

## 54. Rosny STP

### 54.1 Activity and report details

Activity name	Rosny STP		
Activity address	Rosny Esplanade, Rosny, Hobart		
Permit number	Licence to Operate - 3505	Date of issue	25 July 1988
EPN	632/2	Date of issue	16/05/2019
Treatment level	Secondary Treatment		
Authorised dry weather flows	7500 kL/day		
Key influent source	Residential/Industrial 1 x Category 3 Customers		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2024		

**Figure 54-1: Rosny Sewage Treatment Plant**



## 54.2 Monitoring and compliance summary

### 54.2.1 Flow data

**Table 54-A: Flow monitoring summary**

	Influent	Effluent	Reuse
Location name	Inlet	Derwent River	Effluent Reuse Scheme - Coal River
Coordinates	E 529342 N 5253111	E 529184 N 5253117	E 529213 N 5253147
Method of measurement	In line meter	Level sensor	In line meter
Date of last calibration/validation (if applicable).	24/07/2023	24/07/2023	16/08/2024*

\*Note: Outside period.

**Table 54-B: Annual flow and rainfall data**

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 94030	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2023	5,990	22.5	147.74	37.95
August 2023	6,003	11.6	167.54	18.54
September 2023	6,112	32.1	130.66	52.70
October 2023	6,422	62.7	106.55	92.55
November 2023	6,230	29.0	70.41	116.47
December 2023	6,371	37.2	82.03	115.47
January 2024	6,384	41.0	138.09	59.80
February 2024	5,915	6.9	112.84	58.69
March 2024	5,956	11.4	167.97	16.68
April 2024	6,463	35.3	44.78	149.11
May 2024	6,253	29.2	53.75	140.11
June 2024	6,475	35.8	85.04	109.21
Annual 2023-24	6,232	354.7	1307.40	967.27
% of total discharge	--	--	57.5%	42.5%

2023-24 monthly flow data was submitted directly to the EPA.

### 54.3 Bypass events

None recorded during period.

## 54.4 Discharge compliance with permit limits

**Table 54-C: Compliance summary**

Parameter	Ammonia	cBOD5	Chlorine	Nitrogen	Oil and grease	pH	Phosphorous	E coli	Enterococci	Total suspended solids
Permit/EPN limit	mg/L	mg/L	mg/L	mg/L	mg/L	Units	mg/L	MPN/100ml	mg/L	mg/L
Maximum	25.0	--	1.0	--	--	8.5	--	--	--	--
90th percentile	--	20.0	--	--	--	--	--	500	4000	20.0
50th percentile	--	15.0	--	--	--	--	--	200	1000	10.0
Minimum	--	--	--	--	--	6.5	--	--	--	--
Samples analysed										
Number required	52	52	52	52	52	52	52	52	52	52
Number analysed	52	52	52	52	52	52	52	52	52	52
Statistical summary										
Maximum	38.4	22	3.98	51.1	4.3	7.4	9.0	241960	241960	11.6
90th percentile	34.2	13	1.82	46.5	1.3	7.3	5.7	5218	9594	7.7
50th percentile	28.3	7	1.08	40.0	1.0	7.1	3.5	31	946	4.9
Minimum	10.9	5	0.07	19.2	1.0	6.7	1.0	10	10	4.0
EPN limit compliance										
% compliance with maximum	35%	--	40%	--	--	--	--	--	--	--
% compliance with 90th percentile	--	98%	--	--	--	--	--	69%	79%	100%
% compliance with 50th percentile	--	94%	--	--	--	--	--	63%	52%	96%
% compliance with pH range	--	--	--	--	--	100%	--	--	--	--

**Table 54-D: Mass loads to the environment**

Parameter	EPN limit	Frequency	2023-24 result
Nitrogen (kg)	24638	Annual	50219.7
Phosphorous (kg)	6023	Annual	4458.0
Method	Flow weighted/Composite method		

**Table 54-E: Performance analysis (discharge to environment)**

Effluent compliance parameter	Date(s) of non-compliance			Reasons for non-compliance	Actions to improve performance
Ammonia	29/08/2023	28/11/2023	20/02/2024	The treatment process is not specifically designed to remove ammonia, however incidental ammonia removal occurs at times.	No specific actions undertaken in reporting period.
	5/09/2023	5/12/2023	27/02/2024		
	12/09/2023	12/12/2023	5/03/2024		
	19/09/2023	19/12/2023	12/03/2024		
	26/09/2023	27/12/2023	19/03/2024		
	3/10/2023	2/01/2024	26/03/2024		
	10/10/2023	16/01/2024	3/04/2024		
	17/10/2023	23/01/2024	9/04/2024		
	31/10/2023	30/01/2024	16/04/2024		
	7/11/2023	6/02/2024	30/04/2024		
14/11/2023	13/02/2024	25/06/2024			
22/11/2023					
Chlorine	4/07/2023	24/10/2023	19/03/2024	The chlorine contact tank volume is inadequate such that the chlorine concentration does not decay sufficiently prior to discharge to the environment.	No specific actions undertaken in reporting period  UV disinfection upgrade will improve the performance of the disinfection system to be completed in FY2025.
	11/07/2023	31/10/2023	26/03/2024		
	18/07/2023	28/11/2023	3/04/2024		
	1/08/2023	5/12/2023	9/04/2024		
	15/08/2023	2/01/2024	16/04/2024		
	5/09/2023	9/01/2024	23/04/2024		
	12/09/2023	23/01/2024	30/04/2024		
	19/09/2023	20/02/2024	14/05/2024		

Effluent compliance parameter	Date(s) of non-compliance			Reasons for non-compliance	Actions to improve performance
	26/09/2023 3/10/2023 10/10/2023	27/02/2024 5/03/2024	21/05/2024 28/05/2024		
E. coli	12-month 90 <sup>th</sup> percentile limit exceeded				
Enterococci	12-month 90 <sup>th</sup> percentile limit exceeded				

Note: Non-compliances only identified for the times STP has discharged to water

No other parameters had exceedances in the reporting period.

## 54.5 Reuse annual reporting

The Rokeby, Rosny, Cambridge and Richmond STP's supply recycled water for irrigation purposes to the Clarence recycled water scheme. Currently twenty-six properties in the Coal Valley and Seven Mile Beach area connected to the recycled water scheme. The scheme operates under the current 2019–2024 Environmental Management Plan.

**Table 54-F: Reuse Compliance Summary**

Parameter	cBOD5	pH	E coli
Permit/EPN limit	mg/L	Units	MPN/100ml
Maximum	30	9.0	10000
90th percentile	--	--	--
50th percentile	--	--	1000
Minimum	--	5.5	--
<b>Samples analysed</b>			
Number required	52	52	52
Number analysed	52	52	13
<b>Statistical summary</b>			
Maximum	22	7.4	241960
90th percentile	13	7.3	19863
50th percentile	7	7.1	605
Minimum	5	6.7	10
<b>Summary of results</b>			
% compliance with maximum	100%	--	83%
% compliance with 90th percentile	--	--	--
% compliance with 50th percentile	--	--	56%
% compliance with pH range	--	100%	--

Note: Percentages reflective of complete data set for the year. *E. coli* samples only taken when discharging to reuse at time of sampling.

**Table 54-G: Performance analysis (Discharge to reuse)**

Reuse compliance parameter		Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
E. coli	25/07/2023	30/11/2023	See Table 54-F	See Table 54-F
	10/10/2023	27/12/2023		
	24/10/2023	20/02/2024		
	7/11/2023	27/02/2024		
	14/11/2023	9/04/2024		
		12-month 50 <sup>th</sup> percentile limit exceeded		

Note: Non-compliances only identified for the times STP has discharged to reuse

Annual soil sampling was completed at thirty-six sites on twenty properties across the Clarence RWS in late June 2023. The distribution of the sampling sites was based on the established sampling program and consideration of the irrigation application rates for the past irrigation and proposed coming irrigation season. One site (41 STR) was removed as no recycled water irrigation occurred for two consecutive years. Three Sites (58 EDD, 59 RGC and 60 STR) were added to the 2023-24 soil sampling program. Annual compliance audits were completed at twenty-three properties during the 2023-24 reporting period. The field component of the audits was completed in conjunction with the soil monitoring program and follow-up correspondence in September 2023. A summary of the findings of the programs is provided in the below table.

**Table 54-H: Annual recycled water scheme compliance audit and soil monitoring summary**

Program	Compliance audit	Soil monitoring
<b>Compliance status</b>	Compliant: 30% (Seven properties recorded full compliance with IEMP). Minor Non-compliance: 49% (Eleven properties recorded inadequate signage) Non-compliant: 22% Four properties recorded recycled water irrigation outside IEMP requirements (withholding times and/or buffer zones) One property recorded inadequate fencing of nominated recycled water storage	Average EC <sub>se</sub> and Cl levels increased in 2023-24 sampling and levels continue to fluctuate between years, ranging from non-saline to slightly saline and no long-term trend identified. Average ESP level in 2023-24 increased from historical lows with average ESP levels continuing to show no-long term trend and range from non-sodic to low-level sodic. 11% sites considered saline, 19% sites considered slightly saline and 69% sites within recommended range. 28% sites considered sodic, 19% sites considered borderline sodic and 53% sites within recommended range. Average P levels is classed as high, average K levels moderate and average S level is low-moderate across the scheme. An increasing long-term trend in average P and K since 2014, with P increasing at a slower rate than K.
<b>Comments</b>	Adequate signage remains the main non-compliance across the scheme. Recycled water is not supplied to the inadequately fenced recycled water storage (direct take customer). If customer to reinstate supply to storage,	Overall, soil health and fertility do not appear to be adversely impacted through recycled water irrigation. From a soil structure perspective, sodicity is the main soil concern, a review of recycled water quality (salinity and SAR) indicates a very slight risk of soil permeability loss resulting from the application of

	<p>storage would be required to meet TasWater's standards (e.g. fencing)</p> <p>A number of TasWater owned recycled water meters are inoperable, faulty or leaking. TasWater are investigating options to replace these meters in the 2024-25 reporting year.</p>	<p>recycled water and highly unlikely future sodicity issues will develop due to recycled water application.</p> <p>The elevated nutrient levels (average P and K) have been assessed as not directly attributed to the application of recycled water but correlate to other nutrient sources.</p>
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Key: ECse = Electrical Conductivity at saturation extent, Cl = Chloride, ESP = Exchangeable sodium percentage, P = Phosphorous, K = Potassium, S = Sulphur

#### RWS groundwater site status: Amber

The Clarence RWS groundwater monitoring network currently consists of thirty-four monitoring bores across seventeen properties. Four bores (ID's CL-RRPGW9, CL-SHGW2, CL-TGCGW3 and CL-RHCGW4) are associated with recycled water storage dams. One round of sampling (6-monthly) was completed at thirty-three bores in February 2024. The second (annual) sampling round was not completed. TasWater has put measures in place for the 2024-25 sampling program to address scheduling and resourcing delays experienced in recent years.

The 2023-24 groundwater monitoring event report found groundwater chemistry appears to be generally consistent with previous years and analysis of data suggests that the irrigation of recycled water is having no definitive impact on groundwater quality. Eight properties recorded at least one monitoring bore which exceeded a guideline criterion although unlikely attributed to recycled water irrigation and/ or requires additional data for analysis. Eight properties recorded no evidence or limited evidence recycled water impacting groundwater.

Biannual monitoring will continue at all monitoring bores at the extended analytical suite during the 2023-24 monitoring program. Additional surface water monitoring will be completed at Clarence Recycled Water Storage (Duckhole Dam) and customer alternate water sources to allow for further chemical classification.

### 54.6 Ambient monitoring program

**Table 54-I: Program details**

<b>Program</b>	NA – No requirement for ambient monitoring in the reporting period
<b>Status</b>	NA
<b>Update</b>	NA
<b>Comments</b>	NA

### 54.7 Groundwater monitoring

No groundwater monitoring program associated with the STP.



### 54.8 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. Update to the actions completed will be provided in the next revision due September 2024.

A Multi Criteria Assessment was undertaken by TasWater in 2024 to prioritise I&I investigation and works state-wide. This catchment was ranked 12 out of 108 in priority. Actions in the period included:

- Electrical conductivity monitoring completed
- 100 Manhole inspections completed
- Relined 1,20m of sewer mains
- CCTV 5,000m mains and field investigations commenced ongoing

### 54.9 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 deemed non-compliant with the 2023-24 SSMP due to missing Biosolids Management Plans and no evidence that council approval was obtained.

Biosolids are removed regularly from site, no stockpiling occurs.

**Table 54-J: Biosolids sludge classification**

Parameter	Number of samples	Maximum (mg/kg)	Mean (mg/kg)	Minimum (mg/kg)	BACC (mg/kg)	Contaminant classification
Arsenic	12	2.4	1.7	1.2	2.5	A
Cadmium	12	1.1	0.7	0.6	1.0	B
Chromium	12	16.8	11.3	7.4	16.3	A
Copper	12	202.0	147.6	74.7	223.1	B
Lead	12	21.6	13.7	10.4	19.6	A
Mercury	12	1.0	0.5	0.0	1.1	B
Nickel	12	27.3	19.3	10.7	28.6	A
Zinc	12	751.0	526.6	432.0	706.1	B

**Table 54-C: Volume and disposal destination**

Quantity (DST)	Average solids content	Stabilisation method	Stabilisation grade	Contamination grade	Biosolids classification	End use destination
576.4	18.79%	Hydrated Lime	B	B	2	Coronation Hotel, Whitemarsh farm, Delmore farm, Old Mill farm, Strathallan farm,

Notes: DST = Dry solid tonne.

## 54.10 Non-compliance with other permit requirements

**Table 54-K: EPN non-compliances**

EPN condition	Description of non-conformance	Future actions to be taken
EF3 Effluent discharge limits	Discharge compliance with permit limits	See section 54.4 Discharge compliance with permit limits and Performance Analysis
EF5 Reuse discharge limits	Discharge compliance with reuse permit limits	See section 54.5 Reuse Annual Reporting and Performance Analysis
EF4 Enterococci Limits for discharge	Discharge compliance with permit limits for Enterococci exceeded	See section 54.4 Discharge compliance with permit limits and Performance Analysis
EF6 Mass Load limits	Nitrogen limits exceeded this FY Phosphorus limits exceeded this FY	See section 54.4 Discharge compliance with permit limits and Performance Analysis
EF7 Effluent Improvement Plan	Effluent Improvement Plan overdue.	Plan submitted.
WM2 Sewage Sludge Management Plan	Missing Biosolids Management Plans and no evidence that council approval was obtained	Ensure BMPs and evidence of council approval are included in 2024-24 SSMP

## 54.11 Complaints and incident reporting

**Table 54-L: Complaints reporting**

Date	Category	Details	Mitigation actions
07-Feb-2024	Odour	Strong odour reported from the STP	Investigated by operators and appropriate action taken
07-Dec-2023	Odour	Strong odour reported from the STP	Investigated by operators and appropriate action taken
26-Oct-2023	Noise	Noise early in the morning from STP	TasWater reiterated to contractors to observe STP contractor opening hours

No incidents recorded in the period.

## 54.12 Any other relevant information

**Table 54-N: Projects or significant operational events that occurred in FY 2022-23:**

Project or significant operational event	Progress
Capital upgrade, replacing the existing chlorine system, with a UV disinfection system.	Completion date currently set at mid-2025.
Clarifier 4 Reline	Completed

For further information on Rosny STP please contact TasWater on 13 6992

[www.taswater.com.au](http://www.taswater.com.au)