

## 9. Round Hill (Burnie) STP

### 9.1 Activity and report details

<b>Activity name</b>	Round Hill (Burnie) STP		
<b>Activity address</b>	Bass Highway, Round Hill, Burnie		
<b>Permit number</b>	Permit Conditions Environmental - 6279	<b>Date of issue</b>	20/01/2004
<b>EPN</b>	7297/1	<b>Date of issue</b>	29/06/2007
	7297/2		24/11/2022
<b>Treatment level</b>	Tertiary (E3) – (Nitrogen + Phosphorus)		
<b>Authorised Dry Weather Flows</b>	9000 kL/day		
<b>Key Influent Source</b>	Residential/Industrial 4 x Category 3 Customers, 4 x Category 4 Customers		
<b>Contact person</b>	Kate Westgate (Manager Environmental Performance)		
<b>Report author</b>	Jake Crisp (Environmental Scientist)		
<b>Contact details</b>	Environment@taswater.com.au		
<b>Date of submission</b>	30 September 2024		

**Figure 9–1: Round Hill (Burnie) Sewage Treatment Plant**



## 9.2. Monitoring and compliance summary

### 9.2.1. Flow data

**Table 9-A: Flow monitoring summary**

	Influent	Effluent	Reuse
<b>Location name</b>	Inlet	Bass Strait	No reuse scheme
<b>Coordinates</b>	E 411382 N 5453406	E 411250 N 5453550	NA
<b>Method of measurement</b>	In-line meter	In-line meter	NA
<b>Date of last calibration/validation (if applicable).</b>	30/07/2024	30/07/2024	NA

**Table 9-B: Annual flow and rainfall data**

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 91355	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2023	7,907	108.4	251.17	--
August 2023	7,778	76.6	249.04	--
September 2023	7,007	40.2	211.50	--
October 2023	6,448	35.4	196.42	--
November 2023	6,448	38.4	191.40	--
December 2023	6,687	89.6	203.65	--
January 2024	6,523	80.8	203.53	--
February 2024	5,984	6.2	175.84	--
March 2024	5,858	16.2	184.12	--
April 2024	6,229	53.6	189.50	--
May 2024	5,955	40.0	188.03	--
June 2024	5,887	75.8	179.94	--
Annual 2023-24	6,582	661.2	2,424.13	--
% of total discharge	--	--	100.0%	--

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

## 9.3. Bypass events

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

#### 9.4. Discharge compliance with permit limits

**Table 9–C: Discharge compliance with permit limits**

	Ammonia as N	BOD5	Chlorine	Nitrogen	Oil and Grease	pH	Phosphorus	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	5.0	20	--	15.0	5.0	8.5	5.0	750	30.0
90th Percentile	2.0	15	--	10.0	2.0	--	3.0	500	20.0
50th Percentile	1.0	10	--	5.0	1.0	--	1.0	200	10.0
Minimum	--	--	--	--	--	6.5	--	--	--
<b>Samples analysed</b>									
Number required	52	52	--	52	52	52	52	52	52
Number analysed	52	52	--	52	52	52	52	52	52
<b>Statistical summary</b>									
Maximum	14.0	109	--	22.8	5.8	7.4	9.6	6867	338.0
90th percentile	4.0	21	--	11.2	1.1	7.3	4.5	275	17.2
50th percentile	1.1	5	--	6.5	1.0	7.1	0.7	10	8.3
Minimum	0.3	5	--	2.8	1.0	6.6	0.1	10	4.0
<b>EPN limit compliance</b>									
% compliance with maximum	90%	88%	--	92%	98%	--	90%	94%	98%
% compliance with 90th percentile	71%	83%	--	87%	94%	--	81%	92%	92%
% compliance with 50th percentile	50%	75%	--	27%	88%	--	62%	85%	62%
% compliance with pH range	--	--	--	--	--	100%	--	--	--

**Table 9-D: Mass loads to the environment**

Parameter	EPN limit	Frequency	2023-24 result
Nitrogen (kg)	26300	Yearly	17578.9
Phosphorous (kg)	7250	Yearly	4157.0
Method	Flow weighted/composite method		

**Table 9-E: Performance analysis (discharge to environment)**

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
Ammonia	5/07/2023 19/07/2023 25/10/2023	20/03/2024 10/04/2024	For the non-compliance on 20/03/24, a mechanical failure of the decanter in SBR 2 contributed to increased load in SBR 1 on 17/03/24, which would have resulted in incomplete nitrification and denitrification for a few days until the treatment system caught up.  TasWater redirected flow to SBR 1 while completing necessary repairs in SBR 2.  No other specific actions.
Nitrogen	5/07/2023 25/10/2023	20/03/2024 12/06/2024	There were no known process upsets attributable to the other four non-compliances. However, some overloading or changes in trade waste could have led to elevated ammonia.
BOD	5/07/2023 2/08/2023 9/08/2023	25/10/2023 5/06/2024 12/06/2024	There were no known process upsets attributable to the effluent non-compliances. However, some overloading or changes in trade waste could have led to elevated BOD.
TSS		12/06/2024	There were no known process upsets attributable to the non-compliance. However, some overloading or changes in trade waste could have led to elevated TSS.
E.coli	5/07/2023 27/09/2023 17/01/2024		For the non-compliance on 17/01, high rainfall could have resulted in increased inflow and reduced UV transmittance.  No specific actions.  For the other two non-compliances, there were

Effluent compliance parameter		Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
			no known process upsets or issues with the UV disinfection system. Possible trade waste changes or overloading could have reduced UV efficiency.	
Phosphorus	4/10/2023 25/10/2023 1/11/2023	15/11/2023 12/06/2024	There is no control within the chemical phosphorous removal system to account for rapid fluctuation in P loading. This results in occasional no compliance.	Ongoing investigation into the improvement of dosing control for chemical phosphorus removal.
O&G		12/06/2024	Unknown reason for singular O&G exceedance; possible trade waste related.	No specific actions.

No other parameters had exceedances in the reporting period.

### 9.5. Reuse annual reporting

No Recycled Water Scheme associated with this STP

### 9.6. Ambient monitoring program

**Table 9-F: Program details**

<b>Program</b>	Burnie (Round Hill) Ambient Monitoring Program in accordance with EPN Conditions, as varied by EN-EM-PE-WY-031069-007   D24-49640 (EPA, February 2024).
<b>Status</b>	Ambient water quality monitoring was completed in February and August 2023. Biological monitoring was completed in February 2023.
<b>Update</b>	Ambient water quality and biological monitoring was completed as per the EPN in the 2023-2024 reporting period. An Ambient Monitoring Report has been submitted separately.
<b>Comments</b>	<p>Findings of the ambient water quality and biological monitoring reported in the Burnie (Round Hill) STP Ambient Monitoring Report 2023 are summarised below:</p> <p>Minimal impacts were observed through the monitoring conducted on the concentration of physical-chemical parameters or contaminants in the water column surrounding the outfall. Small elevations in the immediate vicinity of the outfall were seen for dissolved reactive phosphorus, zinc, and enterococcus. However, for all parameters natural environmental variation was higher than that caused by the outfall, with concentrations at reference sites unrelated to Burnie STP discharge exceeding elevations observed at the outfall site. No impacts to protected environmental values were observed.</p> <p>Results of the habitat survey found that brown algal coverage is higher to the east of the outfall, whilst coverage of red algae was higher to the west of the outfall. Algal coverage was within the range recorded in previous surveys, with no observable changes in benthic habitat structure observed. There were no spatial patterns in benthic habitat composition surrounding the outfall observed. Congruent with previous surveys, it is unlikely that the Burnie STP effluent discharge is impacting the benthic habitat in the receiving environment.</p>

### 9.7. Groundwater monitoring

No groundwater monitoring program associated with this STP.

### 9.8. 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 ranked 33 out of 108 in priority.

### 9.9. 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 Sewage Sludge Management Plan due to insufficient information regarding sludge inputs.

Biosolids are removed regularly from site, no stockpiling occurs.

**Table 9-G: Biosolids sludge classification summary**

Parameter	Number of samples	Maximum (mg/kg)	Mean (mg/kg)	Minimum (mg/kg)	BACC (mg/kg)	Contaminant classification
Arsenic	12	11.4	6.3	3.2	11.9	A
Cadmium	12	2.1	0.9	0.5	1.7	B
Chromium	12	36.6	28.0	21.7	37.6	A
Copper	12	230.0	200.9	179.0	231.7	B
Lead	12	178.0	65.4	27.3	152.0	B
Mercury	12	2.4	0.8	0.0	2.2	B
Nickel	12	209.0	82.2	24.9	212.2	B
Zinc	12	996.0	550.1	415.0	859.0	B

**Table 9-H: Volume and disposal destination**

Quantity (DST)	Average solids content	Stabilisation method	Stabilisation grade	Contamination grade	Biosolids classification	End use destination
509.6	16.42%	None	U/C	B	U/C	Dulverton composting

Notes: DST = Dry solid tonne. U/C = Unclassified

## 9.10. Non-compliance with other permit requirements

**Table 9-I: EPN non-compliances**

EPN condition	Description of non-conformance	Future actions to be taken
WM2 Sewage Sludge Management Plan	This STP was deemed non-compliant with the 2023-24 Sewage Sludge Management Plan due to insufficient information regarding sludge inputs.	Ensure complete details on sludge inputs are included in 2024-25 SSMP
E5 Effluent Quality Limits	Discharge compliance with permit limits	See section 9.4 Discharge compliance with permit limits

## 9.11. Complaints and incident reporting

**Table 9-J: Complaints reporting**

Date	Category	Details	Mitigation actions
31/10/2023	Odour	Odour from the STP	There were no known process issues at the plant. No mitigation actions implemented.
2/1/2024	Odour	Odour from the STP	There were no known process issues at the plant. No mitigation actions implemented.

Date	Category	Details	Mitigation actions
11/1/2024	Odour	Odour from the STP	Investigation revealed the odour source was coming from the inlet due to unexpected increase to trade waste load. MLSS levels within SBR's were optimised.
15/1/2024	Odour	Odour from the STP	
28/2/2024	Odour	Odour from the STP	There were no known process issues at the plant. No mitigation actions implemented.

**Table 9-K: Incident reporting**

Date	Category	Details	Mitigation actions
17/03/2024	SBR 2 offline	SBR 2 operating at 4.5% efficiency on the rotork, leading to high levels within the SBR. High levels prevented aeration from functioning correctly.	All flow was directed to SBR 1 while necessary repairs to SBR 2 were completed. SBR 2 was repaired and back online on the evening of 18/03.

### 9.12. Any other relevant information

For further information on Round Hill (Burnie) STP please contact TasWater on 13 6992

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