69. Ti Tree Bend STP

69.1 Activity and report details

Activity name	**Ti Tree Bend STP**		
Activity address	Gilmore Street, Invermay, Launceston		
Permit number	Licence to Operate - 3322	**Date of issue**	17/12/1991
EPN	8102/1 8638/1	**Date of issue**	11/06/2013 26/09/2011
Treatment level	Secondary Treatment		
Authorised dry weather flows	25000 kL/day		
Key influent source	Residential/Industrial/Tankered 7 x Category 3 Customer, 5 x Category 4 Customer		
Contact person	Kate Westgate		
Report author	Luisa Romero (Environmental Scientist)		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2025		

Figure 69-1: Ti Tree Sewage Treatment Plant

69.2 Monitoring and compliance summary

69.2.1 Flow data

Table 69-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location name	Plant Inlet	Tamar River	No reuse scheme
Coordinates	E 510380 N 5414648	E 510289 N 5415020	NA
Method of measurement	In line meter	Level sensor	NA
Date of last calibration/validation (if applicable).	02/12/2024	02/12/2024	NA

Table 69-B: Annual flow and rainfall data*

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 91237	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2024	21,230	105	658.12	--
August 2024	21,803	103.2	675.84	--
September 2024	20,898	87.9	626.94	--
October 2024	12,877	36.8	399.18	--
November 2024	13,555	82.4	406.65	--
December 2024	14,974	57.2	464.18	--
January 2025 *	11,008	25	341.25	--
February 2025	10,461	14.2	292.91	--
March 2025	10,384	19.4	321.92	--
April 2025	10,968	25.4	329.04	--
May 2025	12,489	48.5	387.17	--
June 2025	14,780	71	443.40	--
Annual 2024-25	14,648	676	5,346.61	0.00
% of total discharge	--	--	100.0%	0.0%

Notes. As of January 2025, effluent flows were estimated based on inflows

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

69.3 Bypass events

This STP is designed to bypass in wet weather following elevated flows from the combined sewer/stormwater system. There were 139 bypass events associated with the STP during the reporting period. Due to the amount recorded, specific dates can be provided on request.

All bypass events were the results of rainfall and discharged via the effluent discharge location unless specified above

Table 69-C: Bypass events summary

Type of bypass	Total number of bypasses in FY	Total volume (ML)	Mitigation Measures
Screen	17	2.23	Construction of 10-megalitres covered storage tank currently is now underway, with the completed project set to reduce wet weather spill events into the estuary by 60 per cent. To help reduce bypass events state-wide, during FY2024-25 TasWater has spent $1.2 million on the identification, reification and monitoring of inflow and infiltration (I&I) within our systems. During FY2025 -26 we will be spending a further $0.8 million on I&I works.
Flume	2	2.54	
Primary Effluent	120	338.98	

69.4 Discharge compliance with permit limits

Table 69-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	5	40	1.5	40	10	8.5	10	1000	60
90th percentile	--	--	--	--	--	--	--	--	--
50th percentile	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	52	52	52	52	52	52	52	52	52
Number analysed	52	52	52	52	52	52	52	52	52

Parameter	Ammonia	BOD5	Chlorine	Nitrogen	Oil and grease	pH	Phosphorous	E coli	Total suspended solids
Statistical summary									
Maximum	4.2	17.0	1.7	40.5	3.2	7.5	2.8	295.0	11.8
90th percentile	0.9	8.0	1.3	34.4	1.1	7.1	2.1	52.0	8.6
50th percentile	0.2	5.0	1.0	27.0	1.0	6.9	1.2	10.0	4.1
Minimum	0.1	5.0	0.4	4.2	1.0	6.4	0.2	10.0	4.0
EPN limit compliance									
% compliance with maximum	100%	100%	98%	98%	100%	100%	100%	100%	100%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	98%	--	--	--

Table 69-E: Mass loads to the environment

Mass Loads	EPN limit	Frequency	2024-25 result
Nitrogen (kg)	--	Annual	135794.3
Phosphorous (kg)	--	Annual	6578.8
Method	Flow weighted/composite method		

Table 69-F: Performance analysis (discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	FY25 actions to improve performance
Nitrogen	16/10/2024	The treatment plant is not designed for denitrification required to reduce total nitrogen. Non-compliance likely corresponds with elevated loading events and spring temperatures.	No specific action taken. The Ti Tree Bend Transformation (TTBT) is the central element of the LST and will provide a major upgrade in sewage treatment capacity and performance
pH	07/05/2025	Rainwater dilution of sewage flows - decreasing the effectiveness of MHL dosing.	No specific action taken.

No other parameters had exceedances in the reporting period.

69.5 Reuse annual reporting

No Recycled Water Scheme associated with this STP.

69.6 Ambient monitoring program

Table 69-G: Program details

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

69.7 Groundwater monitoring

Site status: Red

Ti Tree Bend STP groundwater monitoring network consists of five monitoring bores, ID numbers TTBGW1-5. Three monitoring bores (ID's TTBGW1-3) are located on the STP boundary between the STP and Tamar River Estuary. Bore ID's TTBGW1 and 2 on the northern boundary, with TTBGW5 on the western boundary. Bore ID TTBGW4 is located in the centre of the STP whilst bore ID TTBGW3 is located to the northeast of the STP.

Bi-annual sampling was completed across at bore ID's TTBGW1-4, in November 2024 and May 2025 as scheduled. One round of sampling (annual) was completed at bore ID TTBGW5 in May 2025 due to access constraints from construction activities inhibiting safe access in November 2024.

The 2024-25 groundwater monitoring event (GME) continued to report analytical results for key nutrients indicate that groundwater across the network is being impacted by STP leakage through elevated concentrations above adopted groundwater criterion. The 2024-25 GME identified data gaps in the network (background data) and STP infrastructure and receiving environment.

Bi-annual sampling at the extended analytical suite is scheduled to continue across the monitoring network during the 2025-26 groundwater monitoring program. Annual surface water sampling at the extended analytical suite is also scheduled at the STP Lagoons for comparison analysis.

69.8 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 2 out of 108 in priority.

Flow monitoring of the catchment has been undertaken as part of the LSIP strategic business case and findings will be incorporated into the design for the upgraded STP.

69.9 Sludge and biosolids

The latest revision to the Sewage Sludge Management Plan (SSMP) includes full details of the actions undertaken during the reporting period. This STP was assessed as compliant with the 2024-25 SSMP.

Biosolids are removed regularly from site. There are currently no stockpiles onsite.

During the reporting period, liquid sludge was received from Newnham, Norwood and Riverside STPs. The total sludge volume received at Ti Tree Bend STP was 15645.9kL.

Table 69-H: Biosolids sludge classification

Parameter	Number of samples	Maximum (mg/kg)	Mean (mg/kg)	Minimum (mg/kg)	BACC (mg/kg)	Contaminant classification
Arsenic	12	11.8	7.5	4.8	11.8	A
Cadmium	12	1.4	1.1	0.8	1.5	B
Chromium	12	207.0	94.1	46.7	204.5	B
Copper	12	524.0	438.8	339.0	566.9	B
Lead	12	82.2	58.6	46.3	78.8	A
Mercury	12	1.4	0.6	0.2	1.2	B
Nickel	12	53.7	42.5	38.2	53.4	A
Zinc	12	1640.0	1221.7	1040.0	1525.9	B

Table 69-I: Volume and disposal destination

Quantity (DST)	Average solids content (%)	Stabilisation method	Stabilisation grade	Contamination grade	Biosolids classification	End use destination
787.0	20.6	Anaerobic digestion	B	B	2	Logan Farm

Notes: DST = Dry solid tonne.

Table 69-J: Liquid sludge transfers received at Ti Tree Bend STP

STP transferred from	Volume received (kL)
Newnham STP	10626
Norwood STP	174.9
Riverside STP	4845
TOTAL	**15645.9**

69.10 Non-compliance with other permit requirements

Table 69-K: EPN non-compliances

EPN condition	Description of non-conformance	Future actions to be taken
EPN 8102/1		
EF2 Effluent quality limits for discharge to the Tamar River	Discharge compliance with permit limits	See section 69.4 Discharge compliance with permit limits and Performance Analysis
EM3 Discharge Management Plan	Discharge Management Plan overdue.	TasWater acknowledges the non-compliance associated with the DMP 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.

69.11 Complaints and incident reporting

No complaints were received during the FY2024-25 reporting period.

Table 69-L: Incident reporting

Date	Category	Details	Mitigation actions
07/05/2025	Electrical	During upgrade works, the automated dosing system was impacted, resulting in a temporary loss of Chlorine dosing control. As result, chlorine levels were over-dosed to 2.2-4.0 mg/L for approximately 4 hours, followed by under dosing 0.2 to 0.40 mg/L from 20,00 to 7,30	Cl2 dose was manually managed until the automated system was fully restored and returned to normal operation.
27/03/2025	Other	During the upgrade works, the site's potable water supply had to be taken offline. Due to a valve issue, iron salt dosing was interrupted once the water supply was restored.	Operators conducted follow-up operational testing to identify any fluctuations or changes in settleability. No significant changes were observed that could impact downstream systems or effluent quality.

69.12 Any other relevant information

Table 69-M: Projects or significant operational events that occurred in FY 2024-25

Project or significant operational event	Progress
Ti Tree Bend – New covered storage tank	**In progress,** Roof nearing completion: The last section of the concrete roof was completed in August 2025, completing the 10-megalitre reinforced concrete storage tank. Built to last: Constructed with over 3,500 cubic metres of concrete and 750 tonnes of Next stage underway: Electrical, mechanical, and civil works have begun to connect the new tank to the existing sewerage network.

Project or significant operational event	Progress
Launceston Sewer Transformation Project (LST)	The Ti Tree Bend Transformation (TTBT) is the central element of the LST and will provide a major upgrade in sewage treatment capacity and performance. Once complete, the LST will enable the centralisation of sewage treatment across Launceston and allow for the decommissioning of six existing sewage treatment plants (STPs).

For further information on the Ti Tree Bend STP please contact TasWater on 13 6992

www.taswater.com.au