

67. Strahan STP

67.1 Activity and report details

| | | | |
|------------------------------|---|---------------|------------|
| Activity name | Strahan STP | | |
| Activity address | Lowana Rd, Strahan | | |
| Permit number | Permit Conditions Environmental - 6223 | Date of issue | 11/12/2001 |
| EPN | 8858/1 | Date of issue | 13/3/2013 |
| Treatment level | Secondary Treatment | | |
| Authorised dry weather flows | 1056 kL/day | | |
| Key influent source | Residential | | |
| Contact person | Kate Westgate (Manager Environmental Performance) | | |
| Report author | Jake Crisp (Environmental Scientist) | | |
| Contact details | Environment@taswater.com.au | | |
| Date of submission | 30 September 2024 | | |

Figure 67-1: Strahan Sewage Treatment Plant



67.2 Monitoring and compliance summary

67.2.1 Flow data

Table 67-A: Flow monitoring summary

| | Influent | Effluent | Reuse |
|--|-----------------------|----------------------------|-----------------|
| Location name | Plant Influent | Macquarie Harbour | No reuse scheme |
| Coordinates | E 362539 N 5330795 | E 360471 N 5331863 | NA |
| Method of measurement | In line meter | Estimate based on influent | NA |
| Date of last calibration/validation (if applicable). | 8/02/2022 | NA – meter to be installed | NA |

Table 67-B: Annual flow and rainfall data

| Month | Average daily influent volume (kL/day) | Rainfall (mm/month) BOM Station ID 97092 | Discharge to waters total effluent volume (ML) | Discharge to reuse total effluent volume (ML) |
|----------------------|--|---|--|---|
| July 2023 | 670 | 177.2 | 20.76 | -- |
| August 2023 | 778 | 223.4 | 24.11 | -- |
| September 2023 | 551 | 104.0 | 16.52 | -- |
| October 2023 | 497 | 92.8 | 15.39 | -- |
| November 2023 | 427 | 36.1 | 12.81 | -- |
| December 2023 | 429 | 81.2 | 13.31 | -- |
| January 2024 | 445 | 91.4 | 13.78 | -- |
| February 2024 | 424 | 44.0 | 12.31 | -- |
| March 2024 | 425 | 67.8 | 13.17 | -- |
| April 2024 | 439 | 124.9 | 13.16 | -- |
| May 2024 | 465 | 59.2 | 14.43 | -- |
| June 2024 | 815 | 118.4 | 24.45 | -- |
| Annual 2023-24 | 532 | 1220.4 | 194.19 | -- |
| % of total discharge | -- | -- | 100.0% | -- |

2023-24 monthly flow data was submitted directly to the EPA.

67.3 Bypass events

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

67.4 Discharge compliance with permit limits

Table 67-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 | 20.0 | 50 | -- | 40.0 | 10.0 | 8.5 | 12.0 | 200 | 50.0 |
| 90th percentile | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 50th percentile | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Minimum | -- | -- | -- | -- | -- | 6.5 | -- | -- | -- |
| Samples analysed | | | | | | | | | |
| Number required | 12 | 12 | -- | 12 | 12 | 12 | 12 | 12 | 12 |
| Number analysed | 12 | 12 | -- | 12 | 12 | 12 | 12 | 12 | 12 |
| Statistical summary | | | | | | | | | |
| Maximum | 14.0 | 19 | -- | 17.2 | 1.7 | 8.6 | 5.7 | 712 | 14.0 |
| 90th percentile | 12.7 | 11 | -- | 17.0 | 1.0 | 8.5 | 4.6 | 259 | 11.2 |
| 50th percentile | 9.9 | 5 | -- | 13.7 | 1.0 | 7.8 | 3.4 | 52 | 4.0 |
| Minimum | 2.8 | 5 | -- | 6.5 | 1.0 | 7.3 | 1.2 | 10 | 4.0 |
| EPN limit compliance | | | | | | | | | |
| % compliance with maximum | 100% | 100% | -- | 100% | 100% | -- | 100% | 75% | 100% |
| % compliance with 90th percentile | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| % compliance with 50th percentile | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| % compliance with pH range | -- | -- | -- | -- | -- | 83% | -- | -- | -- |

Table 67-D: Mass loads to the environment

| Parameter | EPN limit | Frequency | 2023-24 result |
|------------------|----------------------------------|-----------|----------------|
| Nitrogen (kg) | -- | Annual | 2564.0 |
| Phosphorous (kg) | -- | Annual | 586.7 |
| Method | Time weighted/grab sample method | | |

Table 67-E: Performance analysis (discharge to environment)

| Effluent compliance parameter | Date(s) of non-compliance | Reasons for non-compliance | Actions to improve performance |
|-------------------------------|-------------------------------------|--|--------------------------------|
| pH | 5/02/2024 6/05/2024 | Elevated levels of algae are considered the main contributor to increased pH. Through photosynthesis, algae absorb carbon dioxide and produce oxygen, which can influence pH levels in the effluent. | No specific actions |
| E. coli | 4/12/2023 5/02/2024 4/03/2024 | The plant generally has good disinfection performance. The effluent E. coli limit of 200 MPN/100mL is difficult to be consistently met by a lagoon system. | No specific actions |

No other parameters had exceedances in the reporting period.

67.5 Reuse annual reporting

No Recycled Water Scheme associated with this STP.

67.6 Ambient monitoring program

Table 67-F: Program details

| | |
|-----------------|--|
| Program | Strahan Ambient Monitoring Program |
| Status | No ambient monitoring was undertaken during the reporting period. |
| Update | No ambient monitoring was undertaken during the reporting period. Next round ambient monitoring is scheduled for FY 2024-25 |
| Comments | Not applicable. |

67.7 Groundwater monitoring

Site status: Amber

Strahan STP groundwater monitoring network consists of three monitoring bores. Bore ID SNGW1 is located on the southeastern corner of the STP whilst bore ID's SNGW2-3 are located on the northwestern and southwestern corners respectively. The expected receiving environment is expected to be Long Bay (Macquarie Harbour) located west of the STP. One round of sampling (6-monthly) was completed across the network in March 2024. Due to timing and resource constraints the second (annual) was not completed. No sample was collected from bore ID SNGW3 as bore remains dry.

The 2023-24 groundwater monitoring program recorded an exceedance of ammonia, with ammonia concentrations increasing at bore ID SNGW1. Given the distance to the receiving environment (expected to be Long Bay, Macquarie Harbour) and relatively low concentrations of nutrients (exception being ammonia) potential seepage is assessed as posing a low risk to receiving environment. The 2023-24 report recommendations included continuation of 6-monthly sampling across the network in conjunction with the STP surface water sampling to complete major ion analysis. Installation of a background reference bore was also recommended in the report.

6-monthly sampling at the extended analytical suite is scheduled to continue at all bores and all five STP lagoons during the 2024-25 groundwater monitoring program to assess water classification and assist with the assessment as per 2022-23 Groundwater Monitoring Report recommendations.

67.8 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. Update to the actions completed will be provided in the next revision due September 2024.

A Multi Criteria Assessment was undertaken by TasWater in 2024 to prioritise I&I investigation and works state-wide. This catchment was ranked 91 out of 108 in priority.

67.9 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 fully compliant with the 2023–24 SSMP.

No stockpiling occurs at this site.

Table 67–G: Desludging status and comments

| Desludging status | Comments |
|-------------------|--|
| Low Priority | Desludging is outside of the current prioritisation planning schedule. |

67.10 Non-compliance with other permit requirements

Table 67–H: EPN non-compliances

| EPN condition | Description of non-conformance | Future actions to be taken |
|---|--|--|
| D3 Effluent quality limits for discharge to water | Discharge compliance with permit limits. | See section 67.4 for discharge compliance with permit limits and performance analysis. |
| EM1 Effluent Management | Ambient monitoring completed in 2019–20 but 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. |
| EM2 Effluent Reuse Feasibility Study | No Effluent Reuse Feasibility Study Scheduled. | |
| EM3 Discharge Management Plan | Discharge Management Plan overdue. | |

67.11 Complaints and incident reporting

No complaints or incidents reported during the FY2023–24 reporting period.

67.12 Any other relevant information

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

www.taswater.com.au