

1. Beaconsfield STP

1.1. Activity and report details

Activity name	Beaconsfield STP		
Activity address	Jetty Road, Beaconsfield		
Permit number	Licence to Operate – 3597	Date of issue	1/07/1992
EPN	7934/3	Date of issue	2/10/2012
Treatment level	Secondary Treatment		
Authorised dry weather flows	400 kL/day		
Key influent source	Residential/Industrial 1 x Category 3 Customers		
Contact person	Kate Westgate		
Report author	Luisa Romero (Environmental Scientist)		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2024		

Figure 1-1: Beaconsfield Sewage Treatment Plant



1.2. Monitoring and compliance summary

1.2.1. Flow data

Table 1-A Flow monitoring summary

	Influent	Effluent	Reuse
Location name	Inlet	Brandy Creek to Tamar Estuary	Tree Farm (TW owned)
Coordinates – discharge location	E 484968 N 5439960	E 485040 N 5440160	E 485916 N 5439696
Method of measurement	In line meter	Estimate based on reuse	In line meter
Date of last calibration/validation (if applicable).	27/10/2023	NA – to be installed	27/10/2023

Table 1-B Annual flow and rainfall data

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 91001	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2023	426	94.0	0.00	10.88
August 2023	412	83.8	0.00	16.90
September 2023	287	35.8	0.00	8.63
October 2023	185	49.9	0.00	5.75
November 2023	161	15.6	0.00	4.01
December 2023	181	72.8	0.00	3.52
January 2024	187	61.2	0.00	3.99
February 2024	160	7.8	0.00	3.46
March 2024	168	6.4	0.00	2.04
April 2024	181	72.6	0.00	6.20
May 2024	163	23.5	0.00	4.16
June 2024	243	101.4	0.00	8.76
Annual 2023–24	231	624.8	0.00	78.30
% of total discharge	--	--	0.0%	100.0%

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

1.3. Bypass events

There were no bypass events associated with the STP during the reporting period.

1.4. Discharge compliance with permit limits

Table 1-C: Compliance summary

	Ammonia as N	BOD5	Chlorine	Nitrogen	Oil and grease	pH	Phosphorus	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	30.0	30	--	30.0	10.0	8.5	10.0	500	50.0
90th percentile	--	--	--	--	--	--	--	--	--
50th percentile	--	--	--	--	--	--	--	--	--
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	23.1	60	--	35.3	1.7	9.3	9.9	620	149.0
90th percentile	16.2	58	--	28.3	1.7	9.1	9.6	583	94.9
50th percentile	10.0	38	--	19.7	1.0	8.5	5.9	254	35.0
Minimum	0.2	13	--	10.0	1.0	7.3	3.0	52	9.5
EPN limit compliance									
% compliance with maximum	100%	42%	--	92%	100%	--	100%	75%	67%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	50%	--	--	--

Note: Percentages reflective of complete data set for the year

Table 1-D Mass loads to the environment

Parameter	EPN Limit	Frequency	2023-24 result
Nitrogen (kg)	--	Annual	0.0
Phosphorous (kg)	--	Annual	0.0
Method	Time weighted/Grab sample method		

No parameters had exceedances in the FY period.

1.5. Reuse annual reporting

The Beaconsfield sewage treatment plant discharges to a dam which supplies recycled water to irrigate a 30 ha *Eucalyptus globulus* irrigation scheme. This scheme continues to operate in accordance with design.

Table 1-E Reuse compliance summary

	BOD5	pH	E coli
Permit/EPN limit	mg/L	Units	MPN/100ml
Maximum	80	9.0	--
90th Percentile	--	--	--
50th Percentile	--	--	10000
Minimum	--	5.5	--
Samples analysed			
Number required	12	12	12
Number analysed	12	12	12
Statistical summary			
Maximum	62	9.7	12997
90th percentile	58	8.8	2741
50th percentile	17	7.8	509
Minimum	5	7.1	10
EPN Limit Compliance			
% compliance with Maximum	100%	--	--
% compliance with 90th percentile	--	--	--
% compliance with 50th percentile	--	--	92%
% compliance with pH range	--	92%	--

Table 1-F Performance analysis (discharge to reuse)

Reuse compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
pH	25/01/2024	Algae is believed to be the primary reason for elevated pH due to CO ₂ uptake during photosynthesis. Most of the non-compliance results were in warmer months when algal blooms occur. Algae is a source of oxygen and is fundamental to lagoon treatment.	No specific actions taken.

Annual soil sampling was completed in May 2024 at five sites (Beaconsfield 1 – Beaconsfield 5). The annual compliance audit was completed in conjunction with the soil sampling. A summary of the findings of the programs are provided in the table below.

Table 1-G Annual recycled water scheme compliance audit and soil monitoring summary

Program	Compliance audit	Soil monitoring
Compliance status	Minor non-compliance: No signage on smaller access gates at southern end of Whites Road.	Site Beaconsfield 2 recorded an increase in sodicity and is now classified as sodic. Site Beaconsfield 1 sodicity level decreased and has returned within the recommended range. Soil salinity and sodicity at remaining sites are within recommended ranges. Nutrient levels are low.
Comments	RWS has a history of signs being taken off the property fence boundaries.	No notable issues (exception listed above) associated with soil salinity, sodicity or nutrient accumulation identified.

RWS groundwater status: Amber

The recycled water groundwater monitoring network consists of five bores; ID numbers BFGW1-4 and BFGW6. Bore ID's BFGW1, BFGW3-4 are located on the southwest, western and north-western perimeter of the recycled water irrigation area respectively. Bore ID BFGW6 is located directly downstream of the recycled water storage dam.

The annual sampling was not completed during the 2023-24 reporting period. TasWater has put measures in place for the 2024-25 sampling program to address the scheduling and resourcing delays that have impacted the groundwater monitoring program.

Annual sampling at the standard analytical suite is scheduled to continue at all five monitoring bores in 2024-25 groundwater monitoring program.

1.6. Ambient monitoring program

Table 1-H Program details

Program	Not required as per EPA permit variation (18/1/2024, 23/64 D23-322305).
Status	No ambient monitoring conducted
Update	No discharge occurred during reporting period.
Comments	No ambient monitoring conducted during the monitoring reporting period as no discharges to receiving environment occurred

1.7. Groundwater monitoring

STP Site Status: Green – (2022-23 report)

Beaconsfield STP groundwater monitoring network consists of three groundwater bores bore ID's BFGW5, BFGW8 and BFGW9. One round of sampling (6-monthly) was completed at bore ID's BFGW8 and 9, in May 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.

Following delays, the 2023–24 report will be finalised and available in October 2024. Any actions to address identified potential issues will be determined following the hydrogeological review.

6Monthly sampling at the standard analytical suite is scheduled to continue at bore ID's BFGW8–9, whilst bore ID BFGW5 is scheduled to continue annual sampling at the standard analytical suite during the 2024–25 monitoring program.

1.8. 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 93 out of 108 in priority.

1.9. Sludge and biosolids

The latest revision to the Sewage Sludge Management Plan (SSMP) includes full details of the actions undertaken during the reporting period, the most recent sludge profiling results, and upcoming annual desludging program.

This STP was fully compliant with the 2023–24 SSMP.

No stockpiling occurs at this site.

Table 1-I: Desludging status and comments

Desludging status	Comments
Low Priority	Desludging is outside of the current prioritisation planning schedule.

1.10. Non-compliance with other permit requirements

Table 1-K: EPN non-compliances

EPN condition	Description of non-conformance	Future actions to be taken
EF3 Effluent quality limits for discharge to a reuse scheme	Reuse compliance limits	See Table 1 G
M4 Flow Monitoring	No effluent flow meter	In program to be installed

1.11. Complaints and incident reporting

No complaints or incidents reported during the FY2023–24 reporting period.

1.12. Any other relevant information

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

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