

23 Fingal STP

23.1 Activity and report details

Activity name	Fingal STP		
Activity address	Off Stieglitz Street, Fingal		
Permit number	License to Operate - 3659	Date of issue	2/05/1989
EPN	8816/2	Date of issue	22/06/2020
Treatment level	Secondary Treatment		
Authorised Dry Weather Flows	125KL/day		
Key Influent Source	Residential		
Contact person	Kate Westgate		
Report author	Jayden Taylor		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2023		

Figure 23-1: Fingal Sewage Treatment Plant



23.2 Monitoring and compliance summary

23.2.1 Flow data

Table 23-A: Flow monitoring summary

	Inlet	Effluent	Reuse
Location Name	Inlet	South Esk River	No reuse scheme
Coordinates	E 580251 N 5389761	E 580110 N 5389600	NA
Method of Measurement	In line meter	Estimate based on influent	NA
Date of last Calibration/Validation (if applicable).	26/09/2022	NA	NA

Table 23-B: Annual flow and rainfall data

Month	Average Daily Influent Volume (kL/day)	Rainfall (mm/month) BOM Station ID 92144	Discharge to Waters Total Effluent Volume (ML)	Discharge to Reuse Total Effluent Volume (ML)
July 2022	34	32.6	1.07	--
August 2022	34	114.6	1.95	--
September 2022	61	150.2	1.82	--
October 2022	134	144.4	4.14	--
November 2022	72	91.4	2.16	--
December 2022	102	41.6	3.15	--
January 2023	56	29.8	1.74	--
February 2023	52	35.6	1.45	--
March 2023	51	84.6	1.45	--
April 2023	57	56.2	1.70	--
May 2023	55	12.4	1.71	--
June 2023	69	123.0	2.08	--
Annual 2022-23	65	916.4	24.40	--
% of Total Discharge	--	--	100.0%	--

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

23.2.2 Bypass events

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

23.3 Discharge compliance with permit limits

Table 23-C: Compliance Summary

Parameter	Ammonia	BOD5	Chlorine	Nitrogen	Oil and grease	pH	Phosphorous	E coli	TSS
Permit/EPN limit	mg/L	mg/L	mg/L	mg/L	mg/L	Units	mg/L	MPN/100ml	mg/L
Maximum	8	60	1.0	24	10	9.0	6	2000	65
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									
Max	4.4	38	3.00	28.1	2.0	7.7	3.1	24196	250.0
90th percentile	2.7	31	1.34	19.7	1.4	7.5	1.9	24196	136.3
50th percentile	0.7	19	0.26	16.6	1.0	7.2	1.7	10919	89.0
Min	0.1	5	0.02	5.1	1.0	6.7	0.6	10	41.0
EPN Limit Compliance									
% compliance with Maximum	100%	100%	75%	92%	100%	--	100%	33%	33%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	100%	--	--	--

Table 23-D: Mass loads to the environment

Parameter	EPN Limit	Frequency	2022-23 result
Nitrogen (kg)	--	Annual	369.5
Phosphorous (kg)	--	Annual	39.6
Method	Time weighted/Grab sample method		

Table 23-E: Performance Analysis (Discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
E. coli	28/08/2022 20/09/2022 17/10/2022 10/11/2022	22/12/2022 21/03/2023 8/05/2023 27/06/2023	Chlorine disinfection is via chlorine tablets upstream of the sampling point and downstream of the lagoon. Lack of automated dosing control as well as short chlorine contact time contributes to non-compliant E. coli and chlorine results
Chlorine	19/07/2022 17/01/2023	15/02/2023	
Nitrogen	19/07/2022	The main nitrogen removal process in lagoon systems is ammonia stripping which occurs at high temperature and pH levels. In colder months when the lagoons pH and temperature drop, ammonia stripping rate drops which can result in effluent non-compliance	No specific actions
TSS	19/07/2022 28/08/2022 20/09/2022 10/11/2022	22/12/2022 15/02/2023 21/03/2023 8/05/2023	Algae is believed to be the primary reason for elevated TSS. Algae is a source of oxygen and is fundamental to lagoon treatment.

No other parameters had exceedances in the reporting period.

23.4 Reuse Annual Reporting

No Recycled Water Scheme associated with this STP.

23.5 Ambient monitoring program

Table 23-F: Program details

Program	Ambient monitoring as per EPN and Fingal Discharge Management Plan
Status	Ambient monitoring completed during the reporting period.
Update	Ambient water quality and biological monitoring has been undertaken within the South Esk River during the reporting period.
Comments	<p>Monthly ambient water quality and seasonal (autumn/spring) biological monitoring has been undertaken within the South Esk River receiving environment during the reporting period in accordance with EPN requirements and recommendations within the Fingal STP Receiving Environment Monitoring Report (REMR), February 2022.</p> <p>As per EPN requirements, an updated REMR will be submitted separately in late 2023 describing the outcomes of ambient monitoring during the reporting period.</p>

23.6 Groundwater monitoring

Site status: Green – Minor STP impacts (2022 report)

Fingal STP groundwater monitoring network consists of four groundwater monitoring bores ID numbers FIGW1-4. Due to timing and resourcing constraints no sampling was completed in the 2022-23 monitoring program. Biannual sampling is scheduled for all four bores during the 2023-24 groundwater monitoring program.

23.7 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 45 out of 79 in priority.

23.8 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 was fully compliant with the 2022-23 SSMP.

No stockpiling occurred at this site.

Table 23-G: Desludging status and comments

Desludging Status	Comments
Low Priority	Desludging is outside of the current priority planning schedule.

23.9 Non-compliance with other permit requirements

Table 23-H: EPN Non-compliances

EPN Condition	Description of non-conformance	Future Actions to be taken
EF2 Effluent quality limits for discharge to the South Esk River	Discharge compliance with permit limits	See section 23.3 Discharge compliance with permit limits and Performance Analysis
EM2 Effluent reuse feasibility study	Effluent reuse feasibility study overdue.	A desktop review into the feasibility of effluent reuse was completed in June 2021. Options to be reviewed by Asset Strategy
EM1 Effluent Improvement Plan	Effluent Improvement Plan overdue.	Scheduled for submission in FY2024
EM1 Effluent Management	Discharge Management Plan overdue.	Submission timeframe TBC. Plan in development for DMP submission dates following on from agreed format between TasWater and EPA
OP2 Operational Procedures and Maintenance Manual	No contemporary Operational Procedures Manual	New SharePoint based solution for OPMMs currently being developed. First version to be implemented by FY24
OP5 Lagoon Liner	Lagoon liner in poor condition	Lagoon liner in poor condition. Wave banks eroded and needs to be repaired. Timeframe TBC

23.10 Complaints and incident reporting

No complaints recorded during 2022-23 reporting period.

Table 23-I: Incident Reporting

Date	Category	Details	Mitigation Actions
1/9/2022	Process upset	Due to the level rise of the South Esk River, the outfall area of Fingal STP has been inaccessible since 17-24 August 2022 for operational chlorine testing/dosing.	Service Delivery accessed the area, the test result came back as 0.60mg/l. They have dosed appropriately to keep chlorine level within EPN limits (1mg/l).

23.11 Any other relevant information

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

www.taswater.com.au