

10. Cambridge STP

10.1. Activity and report details

Activity name	Cambridge STP		
Activity address	Hobart International Airport Pty Ltd Lease, Cambridge		
Permit number	Airports (Environment Protection) Regulations 1997	Date of issue	NA
EPN	7447/3	Date of issue	22/10/2019
Treatment level	Tertiary (E3) – (Nitrogen + Phosphorus)		
Authorised dry Weather Flows	800 kL/day		
Key Influent Source	Residential/Industrial 2 x Category 3 Customer, 5 x Category 4 Customer		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2025		

Figure 10-1: Cambridge Sewage Treatment Plant



10.2. Monitoring and compliance summary

10.2.1 Flow data

Table 10-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location Name	Inlet	Sinclairs Creek to Pitt Water	Effluent Reuse Scheme - Coal River
Coordinates	E 541665 N 5256539	E 541895 N 5256954	E 541640 N 5256568
Method of Measurement	In Line meter	In Line meter	In Line meter
Date of last Calibration/Validation (if applicable)	17/06/25	17/06/25	17/06/25

Table 10-B: Annual flow and rainfall data

Month	Average Daily Influent Volume (kL/day)	Rainfall (mm/month) BOM Station ID 94264	Discharge to Waters Total Effluent Volume (ML)	Discharge to Reuse Total Effluent Volume (ML)
July 2024	916	72.4	18.98	9.62
August 2024	740	49.8	9.99	14.96
September 2024	1,027	43	19.84	11.31
October 2024	730	23.4	0.60	25.91
November 2024	724	17.2	2.64	22.59
December 2024	977	92	3.02	30.65
January 2025	794	8.2	2.53	26.53
February 2025	735	13	0.00	23.64
March 2025	739	14.4	1.90	24.01
April 2025	690	23.2	5.26	18.65
May 2025	711	35	19.28	6.98
June 2025	742	38.6	12.69	15.57
Annual 2024-25	794	430.2	96.73	230.41
% of Total Discharge	--	--	29.6%	70.4%

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

10.3. Bypass events

Bypass ID:	CABST01-OND				
Bypass description:	Pumped bypass from storm balancing tanks to outfall				
Treatment bypassed:	Secondary Treatment, Filtration, Disinfection (UV & Chlorine)				
Treatment level of impacted effluent:	Screened, bypass chlorination				
Flows exceeding:	~ 18.5 L/s				
Discharge location:	Lower Pittwater via Sinclairs Creek: 541895E, 5256954N (GDA94)				
Start date / time	End date / time	Duration	Volume estimate	Cause	Response actions
07/12/24 16:32	08/12/24 00:42	8.2 h	505 kL	Rainfall Event	To help reduce bypass events state-wide, during FY2024-25 TasWater has spent \$1.2 million on the identification, reification 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. Refer to 10.7 for specific details.
08/12/24 10:42	08/12/24 11:11	0.5 h	57 kL	Rainfall Event	

10.4. Discharge compliance with permit limits

Table 10-C: Discharge compliance with permit limits

	Ammonia as N	BOD ₅	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	2.0	10	--	15	5	8.5	3.0	200	10
90th Percentile	1.0	5	--	10	2	--	1.0	--	5
50th Percentile	0.5	--	--	7	1	--	0.5	10	4
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	12	12	--	12	12	12	12	12	12
Number analysed	12	12	--	12	12	12	12	24	12
Statistical summary									
Maximum	0.7	12.0	0.6	38.2	1.8	7.5	6.8	10	4
90th Percentile	0.5	7.7	0.6	14.7	1.6	7.4	4.6	10	4
50th Percentile	0.3	5.0	0.4	12.5	1.2	7.3	0.2	10	4
Minimum	0.1	5.0	0.2	7.3	1.0	7.2	0.1	10	4
EPN Limit Compliance									
% compliance with Maximum	100%	92%	--	92%	100%	100%	83%	100%	100%
% compliance with 90th percentile	100%	83%	--	8%	100%	--	83%	--	100%
% compliance with 50th percentile	92%	--	--	0%	42%	--	67%	100%	100%
% compliance with pH range	--	--	--	--	--	100%	--	--	--

Table 10–D: Mass loads to the environment

Mass Loads	EPN Limit	Frequency	2024–25 result
Nitrogen (kg)	--	Annual	1236.2
Phosphorous (kg)	--	Annual	54.3
Method	Flow weighted/Composite method		

Table 10–E: Performance Analysis (Discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
Nitrogen (Total)	10/12/2024	The high proportion and variability of trade waste discharges affects the ability of the process to effectively and consistently achieve the required Nitrogen and Phosphorus removal.	<p>Within the Cambridge catchment, TasWater is strengthening trade waste management by transitioning all customers onto modern contracts that clearly define discharge requirements and responsibilities. This provides greater regulatory alignment and supports more consistent oversight of trade waste risks. Where necessary, TasWater is also setting clear milestones for customers to implement pretreatment improvements, ensuring that investment in on-site controls is timely and effective.</p> <p>These measures are expected to significantly enhance overall effluent quality. By strengthening pretreatment requirements, increasing compliance monitoring, and promoting best-practice waste minimisation, the volume and concentration of harmful substances—such as fats, oils, grease, heavy metals, and non-biodegradable organics—entering the sewerage system can be reduced.</p> <p>A Strategic Business Case is has determined the STP will be retained and upgraded.</p>
Phosphorus	19/11/2024 10/12/2024		
BOD ₅	21/01/2025		

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

10.1. 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 10–F: Reuse compliance summary

	BOD ₅	pH	E. coli
Permit/EPN limit	mg/L	Units	MPN/100ml
Maximum	50	9.0	10,000
90th Percentile	--	--	--
50th Percentile	--	--	1,000
Minimum	--	5.5	--
Samples analysed			
Number required	12	12	12
Number analysed	12	12	24
Statistical summary			
Max	12.0	7.5	20
90th percentile	7.7	7.4	10
50th percentile	5.0	7.3	10
Min	5.0	7.2	10
EPN Limit Compliance			
% compliance with Maximum	100%	--	100%
% compliance with 90th percentile	--	--	--
% compliance with 50th percentile	--	--	100%
% compliance with pH range	--	100%	--

No parameters exceeded for the period.

Annual soil sampling was completed at forty-one sites on twenty-three properties across the Clarence RWS in July 2024. 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. Four sites (44MOR, 46LAZ, 51Low, 61GRI, and 62CRA) were added to the 2024–25 soil sampling program. No sites were removed. Annual compliance audits were completed at twenty-four properties during the 2024–25 reporting period. The field component of the audits was completed in conjunction with the soil monitoring program and follow-up correspondence in September 2024. A summary of the findings of the programs is provided in the below table.

Table 10-G: Annual recycled water scheme compliance audit and soil monitoring

Program	Compliance audit	Soil monitoring
Compliance status / Outcomes Comments	(24 properties) Overall compliance level: 86% 25% properties fully compliant – 6 out of 24 properties (down from 7). Minor Non-compliance: 66% properties recorded minor non-compliances (up from 49%) – inadequate signage). Seven properties recorded recycled water irrigation outside IEMP requirements (withholding times and/or buffer zones and inadequate fencing of nominated recycled water storage). Inadequate signage remains the main non-compliance across the scheme. The nine inoperable recycled water supply meters were replaced in 2024-25. TasWater will continue to replace faulty meters in 2025-26. Clarence RWS EMP 2019-2025 is planned for review and submission 2025-26.	Overall, soil health and fertility do not appear to be adversely impacted through recycled water irrigation. In 2024 ECse averages were slightly lower and average Cl levels slightly decreased. Average ECse and Cl levels continue to fluctuate between sampling events. 7% Sites considered saline, 20% considered slightly saline and 73% sites within the recommended range. From a soil structure perspective, sodicity is the main concern. Average ESP levels in 2024 remained similar to previous years. 29% sites considered sodic, 12% slightly sodic and 59% within the recommended range. No long-term trends have been identified. A review of recycled water quality (salinity and SAR) indicates a very slight risk of soil permeability loss resulting from the application of recycled water and highly unlikely future sodicity issues will develop due to recycled water application. The increasing long-term trend in average P and K continues, however, average P levels has stabilised in recent years. In 2024 average P was classed high, with average K levels moderate and average S levels considered low-moderate across the scheme. 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.

Key: K= Potassium; P=Phosphorous; S = Sulphur; ECse = Electrical Conductivity; Cl = Chloride; SAR = Sodium Absorption Ratio, ESP = Exchangeable Sodium Percentage

RWS Groundwater Status: Amber

The Clarence RWS groundwater monitoring network currently consists of 36 monitoring bores across 16 properties. Four bores (ID's CL-RRPGW9, CL-SHGW2, CL-TGCGW3 and CL-RHCGW4) are associated with recycled water storage dams.

6-monthly sampling was completed at 33 bores in July 2024 with annual sampling completed in February 2025 at 30 bores. Three bores across two properties could not be accessed during the annual sampling round. No sampling was completed during the 2024-25 groundwater monitoring event at one property as the bore could not be located.

The 2024-25 groundwater monitoring event report found groundwater chemistry appears to be generally consistent with previous years. The review of the data and recycled water use suggests that overall, the irrigation of recycled water is having no definitive impact on groundwater quality. Of the fifteen properties sampled, two properties recorded no exceedances above the adopted guideline criterion for key analytes. Four properties recorded evidence of an increasing trend (Mann-Kendall test) of at least one key analyte in at least one monitoring bore. Six monitoring bores require

repair or maintenance activities. Two bores associated with storages require additional sampling and or maintenance work to investigate trends.

6-monthly sampling will continue at all monitoring bores during the 2025–26 monitoring program. Additional surface water monitoring will be completed at Clarence Recycled Water Storage (Duckhole Dam) to allow for further chemical classification.

10.5. Ambient monitoring program

Table 10–H: Program details

Program	Routine ambient monitoring in accordance with EPN
Status	Ongoing monthly ambient water quality monitoring, biennial biological monitoring and sediment monitoring every four years.
Update	Completed monthly ambient water quality monitoring. Biological (infauna) monitoring was also completed during the reporting period. The 2024–25 Ambient Monitoring Report (AMR) is in preparation and will be submitted later in 2025.
Comments	<p>Effluent discharge to Sinclairs Creek occurred each month throughout FY 2024–25 except for February. Ambient water quality and biological monitoring was undertaken in accordance with EPN requirements (attachment 2 of EPN 7447/3):</p> <p>A summary of the ambient monitoring is provided below:</p> <ul style="list-style-type: none"> Elevated nitrate, total nitrogen, and phosphorus were observed in Sinclairs Creek and at its entry to Pitt Water, with frequent exceedances of guideline values in summer–autumn. Ammonia showed intermittent sharp peaks near the mouth of Sinclairs Creek while nitrite remained consistently low. Downstream attenuation of nutrient signals suggests localised impacts at the creek and mouth, with further mixing and dilution into the ambient environment. No signs of eutrophication or algal blooms were recorded during the monitoring period. Pathogen indicators (<i>E. coli</i>, Enterococci) were consistently below the limit of reporting (LOR) in effluent samples, confirming effective treatment performance. Elevated concentrations occurred in Sinclairs Creek and, at times, extended to the creek mouth and the wider estuary. These events were not linked to effluent discharges and are more likely associated with local processes such as faecal input from wildlife introduced after significant rainfall. Reference sites remained at or below the LOR. Benthic infauna in 2024 were dominated by molluscs, with crustaceans present in lower abundance. Species richness was consistent across sites and community composition showed only minor variation, with no pattern linked to the input from the mouth of Sinclairs Creek, and by extension the STP. These findings indicate that natural estuarine processes, rather than effluent discharge, are the primary drivers of infaunal variability. <p>Overall, the 2024–25 AMP results demonstrate that nutrient enrichment from the STP, transported via Sinclairs Creek, remains the primary effluent–related signal, while broader environmental variability drives water quality and biological communities in Pitt Water.</p>

10.6. Groundwater monitoring

There are no groundwater monitoring programs required for Cambridge STP.

10.7. 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 8 out of 108 in priority (high). Works this period included field investigation and ongoing defect identification.

10.8. 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 compliant with the 2024-25 SSMP.

Biosolids are removed regularly from site, no stockpiling occurs.

Upon review of PFAS levels against proposed NEMP 3.0 biosolids limits, the decision was made to divert biosolids from this site to landfill. Approvals were sought and obtained from EPA and Southern Waste and from November 2024 biosolids from Cambridge STP have been disposed of at the C-cell at the Southern Waste facility at Copping.

TasWater is actively investigating likely sources of PFAS contamination in the Cambridge network and a focus for the next FY will be to develop plans to mitigate/reduce this contaminant.

Table 10-I: Biosolids sludge classification

Month	Number of Samples	Maximum (mg/kg)	Mean (mg/kg)	Minimum (mg/kg)	BACC (mg/kg)	Contaminant Classification
Arsenic	12	8.5	6.9	4.9	9.1	A
Cadmium	12	4.4	2.4	1.4	4.3	B
Chromium	12	43.6	22.6	16.3	37.5	A
Copper	12	635.0	251.4	89.4	541.8	B
Lead	12	58.1	23.8	11.5	53.6	A
Mercury	12	1.0	0.3	0.0	0.8	A
Nickel	12	27.6	16.2	12.4	24.8	A
Zinc	12	777.0	369.3	233.0	689.6	B

BACC = Biosolids Adjusted Contaminant Concentration

Table 10-O: Volume and disposal destination

Quantity (DST)	Average solids content	Stabilisation method	Stabilisation Grade	Contamination Grade	Biosolids Classification	End use destination
55.1	13.3	Hydrated Lime	B	B	2	Whitemarsh farm
52.5	13.3	None	Unclassified	*B	Unclassified	Landfill – Southern Waste C-cell

Notes: DST = Dry solid tonne. U/C = Unclassified

*Due to elevated PFOS levels the decision was made to divert biosolids from this site to landfill from November 2024. Stabilisation not required for disposal to landfill, therefore ceased addition of lime.

10.9. Non-compliance with other permit requirements

Table 10-J: EPN non-compliances

EPN Condition	Description of non-conformance	Future Actions to be taken
EF3 Effluent quality limits for discharge to Sinclairs Creek	See section 10.4 Discharge compliance with permit limits and Performance Analysis	See section 10.4 Discharge compliance with permit limits and Performance Analysis
EF5 Effluent improvement program	An updated EIP was due 30 June 2023 but not yet submitted.	Update has been provided to the EPA.

10.1. Complaints and incident reporting

There were no complaints received during the FY2024-25 reporting period.

Table 10-K: Incident reporting

Date	Category	Details	Mitigation actions
3/06/2025	Mechanical	The UV system was bypassed due to a fault in the system. The system only had 2 out of 9 lamps running.	Sodium hypochlorite system used whilst the UV system was offline. Contractor rectified with spare parts.

10.10. Any other relevant information

Table 10-L: Projects or significant operational events that occurred in FY 2024-2025

Project or significant operational event	Progress
Derwent Hobart Sewerage Regional Master Plan	The Derwent Hobart Sewerage Regional Master Plan has been completed and outlines both short- and long-term considerations for the Cambridge STP.
Inflow and Infiltration works	Ongoing investigation and rectification work this FY as one of the priority networks
Pittwater Regional Sewerage Strategy (PRSS)	Cambridge STP is currently included within the PRSS. A Strategic Business Case is has determined the STP will be retained and upgraded.

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

www.taswater.com.au