

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 2025		

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).	31/10/2024	NA – to be installed	31/10/2024

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 2024	599	138.6	2.45	16.13
August 2024	607	142.8	1.60	20.96
September 2024	685	136.3	1.00	21.13
October 2024	377	89.9	1.00	13.38
November 2024	307	111.9	1.00	5.45
December 2024	522	76.7	1.00	14.69
January 2025	176	7.7	0.00	2.53
February 2025	168	6	0.00	2.59
March 2025	176	33	0.00	4.90
April 2025	173	20	0.00	4.52
May 2025	172	34.8	0.00	4.90
June 2025	267	55.3	0.00	9.43
Annual 2024–25	354	853.0	8.05	120.58
% of total discharge	--	--	6.3%	93.7%

2024–25 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	30	--	30	10	8.5	10	500	50
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	21.6	149.0	0.0	41.1	3.6	9.2	7.5	638.0	326.0
90th percentile	17.6	71.9	0.0	36.9	3.3	9.2	7.3	511.6	106.5
50th percentile	6.8	30.5	0.0	17.0	1.3	7.7	4.8	202.0	52.0
Minimum	2.0	5.0	0.0	8.6	1.0	7.0	1.4	10.0	4.0
EPN limit compliance									
% compliance with maximum	100%	50%	--	75%	100%	75%	100%	83%	50%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	75%	--	--	--

Note: Percentages reflective of complete data set for the year

Table 1-D Mass loads to the environment

Mass Loads	EPN Limit	Frequency	2024-25 result
Nitrogen (kg)	--	Annual	205.0
Phosphorous (kg)	--	Annual	34.8
Method	Time weighted/Grab sample method		

Table 1-E: Performance Analysis (Discharge to Environment)

Reuse Compliance Parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
BOD	16/10/2024 22/08/2024	A distinct/ short duration spike in effluent BOD, TSS and nitrogen suggestive of an elevated load on the STP (likely from a trade waste source). Site monitoring showed a decrease in dissolved oxygen concentrations over this period, suggesting the STP was over capacity leading to incomplete treatment.	Installed a venturi aerator and peroxide dosing in response. Lagoon 1 considered high priority for desludging within the next 5 years.
TSS	16/10/2024 22/08/2024		
Nitrogen	16/10/2024		

1.5. Reuse annual reporting

The Beaconsfield STP 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-F 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	160.0	8.4	2247
90th percentile	33.4	8.2	795
50th percentile	11.5	7.5	97
Minimum	5.0	6.6	10
EPN Limit Compliance			
% compliance with Maximum	92%	--	--
% compliance with 90th percentile	--	--	--
% compliance with 50th percentile	--	--	100%
% compliance with pH range	--	100%	--

Table 1-G Performance analysis (discharge to reuse)

Reuse compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
BOD	20/03/2025	Algae is believed to be the primary reason for elevated BOD due to CO ₂ uptake during photosynthesis. The non-compliance result was in warmer months when algal blooms occur. Algae is a source of oxygen and is fundamental to lagoon treatment.	No specific actions taken. See Section 1.4.

Annual soil sampling was completed in May 2025 at the five long term soil monitoring 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-H Annual recycled water scheme compliance audit and soil monitoring summary

Program	Compliance audit	Soil monitoring
Compliance status	Minor non-compliance: Inadequate signage on boundary.	No issues associated with soil salinity, sodicity or nutrient accumulation identified at the site or through the application of recycled water.
Comments	RWS has a history of signs being taken off the property fence boundaries.	

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.

Annual sampling at the standard analytical suite was completed at four monitoring bores (ID numbers BFGW1, BGF3-4 and BFGW6) in April 2025 as scheduled. Bore ID BFGW2 was not sampled.

The 2024-25 groundwater monitoring event (GME) continued to record concentrations of one key analyte (phosphorous) at two bores (ID's BFGW4 and BFGW6). The GME report highlighted a robust dataset is not available for these two bores resulting in limited analysis. The GME provided no evidence of impact from recycled water irrigation or storage at bore ID's BFGW1 and BFGW3.

Annual sampling at the standard analytical suite is scheduled to continue at all five monitoring bores in 2025-26 groundwater monitoring program.

1.6. Ambient monitoring program

Table 1-I Program details

Program	No ambient monitoring required under EPA permit variation 18/01/2024.
Status	No ambient monitoring required under EPA permit variation.
Update	No ambient monitoring undertaken during the reporting period.
Comments	No ambient monitoring undertaken during the reporting period.

1.7. Groundwater monitoring

Site Status: Green

Beaconsfield STP groundwater monitoring network consists of three groundwater bores bore ID's BFGW5, BFGW8 and BFGW9.

Bi-annual sampling at the standard analytical suite was completed at bore ID's BFGW8-9 in December 2024 and May 2025 as scheduled. One round of sampling at the standard analytical suite was completed at Bore ID BFGW5 in May 2025 as scheduled.

The 2024-25 groundwater monitoring event recorded limited signs of STP impact with exceedance and increasing trend of one key analyte at one bore.

Groundwater sampling will change to an annual frequency for all three bores at the standard analytical suite in the 2025-26 sampling period.

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.

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 assessed as compliant with the 2024-25 SSMP.

Sludge at this STP is captured within the two treatment lagoons, which will be periodically desludged as required. No stockpiling occurs at this site.

Table 1-J: Desludging status and comments

Desludging status	Comments
High Priority	Desludging of lagoon 1 required within the next 5 years.

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
EF2 Effluent Quality limits for discharge to water	Effluent discharged to water must comply with the effluent quality limits	See section 1.4, discharge compliance with permit limits, Table 1-E, Environment Compliance

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 incidents reported during the FY2024–25 reporting period.

Table 1–L: Complaints reporting

Date	Category	Details	Mitigation actions
20 February 2025	Odour	Odour coming from inlet area. Source of odour was the screening bin, combined with an unfavourable wind direction	Bin was removed from site.

1.12. Any other relevant information

Table 1–M: Projects or significant operational events that occurred in FY 2024–25

Project or significant operational event	Progress
Meander Tamar Sewerage Regional Master Plan	The Meander Tamar Sewerage Regional Master Plan has been completed and outlines short-term considerations for the Beaconsfield STP. Minor works are planned to improve the plant's capacity to treat flows. If future growth exceeds the improved STP capacity following these upgrades, rationalisation with the Beauty Point STP may be considered.

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

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