76 Wynyard STP

76.1 Activity and report details

Activity name	Wynyard STP		
Activity address	Walker Street, Wynyard		
Permit number	Licence to Operate - 3653	**Date of issue**	29/09/1986
EPN	9090/1	**Date of issue**	26/11/2014
Treatment level	Secondary Treatment		
Authorised Dry Weather Flows	2900 KL		
Key Influent Source	Residential/Industrial 1 x Category 4 Customer		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2023		

Figure 76-1: Wynyard Sewage Treatment Plant

76.2 Monitoring and compliance summary

76.2.1 Flow data

Table 76-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location Name	Plant Inlet	Bass Strait	No reuse scheme
Coordinates	E 395351 N 5460296	E 395605 N 5461614	NA
Method of Measurement	In line meter	In line meter	NA
Date of last Calibration/Validation (if applicable).	8/08/2023	8/08/2023	NA

Table 76-B: Annual flow and rainfall data

Month	Average Daily Influent Volume (kL/day)	Rainfall (mm/month) BOM Station ID 91107	Discharge to Waters Total Effluent Volume (ML)	Discharge to Reuse Total Effluent Volume (ML)
July 2022	2,118	51.6	64.28	--
August 2022	4,456	163.4	174.10	--
September 2022	4,786	75.6	176.26	--
October 2022	5,444	196.2	233.08	--
November 2022	5,203	107.4	207.36	--
December 2022	4,076	—*	166.06	--
January 2023	3,938	29.2	136.60	--
February 2023	3,857	35.0	113.70	--
March 2023	5,299	70.6	125.88	--
April 2023	3,767	41.6	116.64	--
May 2023	3,777	52.0	123.21	--
June 2023	3,769	172.4	129.60	--
Annual 2022-23	4,209	995.0	1,766.77	--
% of Total Discharge	--	--	100.0%	--

* No BOM rainfall data available for this month.

2022-23 monthly flow data was submitted directly to the EPA.

76.2.2 Bypass events

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

76.3 Discharge compliance with permit limits

Table 76-C: 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	25	1.0	40	10	8.5	20	1000	35
90th percentile	--	--	--	--	--	--	--	--	--
50th Percentile	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	52	52	52	52	52	52	52	52	52
Number analysed	52	52	0*	52	52	52	52	52	51
Statistical summary									
Max	8.5	12	--	41.2	1.0	7.7	35.6	24196	10.8
90th percentile	2.2	5	--	20.0	1.0	7.5	29.0	24196	10.1
50th percentile	0.2	5	--	3.9	1.0	7.4	16.7	15531	4.9
Min	0.1	5	--	1.2	1.0	6.7	0.3	708	4.0
EPN Limit Compliance									
% compliance with Maximum	92%	100%	--	98%	100%	--	63%	6%	100%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--

Parameter	Ammonia	BOD5	Chlorine	Nitrogen	Oil and grease	pH	Phosphorous	E coli	Total suspended solids
% compliance with pH range	--	--	--	--	--	100%	--	--	--

* Chlorine is not used at this site

Table 76-D: Mass loads to the environment

Parameter	EPN Limit	Frequency	2022-23 result
Nitrogen (kg)	--	Annual	11122.9
Phosphorous (kg)	--	Annual	26332.4
Method	Flow weighted/Composite method		

Table 76-E: Data gaps

Parameter	Location	Date of sample	Frequency	Reason for gap
TSS	Effluent	20/07/2022	W	Laboratory error. Sample discarded prior to testing.

Table 76-F: Performance Analysis (Discharge to environment)

Effluent compliance parameter		Date(s) of non-compliance			Reasons for non-compliance	Actions to improve performance
Ammonia	13/07/2022 14/09/2022	21/09/2022 18/01/2023			Peak organic load from trade waste load intermittently exceeds the aeration capacity of the plant, resulting in elevated ammonia and nitrogen	No specific actions undertaken in reporting period
Nitrogen		13/07/2022				
E. coli		6/07/2022 13/07/2022 20/07/2022	16/11/2022 23/11/2022 7/12/2022	15/03/2023 22/03/2023 29/03/2023	Wynyard STP does not have disinfection and phosphorus removal processes,	A strategic business case was drafted to address the effluent E. coli and nutrient risks.

Effluent compliance parameter	Date(s) of non-compliance			Reasons for non-compliance	Actions to improve performance
	27/07/2022 3/08/2022 10/08/2022 17/08/2022 24/08/2022 31/08/2022 7/09/2022 14/09/2022 21/09/2022 28/09/2022 5/10/2022 19/10/2022 26/10/2022 2/11/2022	14/12/2022 21/12/2022 28/12/2022 4/01/2023 11/01/2023 18/01/2023 25/01/2023 1/02/2023 8/02/2023 15/02/2023 22/02/2023 1/03/2023 8/03/2023	5/04/2023 12/04/2023 19/04/2023 26/04/2023 3/05/2023 10/05/2023 17/05/2023 24/05/2023 31/05/2023 7/06/2023 15/06/2023 21/06/2023 28/06/2023	which results in regular non-compliance with the E. coli and Phosphorus limits.	Considered options include extension of the outfall pipe and installation of disinfection.
Phosphorus	6/07/2022 13/07/2022 9/11/2022 16/11/2022 29/11/2022 7/12/2022 14/12/2022	8/02/2023 15/02/2023 1/03/2023 8/03/2023 22/03/2023 5/04/2023	19/04/2023 26/04/2023 3/05/2023 10/05/2023 17/05/2023 15/06/2023		Strategic planning to be undertaken to inform the future plant upgrade requirements.

No other parameters had exceedances in the reporting period.

76.4 Reuse Annual Reporting

No Recycled Water Scheme associated with this STP.

76.5 Ambient monitoring program

Table 76-G: Program details

Program	Wynyard Ambient Monitoring Program
Status	Ambient water quality and biological monitoring completed within the reporting period.
Update	Ambient biological and water quality monitoring was conducted during the reporting period. Monthly recreational water quality monitoring completed during October 2022-May 2023. Biannual biological monitoring completed in Spring and Autumn, to be undertaken every 2 years.
Comments	An Ambient Monitoring Report covering the ambient water quality and biological monitoring undertaken in the Bass Strait receiving environment during the reporting period is currently in preparation and will be provided later in 2023.

76.6 Groundwater monitoring

Site status: Red – Highly likely STP impact

Wynyard STP groundwater monitoring network consists of four bores, ID numbers WNGW1-4. Biannual sampling was completed across the network in October 2022 and May 2023.

Bore ID WNGW3 identified STP impact with elevated concentrations of ammonia, total nitrogen and total phosphorous, chloride and conductivity exceeding adopted guideline values. Evidence of minimal STP impact identified at bore ID's WNGW1-4.

Biannual sampling at the extended analytical suite is scheduled to continue at all bores during the 2023-24 groundwater monitoring program. A review of the groundwater monitoring network to provide a more targeted assessment is to be completed as per report recommendations.

76.7 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 2022 to prioritise I&I investigation and works state-wide. This catchment was ranked 33 out of 79 in priority.

76.8 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 is fully compliant with the 2022-23 SSMP.

Biosolids are removed regularly from site, no stockpiling occurs.

Table 76-H: Biosolids sludge classification

Month	Number of Samples	Maximum (mg/kg)	Mean (mg/kg)	Minimum (mg/kg)	BACC (mg/kg)	Contaminant Classification
Arsenic	12	4.1	2.8	2.1	4.0	A
Cadmium	12	1.3	0.8	0.4	1.3	B
Chromium	12	76.7	55.6	45.1	73.8	B
Copper	12	152.0	109.7	86.4	150.4	B
Lead	12	31.5	20.7	13.0	31.7	A
Mercury	12	0.8	0.3	0.06	0.9	A
Nickel	12	38.2	24.5	15.2	38.7	A
Zinc	12	702.0	564.3	445.0	724.9	B

Table 76-I: Volume and disposal destination

Quantity (DST)	Average solids content	Stabilisation method	Stabilisation Grade	Contamination Grade	Biosolids Classification	End use destination
272.42	15.0%	Sludge lagoon	B	B	2	Dulverton Compost

Notes: DST = Dry solid tonne.

76.9 Non-compliance with other permit requirements

Table 76-J: EPN non-compliances

EPN Condition	Description of non-conformance	Future Actions to be taken
Q1 Regulatory limits	ADWF limit exceeded during FY22-22.	Wynyard Capacity Assessment is currently being developed.
EF2 Effluent quality limits for discharge to water	Discharge compliance with permit limits	See section 76.3 Discharge compliance with permit limits and Performance Analysis
EM2 Effluent reuse feasibility study	Submitted to EPA in 2013, EPA responded in 2013 as not satisfactory.	A desktop review into the feasibility of effluent reuse was completed in July 2021. Options to be reviewed by Asset Strategy during FY2023-24.
EM3 Discharge Management Plan	Discharge Management Plan overdue.	Submission timeframe TBC. Plan in development for DMP submission dates following on from agreed format between TasWater and EPA.
M6 Installation of Automated Treated Effluent Composite Sampling Equipment	Overdue for the installation of a treated effluent composite sampler	There is a composite sampler installed at the site, but it is currently not working. The sewer optimisation and electrical teams endeavour to replace the flow meter and conduct electrical work to ensure full functionality for the sampler. It is expected that this work could be completed in FY2022-23.
OP1 Operational Procedures Manual	No contemporary Operational Procedures Manual.	New SharePoint based solution for OPMMs currently being developed. First version to be implemented in FY2024.
M2 Groundwater Monitoring	Groundwater Monitoring not as per specific requirements	Improve monitoring program for FY23/24 to meet compliance

76.10 Complaints and incident reporting

Table 76-K: Complaints Reporting

Date	Category	Details	Mitigation Actions
30/01/2023	Odour	Elevated odour reported to TasWater Customer Service regarding the Wynyard STP.	TasWater Service Delivery investigated and found no process upsets attributable to the elevated odour. There were no mitigation actions implemented in this case.

Table 76L: Incident Reporting

Date	Category	Details	Mitigation Actions
9/6/2023	Spill	Rising main burst resulting in a spill to the environment.	Repair of the rising main pipeline, implementation of an exclusion zone for ruminants and land rectification.

76.11 Any other relevant information

Table 76-M: Projects or significant operational events that occurred in FY 2022-23:

Project or significant operational event	Progress
Wynyard STP Disinfection	A Detailed Business Case is currently in progress for Wynyard STP disinfection.
Wynyard and Somerset Rationalisation Strategy	The development of a Strategic Options Report investigating the current sewerage system configurations for Wynyard and Somerset is currently in progress.
Inlet Penstock Valve Actuator Replacement	Completed

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

www.taswater.com.au