

### 33. Macquarie Point STP

#### 33.1 Activity and report details

Activity name	Macquarie Point STP		
Activity address	Macquarie Point, Hobart		
Permit number	Licence to Operate – 3514	Date of issue	14/12/1988
EPN	8880/1 8539/1	Date of issue	20/11/2013 05/03/2013
Treatment level	Secondary Treatment		
Authorised dry weather flows	18000 kL/day		
Key influent source	Residential/Industrial/Tankered 5 x Category 3 Customers, 2 x Category 2 Customers		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2024		

**Figure 33-1: Macquarie Point Sewage Treatment Plant**



## 33.2 Monitoring and compliance summary

### 33.2.1 Flow data

**Table 33-A: Flow monitoring summary**

	Influent	Effluent	Reuse
<b>Location name</b>	Inlet	Derwent River	No reuse scheme
<b>Coordinates</b>	E 527701 N 5252668	E 527848 N 5252730	NA
<b>Method of measurement</b>	Level sensor	Level sensor	NA
<b>Date of last calibration/validation (if applicable).</b>	15/04/2024	15/04/2024	NA

**Table 33-B: Annual flow and rainfall data**

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 94029	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2023	10,635	31.0	329.68	--
August 2023	10,112	16.8	313.46	--
September 2023	10,339	38.4	310.18	--
October 2023	10,381	69.0	321.81	--
November 2023	10,149	34.4	304.46	--
December 2023	9,650	29.2	299.14	--
January 2024	10,252	36.0	317.81	--
February 2024	10,206	4.2	295.98	--
March 2024	9,815	8.6	304.27	--
April 2024	10,198	36.8	305.94	--
May 2024	10,223	32.0	316.91	--
June 2024	10,340	28.6	310.19	--
Annual 2023-24	10,219	365.0	3,729.82	--
% of total discharge	--	--	100.0%	--

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

### 33.3 Bypass events

No bypass event recorded in the period.

### 33.4 Discharge compliance with permit limits

**Table 33-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	23.0	59	1.0	38.0	10.0	8.5	8.0	1000	56.0
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
Statistical summary									
Maximum	25.1	505	1.20	60.1	150.0	7.4	9.3	865	407.0
90th percentile	19.3	54	0.98	46.0	6.8	7.2	7.8	134	27.9
50th percentile	14.5	36	0.68	40.6	4.7	7.0	6.9	30	21.5
Minimum	3.9	21	0.32	30.8	1.3	6.4	5.0	10	14.2
EPN limit compliance									
% compliance with maximum	96%	94%	92%	25%	98%	--	94%	100%	98%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	98%	--	--	--

**Table 33-D: Mass loads to the environment**

Parameter	EPN limit	Frequency	2023-24 result
Nitrogen (kg)	--	Annual	151970.6
Phosphorous (kg)	--	Annual	25502.3
Method	Flow weighted/composite method		

**Table 33-E: Performance analysis (discharge to environment)**

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
Chlorine	1/08/2023 8/08/2023 23/04/2024 25/06/2024	The chlorine contact tank is small, requiring accurate control of chlorine residual within a tight band to ensure both disinfection compliance. Occasionally the effluent chlorine limit is exceeded due to the online analyser underreading (fouling) or wet weather.	Disinfection control improvements have been implemented to automatically adjust the chlorine dose, thereby maximising disinfection performance throughout the entire day and reducing the likelihood of exceeding the maximum total chlorine limit.
BOD	5/12/2023 2/01/2024 3/04/2024	High volumes of tankered waste are believed to contribute non-compliant BOD, ammonia, nitrogen and oil and grease concentrations. Higher effluent TSS results have also been recorded, as well as increased effluent turbidity.  The process is not capable of nutrient removal. Nitrification is affected by cooler temperature and high organic loading rates	No specific actions undertaken in reporting period.  This STP will be decommissioned following flow transfers to an upgrade Selfs Point STP in 2026.
Ammonia	4/07/2023 2/01/2024		
Nitrogen	4/07/2023 18/07/2023 25/07/2023 15/08/2023 29/08/2023 5/09/2023 12/09/2023 19/09/2023 26/09/2023 17/10/2023	5/12/2023 12/12/2023 27/12/2023 2/01/2024 16/01/2024 23/01/2024 30/01/2024 6/02/2024 13/02/2024 20/02/2024	26/03/2024 9/04/2024 16/04/2024 23/04/2024 30/04/2024 7/05/2024 14/05/2024 21/05/2024 28/05/2024 4/06/2024

Effluent compliance parameter	Date(s) of non-compliance			Reasons for non-compliance	Actions to improve performance
	7/11/2023 14/11/2023 28/11/2023	27/02/2024 5/03/2024 12/03/2024	11/06/2024 18/06/2024 25/06/2024		
Oil and Grease	2/01/2024				
TSS	2/01/2024				
Phosphorus	21/11/2023 5/12/2023 2/01/2024				
pH	2/01/2024				

No other parameters had exceedances in the reporting period.

### 33.5 Reuse annual reporting

No Recycled Water Scheme associated with this STP.

### 33.6 Ambient monitoring program

**Table 33-F: Program details**

<b>Program</b>	NA – No requirement for ambient monitoring in the reporting period
<b>Status</b>	NA
<b>Update</b>	NA
<b>Comments</b>	NA

### 33.7 Groundwater monitoring

No groundwater monitoring for this STP.

### 33.8 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 9 out of 108 in priority. Actions in the period included:

- CCTV undertaken of 13.2 km sewer mains

### 33.9 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 deemed non-compliant with the 2023-24 SSMP due to missing Biosolids Management Plans and no evidence that council approval was obtained.

Biosolids are removed regularly from site, no stockpiling occurs.

**Table 33-G: Biosolids sludge classification**

Parameter	Number of samples	Maximum (mg/kg)	Mean (mg/kg)	Minimum (mg/kg)	BACC (mg/kg)	Contaminant classification
Arsenic	12	3.6	2.4	1.6	3.4	A
Cadmium	12	2.9	2.0	1.2	3.1	B
Chromium	12	43.4	30.9	19.9	42.0	A
Copper	12	1340.0	849.0	506.0	1232.9	B
Lead	12	65.2	47.0	35.2	66.8	A
Mercury	12	2.8	1.4	0.9	2.5	B
Nickel	12	22.1	16.8	11.2	22.0	A
Zinc	12	1540.0	1179.0	758.0	1544.3	B

**Table 33-H: Volume and disposal destination**

Quantity (DST)	Average solids content	Stabilisation method	Stabilisation grade	Contamination grade	Biosolids classification	End use destination
346.4	21.91%	Anaerobic digestion	B	B	2	Coronation Hotel, Whitemarsh farm, Delmore farm, Old Mill farm, Strathallan farm

Notes: DST = Dry solid tonne.

### 33.10 Non-compliance with other permit requirements

**Table 33-I: EPN non-compliances**

EPN condition	Description of non-conformance	Current and future actions to prevent non-compliance
EPN 8880/1		
EF3 Effluent quality limits for discharge to River Derwent	Discharge compliance with permit limits	See section 33.4 Discharge compliance with permit limits and Performance Analysis
WM2 Sewage Sludge Management Plan	Missing Biosolids Management Plans and no evidence that council approval was obtained	Ensure BMPs and evidence of council approval are included in 2024-24 SSMP
EPN 8539/1		
EM3 Discharge Management Plan	Discharge Management Plan overdue	To be resolved during FY2025. The EPA Board approved the Macquarie Point Sewage Pump Station EIS and construction is due to commence during FY2025.

### 33.11 Complaints and incident reporting

No complaints recorded in the period.

**Table 33–J: Incident reporting**

Date	Category	Details	Mitigation actions
06/11/2023	Mechanical	Breakage in primary sedimentation tank	Repairs took 3 days, with the plant operating on one sedimentation tank during this time.
06/11/2023	Mechanical	Digester heater offline. Failure of electrical backup heaters has meant the digester temp has dropped to around 20C instead of the ideal 38C.	Heater back online on 10 Jan 2024. Biosolids remained with Class 2 compliance.

### 33.12 Any other relevant information

**Table 33–K: Projects or significant operational events that occurred in FY 2023–24:**

Project or significant operational event	Progress
Macquarie Point STP Relocation	EPA issued an EPN for the SPS at Macquarie Point. Construction and Environmental Management Plan, to satisfy Condition CN1 of EPN 11299/1, has been approved. EPA have been notified under condition G6 of the intent to commence construction of the SPS on the 2 September 2024.

For further information on Macquarie Point STP please contact TasWater on 13 6992

[www.taswater.com.au](http://www.taswater.com.au)