66 Stieglitz STP

66.1 Activity and report details

Activity name	Stieglitz STP		
Activity address	Stieglitz Track, Stieglitz		
Permit number	Licence to Operate - 3931	**Date of issue**	01/04/1991
EPN	237/2	**Date of issue**	26/11/2014
Treatment level	Secondary Treatment		
Authorised Dry Weather Flows	110 kL/day		
Key Influent Source	Residential/Tankered		
Contact person	Kate Westgate		
Report author	Jayden Taylor		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2023		

Figure 66-1: Steiglitz Sewage Treatment Plant

66.2 Monitoring and compliance summary

66.2.1 Flow data

Table 66-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location Name	Inlet	Emergency	Effluent Reuse Scheme - Stieglitz Reuse Scheme
Coordinates	E 609364 N 5423968	E 609223 N 5423841	E 609208 N 5423836
Method of Measurement	In line meter	Estimate based on influent	In line meter
Date of last Calibration/Validation (if applicable).	13/07/2022	NA	13/07/2022

Table 66-B: Annual flow and rainfall data

Month	Average Daily Influent Volume (kL/day)	Rainfall (mm/month) BOM Station ID 92120	Discharge to Waters Total Effluent Volume (ML)	Discharge to Reuse Total Effluent Volume (ML)
July 2022	145	69.8	0.00	4.30
August 2022	145	82.2	0.00	4.43
September 2022	213	104.0	0.00	9.59
October 2022	105	234.4	0.00	5.06
November 2022	115	104.4	0.00	3.45
December 2022	162	74.8	0.00	6.93
January 2023	137	36.0	0.00	3.04
February 2023	152	52.6	0.00	1.68
March 2023	137	120.4	0.00	1.68
April 2023	179	81.4	0.00	8.16
May 2023	119	14.4	0.00	5.01
June 2023	150	127.0	0.00	11.38
Annual 2022-23	146	1101.4	0.00	64.71
% of Total Discharge	--	--	0.0%	100.0%

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

66.2.2 Bypass events

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

66.3 Discharge compliance with permit limits

This STP did not discharge to the environment during the period.

66.4 Reuse Annual Reporting

The Steiglitz STP supplies recycled water for irrigation of native bushland at the Steiglitz recycled water scheme.

Table 66-C: Reuse Compliance Summary

Parameter	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			
Max	75	9.1	3609
90th percentile	68	9.0	2089
50th percentile	51	8.3	865
Min	13	6.9	146
Summary of results			
% compliance with Maximum	50%	--	100%
% compliance with 90th percentile	--	--	--
% compliance with 50th percentile	--	--	50%
% compliance with pH range	--	83%	--

Table 66-D: Performance analysis (Discharge to reuse)

Reuse Compliance Parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
BOD	19/07/2022 16/08/2022 20/09/2022 17/10/2022 10/11/2022 22/12/2022	Algae is believed to be the primary reason for elevated pH, and BOD. Algae is a source of oxygen and is fundamental to lagoon treatment. There are some non-compliances in colder months which is likely due to the lagoon's long HRT (approximately 160 days) and residual algae from previous months.	No specific actions.
pH	22/12/2022 21/03/2023		

Annual soil sampling was completed at five sites, ID's Middle-west, North-east, North-west, South-east and South-west, at the RWS in April 2023. The annual compliance audit was completed in conjunction with the soil sampling. A summary of the findings of the programs is provided in the below table.

Table 66-E: Annual recycled water scheme compliance audit and soil monitoring summary

Program	Compliance audit	Soil monitoring
Compliance status	Non- compliant	All sites remain non-saline, though sodicity continues to be the primary issue at this location. Soil sodicity remains excessive at all sites. Sites North West and Middle West are both classified as strongly sodic. Soil pH is low at North West site and at a level where metals are mobilising and nutrients are less available to plant uptake.
Comments	Excessive recycled water irrigation when soils are already saturated. This resulted in ponding of recycled water and runoff outside the fenced irrigation area.	Recycled water quality data indicates salinity of the recycled water supplied by the scheme is within acceptable limits. The SAR is at a moderate level. This SAR value, coupled with the salinity level of the recycled water, indicates a slight to moderate risk of soil permeability loss. The risk of soil structure degradation is lower due to the presence of sandy soils. Current irrigation rates are not considered sustainable.

Key: ECse = Electrical Conductivity at saturation extent

Reuse groundwater site status: Green – no evidence of recycled water impact on groundwater

Stieglitz RWS groundwater monitoring network consists of two bores; bore ID STRGW1 located east of irrigation area and bore ID STRGW2 located west of the irrigation area. Due to timing and resourcing constraints no sampling was completed during the reporting period.

Biannual sampling at the extended analytical suite is scheduled across the monitoring network in 2023-24 groundwater monitoring program.

66.5 Ambient monitoring program

Table 66-F: Program details

Program	NA – No requirement for ambient monitoring.
Status	NA
Update	NA
Comments	NA

66.6 Groundwater monitoring

Site status: Amber – Possible STP impacts

Stieglitz STP groundwater monitoring network consists of six groundwater monitoring bores, ID numbers STGW1, STGW3, STGW8-9 and STGW11-12. Annual sampling was completed across the

network in July 2023. Surface water samples of the lagoons were also collected for classification assessment.

Possible STP impacts at bore ID STGW1 with elevated amounts of Ammonia, Total Nitrogen above nominated assessment guidelines and close to the water type of STP primary Lagoon. Minor potential STP impact identified at bore ID STGW3 with increasing concentrations of total phosphorous which exceeded adopted guideline criterion. Bore ID exceeded adopted criterion for ammonia whilst bore ID STGW12 recorded increasing concentrations of Total Nitrogen, Nitrate and Total phosphorous but all concentrations are below adopted guidelines criterion.

Biannual sampling at the extended analytical suite is scheduled to continue across the network during the 2023-24 groundwater monitoring program. Report recommendation of installation of additional bores in groundwater monitoring network will be considered in future.

66.7 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 16 out of 79 in priority.

66.8 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 66-G: Desludging status and comments

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

66.9 Non-compliance with other permit requirements

Table 66-H: EPN non-compliances

EPN Condition	Description of non-conformance	Future Actions to be taken
Q1 Regulatory Limits	ADF exceeds ADWF EPN limit (110kl/d).	No specific actions
EF2 Effluent quality limits for discharge to the Wastewater Reuse Scheme	Discharge compliance with reuse permit limits	See section 66D Reuse Annual Reporting and Performance Analysis
G8 Revised Wastewater Reuse EMP	No evidence of Wastewater Reuse EMP review submission to EPA	No scheduled revision of Reuse EMP during FY 22-23

OP1 Operational Procedures Manual	No contemporary Operational Procedures Manual	New SharePoint based solution for OPMMs currently being developed. First version to be implemented by FY24.

66.10 Complaints and incident reporting

No complaints or incidents reported during the FY2022-23 reporting period.

66.11 Any other relevant information

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

www.taswater.com.au