



**SYDNEY METRO - WESTERN SYDNEY AIRPORT
STATION BOXES AND TUNNELLING WORKS**

Surface Water Monitoring Report

Sydney Metro Western Sydney Airport Station Boxes and Tunnelling Works

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Details of Revision Amendments

Document Control

The Project Director is responsible for ensuring that this report is reviewed and approved. The Project Discipline Director is responsible for updating this plan to reflect changes to construction, legal and other requirements, as required.

Amendments

Any revisions or amendments must be approved by the Project Director and/or client before being distributed/implemented.

Revision Details

Revision	Details
01	6-Monthly Final issued to stakeholders
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1. Introduction

1.1 Background

The Sydney Metro Western Sydney Airport will become the transport spine for Greater Western Sydney, connecting communities and travellers with the new Western Sydney International (Nancy-Bird Walton) Airport (referred to as Western Sydney International) and the growing region.

The Project forms part of the broader Sydney Metro network. It involves the construction and operation of a 23km new metro rail line that extends from the existing Sydney Trains suburban T1 Western Line (at St Marys) in the north and the Aerotropolis (at Bringelly) in the south. The alignment includes a combination of tunnels and civil structures, including viaduct, bridges, surface and open-cut troughs between the two tunnel sections (Figure 1: Overview of the Project)

The Sydney Metro Western Sydney Airport EIS was prepared in October 2020 to assess the impacts of construction and operation of the Project and was placed on public exhibition between 21 October 2020 and 2 December 2020. The Project was declared a Critical State Significant Infrastructure (CSSI) Project and is listed in Schedule 5 of *State Environmental Planning Policy (State and Regional Development)*.

The Sydney Metro Western Sydney Airport was approved by the Minister for Planning and Public Spaces on 23 July 2021 (SSI 10051) under section 5.19 of the *Environmental Planning and Assessment Act 1997* (EP&A Act).

The Project will be delivered through the following stages:

- **Advanced and Enabling Works (AEW)** – Site investigations, modification of the existing transport network, power and water supply for construction sites, utility and stormwater diversions and some demolition works.
- **Station Boxes and Tunnelling Works (SBT)** – delivered through the following sub-stages:
 - Preparatory Works (the subject of this Plan) – Including NSW (off-airport) demolition works, site levelling/grading, site access and parking, utility and temporary services works, erection of demountable buildings and noise barriers, tunnelling preparatory works and use of ancillary facilities including onsite parking.
 - Bulk Excavation and Tunnelling Works – Preparatory Works (works not completed prior to Final CEMP approval), bulk excavation, acoustic shed installation, tunnelling and cross passage installation.
- **Surface and Civil Alignment Works (SCAW)** – Construction of bridges and viaducts to cross floodplains, watercourses and existing and proposed permanent infrastructure.
- **Stations, Systems, Trains, Operations and Maintenance (SSTOM)** – Station design and fitout, testing and commissioning, and operation of the Western Sydney Airport metro service
- **Finalisation Auxiliary Works.**

Each package of work is to be delivered under separate contracts on behalf of the proponent Sydney Metro.



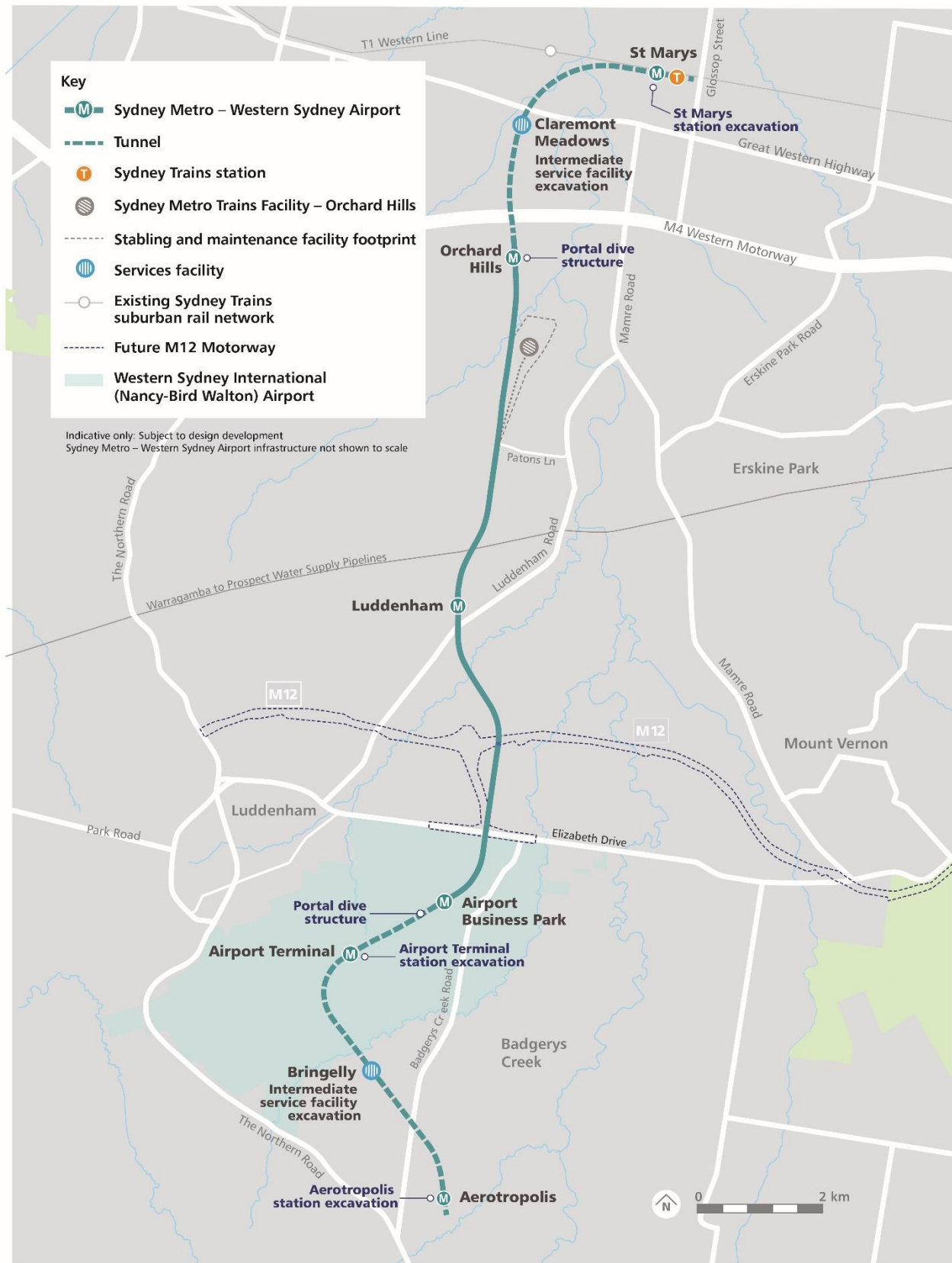


FIGURE 1: OVERVIEW OF THE PROJECT



1.2 Station Boxes and Tunnelling Works

The CPB Ghella JV has been engaged to deliver the SBT Works. The SBT Works include the design and construction of:

- Two sections of twin tunnels with a total combined length of approximately 9.8km, including associated portal structures; Orchard Hills to St Marys and Western Sydney International (WSI) airport to the new Aerotropolis Station in NSW
- Excavations at either end to enable trains to turn back and stub tunnels to enable future extensions
- Station box excavations with temporary ground support for four stations at St Marys, Orchard Hills, Airport Terminal and Aerotropolis
- Excavations for two intermediate service facilities, one in each of the tunnel sections at Claremont and Bringelly.

Completed sections of the SBT Works, including established construction worksites, will be progressively handed over to Sydney Metro to enable follow-on contractors to commence works. The exception is the on-airport Precast Segment Storage Facility which will be decommissioned and hydroseeded following the completion of segment manufacture.

1.3 Purpose of this report

The purpose of this report is to present results of the Surface Water Quality Monitoring Program (SWQMP) outlined in the SBT Construction Environmental Management Plan (CEMP) and associated Sub-plans, including the results of the construction monitoring programs referred to in Condition C13 of the Infrastructure Approval.

This Surface Water Monitoring Report has been prepared to address Minister's Condition of Approval (CoA) C22 of the Infrastructure Approval (refer to Table 1-1). This report will be provided to the relevant regulatory authorities as detailed in the relevant Sub-plan (refer to Table 1-2).

Environmental monitoring is undertaken to:

- Validate the predicted impacts of the Infrastructure Works
- Measure the effectiveness of environmental controls in minimising and managing environmental impacts
- Demonstrate compliance with relevant stakeholder conditions

The monitoring requirements for nominated aspects are included in the relevant environmental management sub-plans and summarised in Table 1-1. All monitoring results are presented in Annexure A and Annexure B. Annexure C shows the surface water monitoring locations.



TABLE 1: ENVIRONMENTAL MONITORING REPORTING REQUIREMENTS

CEMP or Sub-plan	Monitoring Program	Report	Distribution	Schedule (during construction)
Soil and Water Management Sub-Plan	Surface Water Quality Monitoring Program	Water Monitoring Report	EPA, DPE	Six-monthly

TABLE 2: CONDITIONS OF APPROVAL (CoA)

CoA	Detail	Addressed
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.	

In accordance with Section 5.5 of the SWQMP, during construction, surface water quality data will be collected, tabulated and assessed against baseline conditions and performance criteria. The information provided is a summary and discussion of information provided monthly in the CPBG EPL reports which are posted on the CPBG web page.

1.4 On-site Activity

This report is to cover the monitoring period from October 10 2023 to April 10 2024. During this period, CPBG have completed all Station boxes and have tunnelled beyond Claremont Meadows in the north and Badgerys Creek in the south. All metro station box and service facility sites have been established and currently have sediment basins, sumps and Water Sediment basins are installed at most sites where required by design as per Blue book. This has been achieved progressively from Project construction commencement as the sites have been established. WTPs are installed at all sites with commissioning completed.

Groundwater has been processed through the WTPs but has not met EPL discharge criteria at any WTP and therefore has not been discharged to the environment. CPBG has therefore had to send all treated water from tunnelling to trade waste connections at Claremont. Ground water from southern tunnelling is being reused On-Airport or sent to an alternate trade-waste connection.

During the reporting period a full handover has occurred at St Marys (20/11/2023) and Aerotropolis (04/10/2023) and a partial handover at Orchard Hills (31/10/2023). Early this year, SBT has retaken partial areas of Aerotropolis (25/03/2024) and St Marys (25/03/2024) for TBM retrieval.

The current version (Version 23) of premise maps submitted to EPA can be seen in Appendix D.



2. Surface Water Monitoring in receiving waters

The SBT Works footprint lies entirely within the South Creek catchment. South Creek, a major tributary of the Hawkesbury-Nepean catchment, flows in a generally northerly direction from its headwaters near Narellan through to Windsor where it joins the Hawkesbury River.

TABLE 3: SITE SPECIFIC RECEIVING WATERWAYS

Waterway	Worksite
South Creek	All
South Creek	St Marys Claremont Meadows Service Facility
South Creek	Orchard Hills
Badgerys Creek	Bringelly Service Facility
Thompsons Creek	Aerotropolis Core

South Creek is the receiving waterway for all creeks within the Project alignment.

During the reporting period, quarterly and wet-weather monitoring was undertaken in accordance with the Surface Water Monitoring Program.

On 9 February 2023, a variation to EPL 21672 was approved, and Condition E2.1 of the licence was included which outlines the following requirements:

The licensee must undertake weekly surface water monitoring of receiving waterways at locations upstream, downstream and adjacent to each discharge point: 6, 7, 8, 9 and 10 identified in Condition P1.1. This monitoring must be undertaken for a minimum of 6 months from the date that points 6, 7, 8, 9 and 10 were added to the licence. Fortnightly monitoring results must include:

- a) quality and quantity of all parameters that are identified in the table in M2.2 for each discharge point: 6, 7, 8, 9 and 10;*

Consequently, monitoring locations were amended to allow for compliance with the EPL and the EPL surface water monitoring program commenced on a weekly basis for a 6-month period until 8 August 2023.

Since August 2023, the surface water sampling and monitoring program has reverted back to the requirements of the CSSI 10051 Condition of Approval C21 which is to sample post rainfall events and at least quarterly if no post rainfall sampling events occurring within that quarterly period.



The EPL monitoring locations were chosen to be upstream, downstream and adjacent to the receiving waterway where treated groundwater would be discharged. These were to meet the EPL criteria and are identified in Table 4. Condition E2.1 Monitoring Locations below. Given that water discharged from water treatment plants and sediment basins / settling containers will enter receiving waterways at the same location for all sites, surface water monitoring sites were updated to allow for the additional monitoring requirements stipulated by Condition E2.1.

As the above EPL 6-monthly sampling and monitoring period has ended all ater sampling has only been post rainfall events, not triggering the need to have adjacent samples. All samples taken are Upstream and Downstream of the discharge point. These locations can be seen for each site in Annexure C

TABLE 4. CONDITION E2.1 MONITORING LOCATIONS

EPA ID (Condition M2.2)	Site	Receiving Waterway	Sample ID		
			Upstream	Adjacent	Downstream
Point 6 (Sampling Location SBT-6)	Orchard Hills	Unnamed tributary of South Creek	SBT-6U	SBT-6A	SBT-6D
Point 7 (Sampling Location SBT-7)	Claremont Meadows	Claremont Creek	SBT-7U	SBT-7A	SBT-7D
Point 8 (Sampling Location SBT-8)	St Marys	South Creek	SBT-8U	SBT-8A	SBT-8D
Point 9 (Sampling Location SBT-9)	Bringelly	Badgerys Creek	SBT-9U	SBT-9A	SBT-9D
Point 10 (Sampling Location SBT-10)	Aerotropolis	Thompsons Creek	SBT-10U	SBT-10A	SBT-10D

Due to the setting of the waterways, the ideal sampling design was not possible as safe and public access immediately upstream and downstream of the Project's discharge outlets is not possible. Locations have been selected as close as possible to where discharges enter receiving waterways, however multiple non-Project discharges with the potential to alter water quality also fall within the sampling zone.



2.1 Performance Criteria

Location specific performance criteria (site specific trigger values (SSTV)) were developed for downstream (impact) surface water monitoring locations. SSTV were initially developed for appropriate parameters using baseline monitoring data and ANZECC (2000) guideline criteria for slightly to moderately disturbed ecosystems (generally protecting 95% of species). ‘

As noted in the SWQMP, at the time of writing, there was no baseline data available for heavy metals, and as such, SSTV were to be developed once at least three samples had been collected.,

Average concentrations of parameters that were established based on pre-construction monitoring were applied at all monitoring locations. Additionally, the SSTVs outlined in Table 9 of the SWQMP have been applied where monitoring locations are located in proximity to baseline monitoring locations as detailed below in (Table 5: Application of SSTVs).

TABLE 5: APPLICATION OF SSTVs

SWQMP SSTVs (Table 9)	Monitoring prior to Condition E2.1	Condition E2.1 Monitoring
SBT1	SBT-1	SBT-6
	SBT-3	SBT-8
SBT3	SBT-4	SBT-9
SBT5	SBT-5	SBT-10



3. Discussion

All monitoring results have been reviewed and shown in Annexure A, with the upstream and downstream data compared to see the impact the adjacent sampling site has after the mixing zone. Issues with heavy metal levels within the WTP effluent at all sites has meant that CPBG has not discharged from site into the local waterways at the designated discharge sites. This has reduced the potential for SBT to impact the surrounding waterways.

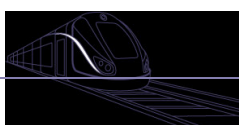
The Project is located in a variety of surrounding land uses, which include industrial, residential, commercial and rural land uses. These all contribute to water quality in different ways and will have an impact on the varying water quality conditions measured over the last 6 months. These factors are considered in Section-316813.2 3.2 Surrounding Land Uses.

Where results are shown as “NA” in Annexure A, these were due to a lack of water at the sampling site. The average results in Annexure B are not affected by these results.

3.2 Surrounding Land Uses

This section addresses the setting of each sampling location and waterway, highlighting the differing land uses around the sampling points. Whilst undertaking regular monitoring activities, the samplers would observe local conditions including water levels, visual quality and any activities occurring around the sampling sites. The predominant land uses are described below:

- SBT-6 is in a semi-rural setting with vegetated swales up and down stream of the sampling location. This ephemeral swale cannot always be sampled when conditions are dry.
- SBT-7 is a drainage line which collects water off road surfaces from Gipps Street and the Great Western Highway.
- SBT-8 is downstream of farmland, industrial areas and urban environments which would contribute runoff to the waterway.
- SBT-9 is downstream of the Western Sydney Airport water and farmlands which would contribute runoff to the waterway. This creek is ephemeral and as a result samples cannot always be taken.



- SBT-10 semi-rural setting with unvegetated channels leading into the creek and upstream farmland which would contribute runoff to the waterway.

The quality of the waterways is potentially affected by external upstream impacts.

3.2 Observations

SBT has not discharged any groundwater to the environment via the onsite water treatment plants. All treated water has been used as dust suppression on site or sent off site via a Sydney Water trade waste connection. Only releases of surface water from sediment basins have been discharged to the environment from SBT sites.

Due to SBT handing over portions to SSTOM in the previous reporting period, only one round of sampling was undertaken at St Marys and Aerotropolis due to no activities occurring for SBT. Sampling frequency also reduced compared to the previous 6-month period as the need for monthly sampling was no longer required under the EPL. Currently, under the EPL and CSSI requirements, sampling is only required post rainfall events and at least quarterly if no post rainfall sampling events occurring within that quarterly period.

The results from this reporting period show a wide variety of changes when compared to the previous period. Sampling locations SBT-9U, SBT-9D, SBT 10U and SBT-10D showed a reduction in water quality with higher levels of turbidity and heavy metals. Sampling sites SBT-6U, SBT-6D, SBT-7U, SBT-7D, SBT-8U and SBT-8D showed lower levels of turbidity, EC, Chromium (VI) and heavy metals.

These changes could be affected by rainfall events and water entering the site from external sources as listed in 3.2 Surrounding Land Uses. A fair comparison can't be made between the two monitoring periods due to the current monitoring period only taking place post rainfall events and not weekly during a variety of weather conditions. Sampling results across the period have shown differences between upstream and downstream results at all locations, with no consistent obvious explanation for the variations. Electrical Conductivity and turbidity have shown the greatest variation which can best be interpreted from the varying rainfall and range of activities as described in 3.2 occurring within the catchment. There have been no obvious changes occurring within the waterway noticed at each location during this monitoring reporting period. In line with the requirements to conduct post rainfall inspections, if SSTV were exceeded a check of on-site activity that may impact the water quality of the surrounding water was undertaken. These inspections check all ERSED controls, including sediment basins for overtopping as well as any other potential for dirty water to escape the site.

During the reporting period a total rainfall of 624mm has fallen in the north (BOM Penrith Lakes AWS) and 501mm in the south (BOM Badgerys Creek AWS). The biggest rain events within a 5 day period were 251.4mm and 171mm for the north and south respectively. Between October and April there were no more than 36 discharges from SBT site sediment basins.





**SYDNEY METRO - WESTERN SYDNEY AIRPORT
STATION BOXES AND TUNNELLING WORKS**



Annexure A Water Monitoring results

TABLE 6: WATER MONITORING DATA SBT 6 (OHE)

Analyte	Post Rain Event Unit	SBT-6U		SBT-6D		SBT-6U		SBT-6D		SBT-6U		SBT-6D		SBT-6U		SBT-6D	
		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
		6/11/2023		21/12/2023		19/01/2024		7/02/2024		7/02/2024		8/04/2024		8/04/2024		8/04/2024	
pH	pH	7.25	7.2	7.46	7.35	NA	7.65	NA	7.64	7.43	7.72	7.53	7.82	7.53	7.82	7.53	7.82
Oil/grease	Visual Inspection	Not Visible	Not Visible	Not Visible	Not Visible	NA	Not Visible	NA	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible
Turbidity	NTU	38.5	34.1	3.5	2.5	NA	12.8	NA	123	43.4	284	14.8	84.4	14.8	84.4	14.8	84.4
Electrical Conductivity	µS/cm	664	645	829	1460	NA	1300	NA	701	1190	560	543	938	543	938	543	938
Total Suspended Solids	mg/L	10	5	<5	<5	NA	11	NA	78	54	135	6	56	6	56	6	56
Aluminium	mg/L	0.31	0.37	0.05	0.09	NA	0.15	NA	0.46	0.65	4.45	0.3	0.84	0.3	0.84	0.3	0.84
Chromium (VI)	mg/L	0.001	<0.001	<0.001	0.019	NA	<0.001	NA	<0.01	<0.01	<0.01	<0.001	0.01	<0.001	0.01	<0.001	0.01
Copper	mg/L	0.009	0.005	0.006	0.002	NA	0.002	NA	0.006	0.011	0.008	0.005	0.006	0.005	0.006	0.005	0.006
Zinc	mg/L	0.051	0.02	0.007	0.015	NA	<0.005	NA	0.039	0.025	0.037	0.014	0.016	0.014	0.016	0.014	0.016
Total Phosphorous	mg/L	0.07	0.14	0.16	0.1	NA	0.11	NA	0.19	0.55	0.18	0.26	0.15	0.26	0.15	0.26	0.15
Total Nitrogen	mg/L	0.9	1.5	1.6	1.1	NA	1	NA	1.4	2.8	1.5	1.8	1.3	1.8	1.3	1.8	1.3
Ammonia	mg/L	0.01	<0.01	0.04	0.03	NA	0.08	NA	0.04	0.04	0.02	0.12	0.04	0.12	0.04	0.12	0.04

TABLE 7: WATER MONITORING RESULTS SBT 7 (CMF)

Analyte	Post Rain Event	Unit	Nov-23			Dec-23			Jan-24		Feb-24				April	
			SBT-7U	SBT-7A	SBT-7D	SBT-7U	SBT-7D	SBT-7U	SBT-7D	SBT-7U		SBT-7D		SBT-7U	SBT-7D	
			Yes			Yes			Yes		Yes				Yes	
6/11/2023			21/12/2023			19/01/2024		7/02/2024		21/02/2024		8/04/2024				
pH	pH		7.24	NA	7.33	7.6	7.85	8.19	8.14	7.98	8.11	8.04	7.72	8.08	8.07	
Oil/grease	Visual Inspection		Not Visible	NA	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	
Turbidity	NTU		22.9	NA	17.2	37.7	20.8	8.6	4.9	9.5	19.2	33.6	39.4	9	9.2	
Electrical Conductivity	µS/cm		1600	NA	1610	979	1080	2130	1740	1480	1900	937	936	1350	1350	
Total Suspended Solids	mg/L		<5	NA	<5	30	15	30	10	11	18	33.6	39.4	6	8	
Aluminium	mg/L		0.27	NA	0.27	0.46	0.24	0.16	0.16	0.23	0.34	1.1	1	0.35	0.35	
Chromium (VI)	mg/L		0.002	NA	0.002	0.004	<0.001	<0.001	<0.001	<0.01	<0.01	<0.01	<0.01	<0.001	<0.001	
Copper	mg/L		0.007	NA	0.007	0.009	0.006	0.004	0.003	0.005	0.004	0.007	0.007	0.006	0.006	
Zinc	mg/L		0.024	NA	0.015	0.021	0.016	0.013	0.008	0.039	0.015	0.015	0.035	0.01	<0.005	
Total Phosphorous	mg/L		0.07	NA	0.09	<0.01	0.15	0.08	0.05	0.06	0.08	0.12	0.14	0.1	0.12	
Total Nitrogen	mg/L		2	NA	2.5	1.2	1.39	1.8	1.3	1.9	1.5	1.9	2.1	1.9	2.1	
Ammonia	mg/L		0.06	NA	0.05	0.12	1.15	0.08	0.04	0.08	0.04	0.03	0.16	0.03	0.15	

TABLE 8: WATER MONITORING RESULTS SBT 8 (STM)

Analyte	Post Rain Event	Unit	SBT-8U	SBT-8D
			Yes	
			21/12/2023	
pH	pH		7.25	7.2
Oil/grease	Visual Inspection		Not Visible	Not Visible
Turbidity	NTU		38.5	34.1
Electrical Conductivity	µS/cm		664	645
Total Suspended Solids	mg/L	Dec-23	10	5
Aluminium	mg/L		0.31	0.37
Chromium (VI)	mg/L		0.001	<0.001
Copper	mg/L		0.009	0.005
Zinc	mg/L		0.051	0.02
Total Phosphorous	mg/L		0.07	0.14
Total Nitrogen	mg/L		0.9	1.5
Ammonia	mg/L		0.01	<0.01

TABLE 9: WATER MONITORING RESULTS SBT 9 (BSF)

Analyte	Post Rain Event	Unit	Nov-23		Dec-23		Jan-24		Feb-24		April			
			SBT-9U	SBT-9D	SBT-9U	SBT-9D	SBT-9U	SBT-9D	SBT-9U	SBT-9D	SBT-9U	SBT-9D	SBT-9U	SBT-9D
			Yes		Yes		Yes		Yes		Yes		Yes	
6/11/2023		21/12/2023		19/01/2024		7/02/2024		21/02/2024		8/04/2024				
pH	pH	7.35	7.28	7.65	7.65	7.97	7.96	7.73	7.69	7.85	7.93	7.66	7.69	
Oil/grease	Visual Inspection	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	
Turbidity	NTU	379	325	129	140	104	104	1110	1100	311	329	77.3	103	
Electrical Conductivity	µS/cm	1450	1450	930	941	1820	1820	280	173	1120	1130	655	527	
Total Suspended Solids	mg/L	63	43	44	60	58	72	24	128	194	202	78	51	
Aluminium	mg/L	0.53	0.5	1.45	1.49	1.56	2.93	1.86	8.1	5.24	6.67	3.15	1.46	
Chromium (VI)	mg/L	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.01	<0.01	<0.01	<0.01	<0.001	<0.001	
Copper	mg/L	0.019	0.018	0.013	0.009	0.006	0.009	0.007	0.007	0.014	0.015	0.009	0.008	
Zinc	mg/L	0.016	0.014	0.132	0.017	0.01	0.013	0.021	0.01	0.036	0.027	0.02	0.021	
Total Phosphorous	mg/L	0.21	0.13	<0.02	<0.02	0.24	0.24	0.36	0.38	0.46	0.5	0.42	0.37	
Total Nitrogen	mg/L	2.5	1.7	2.6	2.5	2.1	2.3	2.2	2.2	2.7	0.63	4.4	2.8	
Ammonia	mg/L	0.05	0.13	0.06	0.04	0.1	0.1	0.09	0.09	0.06	0.15	0.16	0.21	

TABLE 10: WATER MONITORING RESULTS SBT 10 (AEC)

Analyte	Post Rain Event	Unit	SBT-10U	SBT-10D
			Yes	
			21/12/2023	
pH	pH		7.25	7.2
Oil/grease	Visual Inspection		Not Visible	Not Visible
Turbidity	NTU		38.5	34.1
Electrical Conductivity	µS/cm		664	645
Total Suspended Solids	mg/L	Dec-23	10	5
Aluminium	mg/L		0.31	0.37
Chromium (VI)	mg/L		0.001	<0.001
Copper	mg/L		0.009	0.005
Zinc	mg/L		0.051	0.02
Total Phosphorous	mg/L		0.07	0.14
Total Nitrogen	mg/L		0.9	1.5
Ammonia	mg/L		0.01	<0.01

Annexure B Average Surface Water Monitoring Results

TABLE 11: SURFACE WATER AVERAGES

Analyte	SBT-6U	SBT-6D	SBT-7U	SBT-7D	SBT-8U	SBT-8D	SBT-9U	SBT-9D	SBT-10U	SBT-10D
pH	7.4	7.6	7.9	7.9	7.25	7.20	7.67	7.7	7.7	7.20
Oil/grease	No	No	No	No	No	No	No	No	No	No
Turbidity	25.1	90.1	20.2	18.5	38.50	34.10	359.86	351.7	350.2	34.10
Electrical Conductivity	806.5	934.0	1412.7	1436.0	664.00	645.00	1027.00	1042.5	1006.8	645.00
Total Suspended Solids	23.3	57.0	22.1	18.1	10	5	53.4	76.8	92.7	5
Aluminium	0.3	1.1	0.4	0.4	0.31	0.37	1.71	2.3	3.5	0.37
Chromium (VI)	0.0	0.0	0.0	0.0	0.001	<0.001	0.001	0.0	0.0	NA
Copper	0.0	0.0	0.0	0.0	0.0090	0.0050	0.0108	0.0	0.0	0.0050
Zinc	0.0	0.0	0.0	0.0	0.051	0.020	0.040	0.0	0.0	0.020
Total Phosphorous	0.3	0.1	0.1	0.1	0.07	0.14	0.31	0.3	0.3	0.14
Total Nitrogen	1.8	1.3	1.8	1.8	0.90	1.50	2.76	2.8	2.0	1.50
Ammonia	0.1	0.0	0.1	0.3	0.01	<0.01	0.09	0.1	0.1	NA

Annexure C Surface Water Monitoring Locations

FIGURE 2: SAMPLING LOCATION SBT-6

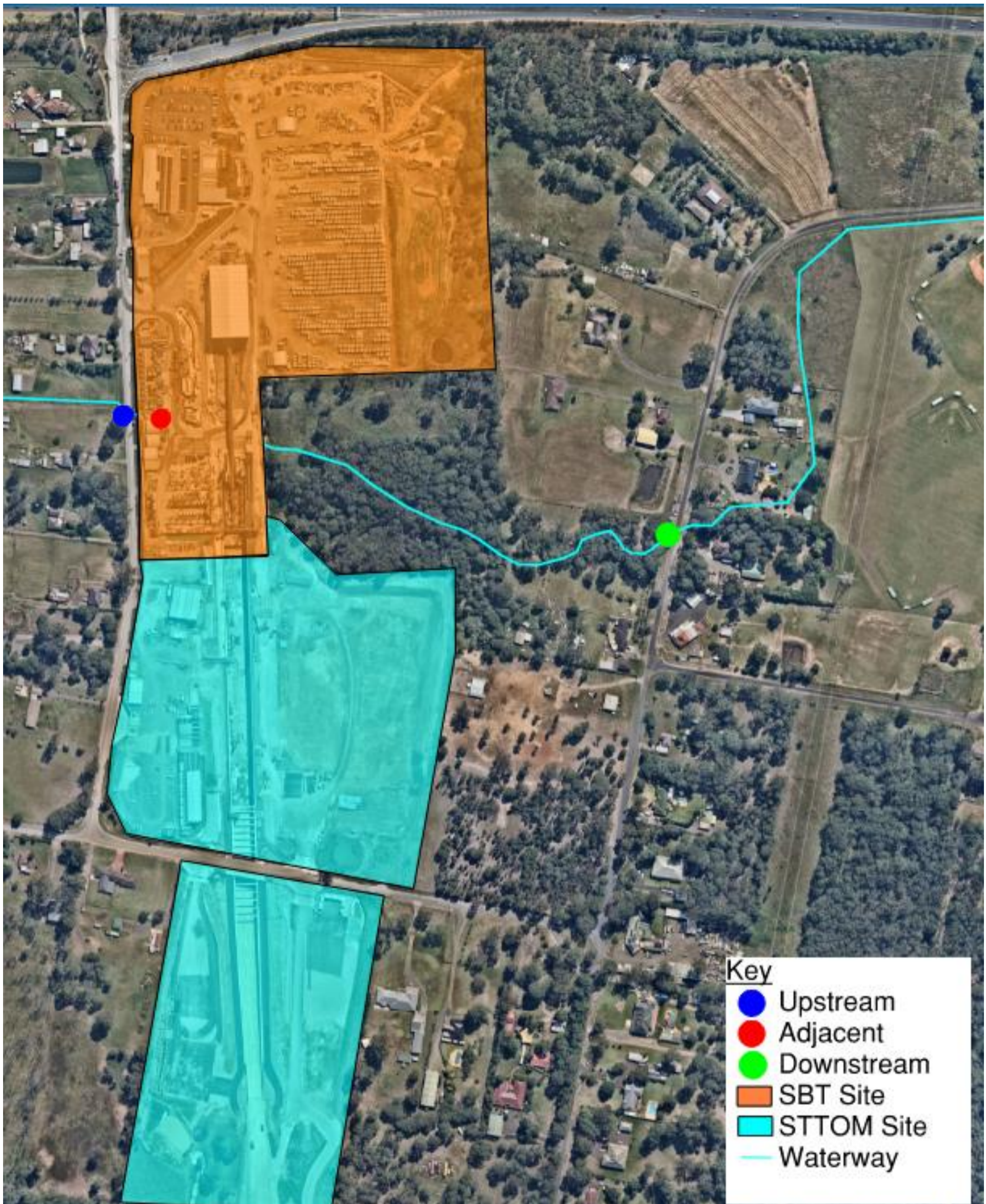


FIGURE 3: SAMPLING LOCATION SBT-7

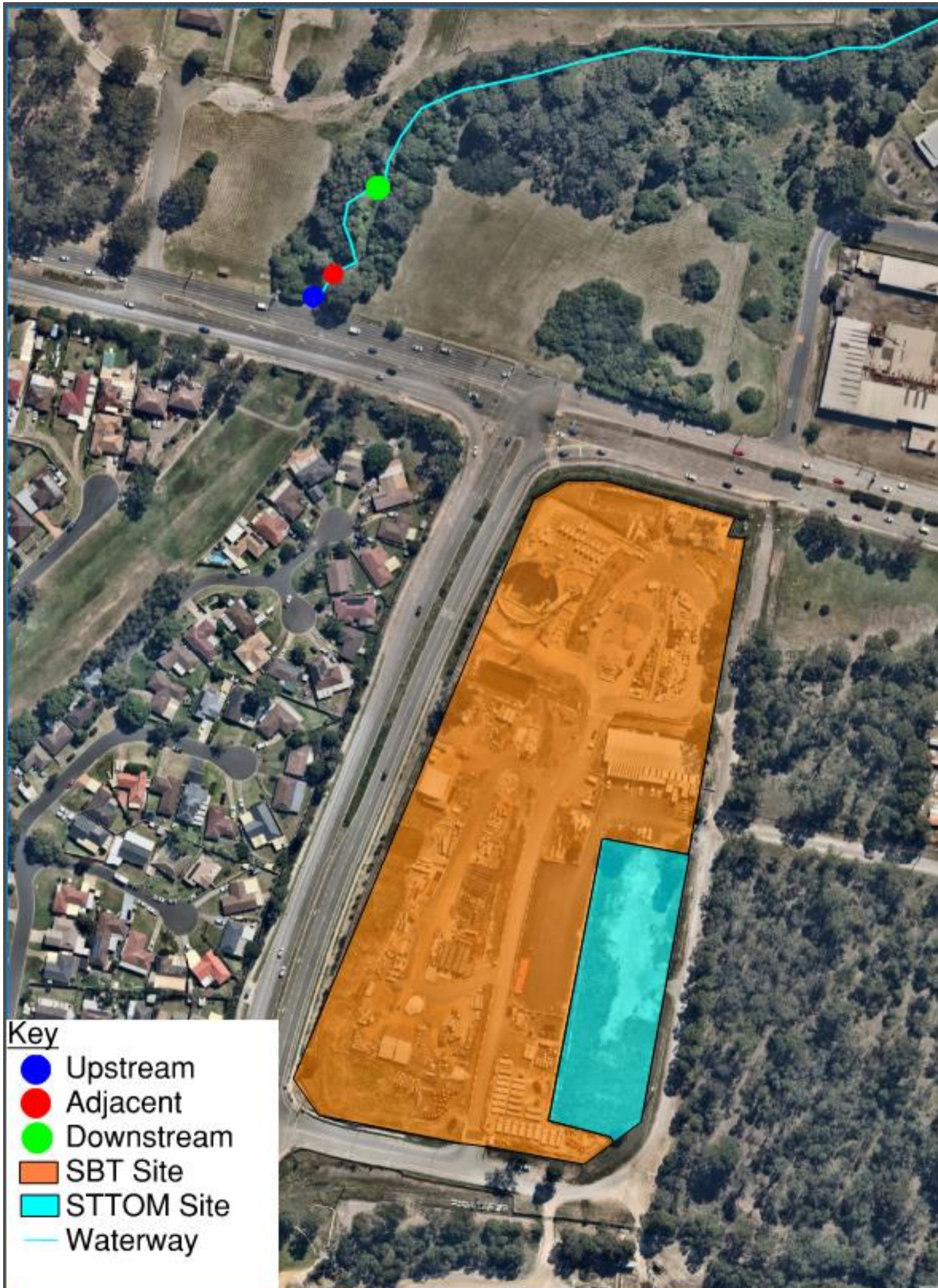


FIGURE 4: SAMPLING LOCATION SBT-8



FIGURE 5: SAMPLING LOCATION SBT-9



FIGURE 6: SAMPLING LOCATION SBT-10

