



Surface Water Quality Construction Monitoring Report August 2025 – July 2026

SMWSASSM-PLD-SWD-SW000-WA-RPT-000008

Parklife Metro D&C

Approval Record

Revision	Author	Date	Comments	Reviewed by	Approved by
00	[REDACTED]	10/09/2026	Final	[REDACTED]	[REDACTED]
	[REDACTED]			[REDACTED]	[REDACTED]
	[REDACTED]			[REDACTED]	[REDACTED]
				[REDACTED]	
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GLOSSARY/ABBREVIATIONS

Abbreviation	Expanded Text
ANZG	Australian and New-Zealand Guidelines 2018
BRD	Bradfield Station – formerly Aerotropolis Core Station (AEC)
Condition	Planning Minister's Condition of Approval
Construction	Includes all work required to construct the CSSI as described in the documents listed in Conditions A1, including commissioning trials of equipment and temporary use of any part of the CSSI, but excluding Low Impact Work.
DPHI	NSW Department of Planning, Housing and Infrastructure (formerly DPE)
EC	Electrical Conductivity
EIS	Environmental Impact Assessment
EPA	NSW Environmental Protection Authority – The Appropriate Regulatory Authority for project activities on NSW land (off-airport land), as defined in Section 6(2)(c) of the POEO Act 1997
EPL	Environmental Protection Licence
ER	Environmental Representative nominated by the Proponent and approved by the Planning Secretary in accordance with Condition A27
FRP	Form Reo Pour
Minister, the	NSW Minister for Planning and Public Spaces (or delegate)
NATA	National Association of testing authorities
Non-compliance	An occurrence, set of circumstances, or development that results in a non-compliance or is non-compliant with Infrastructure Approval or other licence, permit or legal requirements, but is not an incident.
Non-conformance	Observations or actions that are not in strict accordance with the CEMP and the aspect specific Sub-Plan
NTU	Nephelometric Turbidity unit
OHE	Orchard Hills Station
POEO Act	<i>Protection of the Environment Operations Act 1997.</i>
Parklife Metro (PLM)	Consortium comprising entities of Plenary, Siemens, RATP Dev and Webuild as the Applicant for the Sydney Metro Western Sydney Airport SSTOM Package.
Parklife Metro D&C	Parklife Metro Design and Construct. Consists of Webuild S.P.A, Siemens Mobility Pty Ltd and Richard Crookes Constructions Pty Ltd. Responsible for the construction of SSTOM Works
SBT	Station Boxes and Tunnelling (SBT) Works for Sydney Metro – Western Sydney Airport
SCAW	Surface, Civil and Alignment Works (SCAW) Works for Sydney Metro – Western Sydney Airport
SMWSA	Sydney Metro Western Sydney Airport
SSTOM	Stations, Systems, Trains, Operations and Maintenance
STM	St Marys Station
SWMP	Soil and Water Management Plan
the Project	Sydney Metro Western Sydney Airport
TWA	Trade Waste Agreement (Sydney Water)
WTP	Water Treatment Plant

1 Introduction

1.1 Background

Sydney Metro is Australia's biggest public transport program comprising four main packages of work including Metro North-West Line, Sydney Metro City and Southwest, Sydney Metro West, and Sydney Metro Western Sydney Airport (SMWSA, the Project). The SMWSA will become the transport spine for Greater Western Sydney, connecting communities and travellers with the new Western Sydney International (Nancy-Bird Walton) Airport and the growing region.

The Project involves the construction and operation of a new metro railway line around 23km in length that extends from the existing Sydney Trains suburban T1 Western Line at St Marys Station (STM) towards Orchard Hills Station (OHE) and the new Bradfield Station (BRD) in the south at Bringelly. The alignment includes a combination of tunnel, surface, bridges and viaduct sections, and comprises of six new metro stations between St Marys and the Bradfield precinct, as well as a stabling and maintenance facility and operational control centre to support the operation of the new metro railway line (see Figure 1).

Parklife Metro D&C (PLM) has been engaged to deliver the Stations, Systems, Trains, Operations and Maintenance (SSTOM) works. The scope of the SSTOM package comprises:

- construction of six new stations
- installation of tracks, signalling, mechanical and electrical systems
- supplying new driverless trains
- construction of stabling and maintenance facility at Orchard Hills
- operation and maintenance of the line and its assets, and
- handback of operations and maintenance at the end of term.

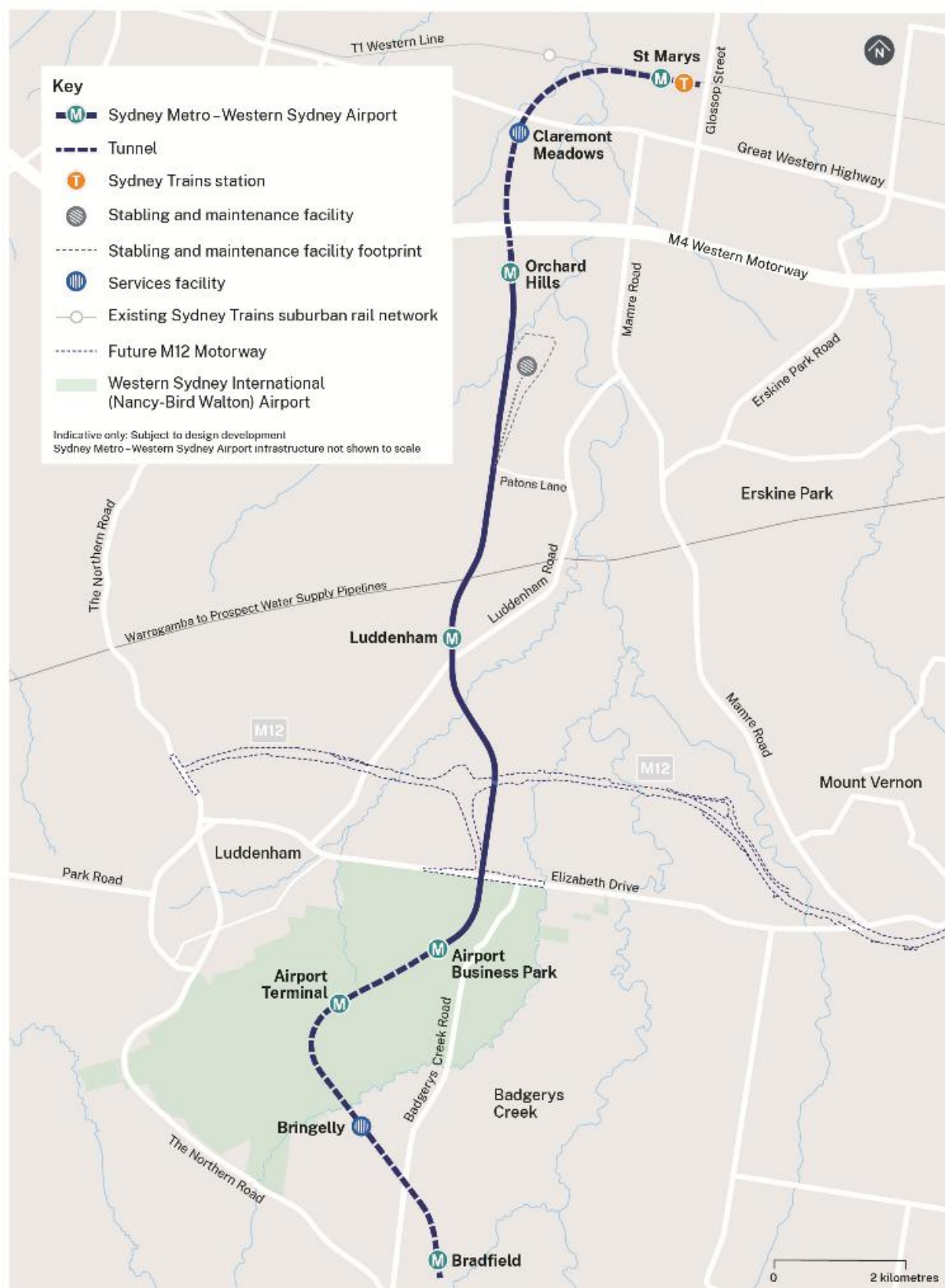


FIGURE 1 OVERVIEW OF SMWSA PROJECT

1.1.1 Scope of report

This Surface Water Quality Construction Monitoring Report (SWQMR) has been prepared for works approved under the Infrastructure Approval SSI-10051 associated with the delivery of the off-airport portion of the SMWSA SSTOM stage of works which commenced in August 2023 as outlined in Table 1.

This report provides the results of surface water quality monitoring undertaken as part of the Surface Water Quality Monitoring Program (Monitoring Program) during the reporting period from August 2025 to July 2026.

The monitoring report will be published online and will be provided to DPHI, ER and relevant agencies as per Section 6.3 of the Monitoring Program.

TABLE 1 REQUIREMENTS RELEVANT TO SURFACE WATER CONSTRUCTION MONITORING REPORT

Condition	Requirement
C14	Each Construction Monitoring Program must provide: a) details of baseline data available including the period of baseline monitoring; b) details of baseline data to be obtained and when; c) details of all monitoring of the project to be undertaken; d) the parameters of the project to be monitored; e) the frequency of monitoring to be undertaken; f) the location of monitoring; g) the reporting of monitoring results and analysis results against relevant criteria; h) details of the methods that will be used to analyse the monitoring data; i) procedures to identify and implement additional mitigation measures where the results of the monitoring indicated unacceptable project impacts; j) a consideration of SMART principles; k) any consultation to be undertaken in relation to the monitoring programs; and
C22	The results of the Construction Monitoring Programs must be submitted to the Planning Secretary, ER and relevant regulatory agencies, for information in the form of a Construction Monitoring Report at the frequency identified in the relevant Construction Monitoring Program.

1.2 Project Activities undertaken during the reporting period

Construction activities undertaken during the reporting period are summarised in Table 2 below. Five work areas, Luddenham, the Stabling and Maintenance Facility, Bringelly Service Facility, Linewide and Bradfield Station, discharged water to the environment during the reporting period. These discharges occurred from sediment basin discharge points licenced under Environmental Protection Licence (EPL) No. 21807 and were monitored and reported in accordance with the EPL monitoring program and associated EPL reporting requirements

As part of the Project construction, two water treatment plants (WTP) are currently operational at St Marys Station and Claremont Meadows Service Facility, though are not discharging to the environment, but to sewer through Sydney Water Trade Waste Agreements.

Erosion and sediment control plans (ESCPs) have been prepared for all sites. These are progressively updated as works progress to ensure controls are appropriate for the site conditions. All ESCPs are prepared or reviewed by a certified professional in erosion and sediment control (CPESC) and controls checked during weekly and pre and post rainfall (>20mm) inspections.

TABLE 2 CONSTRUCTION ACTIVITIES DURING THIS REPORTING PERIOD

Site	Site Description	Construction Activities	Discharge offsite
St Marys Station	Site consists of the Station box, WTP, site offices/facilities and laydown. Majority of site is stabilised with concrete with runoff directed to WTP where possible.	• Site establishment of office sheds, laydown areas and temporary stockpile areas • Tower crane pad removal • Water treatment plant operation • Station Box – FRP • Station Box – Water proofing • Station Box fitout • Precast beams	Yes, via Trade Waste Agreement (TWA)
Claremont Meadows Service Facility	Site consists of the tunnel shaft, WTP, sediment basins, site offices/facilities and laydown. Majority of site is stabilised with vegetation or stable material (e.g. DGB) with runoff directed to WTP.	• General operation of ancillary facility • Tunnel fitout • Water treatment plant operation • Ventilation operation and decommissioning	Yes, via Trade Waste Agreement (TWA)
Orchard Hills Station	Site consists of the Station box/dive structure, site offices/facilities, concrete batch plant, sediment basins and laydown. Majority of site is stabilised with concrete, vegetation or stable material (e.g. DGB) with runoff directed to basins and sumps.	• General operation of ancillary facility • Station Box – FRP • Batch plant operation • Precast beam delivery and installation • Rail activities	No
Stabling Maintenance Facility	Site consists of site offices/facilities, sediment basins, laydown and stockpiling areas. Site is progressing towards permanent works including rail tie-ins, access roads, sub-station, maintenance and administration building and operational control centre with runoff directed to basin.	• General operation of ancillary facility • Bulk earthworks • Basin excavation • Power supply installation • In-ground utility installation • FRP • Substation fit out and commissioning • Fencing • Detailed excavation, inground service trenches, FRP and tank installation for maintenance and administration, and operational control centre buildings • Structural building and fitout	Yes, via EPL discharge point 12

Site	Site Description	Construction Activities	Discharge offsite
Luddenham Station	Site consists of viaduct station, site offices/facilities, stockpiling and laydown areas. Large portions of the site are stabilised with vegetation, with access roads and laydown areas constructed with stable material (e.g. DGB) with runoff directed to basin.	- General operation of ancillary facility - Bulk Earthworks - In-ground utility installation - Station structures FRP - Precinct works	Yes, via EPL discharge point 15
Bringelly Service Facility	Site consists of the tunnel shaft, sediment basin, site offices/facilities and laydown. Majority of site is stabilised with vegetation or stable material (e.g. DGB) with runoff directed to basin.	- General operation of ancillary facility - Tunnel fitout - Ventilation operation and decommissioning	Yes, via EPL discharge point 14
Bradfield Station	Site consists of the Station box, sediment basin, site offices/facilities, and laydown. Large portions of the site are stabilised with chipseal or concrete with permanent carpark works progressing with runoff directed to basin and sumps where possible.	- General operation of ancillary facility - Station Box – Waterproofing - Station Box – FRP - Delivery of Equipment - Precast beam delivery and installation - Permanent car park works - Earthworks	Yes, via EPL discharge point 1 and 17
Linewide	Surface and viaduct alignment with scattered minor ancillary facilities, sediment basins, laydown and stockpiling areas. Majority of site is stabilised with vegetation with access roads and laydown areas constructed with stable material (e.g. DGB) with runoff directed to basins where possible.	- General operation of ancillary facilities - In-ground utility installation - Galvanised steel trough (GST) installation - FRP works - Earthworks - Fencing - Rail activities	Yes, via EPL discharge point 13 and 16

2 Monitoring

2.1 Methodology

In accordance with the Monitoring Program, quarterly surface water monitoring was undertaken during the reporting period as a tool to compare actual performance of the SSTOM Works against the predicted performance in the EIS and as an indicator of compliance with the water quality trigger values. The monitoring program identifies potential impacts on surface water within the catchment and waterways of the SSTOM Works alignment to determine the effectiveness of water quality and erosion and sediment controls on site. All surface water quality monitoring is undertaken in accordance with the methodology outlined in Section 5.3 of the Monitoring Program.

2.2 Weather during the reporting period

During the reporting period forecast monitoring was undertaken by reviewing meteorological conditions and communicating this to the construction team during prestarts.

As outlined in section 6.12.3 of the Soil and Water Management Plan (SWMP), weather data was reviewed from both Badgerys Creek AWS (station 067108) and Orchard Hills Treatment Works (station 067084). Due to gaps in data in the Orchard Hills weather station records, as shown in Figure 2, Penrith Lakes AWS (station 067113) was utilised in conjunction with Badgerys Creek rainfall data to trigger post rainfall sampling.

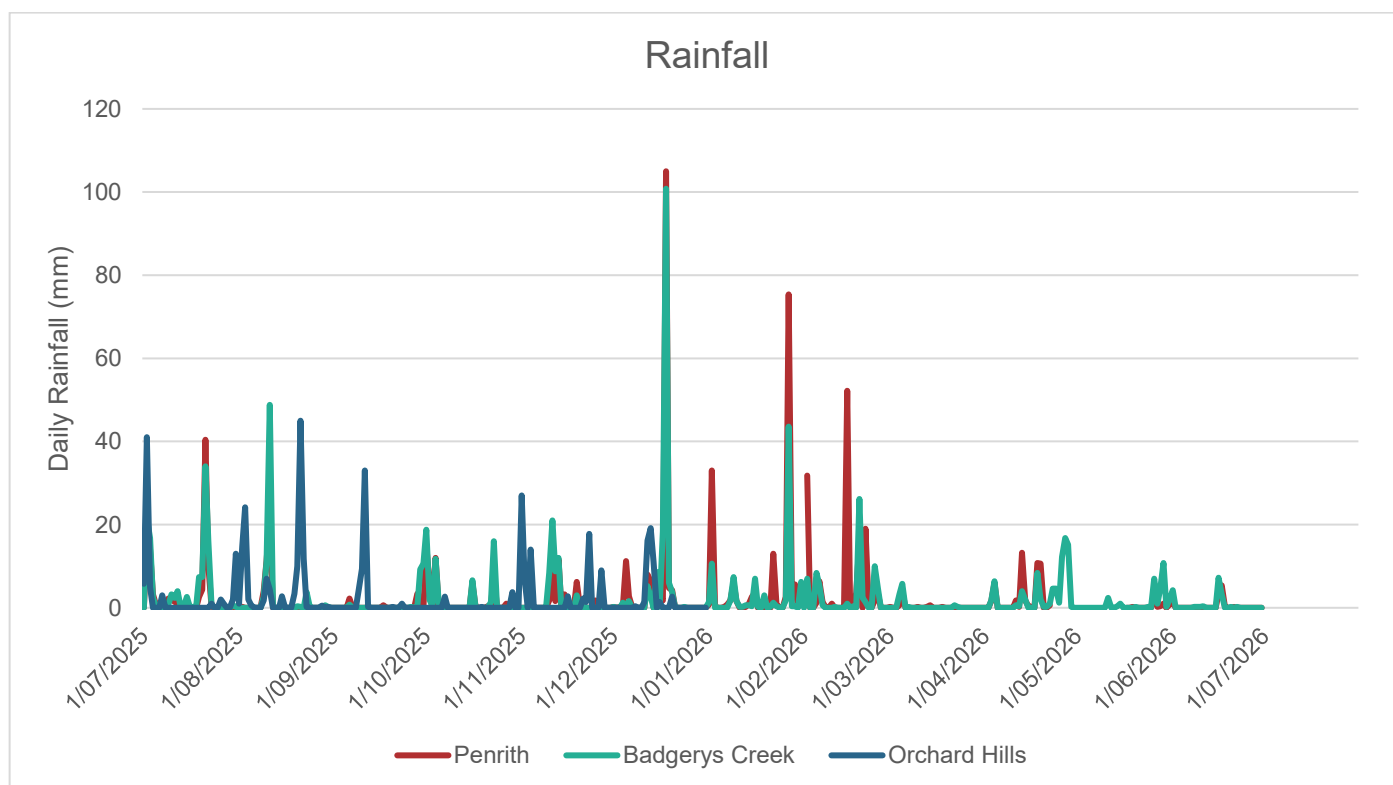


FIGURE 2 RAINFALL DURING THE REPORTING PERIOD, BADGERYS CREEK AWS (067108) ORCHARD HILLS TREATMENT WORKS (STATION 067084) AND PENRITH LAKES AWS (STATION 067113)

TABLE 3 MONTHLY RAINFALL OBSERVED DURING THE REPORTING PERIOD AND HISTORICAL AVERAGE AT BADGERYS CREEK AWS (067108) AND PENRITH LAKES AWS (STATION 067113)

Month	Rainfall Observed during reporting period		Historical Average	
	Badgerys Creek	Penrith	Badgerys Creek	Penrith
August 2025	121.4	100.4	22.9	20.9
September 2025	68.2	38.4	33.8	25.9
October 2025	21.2	8.6	42.9	42.4
November 2025	57.8	49.2	55.1	65.6
December 2025	54	39.6	46.8	58.8
January 2026	149.6	148.8	72.7	97.4
February 2026	82.6	147.2	89.3	87.4
March 2026	74.2	144.2	59.5	69
April 2026	10	6.2	30.2	40.4
May 2026	81.8	47.2	34.7	30
June 2026	27.8	5.4	41.3	31.8
July 2026	18	11.4	20.7	22.9
Total	766.6	746.6	549.9	592.5

Higher than average rainfall was received in August 2025, September 2025, January to March 2026 and May 2026, with significantly lower than average rainfall received in October 2025, April 2026 and June 2026 as shown in Table 3. The highest daily rainfall was experienced on 18 January 2026 with 100.8mm received at the Badgerys Creek AWS.

2.3 Sampling during the reporting period

In accordance with 5.2 of the Monitoring Program, surface water quality sampling is undertaken quarterly and once per quarter following significant rainfall (>20mm in a 24-hour period). During this reporting period, five quarterly and three wet weather monitoring events were completed as shown in Table 4

TABLE 4: MONITORING EVENTS CONDUCTED DURING THE REPORTING PERIOD

Monitoring event type	2025		2026		
	Q3	Q4	Q1	Q2	Q3
Quarterly	01/09/2025	10/10/2025	12/02/2026	29/04/2026	29/07/2026
Post rainfall		03/11/2025	20/01/2026	29/05/2026	
Rainfall received (mm)		21	138	32	

NOTE: RED SHADED CELLS INDICATE MONITORING EVENTS OUTSIDE OF THIS REPORTING PERIOD

The Q3 2026 wet weather monitoring has not been triggered and will be included in the next monitoring report (if triggered). The Q3 2025 wet weather monitoring occurred during the previous reporting period and is included in the previous SWQMR.

Monthly monitoring has also been undertaken at Blaxland Creek (commencing in January 2026) and Cosgroves Creek (commencing in February 2026) following the commencement of bridge construction works within the waterway/riparian zones in accordance with section 5.2 of the Surface Water Monitoring Program.

2.4 Monitoring Locations

The surface water sampling locations were reviewed and updated during the reporting period (Revision 04). Changes to locations are summarised in Table 5 and shown graphically in Figure 3 and Figure 4. The sampling locations are generally consistent with the historical sampling locations used by the prior Project contractors, with PLM continuing monitoring at these locations as SSTOM works commenced.

Localised sampling points have been identified to measure any potential impacts for the bridge construction works as shown in Figure 5.

TABLE 5 SURFACE WATER MONITORING LOCATIONS

ID ²	Monitoring Location	Updated Monitoring Location (May 2025)	Monitoring Requirements ¹	Work Areas Targeted / Notes
SW1	South Creek, Christie Street Bridge	Location removed. The location is highly impacted by urban and industrial activities in the wider catchment. SSTOM runoff is discharged via the rail corridor and WTP (to wastewater via tradewaste licence). Impact from SSTOM construction can not be monitored at this location.	N/A	Previously monitored by SBT contractor as SBT1 D/S monitoring point for works around St Marys Station
SW2	South Creek, end of north end of The Kingsway, Orchard Hills	Location removed. As per SW1	N/A	Previously monitored by SBT contractor as SBT2 U/S monitoring point for works around St Marys Station
SW3	Blaxland Creek, downstream of alignment, Orchard Hills	No Change	Probe handheld monitor	Previously monitored by SCAW contractor as SCAW 1 (DS) D/S monitoring point for works on the alignment between Orchard Hills Station and Luddenham Road Station and for the stabling and maintenance facility
SW4	Blaxland Creek, upstream of alignment, Orchard Hills	No Change	Probe handheld monitor	Previously monitored by SCAW contractor as SCAW 1 (US) U/S monitoring point for works on the alignment between Orchard Hills Station and Luddenham Road Station and for the stabling and maintenance facility
SW5 SW5a	Cosgroves Creek, Twin Creeks Drive crossing, Luddenham	Location adjusted to be closer to SSTOM works. Location will better capture potential SSTOM impacts. New ID for adjusted monitoring location.	Probe handheld monitor	Previously monitored by SCAW contractor as SCAW 3 (DS) D/S monitoring point for works at Luddenham Road Station and surrounding alignment

SW6 SW6a	Cosgroves Creek, downstream of alignment, Luddenham	Location adjusted to upstream of alignment Cosgrove Creek. New ID for adjusted monitoring location.	Probe handheld monitor	Previously monitored by SCAW contractor as SCAW 3 (US) U/S monitoring point for works at Luddenham Road Station and surrounding alignment
SW7	Badgerys Creek, near Ganton Way, Luddenham	Location removed. No access point and location does not measure any impact from SSTOM construction.	N/A	Previously monitored by SCAW contractor as SCAW 4 (DS) D/S monitoring point for works on the alignment between the WSA and Luddenham Road
SW8	Badgerys Creek, Elizabeth Drive crossing, Badgerys Creek	No change	Probe handheld monitor	Previously monitored by SCAW contractor as SCAW 4 (US) U/S monitoring point for works on the alignment between the WSA and Luddenham Road
SW9	Badgerys Creek, Badgerys Creek Road crossing, Bringelly	Location removed. Location does not measure any impact from SSTOM construction.	N/A	Previously monitored by SBT contractor as SBT3 D/S monitoring point for works at Bringelly Services Facility
SW10	Badgerys Creek, near Mersey Road, Bringelly	Location removed. Location does not measure any impact from SSTOM construction.	N/A	Previously monitored by SBT contractor as SBT4 U/S monitoring point for works at Bringelly Services Facility
SW11	Thompsons Creek, The Retreat crossing, Bringelly	No change	Probe handheld monitor	Previously monitored by SBT contractor as SBT5 D/S monitoring point for works at Bradfield Station
SW12	Thompsons Creek, The Northern Road crossing, Bringelly	No change	Probe handheld monitor	Not included in previous SMWSA Monitoring U/S monitoring point for works at Bradfield Station

1 TRIGGER VALUES WILL BE APPLIED TO PROBE READINGS AND FURTHER SAMPLING AND LABORATORY ANALYSIS MAY BE REQUIRED

2 STRIKETHROUGH INDICATES MONITORING LOCATIONS ALTERED OR REMOVED FROM THE MONITORING PROGRAM

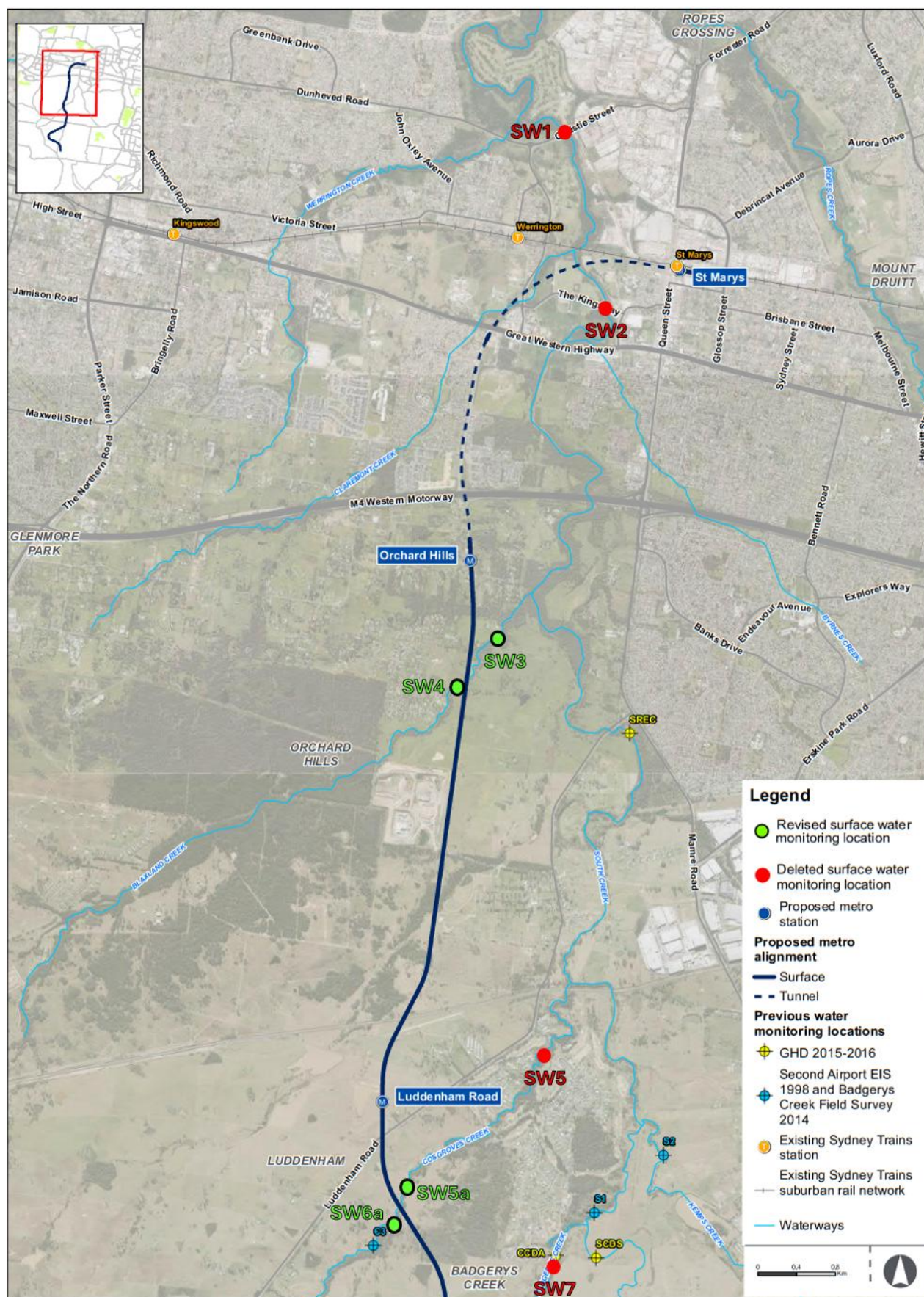


FIGURE 3 SMWSA PROJECT'S MONITORING LOCATIONS (NORTH)

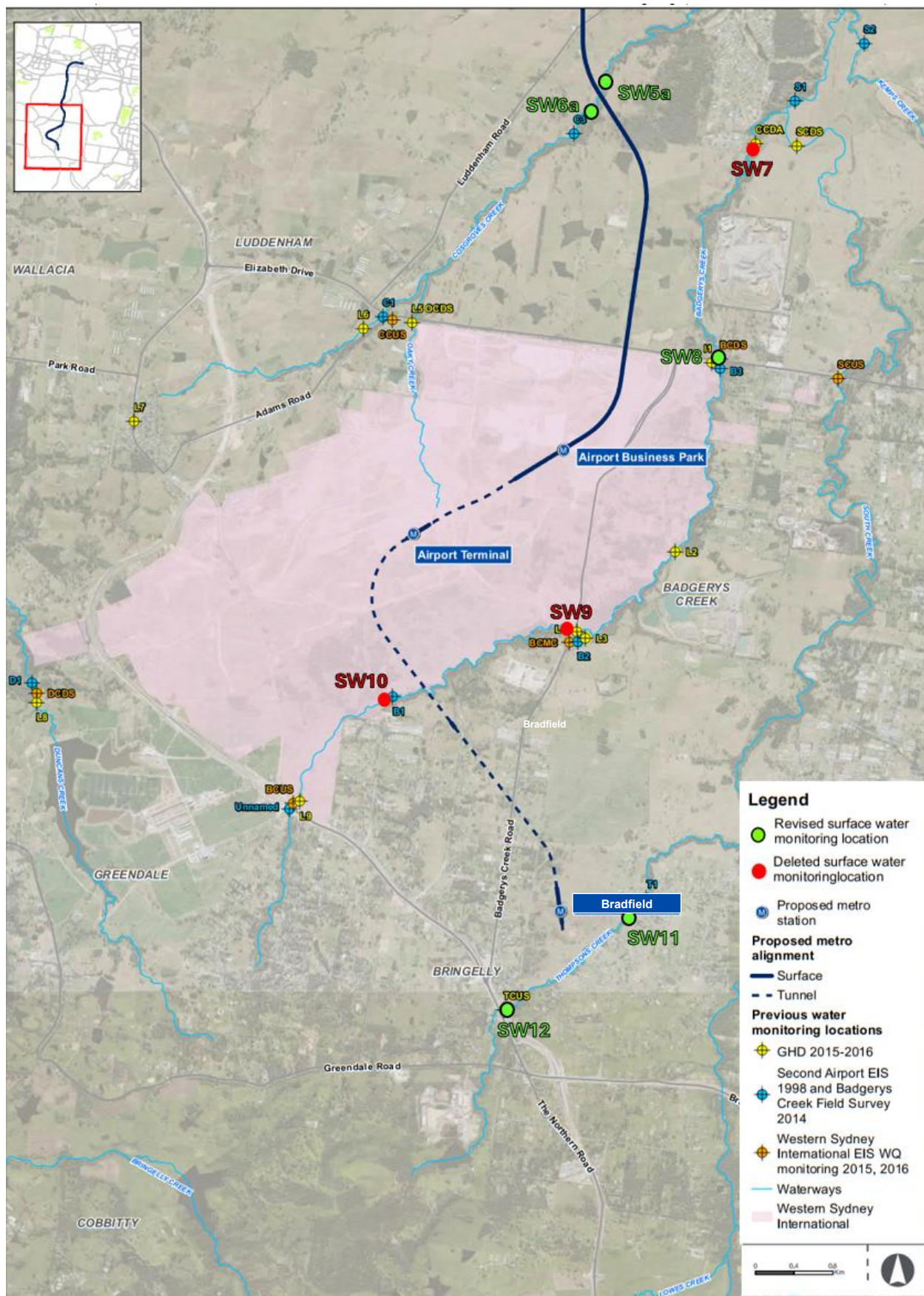


FIGURE 4 SMWSA PROJECT'S MONITORING LOCATIONS (SOUTH)



FIGURE 5 LOCALISED SAMPLING LOCATIONS FOR BRIDGE CONSTRUCTION WORKS

2.5 Parameters and trigger values

As outlined in the Monitoring Program, the surface water monitoring parameters adopted for the Project are detailed in Table 6 below, with relevant guidelines trigger values based on ANZG 2018 and ANZECC guidelines.

TABLE 6 SAMPLING PARAMETERS AND CORRESPONDING TRIGGER VALUES MEASURED DURING SURFACE WATER MONITORING

Category	Grab Sampling Trigger	Sampling Method	Parameters Measured	Units	Trigger Value
Physio-chemical parameters	n/a	In-field using a calibrated multi parameter probe.	Temperature	°C	NA
			Dissolved Oxygen	% saturation	85-110
			Electrical Conductivity / Salinity	µS/cm	125-2200
			Reduction-Oxidation Potential (Redox)	mV	NA
			pH	pH	6.5-8.5
			Turbidity	NTU	0-50
			Visible oil and grease	visible	None visible
	TSS when downstream field probe > 50 NTU and above upstream NTU. Grab sample to be taken at up and downstream locations	Laboratory testing	Total suspended solids	TSS	0-25
Metals	Dissolved Metal testing when downstream field probe pH < 6.5 or pH > 8.5. Grab sample to be taken at up and downstream locations	Laboratory testing	Cadmium	mg/L	0.0002
			Chromium (VI)	mg/L	0.001
			Copper	mg/L	0.0014
			Lead	mg/L	0.0034
			Nickel	mg/L	0.011
			Zinc	mg/L	0.008
Nutrients	During SSTOM landscaping activities ¹	Laboratory testing	Total Phosphorus (TP)	mg/L	0.025
			Total Nitrogen (TN)	mg/L	0.35
			Oxides of Nitrogen (NOx)	mg/L	0.04

¹ NO LANDSCAPING ACTIVITIES OCCURRED DURING THE REPORTING PERIOD

3 Results

3.1 Surface Water Monitoring Summary

Full monitoring results are provided in Appendix A and Appendix B, with exceedances highlighted in red, and management responses to exceedances outlined and summarised below.

3.2 Surface Water Quality Results Discussion

All locations were able to be sampled consistently throughout the monitoring period. No grab samples were required to be taken as any exceedances of criteria were also observed at the corresponding upstream location.

Exceedances were observed for turbidity, electrical conductivity and dissolved oxygen at downstream locations. Exceedances were generally consistent with upstream locations or with creek conditions (i.e. flow) and on many occasions within 30% of the trigger values. Notwithstanding, inspections of ERSED controls were carried out as required and confirmed ERSED controls were functioning as designed and maintenance carried out as required.

Surrounding land use activities continued to be noted as potential sources of exceedances across the project.

At all sites, dissolved oxygen levels were observed outside of criteria on multiple occasions. Dissolved oxygen is easily influenced by a number of external factors such as (but not limited to) temperature, atmospheric pressure, hydrostatic pressure, salinity, organic biomass, light intensity and flow speed. All monitoring was found to be consistent with flow observations at the time of sampling and with historical events (baseline and previous sampling including by FIW contractors), with SSTOM works determined to have minimal impact on dissolved oxygen levels.

Details for each downstream site are summarised below and are included in Appendix A and Appendix B.

SW3

At SW3, exceedances were observed for turbidity and dissolved oxygen.

Only one occasion of elevated turbidity was identified during the reporting period. The downstream turbidity result was below the upstream result, indicating that the exceedance observed was not attributable to SSTOM works. All inspections of ERSED control indicate controls functioning as designed and maintenance carried out as required.

Dissolved oxygen levels were observed above and below the criteria range of 85-110% saturation. The results outside of criteria were consistent with flow observed within the creek.

All exceedances observed are not considered to be attributable to SSTOM.

SW5a

At SW5a, exceedances were observed for turbidity, and dissolved oxygen.

Two occasions of elevated turbidity occurred during this reporting period. On both occasions, results were within 30% of the trigger value and below the upstream value for the sampling event. Nearby earthworks activities on another construction site was also identified as potential sources of these exceedances. All inspections of ERSED control indicate controls functioning as designed and maintenance carried out as required.

Dissolved oxygen levels were observed above and below the criteria range of 85-110% saturation. The results outside of criteria were consistent with flow observed within the creek.

All exceedances observed are not considered to be attributable to SSTOM.

SW11

At SW11, exceedances were observed for turbidity, electrical conductivity and dissolved oxygen.

Two occasions of elevated turbidity occurred during this reporting period. On both occasions, results were below the upstream value for the sampling event, with one event within 30% of the trigger value. Nearby earthworks activities on

another construction site was identified as potential source of these exceedances. All inspections of ERSed control indicate controls functioning as designed and maintenance carried out as required.

Dissolved oxygen levels were observed above and below the criteria range of 85-110% saturation. The results outside of criteria were consistent with flow observed within the creek.

Elevated electrical conductivity levels were observed on a number of occasions during the reporting period. Dewatering records and site inspections at the time of the sampling events confirm that no water was being discharged from the Bradfield site. The results are consistent with historical electrical conductivity levels observed at the monitoring location and are considered representative of catchment conditions, including natural soil characteristics, groundwater interaction, evaporation effects, and existing upstream influences

All exceedances observed are not considered to be attributable to SSTOM.

Bridge Construction works - Blaxland Creek

At Blaxland Creek, exceedances were observed for turbidity and dissolved oxygen.

Two occasions of elevated turbidity occurred during this reporting period. On both occasions, results were within 30% of the trigger value and below the upstream value for the sampling event. All inspections of ERSed control indicate controls functioning as designed and maintenance carried out as required.

Dissolved oxygen levels were observed above and below the criteria range of 85-110% saturation. The results outside of criteria were consistent with flow observed within the creek.

All exceedances observed are not considered to be attributable to SSTOM.

Bridge Construction works - Cosgroves Creek

At Cosgroves Creek, exceedances were observed for electrical conductivity and dissolved oxygen.

One sampling event returned elevated electrical conductivity downstream of the work area. The level observed was consistent with the upstream site and historical electrical conductivity levels observed at the monitoring location. The exceedance is considered representative of catchment conditions, including natural soil characteristics, groundwater interaction, evaporation effects, and existing upstream influences.

Dissolved oxygen levels were observed above the criteria range of 85 – 110% saturation. In all instances, the results were consistent with upstream results.

All exceedances observed are not considered to be attributable to SSTOM.

3.3 Conclusion

All monitoring was undertaken as required in accordance with the Surface Water Quality Monitoring Program. Water quality and erosion and sediment controls were determined to be working effectively to minimise impacts on surface water quality.

As outlined in the EIS and Soil and Water Management Plan, the existing water quality in the project corridor was considered poor due to the increasing urbanisation and vegetation clearance, largely influenced by point source water pollution (e.g., from stormwater drains, effluent) and diffuse water pollution (e.g., market gardens, cattle and sheep grazing, intensive agriculture such as poultry farming). Ongoing construction activity external to the project in close proximity to sampling locations were also identified as a potential source of exceedances particularly for turbidity results near Luddenham and Bradfield sites.

While several isolated trigger value exceedances were recorded and are discussed within this report, the results were generally consistent with historical baseline conditions and broader catchment influences. Comparison with previous monitoring periods indicates that water quality was generally stable or improved across the monitored locations during the reporting period, demonstrating the continued effectiveness of erosion and sediment controls implemented across SSTOM work areas.

No observed exceedances were attributed to the SSTOM works during the reporting period.

Date	Type	Location	Parameters	Field Monitoring							Management Response
				pH	Dissolved Oxygen	Electrical Conductivity	Temperature	Turbidity	Reduction-oxidation potential (Redox)	Oil and Grease	
			Units	pH	% saturation	µS/cm	°C	NTU	mV	Visual	
			Limit of reporting	0.01*	0.1*	10*	0.01*	0.1*	1*	-	
			Trigger Values	6.5 – 8.5	85 – 110	125 - 2200	-	0 – 50	-	Not visible	
1/09/2025	Quarterly	SW3 DS	D/S Orchard Hills/Luddenham	7.89	157.7	974	12.07	17.4	214	Not visible	Downstream results generally consistent with upstream results. High dissolved oxygen consistent with high flow observed during sampling.
		SW4 US	U/S Orchard Hills/Luddenham	7.7	80	824	13.1	18.6	224	Not visible	Upstream site, not impacted by project works
		SW5a DS	D/S Luddenham Station	7.88	123.3	1280	11.41	18	214	Not visible	Downstream results generally consistent with upstream results. High dissolved oxygen consistent with high flow observed during sampling.
		SW6a US	U/S Luddenham Station	7.95	110.7	1270	12.5	21.8	223	Not visible	Upstream site, not impacted by project works
		SW8 US	U/S WSA/Luddenham	7.83	91.2	1590	14.38	43.9	227	Not visible	Upstream site, not impacted by project works
		SW11 DS	D/S Bradfield Station	7.55	108	1158	8.09	32.1	159	Not visible	Downstream results consistent with upstream results.
		SW12 US	U/S Bradfield Station	7.94	80	1270	10.94	35.9	224	Not visible	Upstream site, not impacted by project works
10/10/2025	Quarterly	SW3 DS	D/S Orchard Hills/Luddenham	7.9	68.2	1320	19.45	17.3	187	Not visible	Low dissolved oxygen levels generally consistent with stagnant water observed during sampling and historic levels observed at this location.
		SW4 US	U/S Orchard Hills/Luddenham	8.44	149.4	959	21.84	96.3	177	Not visible	Upstream site, not impacted by project works
		SW5a DS	D/S Luddenham Station	8.43	142.8	1570	23.75	39	164	Not visible	Downstream results consistent with upstream results. High dissolved oxygen consistent with high flow observed during sampling.
		SW6a US	U/S Luddenham Station	8.12	139.6	1540	19.71	14.2	176	Not visible	Upstream site, not impacted by project works
		SW8 US	U/S WSA/Luddenham	8.21	141.9	1430	22.79	42.3	170	Not visible	Upstream site, not impacted by project works
		SW11 DS	D/S Bradfield Station	7.93	49	5350	16.1	15	90	Not visible	Downstream results generally consistent with upstream results. Low dissolved oxygen consistent with stagnant water observed during sampling. Dewatering records and site inspections at the time of the sampling events confirm that no water was being discharged from the Bradfield site. The results are consistent with historical electrical conductivity levels observed at the monitoring location and are considered representative of catchment conditions, including natural soil characteristics, groundwater interaction, evaporation effects, and existing upstream influences
		SW12 US	U/S Bradfield Station	7.96	104.9	4250	17.79	19	151	Not visible	Upstream site, not impacted by project works
3/11/2025	Post Rainfall	SW3 DS	D/S Orchard Hills/Luddenham	7.34	234.7	1020	17.15	58.7	150	Not visible	Turbidity levels below that observed at upstream site. High dissolved oxygen levels consistent with high flow observed during post rainfall sampling.
		SW4 US	U/S Orchard Hills/Luddenham	7.43	88.2	911	16	75.8	206	Not visible	Upstream site, not impacted by project works
		SW5a DS	D/S Luddenham Station	7.64	97.3	869	19.13	56.5	208	Not visible	Downstream results consistent with or below upstream results.
		SW6a US	U/S Luddenham Station	7.63	107.5	923	19.49	64.7	210	Not visible	Upstream site, not impacted by project works
		SW8 US	U/S WSA/Luddenham	7.75	207.6	1790	19.36	86	224	Not visible	Upstream site, not impacted by project works
		SW11 DS	D/S Bradfield Station	7.79	165.9	6010	21.24	23.6	194	Not visible	High dissolved oxygen levels consistent with high flow observed during post rainfall sampling. Dewatering records and site inspections at the time of the sampling events confirm that no water was being discharged from the Bradfield site. The results are consistent with historical electrical conductivity levels observed at the monitoring location and are considered representative of catchment conditions, including natural soil characteristics, groundwater interaction, evaporation effects, and existing upstream influences
		SW12 US	U/S Bradfield Station	7.76	56.7	2560	22.71	51.8	164	Not visible	Upstream site, not impacted by project works
20/01/2026	Post Rainfall	SW3 DS	D/S Orchard Hills/Luddenham	8.05	157.5	398	19.91	26.2	106	Not visible	High dissolved oxygen levels consistent with high flow observed during post rainfall sampling.
		SW4 US	U/S Orchard Hills/Luddenham	7.85	88	326	20.27	28.5	141	Not visible	Upstream site, not impacted by project works
		SW5a DS	D/S Luddenham Station	7.74	172.4	645	21.35	35.7	141	Not visible	Downstream results generally consistent with upstream results. High dissolved oxygen consistent with high flow observed during sampling.
		SW6a US	U/S Luddenham Station	7.76	118.3	698	22.82	33.9	145	Not visible	Upstream site, not impacted by project works
		SW8 US	U/S WSA/Luddenham	7.78	163.8	800	22.84	140	83	Not visible	Upstream site, not impacted by project works
		SW11 DS	D/S Bradfield Station	7.74	120.9	703	22.25	276	150	Not visible	Downstream results consistent with or below upstream results. Elevated dissolved oxygen levels consistent with high flow observed at sampling location.
		SW12 US	U/S Bradfield Station	7.49	63.4	706	22.4	489	159	Not visible	Upstream site, not impacted by project works
12/02/2026	Quarterly	SW3 DS	D/S Orchard Hills/Luddenham	8.29	54.3	1730	24.32	43.4	118	Not visible	Low dissolved oxygen levels consistent with stagnant water observed during sampling and historic levels observed at this location.
		SW4 US	U/S Orchard Hills/Luddenham	7.75	74.6	835	24.21	9.5	172	Not visible	Upstream site, not impacted by project works
		SW5a DS	D/S Luddenham Station	7.91	136.7	1290	24.05	2.7	146	Not visible	Downstream results consistent with upstream results. High dissolved oxygen consistent with high flow observed during sampling.
		SW6a US	U/S Luddenham Station	8.08	92.9	1160	24.72	3.3	142	Not visible	Upstream site, not impacted by project works
		SW8 US	U/S WSA/Luddenham	7.32	111	1400	24.11	3.8	168	Not visible	Upstream site, not impacted by project works
		SW11 DS	D/S Bradfield Station	7.33	84.4	2010	23.49	5.5	179	Not visible	Downstream results consistent with upstream results
		SW12 US	U/S Bradfield Station	8.74	85	1830	23.42	61	107	Not visible	Upstream site, not impacted by project works
29/04/2026	Quarterly	SW3 DS	D/S Orchard Hills/Luddenham	7.97	66.3	2010	14.28	11	118	Not visible	Low dissolved oxygen levels consistent with stagnant water observed during sampling and historic levels observed at this location.
		SW4 US	U/S Orchard Hills/Luddenham	7.48	92.7	2020	14.47	31.3	131	Not visible	Upstream site, not impacted by project works
		SW5a DS	D/S Luddenham Station	7.61	122	2040	15.57	11.2	138	Not visible	Downstream results consistent with upstream results. High dissolved oxygen consistent with high flow observed during sampling.
		SW6a US	U/S Luddenham Station	7.77	113.7	2120	15.17	21.8	130	Not visible	Upstream site, not impacted by project works
		SW8 US	U/S WSA/Luddenham	7.88	174.1	2240	19.48	9.1	149	Not visible	Upstream site, not impacted by project works

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Appendix A Surface Water Quality Monitoring Results											
Date	Type	Location	Parameters	Field Monitoring							Management Response
				pH	Dissolved Oxygen	Electrical Conductivity	Temperature	Turbidity	Reduction-oxidation potential (Redox)	Oil and Grease	
			Units	pH	% saturation	µS/cm	°C	NTU	mV	Visual	
			Limit of reporting	0.01*	0.1*	10*	0.01*	0.1*	1*	-	
			Trigger Values	6.5 – 8.5	85 – 110	125 - 2200	-	0 – 50	-	Not visible	
		SW11 DS	D/S Bradfield Station	7.44	54.2	4560	16.73	8.7	-21	Not visible	Downstream results generally consistent with upstream results. Low dissolved oxygen consistent with stagnant water observed during sampling.
		SW12 US	U/S Bradfield Station	7.4	110.8	4660	18.48	17.3	-32	Not visible	Upstream site, not impacted by project works
29/05/2026	Post Rainfall	SW3 DS	D/S Orchard Hills/Luddenham	7.52	73	1690	18.84	20.2	160	Not visible	Low dissolved oxygen levels consistent with stagnant water observed during sampling and historic levels observed at this location.
		SW4 US	U/S Orchard Hills/Luddenham	7.91	139	1410	16.69	37.9	155	Not visible	Upstream site, not impacted by project works
		SW5a DS	D/S Luddenham Station	8.01	143.2	678	17.28	57.9	169	Not visible	Downstream results generally consistent with upstream results. High dissolved oxygen consistent with high flow observed during sampling.
		SW6a US	U/S Luddenham Station	7.93	95.9	1250	18.03	89.6	148	Not visible	Upstream site, not impacted by project works
		SW8 US	U/S WSA/Luddenham	7.87	98.1	1540	17.67	375	158	Not visible	Upstream site, not impacted by project works
		SW11 DS	D/S Bradfield Station	8.27	59	397	17.01	64.4	135	Not visible	Downstream results generally consistent with upstream results. Low dissolved oxygen consistent with stagnant water observed during sampling.
		SW12 US	U/S Bradfield Station	8.1	74.3	351	16.8	87.8	140	Not visible	Upstream site, not impacted by project works
27-29/07/2026	Quarterly	SW3 DS	D/S Orchard Hills/Luddenham	7.27	81	426	11.15	25.3	187	Not visible	Low dissolved oxygen levels consistent with stagnant water observed during sampling and historic levels observed at this location.
		SW4 US	U/S Orchard Hills/Luddenham	6.95	98.4	646	8.95	0.2	196	Not visible	Upstream site, not impacted by project works
		SW5a DS	D/S Luddenham Station	7.94	76	1490	10.33	5.1	193	Not visible	Downstream results generally consistent with upstream results. Low dissolved oxygen observed consistent with no flow observed at downstream location during sampling.
		SW6a US	U/S Luddenham Station	7.9	147.3	1530	12.83	2.3	199	Not visible	Upstream site, not impacted by project works
		SW8 US	U/S WSA/Luddenham	8.29	97.7	1540	14.7	6.4	127	Not visible	Upstream site, not impacted by project works
		SW11 DS	D/S Bradfield Station	7.82	122	5000	15.94	1.9	152	Not visible	Downstream results generally consistent with upstream results. High dissolved oxygen consistent with high flow observed during sampling.
		SW12 US	U/S Bradfield Station	7.24	80.6	5520	9.53	17.1	156	Not visible	Upstream site, not impacted by project works
Exceedance of Trigger Value <30%											
Exceedance of Trigger Value >30%											
Bold values - 2nd (or more) consecutive exceedance occurrence											
Italic values - exceedances for more than half results within the period											
*indicates a reading resolution not a limit of reading											

Appendix B Bridge Construction Works Surface Water Quality Monitoring Results

Date	Type	Location	Parameters	Field Monitoring							Management Response
			pH	Dissolved Oxygen	Electrical Conductivity	Temperature	Turbidity	Reduction-oxidation potential (Redox)	Oil and Grease		
			Units	pH	% saturation	µS/cm	°C	NTU	mV	Visual	
			Limit of reporting	0.01*	0.1*	10*	0.01*	0.1*	1*	-	
Trigger Values	6.5 – 8.5	85 – 110	125 - 2200	-	0 – 50	-	Not visible				
19/01/2026	Monthly (Creek)	Blaxland (upstream)	U/S Bridge 2 works	8.85	81.9	298	20.92	63.4	205	Not visible	Downstream results consistent with upstream results. Grab samples not triggered
		Blaxland (downstream)	D/S Bridge 2 works	8.44	111.6	327	19.75	63.4	185	Not visible	
12/02/2026	Monthly (Creek)	Blaxland (upstream)	U/S Bridge 2 works	7.75	74.6	835	24.21	9.5	172	Not visible	Upstream results generally consistent with downstream results. Upstream location had minimal flow compared with downstream which is consistent with dissolved oxygen levels observed. Grab samples not triggered
		Blaxland (downstream)	D/S Bridge 2 works	6.95	82.2	912	24.59	8.1	217	Not visible	
		Cosgrove (upstream)	U/S Bridge 3 works	8.08	92.9	1160	24.72	3.3	142	Not visible	Downstream results consistent with upstream results. Grab samples not triggered
		Cosgrove (downstream)	D/S Bridge 3 works	7.91	136.7	1290	24.05	2.7	146	Not visible	
19/03/2026	Monthly (Creek)	Blaxland (upstream)	U/S Bridge 2 works	6.81	85	771	22.59	55.9	291	Not visible	Upstream results generally consistent with downstream results. Downstream location had minimal flow which is consistent with dissolved oxygen levels observed. Grab samples not triggered
		Blaxland (downstream)	D/S Bridge 2 works	7.02	67.7	761	22.63	53.2	279	Not visible	
		Cosgrove (upstream)	U/S Bridge 3 works	7.12	120.06	1710	22.22	3.5	227	Not visible	Downstream results consistent with upstream results. Grab samples not triggered
		Cosgrove (downstream)	D/S Bridge 3 works	7.19	93.6	1740	23.04	3.4	223	Not visible	
13/04/2026	Monthly (Creek)	Blaxland (upstream)	U/S Bridge 2 works	8.42	106.7	1370		18.94	136	Not visible	Upstream results generally consistent with downstream results. Downstream location had minimal flow which is consistent with dissolved oxygen levels observed. Grab samples not triggered
		Blaxland (downstream)	D/S Bridge 2 works	7.14	58.7	1160	19.93	43.2	96	Not visible	
		Cosgrove (upstream)	U/S Bridge 3 works	7.55	145	1890	18.48	7.3	213	Not visible	Downstream results consistent with upstream results. Grab samples not triggered
		Cosgrove (downstream)	D/S Bridge 3 works	7.56	142.6	1830	19.23	7.9	212	Not visible	
15/05/2026	Monthly (Creek)	Blaxland (upstream)	U/S Bridge 2 works	8.29	131.7	1450	16.27	2	110	Not visible	Upstream results generally consistent with downstream results. Upstream location had minimal flow compared with downstream which is consistent with dissolved oxygen levels observed. Grab samples not triggered
Blaxland (downstream)		D/S Bridge 2 works	8.01	52.9	1560	15.66	5.7	139	Not visible		
19/05/2026		Cosgrove (upstream)	U/S Bridge 3 works	7.61	121.4	2410	15.61	14.1	186	Not visible	Downstream results consistent with upstream results. Grab samples not triggered
		Cosgrove (downstream)	D/S Bridge 3 works	7.49	119.7	2440	15.44	12.6	187	Not visible	
16/06/2026	Monthly (Creek)	Blaxland (upstream)	U/S Bridge 2 works	7.85	112	591	16.16	21.6	193	Not visible	Upstream results generally consistent with downstream results. Minimal flow noted at downstream location which is consistent with low dissolved oxygen levels. Grab samples not triggered
		Blaxland (downstream)	D/S Bridge 2 works	7.05	50	820	15.38	27.4	212	Not visible	
		Cosgrove (upstream)	U/S Bridge 3 works	7.42	111.2	1440	16	11.8	150	Not visible	Downstream results consistent with upstream results. Grab samples not triggered
		Cosgrove (downstream)	D/S Bridge 3 works	7.66	90.2	1360	15.36	3.1	201	Not visible	
16/07/2026	Monthly (Creek)	Blaxland (upstream)	U/S Bridge 2 works	8.43	324	419	11.45	4.1	131	Not visible	Upstream results generally consistent with downstream results. Minimal flow noted at downstream location which is consistent with low dissolved oxygen levels. Grab samples not triggered
Blaxland (downstream)		D/S Bridge 2 works	8.16	77.4	426	13.58	6.7	154	Not visible		
7/07/2026		Cosgrove (upstream)	U/S Bridge 3 works	7.58	89.8	1210	11.06	1.2	127	Not visible	Downstream results consistent with upstream results. Grab samples not triggered
		Cosgrove (downstream)	D/S Bridge 3 works	7.58	91.6	1160	10.98	0.2	141	Not visible	
Exceedance of Trigger Value <30%											
Exceedance of Trigger Value >30%											

Bold values - 2nd (or more) consecutive exceedance occurrence
Italic values - exceedances for more than half results within the period
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