

36. Norwood STP

36.1 Activity and report details

Activity name	Norwood STP		
Activity address	Brookdale Street, Norwood, Launceston		
Permit number	Licence to Operate - 3176	Date of issue	25/01/1990
EPN	8104/1	Date of issue	12/06/2013
Treatment level	Secondary Treatment		
Authorised dry weather flows	4050 kL/day		
Key influent source	Residential/Industrial 1 x Category 3 Customer		
Contact person	Kate Westgate		
Report author	Luisa Romero (Environmental Scientist)		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2024		

Figure 36-1: Norwood Sewage Treatment Plant



36.2 Monitoring and compliance summary

36.2.1 Flow data

Table 36–A: Flow monitoring summary

	Influent	Effluent	Reuse
Location name	Inlet	North Esk River	No reuse scheme
Coordinates	E 515509 N 5410515	E 515780 N 5410687	NA
Method of measurement	In line meter	In line meter	NA
Date of last calibration/validation (if applicable).	09/01/2024	15/11/2023	NA

Table 36--B: Annual flow and rainfall data

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 91072	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2023	4,783	79.4	148.27	--
August 2023	4,055	57.4	125.70	--
September 2023	3,186	27.4	95.59	--
October 2023	2,526	41.2	78.30	--
November 2023	2,395	39.6	71.86	--
December 2023	2,494	56.6	77.32	--
January 2024	2,705	52.0	83.87	--
February 2024	2,414	10.8	70.00	--
March 2024	2,208	14.4	68.45	--
April 2024	2,556	55.4	76.69	--
May 2024	2,584	61.0	80.09	--
June 2024	3,169	80.0	95.08	--
Annual 2023–24	2,935	575.2	1,071.22	--
% of total discharge	--	--	100.0%	--

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

36.3 Bypass events

Table 36–C: Bypass events summary

Bypass ID:	NORSTO1-OND				
Bypass description:	Stormwater storage lagoon overflow to chlorine contact tank				
Treatment bypassed:	Secondary Treatment				
Treatment level of impacted effluent:	Screened, Disinfection (Chlorine)				
Flows exceeding:	80L/s (Approximate)				
Discharge location:	North Esk River: 515780E, 5410687N (GDA94)				
Start date / time	End date / time	Duration	Volume estimate	Cause	Response actions
08/07/23 15:58	10/07/23 01:47	33.8 h	4447 kL	Rainfall Event	No specific actions undertaken
10/07/23 23:22	11/07/23 03:54	4.5 h	27 kL	Rainfall Event	No specific actions undertaken
11/07/23 15:29	12/07/23 01:32	10.1 h	79 kL	Rainfall Event	No specific actions undertaken
28/07/23 13:02	01/08/23 03:32	86.5 h	16411 kL	Rainfall Event	No specific actions undertaken
01/08/23 09:09	02/08/23 01:26	16.3 h	755 kL	Rainfall Event	No specific actions undertaken
04/08/23 15:48	07/08/23 05:15	61.5 h	5438 kL	Rainfall Event	No specific actions undertaken
07/08/23 08:30	07/08/23 12:12	3.7 h	9 kL	Rainfall Event	No specific actions undertaken
14/11/23 11:15	14/11/23 11:22	0.1 h	16 kL	Rainfall Event	No specific actions undertaken
17/01/24 17:25	18/01/24 04:04	10.7 h	1738 kL	Rainfall Event	No specific actions undertaken
18/01/24 08:31	18/01/24 23:12	14.7 h	275 kL	Rainfall Event	No specific actions undertaken
11/06/24 14:10	12/06/24 03:25	13.3 h	2897 kL	Rainfall Event	No specific actions undertaken
12/06/24 09:44	13/06/24 00:45	15.0 h	239 kL	Rainfall Event	No specific actions undertaken

36.4 Discharge compliance with permit limits

Table 36-D: 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	30.0	22	1.5	40.0	10.0	8.5	15.0	200	30.0
90th percentile	--	--	--	--	--	--	--	--	--
50th percentile	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	12	12	12	12	12	12	12	12	12
Number analysed	12	12	12	12	12	12	12	12	12
Statistical summary									
Maximum	11.0	8	1.52	27.5	1.0	7.5	8.2	1842	10.1
90th percentile	7.5	5	1.45	25.9	1.0	7.3	7.7	10	8.3
50th percentile	0.9	5	0.91	15.4	1.0	7.2	4.2	10	4.6
Minimum	0.1	5	0.37	3.6	1.0	6.2	0.9	10	4.0
EPN limit compliance									
% compliance with maximum	100%	100%	92%	100%	100%	--	100%	92%	100%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	92%	--	--	--

Table 36-E: Mass loads to the environment

Parameter	EPN limit	Frequency	2023-24 result
Nitrogen (kg)	--	Annual	15397.2
Phosphorous (kg)	--	Annual	4909.1
Method	Flow weighted/composite method		

Table 36–F: Performance analysis (discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
Chlorine	14/03/2024	Non-compliance correlates with a wet weather event, which decreases detention time within the chlorine contact tank and limits available capacity for chlorine decay prior to discharge.	No specific actions taken.
E. coli	19/06/2024	Low temperatures correlate to a higher proportion of nitrites to nitrates in the effluent stream due to changing kinetics of the denitrification process. Higher nitrite concentrations increase chlorine demand, which reduce available chlorine for disinfection.	
pH	9/01/2024	Low alkalinity in aeration chamber, potential due to low alkalinity influent or insufficient MHL dose rate.	

No other parameters had exceedances in the reporting period.

36.5 Reuse annual reporting

No recycled water scheme associated with this STP.

36.6 Ambient monitoring program

Table 36-G: Program details

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

36.7 Groundwater monitoring

Site status: Amber – (2022 Report)

Norwood STP groundwater monitoring network consists of four groundwater bores, ID numbers NWGW1-4. All bores are located between the North Esk River and the STP along the along the eastern edge of the STP. One round of sampling (6-monthly) was completed at all four bores and the North Esk River in April 2024. The second (annual) sampling round was not completed. TasWater has put measures in place for the 2024-25 sampling program to address scheduling and resourcing delays experienced in recent years.

Following delays, the 2023-24 report will be finalised and available in October 2024. Any actions to address identified potential issues will be determined following the hydrogeological review. The 2022-23 report identified increasing trends of the nitrogen suite of analytes at three of the four monitoring bores. In addition, biological numbers were identified at one bore (ID NWGW1) for the first time across the entire network.

Biannual monitoring at the extended analytical suite is scheduled at all four bores during the 2024-25 groundwater monitoring program and North Esk River. Annual sampling at the STP lagoons ais also scheduled to allow for further groundwater characterisation assessment as per the 2022-23 report recommendations.

36.8 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 was ranked 19 out of 108 in priority.

36.9 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 Sewage Sludge Management Plan due to insufficient information regarding sludge transfers.

No dried sludge was removed offsite during the reporting period. However, 145kL of liquid sludge was transferred to Ti Tree Bend STP.

Table 36–H: Desludging status and comments

Desludging status	Comments
Annual program	Sludge is pumped from the sedimentation basin to drying beds where they are then gradually de-watered through windrowing and turned to dry prior to periodically being moved off site.

Table 36–I: Stockpile comments

Stockpile onsite	Volume of stockpile (estimated dst)
Short-term stockpile	Sludge is windrowed to dry over summer and is normally removed each year. Testing and classification of the sludge determines the disposal route.

36.10 Non-compliance with other permit requirements

Table 36–J: EPN non-compliance

EPN condition	Description of non-conformance	Future actions to be taken
WM2 Sewage Sludge Management Plan	Missing Biosolids Management Plan detail	Ensure BMP details are included in 2024–25 SSMP
EM3 Discharge Management Plan	Discharge Management Plan overdue.	TasWater acknowledges the non-compliance associated with the DMP and RFS 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. Norwood is included for rationalisation under the Launceston Sewer Improvement Project.
EM2 Effluent Reuse Feasibility Study	Effluent Reuse Feasibility Study overdue.	
EF3 Effluent quality limits for discharge	Discharge compliance with permit limits	See section 36.3 Discharge Compliance with Permit Limits.

36.11 Complaints and incident reporting

No complaints or incidents reported during FY2023–24 reporting period.

36.12 Any other relevant information

Table 36–M: Projects or significant operational events that occurred in FY 2023–24:

Project or significant operational event	Progress
Launceston Sewerage Improvement Program (LSIP).	Opportunities for rationalisation of Norwood STP flows are being investigated as part of LSIP.
Chlorine System Safety Upgrade	Completed

For further information on the Norwood STP please contact TasWater on 13 6992

www.taswater.com.au