

11. Cameron Bay STP

11.1 Activity and report details

Activity name	Cameron Bay STP		
Activity address	Cameron Bay, Berridale, Hobart		
Permit number	Licence to Operate – 3539	Date of issue	18/04/1990
EPN	7061/2	Date of issue	7/04/2020
	8845/1		5/03/2013
Treatment level	Secondary Treatment		
Authorised dry weather flows	6000 kL/day		
Key influent source	Residential/Industrial/Tankerred 1 x Category 4 Customers		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2024		

Figure 11-1: Cameron Bay Sewage Treatment Plant



11.2. Monitoring and compliance summary

11.2.1. Flow data

Table 11-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location name	Inlet	Derwent River	Effluent Reuse Scheme - Claremont Golf Club
Coordinates	E521123 N5260214	521387E 5260379N	E521251 N5260232
Method of measurement	In-line flow monitor	Level sensor	In-line flow monitor
Date of last calibration/validation (if applicable).	5/02/24	5/02/24	5/02/24

Table 11-B: Annual flow and rainfall data

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 94258	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2023	4,925	36.8	152.69	0.00
August 2023	4,680	15.2	141.70	3.38
September 2023	4,852	45.0	138.07	7.49
October 2023	4,663	58.0	134.97	9.59
November 2023	4,205	27.2	115.00	11.14
December 2023	4,138	41.1	111.54	16.76
January 2024	4,589	49.8	121.69	20.55
February 2024	4,854	3.6	122.82	17.95
March 2024	4,123	8.8	108.17	19.63
April 2024	4,431	26.4	125.37	7.56
May 2024	4,414	27.8	136.82	0.00
June 2024	4,516	27.6	135.48	0.00
Annual 2023-24	4,543	367.3	1,544.32	114.05
% of total discharge	--	--	93.1%	6.9%

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

11.3. Bypass events

Table 11-C: Bypass events summary

Bypass ID:	CABST01-OND				
Bypass description:	Pumped overflow from the primary pump station wet well into the chlorine contact tank				
Treatment bypassed:	Secondary Treatment				
Treatment level of impacted effluent:	Screened, De-gritted, Primary Treated and Chlorinated				
Flows exceeding:	270 L/s (Approximate)				
Discharge location:	Cameron Bay STP outfall: 521387E, 5260379N (GDA94)				
Start date / time	End date / time	Duration	Volume estimate	Cause	Response actions
08/07/2023 17:56	08/07/2023 23:55	6.0 h	720.5 kL	Rainfall Event	No specific actions undertaken
16/09/2023 15:51	16/09/2023 21:38	5.8 h	583.2 kL	Rainfall Event	No specific actions undertaken
22/10/2023 00:10	22/10/2023 05:01	4.9 h	760.5 kL	Rainfall Event	No specific actions undertaken
25/11/2023 11:57	25/11/2023 12:27	0.5 h	45.7 kL	Rainfall Event	No specific actions undertaken
14/12/2023 03:51	14/12/2023 06:19	2.5 h	548.9 kL	Rainfall Event	No specific actions undertaken
17/01/2024 11:41	17/01/2024 13:29	1.8 h	62.9 kL	Rainfall Event	No specific actions undertaken
17/01/2024 17:17	17/01/2024 17:20	0.1 h	11.4 kL	Rainfall Event	No specific actions undertaken

02/04/2024 11:25	02/04/2024 11:58	0.6 h	28.6 kL	Rainfall Event	No specific actions undertaken
21/05/2024 19:21	21/05/2024 20:08	0.8 h	68.6 kL	Rainfall Event	No specific actions undertaken
11/06/2024 09:19	11/06/2024 10:13	0.9 h	45.7 kL	Rainfall Event	No specific actions undertaken

11.4. Discharge compliance with permit limits

Table 11-D: Discharge compliance with permit limits

	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	15.0	15	1.0	40.0	10.0	8.5	15.0	1000	20.0
90th percentile	10.0	10	--	35.0	--	--	10.0	500	15.0
50th percentile	5.0	5	--	30.0	--	--	--	200	10.0
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	52	52	52	52	52	52	52	52	52
Number analysed	52	52	52	52	52	52	52	52	52
Statistical summary									
Maximum	26.3	59	1.08	44.3	2.0	7.6	8.3	24196	22.6
90th percentile	3.4	18	0.99	37.4	1.2	7.4	7.0	84	11.4
50th percentile	0.7	5	0.81	29.7	1.0	7.1	6.3	10	5.9
Minimum	0.1	5	0.12	10.9	1.0	6.6	4.3	10	4.0
EPN limit compliance									
% compliance with maximum	96%	88%	94%	96%	100%	--	100%	98%	98%
% compliance with 90th percentile	94%	79%	--	75%	--	--	100%	94%	94%
% compliance with 50th percentile	92%	54%	--	52%	--	--	--	92%	83%
% compliance with pH range	--	--	--	--	--	100%	--	--	--

Table 11-E: Mass loads to the environment

Parameter	EPN limit	Frequency	2023-24 result
Nitrogen (kg)	72270	Annual	43872.8
Phosphorous (kg)	23000	Annual	9348.5
Method	Flow weighted/composite method		

Table 11-F: Performance analysis (discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
Ammonia	28/11/2023 20/02/2024	The exact reason for these non-compliances has not conclusively been determined, however increased catchment loading may have been a contributing factor.	Analysers have recently been installed to better monitor treatment performance including effluent chlorine analysers and pH. Control improvements will be implemented for the chlorine system to reduce disinfection performance variability.
Nitrogen	14/11/2023		
BOD	4/07/2023 18/07/2023 5/12/2023 23/01/2024 13/02/2024		
Chlorine	21/11/2023 9/01/2024		
E. coli	5/12/2023		
TSS	5/12/2023		

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

No other parameters had exceedances in the reporting period.

11.5. Reuse annual reporting

Cameron Bay STP supplies Class B recycled water, for irrigation purposes to one customer, Claremont Golf Club.

Table 11-G: 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	52	52	52
Number analysed	52	52	52
Statistical summary			
Max	59	7.6	24196
90th percentile	18	7.4	84
50th percentile	5	7.1	10
Min	5	6.6	10
EPN Limit Compliance			
% compliance with Maximum	98%	--	98%
% compliance with 90th percentile	--	--	--
% compliance with 50th percentile	--	--	98%
% compliance with pH range	--	100%	--

Table 11-H: Performance analysis (discharge to reuse)

Reuse compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
BOD	23/01/2024	See Section 11.4	See Section 11.4
E. coli	5/12/2023		

No other parameters had exceedances in reporting period when discharging to reuse.

The annual soil sampling was completed at Site's 1 and 2 on 8 December 2023. The annual compliance audit field component was also completed on 8 December 2023 with a follow up meeting on 18 December 2023.

Table 11-I: Annual recycled water scheme compliance audit and soil monitoring

Program	Compliance audit	Soil monitoring
Compliance status / summary	<p>Non-compliant:</p> <p>IEMP does not reflect current site conditions (e.g. buffer zones to residential development)</p> <p>Recycled water was supplied to an unapproved second dam to the west of the current approved storage dam.</p> <p>Inadequate signage at front gate.</p>	<p>Soil salinity and sodicity at both sample sites increased in 2023 and are at or exceed historical highs at both sites. Both sites are now classified as saline and sodic (low levels).</p> <p>Phosphorous levels remain excessive and high at Site 1 and Site 2 respectively with levels at, or slightly above historical highs.</p> <p>The amount of phosphorous applied in recycled water potentially exceeds soil factor losses at typical recycled water application rates.</p>
Comments	<p>Significant personnel changes have occurred at the Golf Club.</p> <p>Installation of the proposed security fence between the golf course and residential development has not progressed due to external factors. Signage had been installed.</p> <p>The report recommended:</p> <p>IEMP be updated to include amended buffer zones, nominated recycled water and potable water irrigation areas.</p>	<p>The report concluded:</p> <p>Recycled water salinity and SAR quality data suggests there is no risk of soil permeability loss from recycled water irrigation.</p> <p>Whilst soil salinity requires ongoing monitoring, the periodic spikes in salinity indicators suggests that that leaching from rainfall has effectively managed these levels.</p> <p>The continued elevation of soil phosphorous levels are not unexpected as there is a very low level of nutrient loss from the grass cut system.</p> <p>The report recommended:</p> <p>Careful irrigation management to prevent over irrigation (and therefore nutrient accumulation) remains important at this site to remain sustainable. If elevation of certain soil parameters continue, additional irrigation and land management options may be required.</p>

Raw soil monitoring data and all recommendations have been provided to the recycled water customer through the annual auditing and soil monitoring program.

TasWater has been in consultation with the recycled water customer to discuss TasWater's requirements following the customer re-filling the second dam and the customer receiving advice from NRE there is no requirement from the dam regulator to register the second dam.

11.6. Ambient monitoring program

Table 11-J: Program details

Program	NA – No requirement for ambient monitoring in the reporting period
Status	NA
Update	NA
Comments	NA

11.7. Groundwater monitoring

No groundwater monitoring program associated with the STP or RWS.

11.8. 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. Updates to the actions were completed in 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 5 out of 108 in priority. Flow monitoring of the entire catchment is scheduled for FY2025.

11.9. 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 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 occurred at this site.

Table 11-K: Biosolids sludge classification

Month	Number of samples	Maximum (mg/kg)	Mean (mg/kg)	Minimum (mg/kg)	BACC (mg/kg)	Contaminant classification
Arsenic	12	3.4	2.8	2.4	3.4	A
Cadmium	12	1.6	1.2	0.8	1.7	B
Chromium	12	40.8	24.8	18.2	37.7	A
Copper	12	503.0	427.7	358.0	520.3	B
Lead	12	36.3	23.8	16.6	35.5	A
Mercury	12	0.8	0.5	0.0	0.9	A
Nickel	12	38.3	30.5	19.9	42.6	A
Zinc	12	943.0	787.4	595.0	1020.4	B

Table 11-L: Volume and disposal destination

Quantity (DST)	Average solids content	Stabilisation method	Stabilisation grade	Contamination grade	Biosolids classification	End use destination
266.6	14.2	Anaerobic digestion	B	B	2	Coronation Hotel, Whitemarsh farm, Delmore farm, Old Mill farm, Strathallan farm

Notes: DST = Dry solid tonne.

11.10. Non-compliance with other permit requirements

Table 11-M: EPN non-compliances

EPN condition	Description of non-conformance	Future actions to be taken
A1 Odour Management	Odour exceeds 2 OU limits on occasions at the site boundary	Capital project to further reduce the odour impact. TasWater has submitted an Odour Abatement Plan which is being progressed. Refer to Section 11.12 for more details.
EF3 Effluent quality limits for discharge to water	Discharge compliance with permit limits	See section 11.4 Discharge compliance with permit limits and Performance Analysis
EF4 Effluent quality limits for discharge to reuse	Discharge compliance with permit limits	See section 11.5 Discharge compliance with permit limits and Performance Analysis
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 2024-25 SSMP
(EPN 8845) EM1, EM2 & EM3 Effluent Management, Reuse Feasibility Study and Discharge Management Plan	Reuse Feasibility Study and Discharge Management Plan overdue	TasWater acknowledges the non-compliance associated with the DMP condition. We are working towards the intent of the EPN condition to prioritise discharge risk reduction projects in line with our EPA endorsed Wastewater Risk Management Plan and Price and Service Plan process.

11.11. Complaints and incident reporting

Table 11-N: Complaints reporting

Date	Category	Details	Mitigation actions
15/01/2024	Odour	Strong odour from treatment plant.	Odour can be caused by impacts of high strength trade entering the STP and reducing the STPs ability to process effectively. An upgraded odour control system was installed in FY2023.

Table 11-O: Incident reporting

Date	Category	Details	Mitigation actions
24/05/2024	Mechanical	The biogas flare was malfunctioning overnight. There was a possibility of elevated odour as a result.	Rectified overnight.
23/02/2024	Mechanical	Odour bed fan on primary settling tank #3 switched off due to mechanical issue.	Rectified.
5/02/2024	Mechanical	Sedimentation Tank #3 has suffered a mechanical issue and will be taken offline to assess and conduct repair/maintenance.	Bearing replaced and sedimentation tank back online on 21/2/2024.
25/10/2023	Disinfection	There was a failure of chlorine disinfection between approximately midnight to 8am. Initial indication was that the chlorine gas tank did not switch over once empty leading to the lack of disinfection.	Rectified once operators attended site.

11.12. Any other relevant information

Table 11-P: Projects or significant operational events that occurred in FY 2023–2024

Project or significant operational event	Progress
Cameron Bay STP odour dispersion model update	Winter samples were collected in June 2023 and planning for summer sample collection in February 2024. The updated odour dispersion model will be available in FY2025.

For further information on Cameron Bay STP please contact TasWater on 13 6992

www.taswater.com.au