

40.Penna STP

40.1 Activity and report details

Activity name	Penna STP		
Activity address	Shark Point Road, Penna		
Permit number	Permit Conditions Environmental - 6093	Date of issue	19/08/1998
EPN	8544/1	Date of issue	3/10/2017
Treatment level	Secondary Treatment		
Authorised dry weather flows	1,400 kL/day		
Key influent source	Treated effluent from Sorell/Midway Point STPs		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2025		

Figure 40-1: Penna Sewage Treatment Plant



40.2 Monitoring and compliance summary

40.2.1 Flow data

Table 40-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location name	Inlet	NA	Penna Reuse Scheme
Coordinates	E 542728 N 5263168	NA	E 542473 N 5263418
Method of measurement	Estimation from Sorell and Midway Point discharge to reuse	NA	Level Sensor
Date of last calibration/validation (if applicable)	04/06/2025	NA	04/06/2025

Table 40-B: Annual flow and rainfall data

Month	Average Daily Influent Volume (kL/day)	Rainfall (mm/month) BOM Station ID 94248	Discharge to Waters Total Effluent Volume (ML)	Discharge to Reuse Total Effluent Volume (ML)
July 2024	1,481	3.8	0.00	45.29
August 2024	1,356	11.7	0.00	38.55
September 2024	1,404	21.0	0.00	42.00
October 2024	1,234	50.7	0.00	33.09
November 2024	1,232	39.3	0.00	39.72
December 2024	1,402	52.6	0.00	28.39
January 2025	1,211	25.6	0.00	46.60
February 2025	1,222	2.6	0.00	34.22
March 2025	1,237	10.6	0.00	38.36
April 2025	1,293	56.3	0.00	38.79
May 2025	1,345	32.3	0.00	41.71
June 2025	1,347	47.1	0.00	40.40
Annual 2024-25	1,314	353.6	0.00	467.12
% of Total Discharge	--	--	0.0%	100.0%

Note: Penna STP does not have an outfall to a waterway, this is a full reuse site.

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

40.3 Bypass events

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

40.4 Discharge compliance with permit limits

This STP does not discharge to the environment.

40.5 Reuse annual reporting

The Sorell, Midway Point STPs and Barwicks Lagoons (Level 1) supply recycled water for irrigation purposes to the Penna Recycled Water Scheme (RWS). During the 2023-24 reporting period major expansion activities was completed on the Penna RWS with an additional customer connected to the RWS in June 2024. Six properties are supplied recycled water. The Penna Recycled Water Management Plan was reviewed during the reporting period and covers the period between 2022-2027.

Table 40-C: Reuse compliance summary

Parameter	BOD ₅	pH	E. coli
Permit/EPN limit	mg/L	Units	MPN/100mL
Maximum	50	9.0	10,000
90th percentile	--	--	--
50th Percentile	--	--	1,000
Minimum	--	5.5	--
Samples analysed			
Number required	12	12	12
Number analysed	12	12	12
Statistical summary			
Max	18.0	9.6	932
90th percentile	16.5	8.2	340
50th percentile	5.0	7.7	127
Min	5.0	6.8	41
Summary of results			
% compliance with Maximum	100%	--	100%
% compliance with 90th percentile	--	--	--
% compliance with 50th percentile	--	--	100%
% compliance with pH range	--	92%	--

Table 40-D: Performance analysis (discharge to reuse)

Reuse compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
pH	18/02/2025	Algae is believed to be the primary reason for elevated pH. Algae is a source of oxygen and is fundamental to lagoon treatment. The high pH results correlated with an algae bloom in the lagoon.	No specific actions.

No other parameters have had exceedances in the FY period.

Annual soil sampling was completed at nine sites on five properties across the Penna RWS July 2024. The distribution of the sampling sites was based on the established sampling program and consideration of the irrigation application rates for the past irrigation and proposed coming irrigation season. The field component of the annual compliance audits was completed at the five properties with follow up phone audits in August 2024. A summary of the findings of the programs is provided in the below table.

Table 40-E: Annual recycled water scheme compliance audit and soil monitoring report summary

Program	Compliance audit	Soil monitoring ¹
Outcomes	Overall Compliance Status: 91% 60% properties fully compliant. Minor Non-compliance: one property recorded minor non-compliances inadequate signage 50% (3) properties recorded recycled water management outside IEMP requirements (withholding times and/or buffer zones and inadequate fencing of nominated recycled water storage).	Average EC _{se} , levels are slightly lower than previous years whilst average Cl have decreased. Average ESP recorded levels higher than previous years but remain within historical range. No long-term salinity or sodicity trends identified. Gradual long-term increasing trend of average K. No long-term trend of average P and S. Average P and K are moderate to high, and average S level is moderate across the scheme. Overall soil health did not appear to be adversely impacted by the application of recycled water.
Comments	The management of BGA continues to be an issue for this Scheme.	

The sixth property is included in Clarence RWS Reporting

EC_{se} = Electrical Conductivity at saturation extent, Cl = Chloride, ESP = Exchangeable sodium percentage, P = Phosphorous, K = Potassium, S = Sulphur

RWS groundwater site status: Green

The Penna RWS groundwater monitoring network consists of two monitoring bores (ID's PE-PWGW1 and PE-EFGW2) located across two properties. Monitoring bore ID PE-EFGW2 is associated with a recycled water storage dam.

6-Monthly sampling at the standard analytical suite was completed at both bores in September 2024 and March 2025 as scheduled.

The 2024-25 groundwater monitoring event reported no evidence of impact on groundwater quality from recycled water activities. On a Scheme level, a gap in the monitoring network requiring the expansion of additional monitoring bores continues to be identified.

Biannual sampling at the standard analytical suite is planned to continue at both bores during the 2025-26 groundwater monitoring program.

40.6 Ambient monitoring program

This site does not discharge to a waterway, therefore, ambient monitoring is not required.

40.7 Groundwater monitoring

Site status: Green

Penna Lagoons groundwater monitoring network consists of four groundwater bore, ID numbers PENGW3 and 4 are located south-west of STP Lagoon 1 and 2, PENGW5 and 6 located north of Lagoons 1 and 2.

6-Monthly sampling was completed in September 2024 and February 2025 as scheduled.

The 2024-25 groundwater monitoring event recorded limited signs of impacts to groundwater quality due to elevated concentrations of several analytes across several bores against adopted guideline criterion.

6-Monthly sampling at the standard analytical suite is planned to continue at all four groundwater monitoring bores during the 2025-26 monitoring program.

40.8 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.

40.9 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 assessed as 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 40-F: Desludging status and comments

Desludging Status	Comments
Low priority	Lagoons at this STP won't require desludging anytime in the foreseeable future.

40.10 Non-compliance with other permit requirements

None during the reporting period.

40.11 Complaints and incident reporting

No complaints or incidents reported during the reporting period.

40.12 Any other relevant information

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

www.taswater.com.au