

## 12. Campania STP

### 12.1 Activity and report details

Activity name	Campania STP		
Activity address	Colebrook Road, Campania		
Permit number	Licence to Operate - 5025	Date of issue	23/12/1996
EPN	7986/1	Date of issue	7/03/2018
Treatment level	Secondary Treatment		
Authorised dry weather flows	136 kL/day		
Key influent source	Residential		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2024		

**Figure 12-1: Campania Sewage Treatment Plant**



## 12.2. Monitoring and compliance summary

### 12.2.1. Flow data

**Table 12–A: Flow monitoring summary**

	Influent	Effluent	Reuse
<b>Location name</b>	Wet Well Lagoon	Native Hut Rivulet (Emergency Only)	Effluent Reuse Scheme – Ag Irrigation (Workman Property)
<b>Coordinates</b>	E 535149 N 5276951	E 535193 N 5277065	E 535254 N 5276943
<b>Method of measurement</b>	In Line meter	Influent less Reuse	In Line Meter
<b>Date of last calibration/validation (if applicable).</b>	21/08/2023	NA – To be installed	21/08/2023

**Table 12–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	104	8.2	0.64	2.57
August 2023	95	12.2	0.59	2.36
September 2023	112	37.4	0.67	2.70
October 2023	178	54.4	1.10	4.40
November 2023	113	42.6	0.68	2.71
December 2023	114	56.2	0.71	2.84
January 2024	104	49.0	0.64	2.58
February 2024	182	4.0	1.06	4.23
March 2024	178	12.4	1.10	4.40
April 2024	180	43.4	1.08	4.32
May 2024	170	28.8	1.06	4.23
June 2024	204	32.2	1.22	4.90
<b>Annual 2023–24</b>	<b>145</b>	<b>380.8</b>	<b>10.56</b>	<b>42.24</b>
<b>% of total discharge</b>	<b>--</b>	<b>--</b>	<b>20.0%</b>	<b>80.0%</b>

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

## 12.3. Bypass events

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

## 12.4. Discharge compliance with permit limits

**Table 12-C: 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	--	30	--	40.0	10.0	8.5	10.0	2000	40.0
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	45.1	171	--	61.3	6.0	8.5	12.6	24196	137.0
90th percentile	36.5	159	--	55.7	4.7	8.4	12.1	24196	123.1
50th percentile	22.1	122	--	40.7	2.4	7.7	10.4	10204	75.5
Minimum	9.8	36	--	23.2	1.0	7.2	5.1	41	12.6
EPN limit compliance									
% compliance with maximum	--	0%	--	42%	100%	--	33%	25%	33%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	92%	--	--	--

**Table 12-D: Mass loads to the environment**

Parameter	EPN limit	Frequency	2023-24 result
Nitrogen (kg)	--	Annual	438.9
Phosphorous (kg)	--	Annual	104.8
Method	Time weighted/Grab sample method		

**Table 12-E: Performance analysis (discharge to environment)**

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
BOD	9/11/2023 7/12/2023 11/01/2024 15/02/2024	7/03/2024 11/04/2024 20/05/2024 6/06/2024	<p>The plant is currently overloaded.</p> <p>Desludging of Lagoon 1 is being undertaken in August 2024 to be completed in September 2024. Approximately 215 Dry Solid Tonnes to be removed.</p> <p>Desludging of Lagoon 2 scheduled to commence October 2024. Approximately 100 Dry Solids Tonnes to be removed.</p>
E. coli	15/02/2024 7/03/2024 11/04/2024	20/05/2024 6/06/2024	
pH	15/02/2024		
Phosphorus	9/11/2023 7/12/2023 11/01/2024	15/02/2024 11/04/2024 6/06/2024	
TSS	11/01/2024 15/02/2024 7/03/2024	20/05/2024 6/06/2024	

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
Nitrogen	7/12/2023 11/01/2024 6/06/2024		

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

No other parameters had exceedances in the reporting period.

## 12.5. Reuse annual reporting

The Campania recycled water scheme is located directly south of the STP and consists of one customer where recycled water is used for pasture irrigation.

**Table 12-F: 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	--
<b>Samples analysed</b>			
Number required	12	12	12
Number analysed	12	12	12
<b>Statistical summary</b>			
Max	71	8.4	2909
90th percentile	52	8.4	1194
50th percentile	29	7.8	241
Min	7	6.7	74
<b>EPN Limit Compliance</b>			
% compliance with Maximum	83%	--	100%
% compliance with 90th percentile	--	--	--
% compliance with 50th percentile	--	--	83%
% compliance with pH range	--	100%	--

**Table 12-G: Performance analysis (discharge to reuse)**

Reuse compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
BOD	7/08/2023 11/01/2024	See Table 12-E	See Table 12-E

There were no other exceedances in the reporting period when the STP was discharging to reuse.

The annual compliance and soil sampling site visit were completed on the 28 November 2023. A summary of the findings is provided in Table 12–H.

**Table 12–H: Annual recycled water scheme compliance audit and soil monitoring**

Program	Compliance audit	Soil monitoring
Compliance status / summary	<p>Non-compliant: No IEMP</p> <p>Potentially inadequate buffer zones. Irrigator was located within the required 50 metre from buffer zone but not in use.</p> <p>Internal fences remain in poor condition allowing livestock (sheep) to access areas being irrigated with recycled water.</p> <p>Ponding of recycled water with evidence of runoff outside RWS in November 2023.</p>	<p>Sampling was completed at two sites: Site 1 and Site 2.</p> <p>Soil salinity and sodicity at both sample sites increased but remain within the historical range. Both sites remain non-saline. Site 1 is now classified as borderline sodic whilst Site 2 remained sodic.</p> <p>Nutrient levels are generally below the recommended range.</p> <p>Site 2 has triggered a marginal grass tetany risk.</p>
Comments	<p>The report recommends addressing the major non-compliances identified by the audit in the short and long term.</p> <p>As an interim measure to address long-term compliance issues, TasWater supplied the recycled water customer with an irrigation management map for the scheme in November 2023 and reminded customer about buffer zone and fencing requirements.</p>	<p>The report determined the median salinity and SAR levels of the recycled water supplied by the scheme suggest only a slight to moderate risk of soil permeability loss from recycled water irrigation.</p> <p>The management and monitoring of sodicity remains the main recommendation for the scheme Careful irrigation management to prevent over irrigation consideration of land management actions to be considered to mitigate the potential grass tetany risk.</p> <p>Through the annual recycled water scheme soil monitoring program, the landowner has been advised of these recommendations and provided raw soil monitoring data for reference.</p>

#### RWS Groundwater Site Status: Amber

The Campania RWS groundwater monitoring network consists of one bore (ID # CATGW1) which is located up-gradient of the STP and down-gradient to the recycled water irrigation area.

Annual sampling at the extended sampling suite was completed at bore ID CATGW1 in February 2024. Annual sampling at the standard sampling suite is scheduled to resume in the 2024–25 sampling program as per 2022–23 report recommendations.

The 2023–24 RWS groundwater monitoring reported an increasing trends in nitrate and total nitrogen concentrations and conductivity levels. Nitrate N concentration increased more than 20% over last three years and exceeding an adopted guideline criterion. Total nitrogen concentration remains below adopted guideline criterion. Total phosphorous concentration also increased and slightly exceeded an adopted guideline criterion. Given the low value of exceedance and levels are unlikely linked to recycled water use (low recycled water irrigation use) monitoring is to continue as scheduled.

## 12.6. Ambient monitoring program

**Table 12–I: Program details**

<b>Program</b>	<b>Seasonal Discharge Program – Routine monitoring during discharge to water.</b>
<b>Status</b>	Ambient monitoring completed during discharge events within the reporting period.
<b>Update</b>	Ongoing ambient monitoring during seasonal discharge events.
<b>Comments</b>	<p>Ambient water quality monitoring occurred during discharges to the Native Hut Rivulet receiving environment. Discharge to the environment occurred in all months however the seasonal discharge monitoring is only completed between May–December annually. Key findings from the ambient water quality data review were:</p> <ul style="list-style-type: none"> <li>• The Default Guideline Value (DGV) for ammonia was exceeded at the downstream sample site on two monitoring occasions during discharge events in May and June.</li> <li>• Total nitrogen levels were elevated downstream compared to upstream and exceeded the DGV of the Pittwater – Coal catchment on four monitoring occasions. Downstream levels were particularly high in May and June. The upstream nitrogen levels did not exceed the DGV.</li> <li>• Total phosphorous levels downstream exceeded upstream levels in all discharge events. The downstream site significantly exceeded the DGV during May and June.</li> <li>• Enterococci results at all sites exceeded the NHMRC low risk guideline value for recreational contact except during July. Enterococci concentrations downstream generally follow the upstream fluctuations.</li> </ul>

## 12.7. Groundwater monitoring

Site status: Amber – (2022–23 Report)

The Campania STP groundwater monitoring network consists of three monitoring bores. Bore ID’s CATGW2 and CATGW3 are located immediately north of the lagoons. Bore ID CATGW4 is located immediately east. All bores are downgradient of the STP.

6-monthly sampling, at the extended sampling suite was completed at all three monitoring bores (ID’s CATGW2–4) in March 2024. The planned annual sampling was not completed. TasWater has put measures in place for the 2024–25 sampling program to address the scheduling and resourcing delays resulting in reduced sampling frequency.

6-monthly sampling at the standard analytical suite is scheduled for the 2024–25 groundwater monitoring program to broaden the dataset as per 2022–23 groundwater monitoring report recommendation.

The groundwater monitoring report for the 2023–24 sampling event is due September 2024. The 2022–23 report found, groundwater levels across the monitoring network have remained within the historical range over the 2022–23 monitoring period. Inorganics, nutrients and biological analytical results are generally within historical range across the network except for total phosphorus at two bores (CATGW2, CATGW4) which remain above the ANZECC long term irrigation criteria. Biological indicators were elevated at CATGW2 and CATGW4. An increasing trend of at least one nutrient was observed at each bore.



## 12.8. 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 2022 to prioritise I&I investigation and works state-wide. This catchment was ranked 69 out of 108 in priority.

## 12.9. 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 occurred at this site.

**Table 12–J: Desludging status and comments**

Desludging status	Comments
High Priority	Lagoons 1 and 2 on track to have desludging completed before the end of 2024. Total sludge removed will be reported in the 2024–25 AER and SSMP.

## 12.10. Non-compliance with other permit requirements

**Table 12–K: EPN non-compliances**

EPN condition	Description of non-conformance	Future actions to be taken
EF4 Effluent quality limits for discharge to Native Hut Rivulet	Discharge compliance with permit limits	See section 12.4 Discharge compliance with permit limits and Performance Analysis
EF2 Effluent quality limits for discharge to a reuse scheme	Discharge compliance with reuse permit limits	See section 12.5 Reuse Annual Reporting and Performance Analysis

### 12.11. Complaints and incident reporting

No complaints received during 2023–24 reporting period.

**Table 12–L: Incident reporting**

Date	Category	Details	Mitigation actions
5/01/2024	Other	A number of bee hives were found in poor health on the property adjacent to the STP.	Biosecurity Tasmania attended property and took samples. Found to be not related to the STP.

### 12.12. Any other relevant information

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

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