

8. Brighton STP

8.1 Activity and report details

Activity name	Brighton STP		
Activity address	William Street, Brighton & Cove Hill Rd, Honeywood Hobart		
Permit number	Licence to Operate - 3612	Date of issue	17/01/1989
EPN	7059/2	Date of issue	6/04/2020
Treatment level	Secondary Treatment		
Authorised dry weather flows	650 kL/day		
Key influent source	Residential/Industrial 1 x Category 3 Customer		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2024		

Figure 8-1: Brighton Sewage Treatment Plant



8.2. Monitoring and compliance summary

8.2.1. Flow data

Table 8-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location name	Andrew St PS, Inlet	Green Point STP	Brighton Reuse Scheme
Coordinates	E 521646 N 5272175	E 519482 N 5267582	E 521496 N 5270188
Method of measurement	In Line	Estimate based on influent	Estimate based on influent
Date of last calibration/validation (if applicable).	02/04/2024	NA – to be installed	NA – to be installed

Table 8-B: Annual flow and rainfall data

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 94233	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2023	674	12.6	--	20.88
August 2023	657	16.6	--	20.36
September 2023	647	39.4	--	19.40
October 2023	655	52.6	--	20.30
November 2023	636	50.6	--	19.08
December 2023	635	35.2	--	19.68
January 2024	566	58.6	--	17.54
February 2024	566	4.6	--	16.41
March 2024	579	7.6	--	17.95
April 2024	629	41.2	--	18.88
May 2024	596	31.8	--	18.49
June 2024	686	32.8	--	20.58
Annual 2023–24	629	383.6	--	229.54
% of total discharge	--	--	--	100.0%

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

8.3. Bypass events

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

8.4. Discharge compliance with permit limits

This STP does not discharge directly to the environment, when effluent cannot be directed to reuse it is sent through Green Point STP.

8.5. Reuse annual reporting

The Green Point and Brighton STP's supply recycled water for irrigation purposes to twelve properties across the Bridgwater area. The Brighton Recycled Water Scheme is located largely within the Jordan Catchment, crossing slightly into the Pitt-Water Coal River and Derwent Estuary-Bruny catchments.

Table 8-C: Reuse compliance summary

	BOD5	pH	E coli
Permit/EPN limit	mg/L	Units	MPN/100ml
Maximum	50	9.0	10000
90th Percentile	--	--	--
50th Percentile	--	--	1000
Minimum	--	5.5	--
Samples analysed			
Number required	12	12	12
Number analysed	12	12	16
Statistical summary			
Maximum	840	7.4	24196
90th percentile	441	7.3	2075
50th percentile	205	7.0	10
Minimum	24	6.2	10
EPN Limit Compliance			
% compliance with Maximum	25%	--	94%
% compliance with 90th percentile	--	--	--
% compliance with 50th percentile	--	--	81%
% compliance with pH range	--	100%	--

*No recycled water above 2000 uS/cm was provided to the recycled water scheme

Table 8-D: Performance analysis (discharge to reuse)

Reuse compliance parameter	Date(s) of elevated parameter	Reasons	Actions to improve performance
E. coli	3/06/2024 18/06/2024 25/06/2024	Modelling suggests disinfection capacity is currently marginal. At peak flows the plant can have issues with hydraulic retention time, which can result in non/compliant E. coli. The plant is currently overloaded which results in elevated BOD. The BOD levels are further escalated due to presence of algae.	No specific actions undertaken in reporting period.
BOD	15/02/2024 7/03/2024 11/04/2024 3/06/2024 6/07/2023 12/09/2023 2/10/2023 6/11/2023 6/12/2023		Desludging of Lagoons 1,2 and 3 scheduled FY2025. Geobags will be utilised. Brighton STP will be included in the Hobart (Northern) Strategy – currently in development.

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

Annual soil sampling was completed at nineteen sites on eleven properties across the Brighton RWS in July 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. No changes were made to the program. Annual compliance audits were completed at twelve properties throughout July, August and September 2023. Mostly completed by phone, field observations were conducted in conjunction with the soil sampling. Annual sampling of the nine privately owned customer recycled water storage dams supplied by the scheme was completed in October 2023. This sampling was completed as part of the annual sampling program implemented in 2016, on direction from the EPA. A summary of the findings of the programs is provided in the below table.

Table 8-E: Annual recycled water scheme compliance audit and soil monitoring report and dam sampling summary

Program	Compliance audit	Soil monitoring	Dam sampling
Compliance status	Two properties fully compliant. Two properties no irrigation of recycled water. Main non-compliance: inadequate signage on property entrance, boundaries and taps. One property had no IEMP however operated in accordance with relevant guidelines. <u>Major non-compliances:</u> One property - Inadequate fencing around storages (ongoing non-compliance	Average soil salinity levels where slightly lower in 2023 while average chloride levels remained similar. Average soil salinity and Chloride levels ranged from non-saline to low-level saline. No long-term trend identified. Average ESP levels remain similar to previous years, ranging from non-sodic to borderline sodic. No long-term trend identified. Average phosphorous levels remain excessive with a continue increasing trend. Average potassium	Recycled water quality in all customer dams (at 19 October 2023) was generally compliant with class B recycled water standards. Two storages at two properties recorded elevated pH levels outside TasWater's Class B recycled water quality requirement. Recorded nutrient concentrations considered typical of recycled water.

Comments	issue). Livestock located within a recycled water storage dam boundary.	levels remain high, with a continued increasing trend recorded albeit at a slower rate than phosphorous. Average Sulphur levels remain moderate.	
	<p>Aspects of original Site Management Plans are outdated for numerous properties. The planned review of the current Brighton EMP during the 2023-24 reporting period was rescheduled for 2024-25 reporting period. TasWater will work with customers to address updating customer IEMPs following the EMP review.</p> <p>Recycled water customer of major non-compliance has been advised of requirements.</p> <p>It is noted that ownership of several properties within the Brighton Recycled Water scheme have changed ownership.</p>	<p>Overall soil health and fertility do not appear to be adversely impacted through recycled water irrigation.</p> <p>Long-term trends in average Phosphorus and potassium are attributed with sources other than recycled water application. Average levels are strongly influenced by excessive levels at a few sites where known nutrient inputs are significant.</p>	<p>Throughout the reporting period additional sampling was completed at customer dams as part of the drafted customer risk management and notification framework for elevated exceedances of <i>E. coli</i> from the Scheme. The annual dam review continued to highlight this drafted framework remains an effective means of managing risk to customers associated with recycled water quality.</p> <p>The framework will be included in the scheduled Brighton EMP review and update.</p>

Key: ESP = Exchangeable sodium percentage.

Site Status: Red

The Brighton RWS groundwater monitoring network consists of ten monitoring bores located across eight properties. Five bores (BR-THGW1, BR-HWGW3, BR-STGW1, BR-STGW3 and BR-RIGW1) are associated with recycle water storage dams.

One round of sampling at the extended analytical suite was completed at nine bores in January and 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 continued to highlight the bore of concern recording an increasing trend of nitrogen although concentrations decreased, they remain above the adopted groundwater guideline criterion. Additional monitoring is at this property to determine water classification and source. All other properties recorded no or minor issues. In general, the impact from recycled water irrigation on groundwater quality is likely to be low due to the use ratio of recycled water to other alternate water sources to meet the typical average irrigation demand of the region.

6-monthly sampling is scheduled to resume in the 2024-25 groundwater monitoring program. One private recycled water storage associated will be sampled so that chemical characterisation can be completed to investigate and verify any trends. TasWater has put measures in place for the 2024-25 sampling program to address the scheduling and resourcing delays.

Further information regarding groundwater monitoring is provided in section 8.7

8.6. Ambient monitoring program

Table 8-F: Program details

Program	NA – No requirement for ambient monitoring as no direct discharge to water.
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8.7. Groundwater monitoring

Site status: Amber – (2022–23 Report)

Brighton STP groundwater monitoring network consists of six monitoring bores. Bore ID's BRGW1-3 are located at the Brighton Lagoons at Cove Hill Road, whilst Bore ID's BRGW4-6 are located at the Primary Lagoon on William Street.

One round of sampling at the extended analytical suite was completed at all six bores in February 2024. The STP lagoons and adjacent unnamed creek to Bore ID's BRGW4-6 were also sampled in February 2024 as per previous report recommendation to investigate potential STP impacts. The second (annual) sampling was not completed.

6-monthly sampling at the extended analytical suite is planned to resume during the 2024–25 groundwater sampling program. TasWater has put measures in place for the 2024–25 sampling program to address the scheduling and resourcing delays.

The groundwater monitoring report for the 2023–24 sampling event will be finalised and provided in October 2024.

8.8. 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 24 out of 108 in priority.

8.9. 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 8-G: Desludging status and comments

Desludging status	Comments
High Priority	Desludging scheduled to occur in 2024–2025, as per the current prioritisation planning schedule.

8.10. Non-compliance with other permit requirements

Table 8-H: EPN non-compliances

EPN condition	Description of non-conformance	Future actions to be taken
EF2 Effluent quality limits for discharge to the Brighton Reuse Scheme	Reuse effluent quality limits	See section 8.5 Reuse Annual Reporting and Performance Analysis

8.11. Complaints and incident reporting

No complaints recorded during the period.

Table 8-I: Incident reporting

Date	Category	Details	Mitigation actions
10/05/2024	Reuse Power Outage	Spill at the Brighton Reuse Lagoon. This occurred due to a power pole fire and subsequent loss of mains power to the pump station.	Investigations did not show any evidence of an overflow to environment. Flow seems to have been completely retained within the lagoon.

8.12. Any other relevant information

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

www.taswater.com.au.