style="list-style-type: none"> <li>- City of Paramatta Council</li> <li>- Cumberland Council</li> <li>- EPA</li> <li>- NSW Health</li> <li>- TfNSW</li> <li>- IC</li> <li>- ER</li> <li>- AA</li> <li>- Made publicly available</li> </ul>
Soil and Water Management Sub-plan	<ul style="list-style-type: none"> <li>- Weather forecasts and observations</li> <li>- Water Quality (Turbidity) monitoring</li> <li>- Discharge and dewatering monitoring</li> </ul>	<ul style="list-style-type: none"> <li>- City of Paramatta Council</li> <li>- Cumberland Council</li> <li>- EPA</li> <li>- DOI Water</li> <li>- TfNSW</li> <li>- IC</li> <li>- Made publicly available</li> </ul>
Air Quality and Dust Management Sub-plan	<ul style="list-style-type: none"> <li>- Weather observations</li> <li>- Dust deposition monitoring</li> <li>- Real time aerosol dust monitors</li> <li>- Asbestos fibre air monitoring</li> </ul>	<ul style="list-style-type: none"> <li>- EPA</li> <li>- TfNSW</li> <li>- IC</li> <li>- Made publicly available</li> </ul>
Grey-headed Flying-fox (GHFF) Construction Monitoring Program	<ul style="list-style-type: none"> <li>- Weekly visual checks of GHFF camp during high risk periods (1 September to 31 January)</li> </ul>	<ul style="list-style-type: none"> <li>- TfNSW</li> </ul>



## 2. Site Activities

Table 2-1 provides a summary of the site activities for November 2020.

Table 2-1 Site Activities During Reporting Period

Precinct	Site Activities
Westmead and North Parramatta	<b>Westmead</b>
	<ul style="list-style-type: none"><li>– Ongoing utility installations</li><li>– Ongoing drainage and Combined Service Route works</li></ul>
	<b>Cumberland</b>
	<ul style="list-style-type: none"><li>– Ongoing utility installations</li></ul>
Parramatta CBD	<b>North Parramatta</b>
	<ul style="list-style-type: none"><li>– Pre-track works at Victoria Rd and Pennant Hills Rd intersection completed</li><li>– Traffic switch Stage 2 planned for the end of November 2020</li><li>– Ongoing drainage and Combined Service Route works</li></ul>
	<b>Area 2 West (CBD)</b>
	<ul style="list-style-type: none"><li>– Ongoing utility installations on Church Street, George Street and Macquarie Street</li><li>– Ongoing electrical and lighting works</li><li>– Ongoing Multifunction Pole works</li><li>– Ongoing civil works (tree pits, Combined Service Routes) along Church Street</li><li>– Drainage works along Church Street, North Lennox Bridge and Macquarie Street</li><li>– Commencing outlet works on Parramatta River foreshore for microtunnel</li><li>– Commencing manual tunnelling from pit 5 to pit 6</li></ul>
Camellia and Carlingford line	<b>Area 2 East (Smith Street to Arthur Street)</b>
	<ul style="list-style-type: none"><li>– Utility installations on Harris Street, Macquarie Street, George Street, Purchase Street, Arthur Street and Charles Street</li><li>– Ongoing sewer relocation works on Barrack Lane / Arthur Phillip High School</li><li>– Ongoing installation of Multifunction Poles</li><li>– Ongoing heritage investigations on George Street and Robin Thomas Reserve (Sonic drilling)</li><li>– Drainage works at Tramway Avenue, Robin Thomas Reserve and Macquarie Street</li><li>– Ongoing civil works along Tramway Avenue and Macquarie Street</li></ul>
	<b>Camellia</b>
	<ul style="list-style-type: none"><li>– Bridge girder installation for James Ruse Drive Bridge</li><li>– Ongoing retaining wall works</li><li>– Ongoing utility works at Grand Avenue</li><li>– Ongoing stormwater drainage, Combined Service Route and track works along Sandown Line</li></ul>

**Precinct****Site Activities****Carlingford Line**

- Kissing Point Road Bridge track works
  - Vineyard Creek Bridge form retain pour works
  - Victoria Road & Adderton Road deflection wall form retain pour works
  - Combined Service Route and lighting works in Carlingford
  - Retaining wall and stormwater drainage works from Rydalmere to Carlingford
  - Ongoing utility works at Leamington Road
  - Ongoing utility works for Sydney Water Sewer in Carlingford
-



## 3. Monitoring Results

Section 3 presents a summary of the environmental inspection and monitoring programs completed during the reporting period (26 October 2020 to 25 November 2020). Detailed monitoring results for each activity are presented in the appendices to this report.

### 3.1. Inspections

A total of four ER inspections, one AA inspection and two TfNSW inspections completed during the reporting period in addition to 28 internal inspections. **Table 3-1** provides a summary of the number of actions raised and closed within the agreed timeframe.

**Table 3-1 Inspections for November 2020**

Date	Number of Inspections	Type	Actions	Closed in Time
26/10/2020	7	Internal Inspection	4	Yes
27/10/2020	1	ER Inspection	4	Yes
02/11/2020	8	Internal Inspection	13	Yes
03/11/2020	1	ER Inspection	10	Yes
03/11/2020	1	Internal Inspection	3	Yes
04/11/2020	2	Internal Inspection	2	Yes
06/11/2020	1	Internal Inspection	0	Yes
09/11/2020	1	TfNSW Inspection	9	Yes
11/11/2020	1	Internal Inspection	1	Yes
13/11/2020	1	AA Inspection	0	N/A
13/11/2020	1	Internal Inspection	1	Yes
09/11/2020	6	Internal Inspection	13	Yes
10/11/2020	1	ER Inspection	6	Yes
16/11/2020	6	Internal Inspection	15	Yes
17/11/2020	1	TfNSW Inspection	4	Yes
18/11/2020	1	Internal Inspection	4	Yes
18/11/2020	1	ER Inspection	12	Yes
23/11/2020	3	Internal Inspection	1	Yes
24/11/2020	1	AA Inspection	0	N/A
24/11/2020	1	Internal Inspection	0	N/A



<b>Total</b>	<b>45</b>	<b>-</b>	<b>102</b>	<b>Yes</b>
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## 3.2. Weather

The total rainfall during the reporting period was 100.8mm with twelve days with over 1mm of rain. One rain event exceeded the 80<sup>th</sup> percentile (25.8mm) and the 85<sup>th</sup> percentile (33.1mm).

During the reporting period, there were 30 days where the maximum wind gust recorded was greater than 25km/hr and two days where the maximum wind gust recorded was greater than 50km/hr. There was a total of 21 days where wind speeds greater than 25km/hr were forecast and on each of those days, notifications were issued to the construction team to alert them of the strong winds forecast.

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 7-2**. A comparison between long term monthly means and recorded values can be found in **Figure 3-2**.

Detailed weather observation records for November 2020 are presented in **Appendix A-1**.

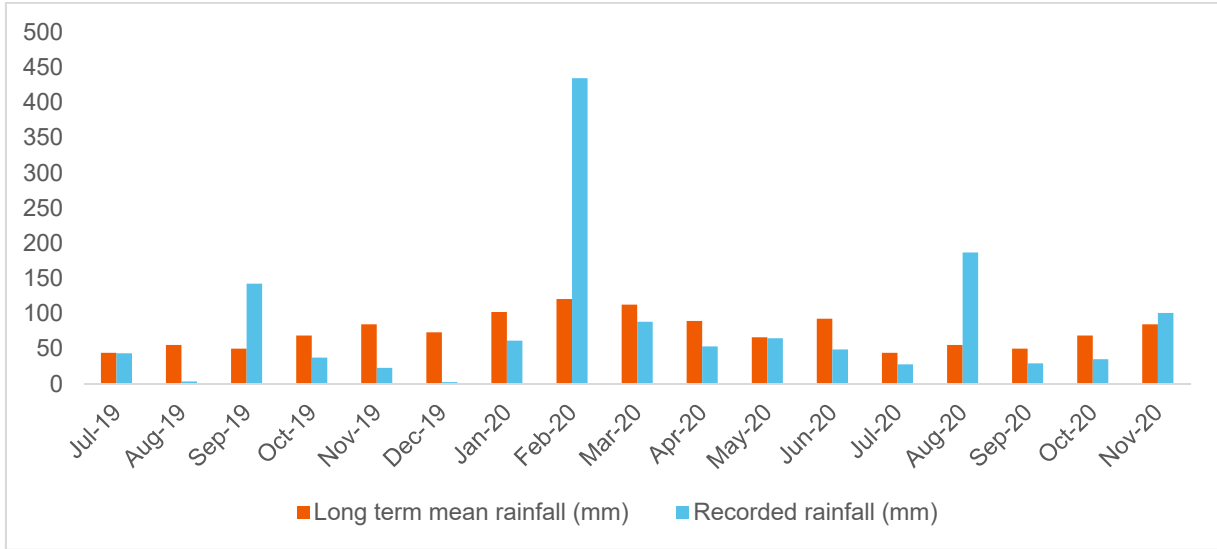
**Table 3-2 Weather Summary and Trigger Weather Events for November<sup>1</sup> 2020**

<b>Weather Event</b>	<b>Forecast</b>	<b>Observation</b>
Minimum temperature	10°C	9°C
Maximum temperature	39°C	38.3°C
Total rainfall	114.2mm	101.8mm
Number of days with rain (>1mm)	10 days	12 days
>80 <sup>th</sup> percentile (25.8mm) rain events	1 day	1 day
Flood warning / events	No events	No events
>25km/hr wind <sup>2</sup>	21 days	30 days
>50km/hr wind	1 day	2 days

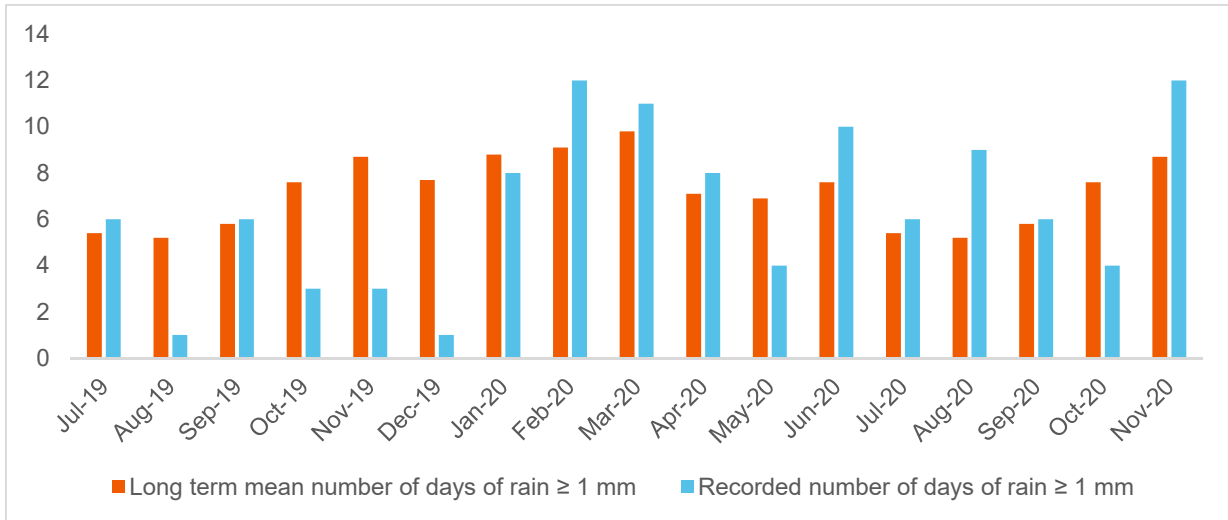
<sup>1</sup>Weather summary based on data from the 26 October to 25 November 2020 (31 days).

<sup>2</sup>Wind data from Sydney Olympic Park AWS (Archery Centre) {station 066212}. Weather data from Parramatta North (Masons Drive) {station 066124}.

Note: Red text indicates observation greater than forecast.



**Figure 3-1 Monthly rainfall comparison**



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

### 3.3. Noise and Vibration

**Table 3-3** provides a summary of noise monitoring events conducted during the reporting period. Detailed noise monitoring results and comments are presented in **Appendix A-2**. All recorded noise levels ( $L_{Aeq15min}$ ) during the reporting period were below the predicted noise levels.

Additional information on the hours of works, respite requirements and alternative accommodation is provided in the Noise and Vibration Management Sub-plan (Section 11.3).

Vibration monitoring events completed during the reporting period are summarised in **Table 3-4** and detailed results and comments are presented in **Appendix A-2**. All monitoring events were compliant with vibration targets.

All noise and vibration monitors used during the reporting period, together with current NATA calibration data, is provided in **Table 3-5**.

Continuous noise and vibration monitoring was undertaken during the reporting period at medical facilities in Westmead that have been identified as sensitive receivers. In consultation with the Health Administration



Corporation, monitoring will be ongoing for 12 months. Locations of the noise and vibration monitors are provided in **Table 3-6**.

**Table 3-3 Summary of Noise Monitoring November 2020**

Date	Monitoring Location	Attended/Continuous	Description
02/11/2020	15B Albert St	Attended	Construction noise audible at most times
02/11/2020	459 Church St	Attended	Construction noise audible at most times
11/11/2020	89 Marshall Rd	Attended	Construction noise audible at most times
11/11/2020	Carlingford Station	Attended	Construction noise audible at most times
11/11/2020	22 Adderton Road	Attended	Construction noise clearly audible
11/11/2020	14 Dudley St	Attended	Construction noise sometimes audible
11/11/2020	Dundas Station	Attended	Construction noise sometimes audible
11/11/2020	Teloepa Station	Attended	Construction noise is dominant noise source
20/11/2020	Top of the Merion wall	Attended	Construction noise audible at most times
21/11/2020	101c James Ruse Drive	Attended	Construction noise audible at most times
21/11/2020	20 Victoria Road	Attended	Construction noise is dominant noise source
26/06/2020 -ongoing	Westmead Institute for Medical Research (Sleep Lab)	Continuous	General construction
26/06/2020 -ongoing	Westmead Institute for Medical Research (Brain Dynamics Centre)	Continuous	General construction
26/06/2020 -ongoing	Children's Medical Research Institute (Microscopy Labs)	Continuous	General construction
26/06/2020 -ongoing	Cumberland Hospital (Clinical psychology rooms)	Continuous	General construction

**Table 3-4 Summary of Vibration Monitoring November<sup>1</sup> 2020**

Date	Monitoring Location	Attended/Continuous	Description
12/11/2020	Tramway Ave	Attended	General construction
16/11/2020	AJ's Café, Queens Rd	Attended	General construction
20/11/2020	Bridge Abutment	Attended	General construction



Date	Monitoring Location	Attended/Continuous	Description
21/11/2020	20 Victoria Rd	Attended	General construction
16/06/2020	Hawkesbury Road Westmead Institute for Medical Research (HAL incubators)	Continuous	General construction
16/06/2020	Hawkesbury Road Westmead Institute for Medical Research (Microscopy Labs)	Continuous	General construction
16/06/2020	Hawkesbury Road Children's Medical Research Institute (Microscopy Labs)	Continuous	General construction

**Table 3-5 Noise and Vibration Monitors and NATA Calibration**

Equipment	Serial Number	Calibration Date
Noise Level Meter	00973277	4/12/2020
Noise Level Meter	00661732	19/05/2021
Noise Level Meter	00973275	26/11/2020
Vibration Monitor	BE14639	5/12/2020
Vibration Monitor	BE17441	16/07/2021

**Table 3-6 HAC Noise and Vibration Monitor Locations**

Organisation	Monitor Type	Location
Westmead Institute for Medical Reach	Vibration Monitor	HAL incubators
		Microscopy Labs
	Noise Monitor	Sleep Lab
		Brain Dynamics Centre
Children's Medical Research Institute	Vibration Monitor	Microscopy Labs
	Noise Monitor	Labs (Level 1)
Cumberland Hospital	Noise Monitor	Clinical psychology rooms

**Note:** The calibration of the monitoring equipment is checked in the field before and after the noise measurement period per Standards Australia AS/IEC 60942:2004/IEC 60942:2003–Electroacoustic – Sound Calibrators.



## 3.4. Soil and Water

### 3.4.1. Water quality in receiving waters

A pre-construction investigation to establish water quality objectives for the project is included within the EIS Technical Paper 6 – Water Quality Assessment.

During the reporting period, wet weather monitoring for the quarter was undertaken as summarised in **Table 3-7** and detailed in **Table A-3-1**. This monitoring was undertaken during a 126.4mm 16-day rainfall event. Water levels were moderate to high with a normal to fast flow at the time of sampling and overall there were little to no debris or leaf litter present. All results were within the water quality objectives, with the exemption of three electrical conductivity levels which was likely attributed to the high rainfall.

**Table 3-7 Water Quality in Receiving Waters**

Date	Type	Type of Results	Wet / Dry	Locations
28/10/2020	Monitoring during construction	Laboratory	Wet	Parramatta River: PR1; PR3; PR4; PR5; PR6 Clay Cliff Creek: CC1, CC2 Vineyard Creek: VY1; VY2 Subiaco Creek: SC1 A'becketts Creek: AC1, AC2

**Table 3-8 Water Monitor Calibration**

Equipment <sup>1</sup>	Serial Number	Calibration Date
Water Quality Monitor	DV7F6E7J	21/08/2021

<sup>1</sup>All equipment is calibrated by NATA standards.

### 3.4.2. Discharge and dewatering

There were four discharge events during the reporting period as presented in **Table A-3-2**.

## 3.5. Air Quality

### 3.5.1. Dust Deposition Monitoring

A dust deposition gauge was installed at 13A Grand Avenue in Camellia in December 2019 in advance of works which commenced at the beginning of February 2020. Baseline data indicated that the value of Total Insoluble Matter (TIM) was 3.9 g/m<sup>2</sup> before the commencement of construction activities at 13A Grand Avenue.

Additional dust gauges were progressively installed at Rydalmere Station, Dundas Station, Carlingford and Telopea in advance of large-scale earthworks.

The dust monitoring results are presented one month in arrears.

Dust deposition results are summarised in **Table A-4-1** in **Appendix A-4**, noting that data is received one month in arrears. Results from the previous reporting period show that 13a Grand Avenue, Dundas Station and Telopea levels are outside TIM limits. It is noted that during the month of October, 28 out of 30 days recorded wind gusts over 25km/hr and two of those 28 days recorded wind gusts over 50km/hr. While the construction team deployed water carts with an increased frequency, the strong wind speeds likely contributed to the results.



### 3.5.2. Asbestos Fibre Monitoring

All asbestos air monitoring is completed in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling and analytical procedures.

All reported results were satisfactory and conform with the minimum action level of <0.01 fibres /mL for control monitoring as outlined in Work, Health and Safety (2017) Regulation; and SafeWork NSW (2019) Code of Practice – How to Safely Remove Asbestos.

Asbestos Fibre Monitoring results are summarised in **Table A-4-2** in **Appendix A-4**. None of the results in the reporting period exceeded the trigger limits.

## 3.6. Flora and Fauna

### 3.6.1. Grey-Headed Flying Fox Monitoring

Under Condition of Approval C9, a Grey-Headed Flying Fox (GHFF) Construction Monitoring Program has been developed by TfNSW. The requirements of this Program have been reflected in the Flora and Fauna Management Plan.

The Grey-Headed Flying Fox camp is in Parramatta Park which lies approximately 150m from the project boundary at the nearest point.

Visual observation inspections must be carried out during the ‘high risk’ months of September to January, inclusive (**Table 3-9**). If distress is observed within the camp, immediate notification must be provided to TfNSW. During the reporting period, no indicators of stress or abnormal behaviour were observed during weekly inspections.

**Table 3-9 Observations from Visual Monitoring**

Date	Time	Temperature	Works	Notification Triggers <sup>1</sup>	Comments
29/10/2020	09:00	22.4°C	Utility excavations within 300m of the camp at Cumberland Campus	No	No indicators of stress or abnormal behaviour were observed during the inspection. No construction works can be heard.
06/11/2020	10:30	24°C	Utility works, steampipe removal	No	No indicators of stress or abnormal behaviour were observed during the inspection. No construction works can be heard.
12/11/2020	14:00	28°C	Utility works, pipe installation	No	No indicators of stress or abnormal behaviour were observed during the inspection. No construction works can be heard.
16/11/2020	13:48	39°C	No Parramatta Connect activities	No	Signs of heat stress observed. Parramatta Park Trust tree removal in progress (not related)





Date	Time	Temperature	Works	Notification Triggers <sup>1</sup>	Comments
			occurring due to extreme heat		to Parramatta Connect), outside 300m buffer zone.

<sup>1</sup>Notification triggers include: >50% of the roost takes flight for over 20 minutes, GHFF leaving the roost in daylight hours, unusual vocalisations, located on or 2m from the ground, panting, saliva spreading, adults moving away from young, GHFF injured or killed on site (including aborted foetuses).

### 3.7. Issues/incidents/non-compliance

Table 3-10 provides a summary of environmental compliance during the reporting period.

There were no non-compliances and eight environmental incidents during the reporting period. Of the eight incidents, one was notifiable to DPIE and the EPA and the remaining seven were minor in nature. The incidents are summarised as follows:

Table 3-10 Issues/incidents/non-compliances

Date	Location	Description
27/10/2020	Adderton Road	Following a major stormwater event (>50mm), sediment controls were briefly removed from a stormwater drain to remove sediment and refresh the controls. During the removal process, there was a loss of stormwater to the drain. It is noted that additional sediment controls, including a geofabric-lined swale drain and rock checks, remained in place during the replacement of stormwater drain controls. The incident was notified to the EPA and DPIE.
27/10/2020	Dundas	Hydraulic hose ruptured resulting in the loss of oil to the surrounding soil (<10L). The spill kit was deployed and there was no loss of oil to stormwater.
27/10/2020	Church Street	During the pumping of water within Pit 5 of the microtunnel into a settlement tank, the water overflowed onto the road surface. Adequate controls were established around the stormwater pit prior to the event and sediment was retained onsite.
30/10/2020	George Street	A watermain was impacted at Alfred and George Street (Speedway) during utility relocation works. Adequate controls were established in the kerb and the stormwater drain was protected resulting in the on-site retention of sediment.
04/11/2020	Kissing Point Road	During concrete works at Kissing Point Road Bridge, a small amount of concrete slurry spilled over onto the road. There was no loss of slurry to stormwater.
17/11/2020	Dundas	A water cart reversed into reinforced steel which damaged fuel tank, resulting in a fuel spill (<10L). The spill was contained with no loss to stormwater.
20/11/2020	Alfred Street	A hydraulic hose ruptured resulting in an oil spill (<10L). The spill kit was deployed and there was no impact to stormwater.





20/11/2020	Tramway Avenue	A hydraulic hose ruptured resulting in an oil spill (<10L). The spill kit was deployed and there was no impact to stormwater.
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# Appendices

## A-1 Weather Observations

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

Date	Temperatures		Rain mm	Temp °C	RH %	9:00 AM		
	Min	Max				Cld 8th	Dir	Spd km/h
	°C	°C						
26/10/2020	12	14.9	26	15	84	8	SSW	30
27/10/2020	11.5	20.3	13.4	14	97	8	S	9
28/10/2020	12.3	20.8	0.2	16.3	79	8	SW	2
29/10/2020	13.6	22.4	12	15	98	8	SW	4
30/10/2020	9.4	22.7	0.8	19	72	6	ESE	2
31/10/2020	12.7	25.2	2.8	18.2	93	8	ENE	2
1/11/2020	12.2	19.7	11.2	17.8	79	8	SW	6
2/11/2020	12.8	21.8	4	18	75	6	SW	6
3/11/2020	10.2	23.4	0	18.8	65	5	SE	4
4/11/2020	10.2	28.8	0	18.4	71	4	NNW	2
5/11/2020	14.3	16.2	3.6	15	94	8	SE	9
6/11/2020	12.3	20.5	17.6	16.2	65	7	SW	11
7/11/2020	9.5	20.6	0	18.8	65	4	SW	6
8/11/2020	13	21.3	0	18	51	5	ENE	6
9/11/2020	12.6	21.8	0	16.8	77	7	E	4
10/11/2020	9	23.7	0	18	66	4	NW	6
11/11/2020	11.2	27.7	0	20.8	71	2	NNE	2
12/11/2020	14.6	31.3	0	23.3	67	5	NW	6
13/11/2020	17.8	28	1.4	24.5	68	8	NW	6
14/11/2020	13.3	27.2	0.4	21.2	65	0	WSW	6
15/11/2020	13	31.5	0	22.5	66	0	W	4
16/11/2020	16	38.3	0	25.8	66	6	SW	4
17/11/2020	16.6	23.6	0	21.5	66	6	SSE	7
18/11/2020	15.8	24.2	0.4	19.8	74	7	E	4
19/11/2020	12	26.8	0	21.7	70	5	NW	4
20/11/2020	15.8	37	0	24.8	72	2	NNW	4
21/11/2020	16.8	25.3	0.6	21	72	7	SSE	6
22/11/2020	16	29.7	1.4	22.5	66	4	NNW	4
23/11/2020	20.3	25.3	3.4	22.3	93	7	W	2
24/11/2020	14.5	23.8	1.6	20.7	73	7	SSE	7
25/11/2020	16.3	24.9	1	19.5	85	8	NW	2



**Table A-1-2 Wind Observations: Sydney Olympic Park AWS (Archery Centre) {station 066212}.**

Date	Maximum Wind Gusts			9:00 AM		3:00 PM	
	Direction	Speed	Time	Direction	Speed	Direction	Speed
		km/h	local		km/h		km/h
26/10/2020	SSE	54	4:54	S	20	SSE	20
27/10/2020	SE	35	11:34	SSW	9	SSE	17
28/10/2020	ESE	30	15:30	W	9	SE	15
29/10/2020	ESE	30	10:19	NW	7	SE	15
30/10/2020	E	33	15:39	WNW	2	E	17
31/10/2020	SSE	37	13:30	ESE	9	SSW	11
1/11/2020	S	50	13:57	WSW	9	S	28
2/11/2020	SSE	33	9:29	SSW	15	SE	15
3/11/2020	E	26	13:05	W	4	E	17
4/11/2020	E	26	15:01	NNW	7	E	11
5/11/2020	SSE	35	10:19	SE	20	SSW	17
6/11/2020	S	33	9:19	SW	11	ESE	17
7/11/2020	SE	46	14:38	NW	7	SSE	22
8/11/2020	ESE	28	12:13	SSE	9	ESE	19
9/11/2020	ESE	28	14:28	E	7	E	15
10/11/2020	ESE	31	13:31	WNW	6	E	19
11/11/2020	E	31	15:39	NNE	7	E	17
12/11/2020	WNW	41	22:38	NNW	7	NNW	19
13/11/2020	W	48	14:32	NNE	9	NNW	9
14/11/2020	ESE	28	16:02	W	7	E	15
15/11/2020	E	31	15:18	WNW	7	ESE	19
16/11/2020	WNW	46	13:54	*	Calm	WNW	20
17/11/2020	SSE	39	23:41	SE	11	E	20
18/11/2020	ESE	30	12:57	ENE	11	E	15
19/11/2020	NE	31	16:24	NNE	4	NE	13
20/11/2020	SSE	35	19:25	SE	6	E	15
21/11/2020	ESE	31	11:47	SSE	15	SE	15
22/11/2020	E	17	11:52	NNW	6	SE	11
23/11/2020	W	31	2:53	WNW	6	NNW	11
24/11/2020	SSE	35	8:09	S	11	SE	20
25/11/2020	NE	28	18:22	NNW	4	ENE	9

Notes:

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

The 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.

\* Data was unavailable.

# A-2 Noise and Vibration Monitoring Results

Table A-2-1 Noise Monitoring Results

Date	Time	Works Period	Construction Activity	Activity Location	Monitoring Location	NML (dBA)	Predicted (dBA)	Additional Mitigation Measures	L <sub>Amax</sub>	Recorded L <sub>eq, 15min</sub> (dBA)	Exceedance of Predicted (dBA)	Exceedance of Predicted	Comments
02/11/2020	22:00	OOHW Period 1	Electrical Trenching	15B Albert St	15B Albert St	64	98	PN, V	65.2	56	-42	N/A	Construction noise audible at most times
02/11/2020	22:00	OOHW Period 1	Electrical Trenching	100m from monitoring location	459 Church St	64	98	PN, V	80	61	-37	N/A	Construction noise audible at most times
11/11/2020	12:19	Standard Hours	Victoria Rd deflection wall	Victoria Road intersection	14 Dudley Street	53	-	-	77	60	-	N/A	Construction noise sometimes audible
11/11/2020	11:33	Standard Hours	Excavation for drainage	Adderton Road	22 Adderton Road	61	-	-	77.1	65.6	-	N/A	Construction noise clearly audible
11/11/2020	-	Standard Hours	Combined service route	Marshall and Brand Road	89 Marshall Road	55	-	-	68.2	48.6	-	N/A	Construction noise audible at most times
11/11/2020	10:07	Standard Hours	Excavation for drainage	Boundary Road	Carlingford Station	56	-	-	73.9	59.4	-	N/A	Construction noise audible at most times
11/11/2020	11:56	Standard Hours	Retaining wall form retain pour	Dundas wall	Dundas Station	61	-	-	72.2	58.3	-	N/A	Construction noise sometimes audible
11/11/2020	11:07	Standard Hours	Piling for retaining pour	Teloepa	Teloepa Station	61	-	-	86.3	68.6	-	N/A	Construction noise is dominant noise source
20/11/2020	15:00	Standard Hours	Excavation and backfill	Parramatta River foreshore	Top of the Merion wall	68	81	PV, N	94.8	69.0	-12	No	Construction noise audible at most times
21/11/2020	13:38	Standard Hours	Lifting girders	Grand Ave North	101c James Ruse Drive	45	64	V	89.7	50.3	-13.7	No	Construction noise audible at most times
21/11/2020	14:00	Standard Hours	Lean mix placement excavation, saw	Victoria Road intersection	20 Victoria Road	64	103	PN, V, RP, SN, DR, RO	73.2	67.4	-35.6	No	Construction noise is dominant noise source
26/06/2020 - ongoing	Continuous monitoring	Construction works	Hawkesbury Road works	Westmead Institute for Medical Research (Sleep Lab)		40	*	*	*	*	*	No	Activities are reviewed in response to exceedance alerts. Where the exceedance is attributed to construction, a review is undertaken of works and plant/equipment or methodology is modified where necessary.
26/06/2020 - ongoing	Continuous monitoring	Construction works	Hawkesbury Road works	Westmead Institute for Medical Research (Brain Dynamics Centre)		60	*	*	*	*	*	No	
26/06/2020 - ongoing	Continuous monitoring	Construction works	Hawkesbury Road works	Children's Medical Research Institute (Microscopy Labs)		60	*	*	*	*	*	No	
26/06/2020 - ongoing	Continuous monitoring	Construction works	Cumberland Hospital	Cumberland Hospital (Clinical psychology rooms)		60	*	*	*	*	*	No	

Notes:

**Standard hours:**

- a) All areas excluding Eat Street and Camellia – Monday to Friday 7:00 am to 7:00 pm. Saturday 8:00 am to 6:00 pm
- b) Eat Street (Church Street between Palmer Street and George Street) – Monday to Friday 7:00 am to 6:00 pm. Saturday 8:00 am to 12:00 pm)
- c) Camellia, Rosehill and Rydalmere (east of James Ruse Drive to Victoria Road) – 24 hours a day and seven days a week provided that sensitive receivers are not affected by noise levels of greater than 5 dBA above the rating background level at any residence

**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:

**Additional Mitigation Measures**

- PN = Project Notification
- V = Verification Monitoring
- RP = Respite Period
- AA = Alternate Accommodation
- SN = Specific Notification / individual briefing or phone call
- DR = Duration Reduction
- RO = Project Specific Respite Offer

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

**Table A-2-2 Vibration Monitoring Results**

Date	Time	Works Period	Construction Activity	Activity Location	Monitoring Location	Trigger Value (mm/s)	Recorded PVS (mm/s)	Exceedance of Target	Construction Vibration Exceedance	Comments
12/11/2020	08:29-08:10	Standard work hours	Pile driving	Tramway Ave	Tramway Ave	25	2.744	No	No	No comment
16/11/2020	09:00-09:15	Standard work hours	Compaction	AJ's Café, Queens Rd	AJ's Café, Queens Rd	25	5	No	No	No comment
20/11/2020	10:20-10:35	Standard work hours	Hammering	Parramatta River foreshore	Bridge abutment	7.5	6.732	No	No	No comment
21/11/2020	13:00-13:20	Standard work hours	Compaction	Victoria Rd Intersection	20 Victoria Rd	25	5.2	No	No	No comment
26/06/2020		Continuous monitoring	Hawkesbury Road works	Hawkesbury Road	Westmead Institute for Medical Research (HAL incubators)	0.1 mm/s	*	No	No	Activities are reviewed in response to exceedance alerts. Where the exceedance is attributed to construction, a review is undertaken of works and plant/equipment or methodology is modified where necessary.
26/06/2020		Continuous monitoring	Hawkesbury Road works	Hawkesbury Road	Westmead Institute for Medical Research (Microscopy Labs)	0.1 mm/s	*	No	No	
26/06/2020		Continuous monitoring	Hawkesbury Road works	Hawkesbury Road	Children's Medical Research Institute (Microscopy Labs)	0.1 mm/s	*	No	No	

## A-3 Water Sampling and Discharge Results

Table A-3-1 Water Quality Monitoring - Comments and observations

Location	Waterway	Upstream/ Downstream of Works	Type <sup>3</sup>	Date	Time	pH 5.5-8.5 <sup>2</sup>	Elec. Conduct. (µS/cm) LR <sup>1</sup> : 125-2200 <sup>2</sup> E: None	Turbidity (NTU) 6-50 <sup>2</sup>	Comments and Observations
PR1	Parramatta River	Upstream	Wet	28/10/2020	17.01	7.64	307	8.8	No Comment
DC1	Domain Creek	N/A	Wet	28/10/2020	17.86	7.53	232	5.9	No Comment
PR3	Parramatta River	Upstream	Wet	28/10/2020	17.3	7.62	294	9.4	No Comment
PR4	Parramatta River	Upstream	Wet	28/10/2020	17.14	7.76	302	11.6	No Comment
PR5	Parramatta River	Downstream	Wet	28/10/2020	17.75	7.52	13900	5	Reason for electrical conductivity levels outside trigger values likely due to high rainfall
CC1	Clay Cliff Creek	Upstream	Wet	28/10/2020	17.75	7.98	1840	4.8	No Comment
CC2	Clay Cliff Creek	Downstream	Wet	28/10/2020	17.57	7.84	4490	9.6	Reason for electrical conductivity levels outside trigger values likely due to high rainfall
VY2	Vineyard Creek	Downstream	Wet	28/10/2020	17.68	7.71	424	12.5	No Comment
VY1	Vineyard Creek	Upstream	Wet	28/10/2020	17.32	7.71	424	14	No Comment
PR6	Parramatta River	Downstream	Wet	28/10/2020	18.38	7.6	19500	7.2	Reason for electrical conductivity levels outside trigger values likely due to high rainfall
SC1	Subiaco Creek	N/A	Wet	28/10/2020	16.67	7.72	1130	6.9	No Comment
AC1	A'becketts Creek	Upstream	Wet	28/10/2020	18.05	7.88	1030	10	No Comment
AC2	A'becketts Creek	Downstream	Wet	28/10/2020	17.3	7.74	1030	28.8	Stream flow concentrates more at AC2 than AC1

1. ANZECC Waterway types: Fresh water (PR1, PR2, PR3, PR4, VY1 and VY2); E: Estuarine (CC1, CC2, AC1, AC2, PR5 and PR6).

2. Trigger values were established by Parramatta Connect within the Pre-Construction Sampling (Baseline Review) Water Quality Monitoring Report (PLR1INF-CPBD-ALL-WA-RPT-000003). Red text indicates values outside of the baseline trigger values.

3. Charles Street Weir separates Parramatta River from up and downstream.

Table A-3-2 Discharge Water Quality

Discharge monitoring Point ID	Type of Monitoring Point	Type of Discharge Point	Date	Discharge Permit #	Oil and Grease (Not visible)	pH (6.5 - 8.5)	Turbidity (NTU)	Comments
A1.42	Basins and settling containers	Stormwater inlet	3/11/2020	DW-A1_024	Not visible	7	0	Discharge from Sydney Water main
A1.42	Basins and settling containers	Stormwater inlet	11/11/2020	DW-A1_024	Not visible	7	0	Discharge from Sydney Water main
A2.06 & A2.09	Basins and settling containers	Stormwater inlet	4/11/2020	DW-A2_041	Not visible	8.45	1	Discharge from Sydney Water main
A2.05	Basins and settling containers	Stormwater inlet	12/11/2020	DW-A2_043	Not visible	7.8	1	Discharge from Sydney Water main



## A-4 Air Quality Monitoring Results

Table A-4-1 Summary of Dust Deposition Data

Date	Monitoring Location	Total Insoluble Matter g/m <sup>2</sup> /month
January	13a Grand Avenue	3.9
March	13a Grand Avenue	4
April	13a Grand Avenue	4.1
May	13a Grand Avenue	4.9
June	13a Grand Avenue	3.5
July	13a Grand Avenue	12
July	Rydalmere Station	21.7
July	Dundas Station	0.7
August	13a Grand Avenue	2.8
August	Rydalmere Station	2.6
August	Dundas Station	0.5
August	Carlingford	0.9
September	13a Grand Avenue	1.2
September	Rydalmere Station	2.3
September	Dundas Station	1.3
September	Telopea	2.9
September	Carlingford	2.5
October	13a Grand Avenue	8.3
October	Rydalmere Station	3.8
October	Dundas Station	4.9
October	Telopea	11.2
October	Carlingford	3.3





**Table A-4-2 Summary of Asbestos Fibre Monitoring**

Report Number	Date	Location	Start time	End time	Result (Fibres/Fields)	Result (Fibres/mL)
AMR068	30-Oct	CAMELLIA, EASTERN BOUNDARY, ADJACENT TO ACCESS GATE	7:40	13:15	0/100	< 0.01
AMR068	30-Oct	CAMELLIA, EASTERN BOUNDARY, APPROX 50M SOUTH OF ACCESS GATE	7:41	13:16	0/100	< 0.01
AMR068	30-Oct	CAMELLIA, EASTERN BOUNDARY, APPROX 150M SOUTH OF ACCESS GATE	7:42	13:17	0/100	< 0.01
AMR068	30-Oct	CAMELLIA, WESTERN BOUNDARY, APPROX 200M SOUTH OF ACCESS GATE	7:43	13:18	0/100	< 0.01
AMR068	30-Oct	CAMELLIA, WESTERN BOUNDARY, APPROX 100M SOUTH OF ACCESS GATE	7:44	13:19	0/100	< 0.01
AMR068	30-Oct	CAMELLIA, WESTERN BOUNDARY, ADJACENT ACCESS GATE	7:45	13:20	0/100	< 0.01
AMR004	27-Oct	NORTH BOUNDARY	7:00	16:00	0/100	< 0.01
AMR004	27-Oct	EAST BOUNDARY	7:00	16:00	0/100	< 0.01
AMR004	27-Oct	SOUTH BOUNDARY	7:00	16:00	0/100	< 0.01
AMR004	27-Oct	WEST BOUNDARY	7:00	16:00	0/100	< 0.01
AMR005	28-Oct	NORTH BOUNDARY	7:00	16:00	0/100	< 0.01
AMR005	28-Oct	EAST BOUNDARY	7:00	16:00	0/100	< 0.01
AMR005	28-Oct	SOUTH BOUNDARY	7:00	16:00	0/100	< 0.01
AMR005	28-Oct	WEST BOUNDARY	7:00	16:00	0/100	< 0.01
AMR069	31-Oct	WESTERN AREA BOUNDARY - NORTH OF PILING WORKS	8:10	14:05	0/100	< 0.01
AMR069	31-Oct	WESTERN AREA BOUNDARY - WEST OF PILING WORKS	8:12	14:06	0/100	< 0.01
AMR069	31-Oct	WESTERN AREA BOUNDARY - SOUTH WEST OF PILING WORKS	8:14	14:08	0/100	< 0.01
AMR069	31-Oct	WESTERN AREA BOUNDARY - SOUTH OF PILING WORKS, OPPOSITE RIX SITE OFFICE	8:15	14:12	0/100	< 0.01
AMR069	31-Oct	TOP OF EMBANKMENT AREA - NORTH EAST OF PILING WORKS	8:20	14:15	0/100	< 0.01
AMR069	31-Oct	TOP OF EMBANKMENT AREA - SOUTH EAST OF PILING WORKS	8:23	14:20	0/100	< 0.01
AMR073	5-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 100M NORTH OF ACCESS GATE	7:35	16:18	0/100	< 0.01
AMR073	5-Nov	CAMELLIA, APPROX 20M SOUTH OF ACM STOCKPILE	7:36	16:19	0/100	< 0.01




AMR073	5-Nov	CAMELLIA, EASTERN BOUNDARY, AT SITE ACCESS GATE	7:38	16:15	0/100	< 0.01
AMR073	5-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 20M SOUTH OF ACCESS GATE	7:39	16:14	0/100	< 0.01
AMR073	5-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 50M SOUTH OF ACCESS GATE	7:40	16:12	0/100	< 0.01
AMR073	5-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 100M SOUTH OF ACCESS GATE	7:41	16:11	0/100	< 0.01
AMR073	5-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 150M SOUTH OF ACCESS GATE	7:42	16:10	0/100	< 0.01
AMR073	5-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 200M SOUTH OF ACCESS GATE	7:43	16:09	0/100	< 0.01
AMR074	6-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 100M SOUTH OF ACCESS GATE	7:37	15:31	0/100	< 0.01
AMR074	6-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 50M SOUTH OF ACCESS GATE	7:36	15:30	0.5/100	< 0.01
AMR074	6-Nov	CAMELLIA, EASTERN BOUNDARY, ADJACENT ACCESS GATE	7:35	15:28	0/100	< 0.01
AMR074	6-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 100M SOUTH OF ACCESS GATE	7:34	15:27	0/100	< 0.01
AMR074	6-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 150M SOUTH OF ACCESS GATE	7:33	15:26	0/100	< 0.01
AMR074	6-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 200M SOUTH OF ACCESS GATE	7:32	15:25	0/100	< 0.01
AMR075	9-Nov	CAMELLIA, EASTERN BOUNDARY, ADJACENT TO ACCESS GATE	7:09	15:08	0/100	< 0.01
AMR075	9-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 100M SOUTH OF ACCESS GATE	7:10	15:09	0/100	< 0.01
AMR075	9-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 180M SOUTH OF ACCESS GATE	7:12	15:10	0/100	< 0.01
AMR075	9-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 50M SOUTH OF ACCESS GATE	7:15	15:14	0/100	< 0.01
AMR075	9-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 150M SOUTH OF ACCESS GATE	7:14	15:13	0/100	< 0.01



AMR075	9-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 200M SOUTH OF ACCESS GATE	7:13	15:12	0/100	< 0.01
AMR076	9-Nov	CAMELLIA, EASTERN BOUNDARY, ADJACENT TO ACCESS GATE	7:18	14:30	0/100	< 0.01
AMR076	9-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 100M SOUTH OF ACCESS GATE	7:19	14:31	0/100	< 0.01
AMR076	9-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 180M SOUTH OF ACCESS GATE	7:20	14:32	0/100	< 0.01
AMR076	9-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 200M SOUTH OF ACCESS GATE	7:21	14:33	0/100	< 0.01
AMR076	9-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 150M SOUTH OF ACCESS GATE	7:22	14:34	0/100	< 0.01
AMR076	9-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 50M SOUTH OF ACCESS GATE	7:23	14:35	0/100	< 0.01
AMR077	9-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 150M SOUTH OF ACCESS GATE	7:48	15:03	0/100	< 0.01
AMR077	9-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 100M SOUTH OF ACCESS GATE	7:49	15:06	0/100	< 0.01
AMR077	9-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 100M SOUTH OF ACCESS GATE	7:50	15:07	0/100	< 0.01
AMR077	9-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 150M SOUTH OF ACCESS GATE	7:51	15:08	0/100	< 0.01
AMR005	10-Nov	NORTH BOUNDARY	7:00	15:00	0/100	< 0.01
AMR005	10-Nov	EAST BOUNDARY	7:00	15:00	0/100	< 0.01
AMR005	10-Nov	SOUTH BOUNDARY	7:00	15:00	0/100	< 0.01
AMR005	10-Nov	WEST BOUNDARY	7:00	15:00	0/100	< 0.01
AMR006	11-Nov	CORNER FLEET & FACTORY ST - NW BOUNDARY OF PIPE WORKS	10:00	15:04	0/100	< 0.01
AMR006	11-Nov	CORNER FLEET & FACTORY ST - SW BOUNDARY OF PIPE WORKS	10:01	15:05	0/100	< 0.01
AMR006	11-Nov	CORNER FLEET & FACTORY ST - SE BOUNDARY OF PIPE WORKS	10:02	15:06	0/100	< 0.01
AMR006	11-Nov	CORNER FLEET & FACTORY ST - NE BOUNDARY OF PIPE WORKS	10:03	15:07	0/100	< 0.01
AMR065	4-Nov	AREA 2 - COMPOUND D:SE OF ACM STOCKPILE	7:20	10:58	0/100	< 0.01
AMR065	4-Nov	AREA 2 - COMPOUND D:NORTH OF ACM STOCKPILE	7:22	10:59	0/100	< 0.01

AMR065	4-Nov	AREA 2 - COMPOUND D: ENTRY GATE	7:23	11:00	0/100	< 0.01
AMR065	4-Nov	AREA 3 - STOCKPILE STORAGE AREA: SOUTH OF STOCKPILE	7:40	10:32	0/100	< 0.01
AMR065	4-Nov	AREA 3 - STOCKPILE STORAGE AREA: NORTH OF STOCKPILE	7:41	10:33	0/100	< 0.01
AMR065	4-Nov	AREA 3 - STOCKPILE STORAGE AREA: ENTRY GATE	7:43	10:34	0/100	< 0.01
AMR066	9-Nov	GRAND AVE OVERPASS AREA ATTACHED TO ACCESS GATE	7:59	15:15	0/100	< 0.01
AMR066	9-Nov	GRAND AVE OVERPASS AREA, NORTHERN STOCKPILE FENCE APPROX 15M WEST OF GATE	8:00	15:16	0/100	< 0.01
AMR066	9-Nov	SANDOWN LINE, ATTACHED TO GATE NEAR DECON UNIT	8:01	15:17	0/100	< 0.01
AMR066	9-Nov	SANDOWN LINE, NORTHERN BOUNDARY, APPROX 50M EAST OF ACCESS GATE	8:02	15:18	0/100	< 0.01
AMR066	9-Nov	SANDOWN LINE, SOUTHERN BOUNDARY, APPROX 75M EAST OF ACCESS GATE	8:03	15:19	0/100	< 0.01
AMR066	9-Nov	SANDOWN LINE, SOUTHERN BOUNDARY, APPROX 30M EAST OF ACCESS GATE	8:04	15:20	0/100	< 0.01
AMR067	10-Nov	CLEAN SIDE OF DECON UNIT	8:03	15:48	0/100	< 0.01
AMR067	10-Nov	STORMWATER WORKS, WEST BOUNDARY	8:05	15:49	0/100	< 0.01
AMR067	10-Nov	STORMWATER WORKS, SW BOUNDARY	8:06	15:51	0/100	< 0.01
AMR067	10-Nov	STORMWATER WORKS, SE BOUNDARY	8:08	15:53	0/100	< 0.01
AMR067	10-Nov	STORMWATER WORKS, NE BOUNDARY	8:09	15:54	0/100	< 0.01
AMR067	10-Nov	STORMWATER WORKS, NW BOUNDARY	8:11	15:56	0/100	< 0.01
AMR068	11-Nov	SANDOWN LINE, STORMWATER WORKS - NORTH BOUNDARY	9:00	15:20	0/100	< 0.01
AMR068	11-Nov	SANDOWN LINE, STORMWATER WORKS - EAST BOUNDARY	9:02	15:21	0/100	< 0.01
AMR068	11-Nov	SANDOWN LINE, STORMWATER WORKS - SE BOUNDARY	9:04	15:25	0/100	< 0.01
AMR068	11-Nov	SANDOWN LINE, STORMWATER WORKS - SW BOUNDARY	9:06	15:26	0/100	< 0.01
AMR068	11-Nov	GRAND AVE NORTH UNDER BRIDGE - NE BOUNDARY	9:12	15:28	0/100	< 0.01
AMR068	11-Nov	GRAND AVE NORTH UNDER BRIDGE - WEST BOUNDARY	9:14	15:29	0/100	< 0.01
AMR070	2-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 100M NORTH OF ACCESS GATE	7:13	17:09	0/100	< 0.01
AMR070	2-Nov	CAMELLIA, APPROX 20M SOUTH OF ACM STOCKPILE	7:14	17:08	0/100	< 0.01
AMR070	2-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 20M SOUTH OF ACCESS GATE	7:16	17:04	0/100	< 0.01



AMR070	2-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 50M SOUTH OF ACCESS GATE	7:17	17:03	0/100	< 0.01
AMR070	2-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 150M SOUTH OF ACCESS GATE	7:20	16:59	0/100	< 0.01
AMR070	2-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 180M SOUTH OF ACCESS GATE	7:21	16:58	0/100	< 0.01
AMR070	13-Nov	SANDOWN LINE, WESTERN END OF EXCLUSION ZONE ADJACENT DECON	7:59	14:48	0/100	< 0.01
AMR070	13-Nov	SANDOWN, NORTHERN BOUNDARY, APPROX 30M EAST OF ACCESS GATE	8:00	15:49	0/100	< 0.01
AMR070	13-Nov	SANDOWN LINE, SOUTHERN BOUNDARY, APPROX 50M EAST OF ACCESS GATE	8:01	15:50	0/100	< 0.01
AMR070	13-Nov	SANDOWN, SOUTHERN BOUNDARY, APPROX 20M EAST OF ACCESS GATE	8:02	15:51	0/100	< 0.01
AMR070	13-Nov	GRAND AVE OVERPASS, ADJACENT ACCESS GATE	8:03	15:52	0/100	< 0.01
AMR070	13-Nov	GRAND AVE OVERPASS, APPROX 30M WEST OF ACCESS GATE	8:04	15:53	0/100	< 0.01
AMR070	13-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 150M SOUTH OF ACCESS GATE	8:09	15:55	0/100	< 0.01
AMR070	13-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 150M SOUTH OF ACCESS GATE	8:10	15:56	0/100	< 0.01
AMR070	13-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 180M SOUTH OF ACCESS GATE	8:11	15:50	0/100	< 0.01
AMR070	13-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 200M SOUTH OF ACCESS GATE	8:12	15:58	0/100	< 0.01
AMR070	13-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 200M SOUTH OF ACCESS GATE	8:13	15:59	0/100	< 0.01
AMR071	3-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 100M NORTH OF ACCESS GATE	7:11	16:28	0/100	< 0.01
AMR071	3-Nov	CAMELLIA, APPROX 20M SOUTH OF ACM STOCKPILE	7:12	16:29	0/100	< 0.01
AMR071	3-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 20M SOUTH OF ACCESS GATE	7:14	16:21	0/100	< 0.01
AMR071	3-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 50M SOUTH OF ACCESS GATE	7:15	16:20	0/100	< 0.01
AMR071	3-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 150M SOUTH OF ACCESS GATE	7:18	16:26	0/100	< 0.01

AMR071	3-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 180M SOUTH OF ACCESS GATE	7:19	16:25	0/100	< 0.01
AMR071	14-Nov	SANDOWN LINE, STORMWATER WORKS - NORTH BOUNDARY	8:20	14:03	0/100	< 0.01
AMR071	14-Nov	SANDOWN LINE, STORMWATER WORKS - SOUTH BOUNDARY	8:22	14:05	0/100	< 0.01
AMR071	14-Nov	GRAND AVE NORTH UNDER BRIDGE - NE BOUNDARY	8:25	15:15	0/100	< 0.01
AMR071	14-Nov	GRAND AVE NORTH UNDER BRIDGE - WEST BOUNDARY	8:27	15:17	0/100	< 0.01
AMR071	14-Nov	CAMELLIA, RETAINING WALL 1 BOX OUT - WEST BOUNDARY (SOUTH)	8:10	15:36	0/100	< 0.01
AMR071	14-Nov	CAMELLIA, RETAINING WALL 1 BOX OUT - WEST BOUNDARY (NORTH)	8:12	15:38	1/100	< 0.01
AMR071	14-Nov	CAMELLIA, RETAINING WALL 1 BOX OUT - EAST BOUNDARY	8:14	15:40	0/100	< 0.01
AMR072	4-Nov	CAMELLIA, APPROX 20M SOUTH OF ACM STOCKPILE	7:10	15:30	0/100	< 0.01
AMR072	4-Nov	CAMELLIA, APPROX 100M NORTH OF ACCESS GATE, WEST BOUNDARY	7:12	15:32	0/100	< 0.01
AMR072	4-Nov	CAMELLIA, APPROX 150M NORTH OF ACCESS GATE, WEST BOUNDARY	7:14	15:34	0/100	< 0.01
AMR072	4-Nov	CAMELLIA, EAST BOUNDARY, APPROX 50M SOUTH OF ACCESS GATE	7:18	15:36	0/100	< 0.01
AMR072	4-Nov	CAMELLIA, EAST BOUNDARY, APPROX 200M SOUTH OF ACCESS GATE	7:20	15:38	0/100	< 0.01
AMR072	4-Nov	CAMELLIA, SOUTH BOUNDARY, ADJACENT STOCKPILE	7:22	15:40	0/100	< 0.01
AMR072	4-Nov	CAMELLIA, WEST BOUNDARY, APPROX 200M SOUTH OF ACCESS GATE	7:24	15:42	0/100	< 0.01
AMR072	4-Nov	CAMELLIA, WEST BOUNDARY, APPROX 50M SOUTH OF ACCESS GATE	7:26	15:44	0/100	< 0.01
AMR072	15-Nov	GRAND AVE NORTH UNDER BRIDGE - NE BOUNDARY	7:40	15:40	0/100	< 0.01
AMR072	15-Nov	GRAND AVE NORTH UNDER BRIDGE - WEST BOUNDARY	7:42	15:42	0/100	< 0.01
AMR072	15-Nov	CAMELLIA, RETAINING WALL WORKS ADJACENT ROAD - EAST BOUNDARY (SOUTH)	8:15	15:50	0/100	< 0.01
AMR072	15-Nov	CAMELLIA, RETAINING WALL WORKS ADJACENT ROAD - EAST BOUNDARY (NORTH)	8:16	15:52	0/100	< 0.01
AMR072	15-Nov	CAMELLIA, PILE BOX OUT - EAST BOUNDARY	8:20	15:54	0/100	< 0.01
AMR072	15-Nov	CAMELLIA, PILE BOX OUT - NE BOUNDARY	8:22	15:56	0/100	< 0.01
AMR072	15-Nov	CAMELLIA, PILE BOX OUT - WEST BOUNDARY	8:24	15:58	0/100	< 0.01



AMR073	16-Nov	SANDOWN LINE, ADJACENT DECON UNIT, NORTHERN BOUNDARY	8:06	17:20	0/100	< 0.01
AMR073	16-Nov	SANDOWN LINE, NORTHERN BOUNDARY, APPROX 40M EAST OF DECON UNIT	8:07	17:21	0/100	< 0.01
AMR073	16-Nov	SANDOWN LINE, SOUTHERN BOUNDARY, APPROX 50M EAST OF DECON UNIT	8:08	17:22	0/100	< 0.01
AMR073	16-Nov	SANDOWN LINE, SOUTHERN BOUNDARY, APPROX 10M EAST OF DECON UNIT	8:09	17:23	3/100	< 0.01
AMR073	16-Nov	GRAND AVE OVERPASS, AT EASTERN ACCESS GATE	8:10	17:24	0/100	< 0.01
AMR073	16-Nov	GRAND AVE OVERPASS, APPROX 20M WEST OF ACCESS GATE, AT STOCKPILE FENCE	8:11	17:25	0/100	< 0.01
AMR074	16-Nov	EAST BOUNDARY TO NORTH END OF OLD KISSING POINT ROAD BRIDGE	11:03	15:38	0/100	< 0.01
AMR074	16-Nov	EAST BOUNDARY TO NORTH END OF OLD KISSING POINT ROAD BRIDGE (SOUTH OF AC166)	11:04	15:40	0/100	< 0.01
AMR074	16-Nov	EAST BOUNDARY TO NORTH END OF OLD KISSING POINT ROAD BRIDGE (SOUTH OF AC135)	11:07	15:41	0/100	< 0.01
AMR074	16-Nov	WEST BOUNDARY TO NORTH END OF OLD KISSING POINT ROAD BRIDGE	11:09	15:43	0/100	< 0.01
AMR075	16-Nov	WEST OF FOOTPATH EXCAVATIONS - TRAMWAY AVE	10:30	15:28	0/100	< 0.01
AMR075	16-Nov	EAST OF FOOTPATH EXCAVATIONS - TRAMWAY AVE	10:32	15:30	0/100	< 0.01
AMR075	16-Nov	ADJACENT ACM STOCKPILE- COMPOUND 10-D TRAMWAY AVE	10:25	15:21	0/100	< 0.01
AMR075	16-Nov	ADJACENT STORMWATER EXCAVATION - COMPOUND 10-D TRAMWAY AVE	10:26	15:23	0/100	< 0.01
AMR076	17-Nov	NORTH EAST END OF KISSINGPOINT RD BRIDGE, ATTACHED TO SOUTHERN BRIDGE WALL	8:28	15:10	0/100	< 0.01
AMR076	17-Nov	APPROX 20M NORTH EAST OF BRIDGE, ATTACHED TO SOUTHERN BOUNDARY FENCE OF RESIDENTIAL PROPERTY	8:29	15:21	0/100	< 0.01
AMR076	17-Nov	APPROX 70M NORTH EAST OF BRIDGE, ATTACHED TO SOUTHERN BOUNDARY OF RESIDENTIAL PROPERTY	8:30	15:12	0/100	< 0.01
AMR076	17-Nov	APPROX 40M NORTH EAST OF BRIDGE, ATTACHED TO NORTHERN BOUNDARY FENCE	8:31	15:13	0/100	< 0.01
AMR078	10-Nov	CAMELLIA, EAST BOUNDARY, APPROX 50M SOUTH OF ACCESS GATE	7:31	15:30	0/100	< 0.01
AMR078	10-Nov	CAMELLIA, EAST BOUNDARY, APPROX 150M SOUTH OF ACCESS GATE	7:33	15:32	0/100	< 0.01




AMR078	10-Nov	CAMELLIA, EAST BOUNDARY, ADJACENT ACM STOCKPILE	7:35	15:34	0/100	< 0.01
AMR078	10-Nov	CAMELLIA, WEST BOUNDARY, ADJACENT BOX OUT WORKS	7:37	15:36	0/100	< 0.01
AMR078	10-Nov	CAMELLIA, WEST BOUNDARY, APPROX 180M SOUTH OF ACCESS GATE	7:39	15:38	0/100	< 0.01
AMR078	10-Nov	CAMELLIA, WEST BOUNDARY, APPROX 120M SOUTH OF ACCESS GATE	7:41	15:40	0/100	< 0.01
AMR079	11-Nov	CAMELLIA - EAST BOUNDARY, APPROX 30M SOUTH OF ACCESS GATE	8:30	15:35	0/100	< 0.01
AMR079	11-Nov	CAMELLIA - EAST BOUNDARY, APPROX 100M NORTH OF ACCESS GATE	8:32	15:36	0/100	< 0.01
AMR079	11-Nov	CAMELLIA - EAST BOUNDARY, APPROX 200M SOUTH OF ACCESS GATE	8:34	15:38	0/100	< 0.01
AMR079	11-Nov	CAMELLIA - WEST BOUNDARY, APPROX 200M SOUTH OF ACCESS GATE	8:36	15:42	0/100	< 0.01
AMR079	11-Nov	CAMELLIA - WEST BOUNDARY, APPROX 120M SOUTH OF ACCESS GATE	8:38	15:43	0/100	< 0.01
AMR079	11-Nov	CAMELLIA - WEST BOUNDARY, APPROX 50M SOUTH OF ACCESS GATE	8:40	15:45	0/100	< 0.01
AMR080	12-Nov	CAMELLIA, WESTERN BOUNDARY FENCE, APPROX 200M SOUTH OF ACCESS GATE	7:50	15:50	0/100	< 0.01
AMR080	12-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 180M SOUTH OF ACCESS GATE	7:51	16:49	0/100	< 0.01
AMR080	12-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 150M SOUTH OF ACCESS GATE	7:52	16:48	0/100	< 0.01
AMR080	12-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 100M SOUTH OF ACCESS GATE	7:53	16:47	0/100	< 0.01
AMR080	12-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 50M SOUTH OF ACCESS GATE	7:54	16:46	0/100	< 0.01
AMR080	12-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 20M SOUTH OF ACCESS GATE	7:55	16:45	0/100	< 0.01
AMR081	13-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 100M NORTH OF ACCESS GATE	7:48	16:04	0/100	< 0.01
AMR081	13-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 50M NORTH OF ACCESS GATE	7:49	16:05	0/100	< 0.01
AMR081	13-Nov	CAMELLIA, JAMES HARDIE BRIDGE, NORTH EAST CORNER	7:50	16:06	0/100	< 0.01

AMR081	13-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 50M SOUTH OF ACCESS GATE	7:51	16:07	0/100	< 0.01
AMR081	13-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 80M SOUTH OF ACCESS GATE	7:52	16:08	0/100	< 0.01
AMR081	13-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 80M SOUTH OF ACCESS GATE	7:53	16:09	2.5/100	< 0.01
AMR081	13-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 50M SOUTH OF ACCESS GATE	7:54	16:10	0/100	< 0.01
AMR082	14-Nov	CAMELLIA, RETAINING WALL 2 - ACCESS GATE	7:10	15:45	0/100	< 0.01
AMR082	14-Nov	CAMELLIA, RETAINING WALL 2 - SW BOUNDARY	7:12	15:47	0/100	< 0.01
AMR082	14-Nov	CAMELLIA, RETAINING WALL 2 - NW BOUNDARY	7:14	15:49	0/100	< 0.01
AMR082	14-Nov	CAMELLIA, RETAINING WALL 1 - EAST BOUNDARY (NORTH)	7:20	15:26	0/100	< 0.01
AMR082	14-Nov	CAMELLIA, RETAINING WALL 1 - EAST BOUNDARY (SOUTH)	7:22	15:28	0/100	< 0.01
AMR082	14-Nov	CAMELLIA, RETAINING WALL 1 - WEST BOUNDARY (SOUTH)	7:24	15:30	0/100	< 0.01
AMR082	14-Nov	CAMELLIA, RETAINING WALL 1 - WEST BOUNDARY (NORTH)	7:26	15:32	0/100	< 0.01
AMR083	15-Nov	CAMELLIA, RETAINING WALL 1, PILING AREA - EAST BOUNDARY (NORTH)	7:10	14:02	0/100	< 0.01
AMR083	15-Nov	CAMELLIA, RETAINING WALL 1, PILING AREA - EAST BOUNDARY (SOUTH)	7:12	14:03	0/100	< 0.01
AMR083	15-Nov	CAMELLIA, RETAINING WALL 1, PILING AREA - WEST BOUNDARY (SOUTH)	7:14	14:05	0/100	< 0.01
AMR083	15-Nov	CAMELLIA, RETAINING WALL 1, PILING AREA - WEST BOUNDARY (NORTH)	7:16	14:06	0/100	< 0.01
AMR083	15-Nov	CAMELLIA, RETAINING WALL 2, PRE-DRILLING - ACCESS GATE	7:20	14:10	0/100	< 0.01
AMR083	15-Nov	CAMELLIA, RETAINING WALL 2, PRE-DRILLING - WEST BOUNDARY (SOUTH)	7:22	14:12	0/100	< 0.01
AMR083	15-Nov	CAMELLIA, RETAINING WALL 2, PRE-DRILLING - WEST BOUNDARY (NORTH)	7:24	14:13	0/100	< 0.01
AMR084	16-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 50M NORTH OF ACCESS GATE	7:48	16:18	0/100	< 0.01
AMR084	16-Nov	CAMELLIA, NORTH EAST CORNER OF JAMES HARDIE BRIDGE	7:49	16:19	0/100	< 0.01
AMR084	16-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 20M SOUTH OF ACCESS GATE	7:50	16:20	0/100	< 0.01
AMR084	16-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 150M SOUTH OF ACCESS GATE	7:52	16:22	0/100	< 0.01



AMR084	16-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 200M SOUTH OF ACCESS GATE	7:53	16:23	0/100	< 0.01
AMR084	16-Nov	CAMELLIA, WEASTERN BOUNDARY, APPROX 100M SOUTH OF ACCESS GATE	7:54	16:24	0/100	< 0.01
AMR084	16-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 50M SOUTH OF ACCESS GATE	7:55	16:25	0/100	< 0.01
AMR085	17-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 20M SOUTH OF ACCESS GATE	7:36	16:20	0/100	< 0.01
AMR085	17-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 80M SOUTH OF ACCESS GATE	7:37	16:19	0/100	< 0.01
AMR085	17-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 100M SOUTH OF ACCESS GATE	7:38	16:18	0/100	< 0.01
AMR085	17-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 50M SOUTH OF ACCESS GATE	7:39	16:17	0/100	< 0.01
AMR085	17-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 50M NORTH OF ACCESS GATE	7:40	16:16	0/100	< 0.01
AMR085	17-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 100M NORTH OF ACCESS GATE	7:41	16:15	0/100	< 0.01
AMR085	17-Nov	CAMELLIA, NORTH EAST CORNER OF JAMES HARDIE BRIDGE	7:42	16:14	0/100	< 0.01
AMR086	18-Nov	WESTERN BOUNDARY, APPROX 100M NORTH OF SITE ACCESS GATE	7:20	15:40	0/100	< 0.01
AMR086	18-Nov	WESTERN BOUNDARY, APPROX 50M NORTH OF ACCESS GATE	7:21	15:41	0/100	< 0.01
AMR086	18-Nov	NORTH EAST CORNER OF JAMES HARDIE BRIDGE	7:22	15:42	0/100	< 0.01
AMR086	18-Nov	EASTERN BOUNDARY, APPROX 20M SOUTH OF ACCESS GATE	7:23	15:43	0/100	< 0.01
AMR086	18-Nov	EATERN BOUNDARY, APPROX 80M SOUTH OF ACCESS GATE	7:24	15:44	3/100	< 0.01
AMR086	18-Nov	WESTERN BOUNDARY, APPROX 50M SOUTH OF ACCESS GATE	7:25	15:45	0/100	< 0.01
AMR086	18-Nov	WESTERN BOUNDARY, ADJACENT TO ACCESS GATE	7:26	15:46	0/100	< 0.01
AMR078	19-Nov	SANDOWN, NORTHERN BOUNDARY, ADJACENT ACCESS GATE	8:06	16:09	0/100	< 0.01
AMR078	19-Nov	SANDOWN, NORTHERN BOUNDARY, APPROX 50M EAST OF ACCESS GATE	8:07	16:10	0/100	< 0.01
AMR078	19-Nov	SANDOWN, SOUTHERN BOUNDARY, APPROX 40M EAST OF ACCESS GATE	8:08	16:11	0/100	< 0.01
AMR078	19-Nov	SANDOWN, SOUTHERN BOUNDARY, APPROX 10M EAST OF ACCESS GATE	8:09	16:12	0/100	< 0.01



AMR078	19-Nov	STOCKPILE STORAGE AREA, ADJACENT TO EASTERN ACCESS GATE	8:10	16:13	0/100	< 0.01
AMR078	19-Nov	STOCKPILE STORAGE AREA, ADJACENT TO WESTERN ACCESS GATE	8:11	16:14	0/100	< 0.01
AMR077	17-Nov	SANDOWN LINE, NORTHERN BOUNDARY, ADJACENT TO ACCESS GATE	7:20	15:44	0/100	< 0.01
AMR077	17-Nov	SANDOWN LINE, NORTHERN BOUNDARY, APPROX 30M EAST OF ACCESS GATE	7:21	15:45	0/100	< 0.01
AMR077	17-Nov	SANDOWN LINE, SOUTHERN BOUNDARY, APPROX 30M EAST OF ACCESS GATE	7:22	15:46	0/100	< 0.01
AMR077	17-Nov	SANDOWN LINE, SOUTHERN BOUNDARY, APPROX 10M EAST OF ACCESS GATE	7:23	15:47	0/100	< 0.01
AMR077	17-Nov	GRAND AVE OVERPASS ATTACHED TO EASTERN ACCESS GATE	7:24	15:48	0/100	< 0.01
AMR077	17-Nov	GRAND AVE OVERPASS ATTACHED TO WESTERN ACCESS GATE	7:25	15:49	0/100	< 0.01
AMR078	17-Nov	CAMELLIA, BOX OUT OF PILING AREA, ADJACENT TO ACCESS RAMP, EASTERN BOUNDARY	7:13	15:54	0/100	< 0.01
AMR078	17-Nov	CAMELLIA, BOX OUT OF PILING AREA, EASTERN BOUNDARY, APPROX 30M SOUTH OF ACCESS RAMP	7:14	15:55	0/100	< 0.01
AMR078	17-Nov	CAMELLIA, PILING BOX OUT WESTERN BOUNDARY, APPROX 30M SOUTH OF RAMP	7:15	15:56	0/100	< 0.01
AMR078	17-Nov	CAMELLIA, PILING BOX OUT, WESTERN BOUNDARY, APPROX 10M NORTH OF ACCESS RAMP	7:16	15:57	0/100	< 0.01
AMR079	18-Nov	SANDOWN, NORTHERN BOUNDARY, ADJACENT ACCESS GATE	8:06	16:09	0/100	< 0.01
AMR079	18-Nov	SANDOWN, NORTHERN BOUNDARY, APPROX 50M EAST OF ACCESS GATE	8:07	16:10	0/100	< 0.01
AMR079	18-Nov	SANDOWN, SOUTHERN BOUNDARY, APPROX 40M EAST OF ACCESS GATE	8:08	16:11	0/100	< 0.01
AMR079	18-Nov	SANDOWN, SOUTHERN BOUNDARY, APPROX 10M EAST OF ACCESS GATE	8:09	16:12	0/100	< 0.01
AMR079	18-Nov	STOCKPILE STORAGE AREA, ADJACENT TO EASTERN ACCESS GATE	8:10	16:13	0/100	< 0.01
AMR079	18-Nov	STOCKPILE STORAGE AREA, ADJACENT TO WESTERN ACCESS GATE	8:11	16:14	0/100	< 0.01
AMR080	18-Nov	BOX OUT AREA, EASTERN BOUNDARY, APPROX 20M NORTH OF ACCESS RAMP	7:38	15:50	0/100	< 0.01


AMR080	18-Nov	BOX OUT AREA, EASTERN BOUNDARY, APPROX 20M SOUTH OF ACCESS RAMP	7:34	15:51	0/100	< 0.01
AMR080	18-Nov	BOX OUT AREA, WESTERN BOUNDARY, APPROX 20M NORTH OF ACCESS RAMP	7:40	15:52	0/100	< 0.01
AMR080	18-Nov	BOX OUT AREA, WESTERN BOUNDARY, APPROX 20M SOUTH OF ACCESS RAMP	7:41	15:53	0/100	< 0.01
AMR080	20-Nov	BOX OUT AREA, EASTERN BOUNDARY, APPROX 20M NORTH OF ACCESS GATE	7:42	16:03	0/100	< 0.01
AMR080	20-Nov	BOX OUT AREA, EASTERN BOUNDARY, APPROX 10M SOUTH OF ACCESS GATE	7:41	16:02	0/100	< 0.01
AMR080	20-Nov	BOX OUT AREA, WESTERN BOUNDARY, APPROX 20M SOUTH OF ACCESS GATE	7:40	16:01	0/100	< 0.01
AMR080	20-Nov	BOX OUT AREA, WESTERN BOUNDARY, APPROX 10M SOUTH OF ACCESS GATE	7:39	15:59	0/100	< 0.01
AMR083	19-Nov	WEST BOUNDARY ADJACENT STOCKPILE	7:45	13:51	0/100	< 0.01
AMR083	19-Nov	SOUTH BOUNDARY ADJACENT STOCKPILE	7:47	13:53	0/100	< 0.01
AMR083	19-Nov	SE BOUNDARY ADJACENT STOCKPILE AND EXCAVATION	7:48	13:55	0/100	< 0.01
AMR083	19-Nov	NE BOUNDARY ADJACENT STOCKPILE AND EXCAVATION	7:50	13:56	0/100	< 0.01
AMR084	19-Nov	STOCKPILE AREA, ADJACENT TO EASTERN ACCESS GATE	7:48	16:08	0/100	< 0.01
AMR082	19-Nov	STOCKPILE AREA, ADJACENT TO WESTERN ACCESS GATE	7:49	16:09	0/100	< 0.01
AMR082	19-Nov	SANDOWN, NORTHERN BOUNDARY, APPROX 40M EAST OF ACCESS GATE	7:50	16:10	0/100	< 0.01
AMR082	19-Nov	SANDOWN, NORTHERN BOUNDARY, ADJACENT TO ACCESS GATE	7:51	16:11	1/100	< 0.01
AMR082	19-Nov	SANDOWN, SOUTHERN BOUNDARY, APPROX 10M EAST OF ACCESS GATE	7:52	16:12	0/100	< 0.01
AMR082	19-Nov	SANDOWN, SOUTHERN BOUNDARY, APPROX 40M EAST OF ACCESS GATE	7:53	16:13	1/100	< 0.01
AMR088	19-Nov	WESTERN BOUNDARY, APPROX 50M SOUTH OF SITE ACCESS GATE	7:27	15:49	0/100	< 0.01
AMR088	19-Nov	EASTERN BOUNDARY, APPROX 80M SOUTH OF SITE ACCESS GATE	7:28	15:50	0/100	< 0.01
AMR088	19-Nov	EASTERN BOUNDARY, APPROX 20M SOUTH OF SITE ACCESS GATE	7:30	15:51	0/100	< 0.01
AMR088	19-Nov	NORTH EAST CORNER OF JAMES HARDIE BRIDGE	7:31	15:52	1/100	< 0.01
AMR088	19-Nov	WESTERN BOUNDARY, APPROX 50M NORTH OF SITE ACCESS GATE	7:32	15:53	0/100	< 0.01

AMR088	19-Nov	WESTERN BOUNDARY, APPROX 100M NORTH OF SITE ACCESS GATE	7:33	15:54	0.5/100	< 0.01
AMR084	20-Nov	BOX OUT AREA, EASTERN BOUNDARY, APPROX 20M NORTH OF GATE	7:30	15:55	0/100	< 0.01
AMR084	20-Nov	BOX OUT AREA, EASTERN BOUNDARY, APPROX 20M NORTH OF GATE	7:29	15:54	0/100	< 0.01
AMR084	20-Nov	BOX OUT AREA, WESTERN BOUNDARY, APPROX 20M SOUTH OF GATE	7:28	15:53	0/100	< 0.01
AMR084	20-Nov	BOX OUT AREA, WESTERN BOUNDARY, APPROX 20M NORTH OF GATE	7:27	15:52	0/100	< 0.01
AMR085	20-Nov	STOCKPILE AREA, ADJACENT TO EASTERN GATE	7:34	16:04	0/100	< 0.01
AMR085	20-Nov	STOCKPILE AREA, ADJACENT TO WESTERN GATE	7:35	16:03	0/100	< 0.01
AMR085	20-Nov	STOCKPILE AREA, NORTHERN BOUNDARY, APPROX 40M EAST OF GATE	7:36	16:02	0/100	< 0.01
AMR085	20-Nov	SANDOWN LINE, NORTHERN BOUNDARY, ADJACENT TO GATE	7:37	16:01	0/100	< 0.01
AMR085	20-Nov	SANDOWN LINE, SOUTHERN BOUNDARY, APPROX 10M EAST OF GATE	7:38	16:00	0/100	< 0.01
AMR085	20-Nov	SANDOWN LINE, SOUTHERN BOUNDARY, APPROX 40M EAST OF GATE	7:39	15:59	0/100	< 0.01
AMR086	21-Nov	SOUTHERN BOUNDARY, APPROX 40M EAST OF GATE	7:34	14:40	0/100	< 0.01
AMR086	21-Nov	SOUTHERN BOUNDARY, APPROX 10M EAST OF GATE	7:35	14:41	0/100	< 0.01
AMR086	21-Nov	NORTHERN BOUNDARY, ADJACENT TO GATE	7:36	14:42	0/100	< 0.01
AMR086	21-Nov	NORTHERN BOUNDARY, APPROX 40M EAST	7:37	14:43	0/100	< 0.01
AMR087	22-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 50M SOUTH OF GATE	7:21	16:52	0/100	< 0.01
AMR087	22-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 50M SOUTH OF GATE	7:22	16:53	0/100	< 0.01
AMR087	22-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 100M SOUTH OF GATE	7:23	16:54	0/100	< 0.01
AMR087	22-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 100M SOUTH OF GATE	7:24	16:55	0/100	< 0.01
AMR087	22-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 150M SOUTH OF GATE	7:25	16:56	0/100	< 0.01
AMR087	22-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 150M SOUTH OF GATE	7:26	16:57	0/100	< 0.01
AMR087	22-Nov	CAMELLIA, WESTERN BOUNDARY, APPROX 200M SOUTH OF GATE	7:27	16:58	0/100	< 0.01
AMR087	22-Nov	CAMELLIA, EASTERN BOUNDARY, APPROX 200M SOUTH OF GATE	7:28	16:59	0/100	< 0.01
AMR087	22-Nov	STOCKPILE AREA, EASTERN GATE	7:29	17:00	0/100	< 0.01
AMR087	22-Nov	STOCKPILE AREA, WESTERN GATE	7:30	17:01	0/100	< 0.01
AMR088	23-Nov	STOCKPILE AREA - NE BOUNDARY	7:50	15:20	0/100	< 0.01

AMR088	23-Nov	STOCKPILE AREA - NW BOUNDARY	7:52	15:22	0/100	< 0.01
AMR088	23-Nov	RETAINING WALL 1 - BOX OUT AREA WEST BOUNDARY (NORTH)	7:57	15:25	0/100	< 0.01
AMR088	23-Nov	RETAINING WALL 1 - BOX OUT AREA WEST BOUNDARY (SOUTH)	7:58	15:27	0/100	< 0.01
AMR088	23-Nov	RETAINING WALL 1 - BOX OUT AREA EAST BOUNDARY	8:00	15:29	0/100	< 0.01
AMR088	23-Nov	RETAINING WALL 3A - EAST BOUNDARY (NORTH)	8:04	15:35	0/100	< 0.01
AMR088	23-Nov	RETAINING WALL 3A - EAST BOUNDARY (SOUTH)	8:05	15:37	0/100	< 0.01
AMR089	23-Nov	SE OF STORMWATER EXCAVATION WITHIN COMPOUND 10-D	7:50	15:30	0/100	< 0.01
AMR089	23-Nov	EAST OF STORMWATER EXCAVATION WITHIN COMPOUND 10-D	7:51	15:31	0/100	< 0.01
AMR089	23-Nov	NORTH OF STORMWATER EXCAVATION WITHIN COMPOUND 10-D	7:53	15:32	0/100	< 0.01
AMR089	20-Nov	RETAINING WALL 2, WESTERN BOUNDARY APPROX 100M NORTH OF SITE GATE	7:15	15:40	0/100	< 0.01
AMR089	20-Nov	RETAINING WALL 2, WESTERN BOUNDARY, APPROX 50M NORTH OF SITE GATE	7:16	15:41	0/100	< 0.01
AMR089	20-Nov	NORTH EAST CORNER OF JAMES HARDIE BRIDGE	7:17	15:42	0/100	< 0.01
AMR089	20-Nov	EASTERN BOUNDARY, ADJACENT TO SITE GATE	7:18	15:43	0/100	< 0.01
AMR089	20-Nov	RETAINING WALL 1, APPROX 50M SOUTH OF SITE GATE, EASTERN GATE	7:19	15:44	0/100	< 0.01
AMR089	20-Nov	RETAINING WALL 1, WESTERN BOUNDARY, APPROX 30M SOUTH OF GATE	7:20	15:45	0/100	< 0.01
AMR090	21-Nov	RETAINING WALL 2, WESTERN BOUNDARY, APPROX 100M NORTH OF GATE	7:08	16:44	0/100	< 0.01
AMR090	21-Nov	RETAINING WALL 2, WESTERN BOUNDARY, APPROX 50M NORTH OF GATE	7:09	16:43	0/100	< 0.01
AMR090	21-Nov	JAMES HARDIE BRIDGE, NORTH WEST CORNER	7:10	16:42	0/100	< 0.01
AMR091	22-Nov	CAMELLIA, RW2, APPROX 100M NORTH OF GATE	7:11	15:24	0/100	< 0.01
AMR091	22-Nov	CAMELLIA, RW2, APPROX 50M NORTH OF GATE	7:12	15:25	0/100	< 0.01
AMR091	22-Nov	CAMELLIA, JAMES HARDIE BRIDGE, NORTH WEST CORNER	7:13	15:26	0/100	< 0.01
AMR092	23-Nov	RETAINING WALL 2 - WEST BOUNDARY NORTH END	7:40	15:01	0/100	< 0.01
AMR092	23-Nov	RETAINING WALL 2 - WEST BOUNDARY SOUTH END	7:42	15:03	0/100	< 0.01
AMR092	23-Nov	RETAINING WALL 2 - NE CORNER OF JAMES HARDIE BRIDGE	7:44	15:04	0/100	< 0.01
AMR088	19-Nov	WESTERN BOUNDARY, APPROX 50M SOUTH OF SITE ACCESS GATE	7:27	15:49	0/100	< 0.01
AMR088	19-Nov	EASTERN BOUNDARY, APPROX 80M SOUTH OF SITE ACCESS GATE	7:28	15:50	0/100	< 0.01
AMR088	19-Nov	EASTERN BOUNDARY, APPROX 20M SOUTH OF SITE ACCESS GATE	7:30	15:51	0/100	< 0.01
AMR088	19-Nov	NORTH EAST CORNER OF JAMES HARDIE BRIDGE	7:31	15:52	1/100	< 0.01



AMR088	19-Nov	WESTERN BOUNDARY, APPROX 50M NORTH OF SITE ACCESS GATE	7:32	15:53	0/100	< 0.01
AMR088	19-Nov	WESTERN BOUNDARY, APPROX 100M NORTH OF SITE ACCESS GATE	7:33	15:54	0.5/100	< 0.01
AMR091	24-Nov	COMPOUND 10-D - NORTH OF STORMWATER EXCAVATION TRENCH	8:05	15:55	0/100	< 0.01
AMR091	24-Nov	COMPOUND 10-D - EAST OF STORMWATER EXCAVATION TRENCH	8:07	15:50	0/100	< 0.01
AMR091	24-Nov	COMPOUND 10-D - SOUYTH OF STORMWATER EXCAVATION TRENCH	8:09	15:52	0/100	< 0.01
AMR090	24-Nov	SANDOWN TRENCHING WORKS - WEST BOUNDARY	7:47	15:23	0/100	< 0.01
AMR090	24-Nov	SANDOWN TRENCHING WORKS - NORTH BOUNDARY	7:49	15:24	0/100	< 0.01
AMR090	24-Nov	SANDOWN TRENCHING WORKS - EAST BOUNDARY	7:50	15:26	0/100	< 0.01
AMR090	24-Nov	SANDOWN TRENCHING WORKS - SOUTH BOUNDARY	7:52	15:27	0/100	< 0.01
AMR090	24-Nov	STOCKPILE AREA - NE BOUNDARY	7:42	15:30	0/100	< 0.01
AMR090	24-Nov	STOCKPILE AREA - NW BOUNDARY	7:43	15:32	0/100	< 0.01
AMR090	24-Nov	RETAINING WALL 1 BULK OUT AREA - EAST BOUNDARY	7:30	15:40	0/100	< 0.01
AMR090	24-Nov	RETAINING WALL 1 BULK OUT AREA - SW BOUNDARY	7:32	15:42	0/100	< 0.01
AMR090	24-Nov	RETAINING WALL 1 BULK OUT AREA - NW BOUNDARY	7:34	15:44	0/100	< 0.01
AMR093	24-Nov	RETAINING WALL 1, PILING WORKS - SW BOUNDARY	7:10	15:46	0/100	< 0.01
AMR093	24-Nov	RETAINING WALL 1, PILING WORKS - NW BOUNDARY	7:12	15:48	0/100	< 0.01
AMR093	24-Nov	RETAINING WALL 2, PILING WORKS - SE BOUNDARY	7:14	15:50	0/100	< 0.01
AMR093	24-Nov	RETAINING WALL 2, PILING WORKS - SW BOUNDARY	7:16	15:52	0/100	< 0.01
AMR093	24-Nov	RETAINING WALL 2, PILING WORKS - NW BOUNDARY	7:18	15:54	0/100	< 0.01
AMR094	25-Nov	RETAINING WALL 2 - SE BOUNDARY	7:00	15:21	0/100	< 0.01
AMR094	25-Nov	RETAINING WALL 2 - SW BOUNDARY	7:02	15:23	0/100	< 0.01
AMR094	25-Nov	RETAINING WALL 2 - NW BOUNDARY	7:03	15:25	0/100	< 0.01
AMR093	24-Nov	TRAMWAY AVE - EAST OF FOOTPATH EXCAVATION	7:09	15:50	0/100	< 0.01
AMR093	24-Nov	TRAMWAY AVE - SOUTH OF FOOTPATH EXCAVATION TO RESIDENTIAL FENCELINE	7:10	15:52	0/100	< 0.01
AMR093	24-Nov	TRAMWAY AVE - NORTH OF FOOTPATH EXCAVATION	7:11	15:49	1.5/100	< 0.01
AMR093	24-Nov	TRAMWAY AVE - WEST OF FOOTPATH EXCAVATION	7:13	15:47	0/100	< 0.01
AMR092	25-Nov	CAMELLIA, RETAINING WALL 1, BOX OUT - EAST BOUNDARY	7:10	15:54	0/100	< 0.01
AMR092	25-Nov	CAMELLIA, RETAINING WALL 1, BOX OUT - SW BOUNDARY	7:12	15:52	0/100	< 0.01
AMR092	25-Nov	CAMELLIA, RETAINING WALL 1, BOX OUT - NW BOUNDARY	7:14	15:50	0/100	< 0.01
AMR092	25-Nov	SANDOWN, TRENCHING WORKS - WEST BOUNDARY	7:20	15:44	0/100	< 0.01



AMR092	25-Nov	SANDOWN, TRENCHING WORKS - NORTH BOUNDARY	7:22	15:42	0/100	< 0.01
AMR092	25-Nov	SANDOWN, TRENCHING WORKS - EAST BOUNDARY	7:24	15:40	0/100	< 0.01
AMR092	25-Nov	STOCKPILE AREA - NE BOUNDARY	7:30	15:37	0/100	< 0.01
AMR092	25-Nov	STOCKPILE AREA - NW BOUNDARY	7:32	15:35	0/100	< 0.01