

53. Rosebery STP

53.1 Activity and report details

Activity name	Rosebery STP		
Activity address	Direens Corner, Rosebery		
Permit number	Permit Conditions Environmental - 8847	Date of issue	06/11/2014
EPN	--	Date of issue	--
Treatment level	Tertiary Treatment		
Authorised dry weather flows	242 kL/day		
Key influent source	Residential/Industrial		
Contact person	Kate Westgate (Manager Environmental Performance)		
Report author	Jake Crisp (Environmental Scientist)		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2025		

Figure 53-1: Rosebery STP



53.2 Monitoring and compliance summary

53.2.1 Flow data

Table 53-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location name	Sewer Inlet	Stitt River	No reuse scheme
Coordinates	E 377795 N 5373664	E 379440 N 5373185	NA
Method of measurement	In line meter	In line meter	NA
Date of last calibration/validation (if applicable).	21/05/2025	21/05/2025	NA

Table 53-B: Annual flow and rainfall data

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 97093	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2024	1,830	140.6	35.04	--
August 2024	2,314	333.6	31.02	--
September 2024	2,569	382	36.46	--
October 2024	1,705	147.4	31.29	--
November 2024	1,505	156.4	22.98	--
December 2024	1,768	214.6	32.77	--
January 2025	1,539	36.2	20.89	--
February 2025	1,781	51.4	49.86	--
March 2025	1,754	55.6	22.41	--
April 2025	1,786	72.8	36.65	--
May 2025	1,865	166.6	42.87	--
June 2025	1,850	132.2	39.42	--
Annual 2024-25	1,855	1889.4	401.66	0.00
% of total discharge	--	--	100.0%	0.0%

2024-25 monthly flow data was submitted directly to the EPA.

53.3 Bypass events

The STP was designed to bypass high flow events during wet weather. Due to the amount recorded, specific dates can be provided on request.

Table 53-C: Bypass events summary for RSBST01-ON-1

Bypass ID:	RSBST01-ON-1	
Bypass description:	Inlet Pump Station overflow to outfall	
Treatment bypassed:	Secondary Treatment, Filtration, Disinfection (UV)	
Treatment level of impacted effluent:	Screened	
Flows exceeding:	32L/s	
Discharge location:	Stitt River: 377875E, 5373831N (GDA94)	
Total number of bypasses	Total volume (ML)	Mitigation Measures
94	94.74	To help reduce bypass events state-wide, during FY2024-25 TasWater has spent \$1.2 million on the identification, rectification and monitoring of inflow and infiltration (I&I) within our systems. During FY2025 -26 we will be spending a further \$0.8 million on I&I works.

53.4 Discharge compliance with permit limits

Table 53-D: Compliance summary

Parameter	Ammonia	BOD5	Chlorine	Nitrogen	Oil and grease	pH	Phosphorous	E coli	Total suspended solids
Permit/EPN limit	mg/L	mg/L	mg/L	mg/L	mg/L	Units	mg/L	MPN/100mL	mg/L
Maximum	5	15	--	15	10	8.5	3	200	20
90th percentile	2	10	--	10	5	--	1	--	15
50th percentile	1	5	--	7	2	--	0.5	--	10
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	12	12	--	12	12	12	12	12	12
Number analysed	12	12	--	12	12	12	12	12	12
Statistical summary									
Maximum	0.9	8.0	0.0	8.9	1.0	7.3	2.8	80.0	49.0
90th percentile	0.6	5.0	0.0	8.8	1.0	7.0	2.5	52.9	28.7
50th percentile	0.2	5.0	0.0	6.5	1.0	6.9	0.9	10.0	5.1
Minimum	0.1	5.0	0.0	3.7	1.0	6.5	0.2	10.0	4.0
EPN limit compliance									
% compliance with maximum	100%	100%	--	100%	100%	100%	100%	100%	83%
% compliance with 90th percentile	100%	100%	--	100%	100%	--	67%	--	83%
% compliance with 50th percentile	100%	92%	--	67%	100%	--	25%	--	83%
% compliance with pH range	--	--	--	--	--	100%	--	--	--

Table 53-E: Mass loads to the environment

Mass Loads	EPN limit	Frequency	2024-25 result
Nitrogen (kg)	--	Annual	2552.6
Phosphorous (kg)	--	Annual	506.8
Method	Time weighted/grab sample method		

Table 53-F: Performance Analysis (Discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
TSS	04/09/2024 2/12/2024	The non-compliant TSS could be due to variations in influent loading, with no indication of process upsets.	No specific actions.

No other parameters had exceedances in the reporting period.

53.5 Reuse annual reporting

No Recycled Water Scheme associated with this STP.

53.6 Ambient monitoring program

Table 53-G: Program details

Program	Rosebery STP Ambient Monitoring Plan (AMP) in accordance with PCE 8847 conditions and commitments
Status	Annual seasonal (spring and autumn) ambient water quality and biological monitoring within the Stitt River receiving environment.
Update	Annual seasonal, ambient water quality and biological monitoring completed during the reporting period.
Comments	<p>Ambient water quality monitoring within the Stitt River receiving environment was completed in spring (October 2024) and in autumn (March/April 2025). Biological (macroinvertebrates and benthic algae) monitoring was completed in the Stitt River and Rosebery Creek in spring (November 2024) and autumn (March 2025). An Ambient Monitoring Report (AMR) and Biological Monitoring Report (BMR) detailing the results of ambient monitoring have been provided to the EPA. The summarised findings of the AMR and the BMR are provided below:</p> <ul style="list-style-type: none"> • Environmental conditions in the receiving environment differed between the sampling occasions. Rainfall, river flow (in both the Stitt River and Rosebery Creek) and Rosebery STP discharge volume was greater in spring 2024 compared to autumn 2025. Effluent discharging from the Rosebery STP is generally of good quality, with water quality parameters mostly below effluent discharge limits. • There was no clear evidence of an impact of the Rosebery STP effluent discharge on the Stitt River receiving environment on either sampling occasion. Nutrient concentrations (ammonia, nitrate and total phosphorus) were elevated above the EPA DGVs both upstream and far downstream of the STP outfall and were not impacted by the STP effluent discharge. Total nitrogen concentration was elevated at the outfall site and downstream in autumn but was lower than TN concentrations within and close to Lake Pieman. • Nutrient elevations in the Stitt River do not appear to result in an increase in algal biomass (measured as chlorophyll fluorescence) showed no increase in the vicinity of the Rosebery STP effluent discharge, however this differs from the results of biological monitoring which found an increase in both algae and chlorophyll a downstream of the STP outfall compared to sites upstream. • Indicators of microbial contamination (<i>E. coli</i> and enterococci) in both treated effluent and the receiving environment were generally low. <i>E. coli</i> concentrations were below the EPA low risk recreational guideline value at all sites. Enterococci concentration was elevated in the Stitt River upstream of the STP outfall in autumn, and concentration at the outfall site matched that of the STP effluent at the time. • Metal concentrations were very high in Rosebery Creek, resulting in elevated metal concentrations in the Stitt River sites downstream of the confluence that exceed ANZG toxicant guidelines but are unrelated to the STP discharge. Elevation of metal contaminants in the Stitt River cannot be attributed to the Rosebery STP effluent discharges, but more likely to mine-related run off in the area. • In spring 2024, AUSRIVAS analyses for the Stitt River sites placed site u/s#1 in impairment band A ('similar to reference'), u/s#2 in impairment band C ('severely impaired'), and the site downstream of the STP outfall in impairment band B ('significantly impaired'). In autumn 2025, the two upstream sites were placed in impairment band B ('significantly impaired') and the downstream site in impairment band A ('similar to reference'). • Trends in AUSRIVAS indicators and TRCI results indicate no consistent pattern in spring 2024 and autumn 2025 that could be related to the Rosebery STP effluent discharge. • There was an increase in algae cover and chlorophyll-a density in the Stitt River between u/s#2 the site downstream of the STP outfall in both spring 2024 and autumn 2025, which is consistent with nutrient enrichment downstream of the STP outfall. • A historical review of biological monitoring in the lower Stitt River in relation to the Rosebery STP outfall indicate no impact of the STP effluent discharge on the condition

of the macroinvertebrate fauna. However, there is a consistent increase in in-stream production of algae at the downstream site.

- The results of the spring 2024/autumn 2025 biological monitoring closely follow the pattern of results on previous monitoring occasions.

The Rosebery STP effluent discharges do not appear to be compromising the protected environmental values (PEVs) of the Stitt River receiving environment.

53.7 Groundwater monitoring

No groundwater monitoring program associated with the STP.

53.8 Inflow and infiltration (I&I)

The latest revision to the TasWater Inflow and Infiltration Management Plan includes details of the actions undertaken statewide to address I&I issues.

A Multi Criteria Assessment was undertaken by TasWater in 2024 to prioritise I&I investigation and works state-wide. This catchment was ranked 24 out of 108 in priority.

53.9 Sludge and biosolids

The latest revision to the Sewage Sludge Management Plan (SSMP) includes full details of the actions undertaken during the reporting period. This STP was assessed as compliant with the 2024–25 SSMP.

Biosolids from this STP exceed Grade B contamination levels for Zinc, Lead and Cadmium and are therefore classified as contaminated waste. Dulverton Landfill is currently the only suitable disposal location for this product. TasWater is continuing work to identify sources of the contamination and develop plans to mitigate/reduce contaminant inputs.

Biosolids are removed regularly from site, no stockpiling occurs.

Table 53-H: Biosolids sludge classification summary

Parameter	Number of samples	Maximum (mg/kg)	Mean (mg/kg)	Minimum (mg/kg)	BACC (mg/kg)	Contaminant classification
Arsenic	12	35.2	27.5	17.4	41.7	B
Cadmium	12	106.0	52.1	20.0	107.0	U/C
Chromium	12	32.4	24.8	16.6	35.1	A
Copper	11	1480.0	893.3	547.0	1517.4	B
Lead	12	1010.0	761.7	521.0	1132.6	U/C
Mercury	12	1.2	0.5	0.2	1.1	B
Nickel	12	72.9	52.9	41.8	74.0	B
Zinc	12	22000.0	11451.7	6250.0	21456.9	U/C

*No Copper result for February 2025 due to lab testing error.

Table 53-I: Volume and disposal destination

Quantity (DST)	Average solids content (%)	Stabilisation method	Stabilisation grade	Contamination grade	Biosolids classification	End use destination
12.2	10.6	None	U/C	U/C	U/C	Dulverton Landfill

Notes:

DST = Dry solid tonne. U/C = Unclassified

BACC = Biosolids Adjusted Contaminant Concentration

53.10 Non-compliance with other permit requirements

Table 53-J: EPN non-compliances

EPN condition	Description of non-conformance	Future actions to be taken
Q1 Regulatory Limits	AWDF limit exceeded during reporting period.	TasWater is currently deliberating on a suitable approach to address this ongoing non-compliance, which remains subject to further internal discussions.
EF2 Effluent quality limits for discharge to environment.	Discharge compliance with permit limits	See section 53.4 Discharge Compliance with Permit Limits.

53.11 Complaints and incident reporting

No complaints received or incidents occurred in the reporting period.

53.12 Any other relevant information

Table 53-K: Projects or significant operational events that occurred in FY24-25.

Project or significant operational event	Progress
West Coast Sewerage Master Plan	The West Coast Sewerage Regional Master Plan has been completed and outlines both short- and long-term considerations for the Rosebery STP with the STP retained long-term to service the catchment.

For further information on the Rosebery STP please contact TasWater on 13 6992

www.taswater.com.au