

22. Exeter STP

22.1 Activity and report details

Activity name	Exeter STP		
Activity address	Off West Tamar Highway, Exeter		
Permit number	Licence to Operate - 2726	Date of issue	6/08/1982
EPN	498/2	Date of issue	15/05/2024
Treatment level	Secondary Treatment		
Authorised dry weather flows	150 kL/day		
Key influent source	Residential		
Contact person	Kate Westgate		
Report author	Luisa Romero (Environmental Scientist)		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2025		

Figure 22-1: Exeter Sewage Treatment Plant



22.2 Monitoring and compliance summary

22.2.1 Flow data

Table 22-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location name	Inlet	Unnamed tributary to the Tamar River	Exeter Golf Course
Coordinates	E 496812 N 5427495	E 496197 N 5427654	E 496770 N 5427639
Method of measurement	In line meter	Influent less Reuse	In line meter
Date of last calibration/validation (if applicable).	31/10/2024	NA – to be installed	31/10/2024

Table 22-B: Annual flow and rainfall data

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 91341	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2024	352	137.2	6.30	4.60
August 2024	406	191	7.70	4.88
September 2024	249	120.8	7.47	4.04
October 2024	221	65.8	5.07	1.83
November 2024	288	138.6	4.89	3.76
December 2024	316	76.6	4.50	5.30
January 2025	120	40.6	0.61	3.11
February 2025	128	20.8	0.66	2.91
March 2025	137	24.4	0.00	4.24
April 2025	139	34	0.00	4.16
May 2025	153	55.2	0.32	4.43
June 2025	184	70	4.37	1.16
Annual 2024-25	225	975	41.88	44.41
% of total discharge	--	--	48.5%	51.5%

2024-25 monthly flow data was submitted directly to the EPA.

22.3 Bypass events

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

22.4 Discharge compliance with permit limits

Table 22-C: Discharge compliance with permit limits

	Ammonia as N	BOD5	Chlorine	Nitrogen	Oil and Grease	pH	Phosphorus	E coli	Enterococci	Total suspended solids
Permit/EPN limit	mg/L	mg/L	mg/L	mg/L	mg/L	Units	mg/L	MPN/100m L	mg/L	mg/L
Maximum	25.0	50.0	--	35.0	5.0	8.5	9.0	1000.0	50.0	50.0
90th Percentile	--	--	--	--	--	--	--	--	--	--
50th Percentile	--	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	5.5	--	--	--	--
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										
Max	25.2	124.0	0.0	41.3	4.7	8.0	9.5	6867.0	90.0	111.0
90th percentile	24.7	90.4	0.0	38.4	3.0	7.7	6.9	3761.2	77.3	84.3
50th percentile	12.7	55.0	0.0	25.7	1.7	7.6	6.0	1389.0	35.5	47.0
Min	5.7	21.0	0.0	15.0	1.0	7.2	2.2	216.0	8.1	14.4
EPN Limit Compliance										
% compliance with Maximum	92%	50%	--	75%	100%	100%	92%	50%	67%	50%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	100%	--	--	--	--

Note: Percentages reflective of complete data set for the year

Table 22-D: Mass loads to the environment

Mass Loads	EPN Limit	Frequency	2024-25 result
Nitrogen (kg)	2200	Annual	1060.1
Phosphorous (kg)	850	Annual	177.6
Method	Time weighted/grab sample method		

Table 22-E: Performance analysis (discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
BOD	16/10/2024 29/01/2025 11/06/2025	Algae and sludge accumulation in the lagoons are believed to be the primary reason for non-compliant BOD and TSS. High sludge accumulation decreases the effective lagoon treatment capacity, resulting in high effluent BOD. Accumulated sludge can also be carried over due to poor settling, increasing effluent TSS. Algae further contribute directly to effluent TSS and BOD.	No specific actions. The STP has been assessed at near capacity in The Meander Tamar Sewerage Regional Master Plan, and some improvements will be required in the short-term. Further project development will determine which components are needed.
TSS	11/06/2025 29/01/2025		
Nitrogen	11/06/2025	Lagoon plants are not designed for total nitrogen reduction. Cold temperatures during weather further reduce denitrification rates.	
Ammonia	11/06/2025	Lower lagoon temperatures over winter decreasing nitrification rate	
Enterococcus	29/01/2025 11/06/2025	Algae is believed to be the primary reason for elevated enterococcus during warmer months.	

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
E. Coli	11/06/2025	During colder months, high flows due to excessive I/I (compounded by lagoon short circuiting and decreased UV disinfection) could be the root cause of non-compliant Enterococcus and E. coli.	

No other parameters had exceedances in the reporting period.

22.5 Reuse annual reporting

The Exeter STP supplies treated effluent to the Exeter recycled water scheme (RWS) for irrigation purposes at the Exeter Golf Course.

Table 22-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	--
Samples analysed			
Number required	12	12	12
Number analysed	12	12	12
Statistical summary			
Maximum	124.0	8.0	6867
90th percentile	90.4	7.7	3761
50th percentile	55.0	7.6	1389
Minimum	21.0	7.2	216
EPN Limit Compliance			
% compliance with Maximum	50%	--	100%
% compliance with 90th percentile	--	--	--
% compliance with 50th percentile	--	--	50%
% compliance with pH range	--	100%	--

Table 22-G: Performance analysis (discharge to reuse)

Reuse compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
BOD	20/03/2025 12/02/2025 9/07/2024	<p>During colder months, high flows due to excessive I/I (compounded by lagoon short circuiting and decreased UV disinfection) could be the root cause of non-compliant E. coli.</p> <p>During warmer months, algal blooms can increase effluent BOD.</p> <p>Accumulated sludge also impacts the treatment process year-round due to the reduced effective lagoon treatment capacity.</p>	See Section 22.4.

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

Annual topsoil sampling was completed at the five long-term monitoring sites (ID's EX1-4 and ED Fairway 6) at the RWS in June 2025. The field component of the annual compliance audit was completed in conjunction with the soil sampling. A summary of the findings is provided in Table 22-H.

Table 22-H: Annual recycled water scheme compliance audit and soil monitoring

Program	Compliance audit	Soil monitoring
Outcomes	Compliant	ESP values should improvement across the site which has historic elevated sodicity levels. Nutrient levels are low or within recommended ranges.
Comments	<p>During the June 2025 audit the customer representative has noted persistent wet area on fairway.</p> <p>An Intermediate Inspection was completed on the storage in October 2024 as part of TasWater's Dam 5-yearly inspection program.</p>	

RWS Groundwater Status: Green

Exeter RWS groundwater monitoring network consists of three groundwater bores, ID numbers EXGW1-3. Monitoring bore EXGW1 is located downslope of the recycled water storage dam.

Bi-annual sampling at the standard analytical suite was completed at bore IDs EXGW1-2 in December 2024 and May 2025 as scheduled. No sampling has been conducted at bore ID EXGW3 since 2022-23 monitoring event due to repair and maintenance requirements.

The 2024–25 groundwater monitoring event (GME) recorded nutrient concentrations generally remained within previously seen ranges at the two sampled bores with no trends identified in bore ID EXGW1 and all analytes below adopted guideline criterion. Bore ID EXGW2 continue to record increasing trend and exceedance of nitrate N. Previous GMEs have found increasing trends of key analytes is bore ID EXGW3.

Bi-annual sampling at the standard analytical suite is scheduled to continue across the network in the 2025–26 groundwater monitoring program.

22.6 Ambient monitoring program

Table 22–1: Program details

Program	Seasonal ambient monitoring as required under EPA permit variation 18/01/2024
Status	Ambient monitoring completed.
Update	Ambient water quality monitoring from July – December 2024 and June 2025 was completed during the reporting period.
Comments	<p>Monitoring was completed between July and December 2024 and resumed in June 2025. Sampling could not be conducted in May 2025 as there was no flow in the receiving environment. Monitoring is conducted to characterise the impacts of effluent discharges to an unnamed tributary to the Tamar Estuary.</p> <p>Effluent discharges to water occurred between July 2024 and February 2025 and again between May and June 2025.</p> <p>Key findings from the ambient water quality monitoring data review were:</p> <ul style="list-style-type: none"> • Ammonia levels were elevated at the downstream monitoring location compared with upstream. This was evident in 6 of the 7 monitoring events. Downstream ammonia concentrations were typically greater than the ANZ default guideline values (DGVs) for ammonia as a toxicant. • Similar to ammonia, an increase downstream in nitrate and total nitrogen was observed across all monitoring events. The magnitude of difference was more pronounced during drier months. No results exceeded the ANZ DGVs for nitrate as a toxicant. • Suspended solids had no clear trend of an impact downstream of the discharge during the monitoring period. • Pathogen indicators, Enterococci and <i>E. coli</i> were consistently elevated above the low-risk DGV from NHRMC (2008) at the upstream and downstream sites. • There were no detections of toxin producing blue-green algae during the monitoring period. <p>As in previous years, there is a measurable impact to the unnamed tributary of the Tamar Estuary during discharge to water periods. The Exeter RWS is reducing the impact to the environment during the irrigation season.</p>

22.7 Groundwater monitoring

Site status: Green

Exeter STP groundwater monitoring network consists of three bores ID numbers EXGW4–6.

Bi-annual sampling at the extended analytical suite was completed across the network in December 2024 and May 2025 as scheduled.

The 2024–25 groundwater monitoring event recorded limited signs of STP impact with concentrations of most key analytes remaining below adopted guidelines with the exception of total phosphorous which continued to exceed one adopted criterion at two bores (ID’s EXGW5–6). A data gap regarding the surface waters of the STP was also identified but not considered a high priority.

Sampling is scheduled to be reduced to an annual frequency across the network in the 2025–26 groundwater monitoring program. All sampling is scheduled to continue at the extended analytical suite.

22.8 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.

A Multi Criteria Assessment was undertaken by TasWater in 2024 to prioritise I&I investigation and works state-wide. This catchment was ranked 99 out of 108 in priority.

22.9 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 2024–25 SSMP.

Sludge at this STP is captured within the three treatment lagoons, which will be periodically desludged as required. No stockpiling occurs at this site.

Table 22–J: Desludging status and comments

Desludging status	Comments
Medium Priority	Desludging of lagoon 1 is likely to be required within the next 5 to 10 years.

22.10 Non-compliance with other permit requirements

Table 22–K: EPN non-compliances

EPN condition	Description of non-conformance	Future actions to be taken
Q1 ADWF Limits	Exceeded the ADWF limit for FY	The STP has been assessed at near capacity in The Meander Tamar Sewerage Regional Master Plan, and some improvements will be required in the short-term. Further project development will determine which components are needed.
EF2 Effluent quality limits for discharge to the environment	Discharge compliance with permit limits	See section 22.4 Discharge compliance with permit limits and Performance Analysis

EPN condition	Description of non-conformance	Future actions to be taken
EF5 Effluent quality limits for discharge to the wastewater reuse scheme	Discharge compliance with reuse permit limits	See section 22.5 Reuse Annual Reporting and Performance Analysis

22.11 Complaints and incident reporting

No complaints or incidents reported during the FY2024-25 reporting period.

22.12 Any other relevant information

Table 21-L: Projects or significant operational events that occurred in FY 2024-25:

Project or significant operational event	Progress
Meander Tamar Sewerage Regional Master Plan	The Meander Tamar Sewerage Regional Master Plan has been completed and outlines both short- and long-term considerations for the Exeter STP. Short-term improvements will be required to enhance plant performance, with further project development to determine the specific components needed.

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

www.taswater.com.au