

13 Campbell Town STP

13.1 Activity and report details

Activity name	Campbell Town STP		
Activity address	Harrison Street, Campbell Town		
Permit number	Licence to Operate - 3572	Date of issue	3/11/1988
EPN	9380/1	Date of issue	25/07/2016
Treatment level	Secondary Treatment		
Authorised Dry Weather Flows	325 kL/day		
Key Influent Source	Residential		
Contact person	Kate Westgate		
Report author	Jayden Taylor		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2023		

Figure 13-1: Campbell Town Sewage Treatment Plant



13.2 Monitoring and compliance summary

13.2.1 Flow data

Table 13-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location Name	Inlet	Elizabeth River	Ag Irrigation (Meadow Bank)
Coordinates	E540149 N5357660	E539901 N5357745	E540082 N5357806
Method of Measurement	In line meter	Influent less Reuse	In line meter
Date of last Calibration/Validation (if applicable).	28/04/2023	NA	29/07/2022

Table 13-B: Annual flow and rainfall data

Month	Average Daily Influent Volume (kL/day)	Rainfall (mm/month) BOM Station ID 93033	Discharge to Waters Total Effluent Volume (ML)	Discharge to Reuse Total Effluent Volume (ML)
July 2022	170	17.6	0.00	6.46
August 2022	170	96.9	0.00	10.32
September 2022	176	76.8	0.00	14.16
October 2022	169	139.4	0.00	19.58
November 2022	573	113.7	0.00	26.95
December 2022	362	66.0	0.00	14.54
January 2023	228	16.1	0.00	6.67
February 2023	422	24.5	0.00	4.73
March 2023	382	37.5	0.00	4.92
April 2023	297	40.6	0.00	4.80
May 2023	169	20.8	0.00	5.43
June 2023	228	55.5	0.00	6.85
Annual 2022-23	277	705.4	0.00	125.39
% of Total Discharge	--	--	0.0%	100.0%

2022-23 monthly flow data was submitted directly to the EPA.

13.2.2 Bypass events

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

13.3 Discharge compliance with permit limits

Table 13-C: Compliance Summary

Parameter	Ammonia	BOD5	Chlorine	Nitrogen	Oil and grease	pH	Phosphorous	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	50		33	2	8.5	10	200	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									
Max	16.9	96	--	31.3	3.6	10.4	7.0	1112	135.0
90th percentile	5.0	73	--	24.1	1.5	9.6	6.2	825	129.6
50th percentile	0.4	49	--	16.5	1.0	8.3	5.4	225	88.5
Min	0.1	23	--	8.7	1.0	7.2	2.1	10	32.0
EPN Limit Compliance									
% compliance with Maximum	100%	58%	--	100%	92%	--	100%	42%	25%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	58%	--	--	--

No parameters were exceeded in the FY period for discharge to water.

13.4 Reuse Annual Reporting

The Campbell Town recycled water scheme consists of one customer: Meadowbank property.

Table 13-D: Reuse Compliance Summary

Parameter	BOD5	pH	E coli
Permit/EPN limit	mg/L	Units	MPN/100ml
Maximum	50	10.0	10000
90th percentile	--	--	--
50th Percentile	--	--	1000
Minimum	--	5.5	--
Samples analysed			
Number required	12	12	12
Number analysed	12	12	12
Statistical summary			
Max	96	10.4	1112
90th percentile	73	9.6	825
50th percentile	49	8.3	225
Min	23	7.2	10
Summary of results			
% compliance with Maximum	58%	--	100%
% compliance with 90th percentile	--	--	--
% compliance with 50th percentile	--	--	92%
% compliance with pH range	--	92%	--

Table 13-E: Performance analysis (Discharge to reuse)

Reuse Compliance Parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
BOD	22/08/2022 26/09/2022 20/10/2022 07/12/2022 04/01/2023	Algae is believed to be the primary reason for elevated pH and BOD. Most of the non-compliant results were in warmer months when algal blooms occur.	Investigate the feasibility of upgrading and relocation of the aerators closer to the inlet, and installation of scum baffles around the lagoon outlet risers.
pH	22/02/2023	Algae is a source of oxygen and is fundamental to lagoon treatment.	

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

Annual soil sampling was completed in April 2023 at two sites (*Clover* and *Barn*). Changes to the sampling sites include the adding of "*Barn*" site to the program following its first season of recycled water irrigation and re-sampling of *Clover* site, whilst *Reservoir*, *Strainers* and *Rifle Hill* sampling sites were not sampled due to areas not being irrigated with recycled water. The annual compliance audit was completed in conjunction with the soil sampling. A summary of the findings is found in Table 13-F.

Table 13-F: Annual recycled water scheme compliance audit and soil monitoring summary

Program	Compliance audit	Soil monitoring
Compliance status	Compliant.	Both sites considered non-saline and non-sodic. Phosphorous (P) levels are elevated at both sites and comparable to historical levels across property. Potassium (K) levels are considered excessive at <i>Clover</i> site.
Comments	Landowner indicated that the recycled water storage dam leaks at full capacity though there is no evidence of leaking in groundwater reporting. Landowner reported sediment causing some blockages in pivot irrigation infrastructure. Median electrical conductivity is slightly elevated and requires on going surveillance. Major cations and sodium absorption ratio (SAR) are recommended inclusion in recycled water quality sampling program	No issues of soil salinity or sodicity identified at either site. Elevated P levels are not considered at a level that will negatively influence production. Elevated P and K at both sites most likely attributed to fertiliser inputs however recycled water irrigation may be contributing due to low removal rates from production. Clover was last sampled in 2018, 2020 and 2021.

Groundwater Status: Amber – moderate issues identified.

Campbell Town groundwater monitoring network consists of four bores (CTGW1, CTGW2, CTGW9 and CTGW10) CTGW9 and 10 were installed in 2020. Groundwater monitoring bore CTGW1 is located downslope of the on-farm recycled water storage dam. Annual Sampling was completed at all four monitoring bores in June 2023. Due to constraints biannual sampling was not completed at monitoring bore ID's CTGW9 and CTGW10.

Moderate rating refers to nutrient levels (ammonia N, total nitrogen and/or Total phosphorous) at two groundwater monitoring bores (CTGW2 and 10) recording levels above the adopted guideline criteria. Due to proximity of bores to irrigation area and low recycled water irrigation rates, impacts are considered unlikely to be due to recycled water storage and/or irrigation. Mann-Kendall analysis has not identified any increasing trends at the site.

Biannual sampling is planned to continue at bore ID's CTGW9 and CTGW10 at the extended analytical suite to collect adequate, with annual sampling at the standard analytical suite for CTGW1 and CTGW2 during the 2023-24 groundwater monitoring program.

13.5 Ambient monitoring program

Table 13-G: Program details

Program	Seasonal Discharge Program - Routine monitoring during discharge to water.
Status	No ambient monitoring conducted as no discharges occurred during the reporting period.
Update	No discharge occurred during reporting period.

Comments

No ambient monitoring conducted during the monitoring reporting period.

13.6 Groundwater monitoring

Site Status: Green - no sign of STP impact (2022 report).

Sampling was completed at the four STP groundwater monitoring bores (ID numbers CTGW5-8) in June 2023. Due to constraints biannual sampling was not completed. Bacteriological sampling was completed in the June sampling.

Following delays, the 2022-23 report will be finalised and available by October 2023. Any actions to address identified potential issues will be determined following the hydrogeological review.

Biannual sampling at the standard analytical suite is planned to continue at all bores during the 2023-24 groundwater monitoring program.

13.7 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. Update to the actions completed will be provided in the next revision due September 2024.

A Multi Criteria Assessment was undertaken by TasWater in 2022 to prioritise I&I investigation and works state-wide. This catchment was ranked 67 out of 79 in priority.

13.8 Sludge and Biosolids

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

This STP was fully compliant with the 2022-23 SSMP.

No stockpiling occurred at this site.

Table 13-H: Desludging status and comments

Desludging Status	Comments
Low Priority	Desludging is outside of the current priority planning schedule.

13.9 Non-compliance with other permit requirements

Table 13-I: EPN Non-compliances

EPN Condition	Description of non-conformance	Future Actions to be taken
EF4 Effluent quality limits for discharge to water	Discharge compliance with permit limits	See section 13.3 Discharge compliance with permit limits and Performance Analysis
EF2 Effluent discharge limits for discharge to a reuse scheme	See section 13.4 Reuse Annual Reporting and Performance Analysis	See section 13.4 Reuse Annual Reporting and Performance Analysis
OP1 Operational Procedures Manual	No contemporary Operational Procedures Manual	New SharePoint based solution for OPMs currently being developed. First version to be implemented by FY24

13.10 Complaints and incident reporting

No complaints or incidents reported during the FY2022-23 reporting period.

13.11 Any other relevant information

For further information on Campbell Town STP please contact TasWater on 13 6992

www.taswater.com.au