17. Currie STP

17.1 Activity and report details

Activity name	Currie STP		
Activity address	Light House Street, Currie		
Permit number	NA	**Date of issue**	NA
EPN	6259	**Date of issue**	10/09/2003
Treatment level	Secondary Treatment		
Authorised dry weather flows	290 kL/day		
Key influent source	Residential/industrial		
Contact person	Kate Westgate (Manager Environmental Performance)		
Report author	Jake Crisp (Environmental Scientist)		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2024		

Figure 17-1: Currie Sewage Treatment Plant

17.2 Monitoring and compliance summary

17.2.1. Flow data

Table 17-A: Flow monitoring summary

	Influent*	Effluent	Reuse
Location name	Inlet	Bass Strait	No reuse scheme
Coordinates	E 230107 N 5575062	E 229820 N 5574880	NA
Method of measurement	Estimate based on historical flow volumes	Estimate based on water consumption	NA
Date of last calibration/validation (if applicable).	*NA – There is no influent flow meter	NA – There is no effluent flow meter	NA

*There are plans to install an influent flow meter as part of an ongoing TasWater project this FY2024-25.

Table 17-B: Annual flow and rainfall data

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 98011	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2023	305	117.8	9.45	--
August 2023	305	62.4	9.45	--
September 2023	315	39.4	9.45	--
October 2023	305	46.6	9.45	--
November 2023	315	8.8	9.45	--
December 2023	305	30.4	9.45	--
January 2024	305	16.6	9.47	--
February 2024	326	5.4	9.47	--
March 2024	305	10.0	9.47	--
April 2024	316	38.0	9.47	--
May 2024	305	25.8	9.47	--
June 2024	316	60.2	9.47	--
Annual 2023-24	311	461.4	113.47	0.00
% of total discharge	--	--	100.0%	0.0%

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

17.3 Bypass events

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

17.4 Discharge compliance with permit limits

Table 17-C: Discharge compliance with permit limits

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	--	50	--	40.0	10.0	8.5	10.0	2000	50.0
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	31.1	114	--	38.7	3.5	8.4	11.9	7701	64.0
90th percentile	28.8	83	--	37.3	2.6	8.1	10.3	6419	59.2
50th percentile	19.6	31	--	27.5	1.1	7.7	9.5	2840	16.0
Minimum	9.1	5	--	23.1	1.0	7.2	5.5	215	6.1
EPN limit compliance									
% compliance with maximum	--	83%	--	100%	100%	--	75%	33%	75%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	100%	--	--	--

Table 17-D: Mass loads to the environment

Parameter	EPN limit	Frequency	2023-24 result
Nitrogen	--	Annual	3325.4
Phosphorous (kg)	--	Annual	987.0
Method	Time weighted/Grab sample method		

Table 17-E: Performance analysis (discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance		Reasons for non-compliance	Actions to improve performance
BOD	8/08/2023 12/09/2023		Sludge accumulation (Lagoons 4 – 7) and excessive vegetation growth, particularly unmanaged weeds, around the wetland lagoon are likely attributing to elevated BOD and TSS in the effluent.	Scheduled to commence this FY2024-25, the inlet works improvements (refer to Section 17.12) could help to improve effluent BOD and TSS. Scheduled to commence this FY2024-25, the Wetland Rehabilitation Project (refer to 17.12) could help to improve effluent BOD and TSS due to overall improved wetland lagoon treatment performance.
TSS	8/08/2023 12/09/2023	12/03/2024		
E. coli	8/08/2023 21/11/2023 23/01/2024 13/02/2024	12/03/2024 9/04/2024 14/05/2024 19/06/2024	Absence of a mechanical or chemical disinfection treatment process. Therefore, pathogen removal is reliant upon natural UV light. Sludge accumulation in Lagoons 4 – 7. Lagoons 4 – 6 are partially desludged, while Lagoon 7 is not yet desludged. Unabated vegetation growth, particularly unmanaged weeds, around the wetland lagoon system.	
Phosphorus	12/12/2023 23/01/2024 12/03/2024		The lagoon system is not designed for phosphorus removal.	No specific actions.

No other parameters had exceedances in the reporting period.

17.5 Reuse annual reporting

No recycled water scheme at this STP.

17.6 Ambient monitoring program

Table 17-F: Program details

Program	Routine quarterly ambient water quality monitoring.
Status	Ongoing
Update	Routine quarterly ambient water quality monitoring (July, October 2023 January April 2024) was undertaken at 100m north and 100m south of the STP outfall during the reporting period.
Comments	Quarterly ambient monitoring was conducted during the monitoring reporting period north and south of the STP effluent discharge into the Bass Strait receiving environment. Key findings from the ambient water quality monitoring data review were: • The Default Guideline Value (tDGV) for ammonia was not exceeded at any of the ambient monitoring locations. • Ambient levels of nitrate (median) were well within the EPA Otway Bioregion DGVs for Coastal & Marine Waters at both locations. • Total nitrogen levels were slightly elevated at both ambient monitoring locations with levels likely impacted by STP effluent discharges. • Total phosphorus levels were slightly elevated at both ambient monitoring locations with levels likely impacted by STP effluent discharges. Dissolved reactive phosphorus levels were generally within EPA Otway Bioregion DGVs but did exceed the DGV at both ambient location in January 2024. • Both enterococci and *E. coli* levels exceeded the EPA low risk recreational guideline values for pathogens north of the outfall in April 2024 with enterococci levels reported at 3076 MPN/mL. On all other monitoring occasions pathogen levels north of the outfall were well within the guidelines. Pathogen levels exceeded the low risk recreational guideline values south of the outfall for enterococci in October 2023 and for *E. coli* in October 2023 and April 2024. Pathogen levels correlated with levels within the STP effluent discharge. In summary, elevations in total nitrogen and pathogens are occasionally detected around the outfall within the Bass Strait receiving environment and these correlate with elevated levels of total nitrogen and pathogens in the STP effluent discharge.

17.7 Groundwater monitoring

There is no groundwater monitoring program in place for Currie STP.

17.8 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 ranked 80 out of 108 in priority.

17.9 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 17-G: Desludging status and comments

Desludging status	Comments
Low Priority	Desludging is outside of the current prioritisation planning schedule. However, there is a wetland lagoons rehabilitation project currently in development stages which may involve some further sludge removal as part of the works.

17.10 Non-compliance with other permit requirements

Table 17-H: EPN non-compliances

EPN condition	Description of non-conformance	Future actions to be taken
SW2 Effluent quality limits for discharge to water	Discharge compliance with permit limits	See section 14.4 Discharge compliance with permit limits and Performance Analysis. Refer to Section 17.12 for further details.
M5 Flow monitoring equipment	No inlet flow meter.	Inlet flow meter installed in winter 2021, followed by flooding event within the same month due to inlet blockage (spill contained on-site). Refer to Section 17.12 for further details.
VM1 &VM2 Vegetation and Weed management	Lagoon vegetation overgrown and degraded in areas due to lack of maintenance.	Management Plan for lagoon maintenance and revegetation to be investigation in FY 2024/2025. Refer to Section 17.12 for further details.
C8 Linear construction	Rotting vegetation, dominant bullrush in final lagoons, thick stems through lagoon walls impacting lagoon lining integrity	To be investigated in FY 2024/2025. Refer to Section 17.12 for further details.

17.11 Complaints and incident reporting

Table 17-I: Complaints reporting

Date	Category	Details	Mitigation actions
2/10/2023 3/10/2023	Odour	Odour reported to be coming from the sewer ponds.	TasWater extended the 100mm poly intake for the recirculation pump from Pond 1 to Pond 3. This allows aerated water from Pond 3 to mix with the low dissolved oxygen levels in Pond 1. The grate at the plant entrance, which was also contributing to odour, has been removed.

There were no incidents during the FY2023-24 reporting period.

17.12 Any other relevant information

Table 17-J: Projects or significant operational events that occurred in FY2023-24

Project or significant operational event	Overview
Currie STP Wetland Rehabilitation Project	Scheduled to commence this FY2024-25: • Complete a current condition assessment of wetlands from an external consultant. • Remove existing vegetation and replant native species as per EPN and the condition assessment. • Conduct testing, commissioning, and performance optimisation assessments upon revegetation. • Assess the condition and amount of sludge in all lagoons. • Remove sludge from required lagoons.
Currie STP Inlet Works Improvement	Scheduled to commence this FY 2024-25: • Development and completion of designs • Installation of new grinder/macerator on the DN200 inlet pipe: civil, mechanical and electrical • Make the existing flow meter operational: electrical and SCADA • Construction of approved work

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

www.taswater.com.au