

## 32 Longford STP

### 32.1 Activity and report details

Activity name	Longford STP		
Activity address	Off Bishopsbourne Road, Longford		
Permit number	License to operate 3573	Date of issue	3/11/1988
EPN	10553/1	Date of issue	20/05/2021
	7407/3		23/09/2020
Treatment level	Secondary Treatment		
Authorised Dry Weather Flows	2700 kL/day		
Key Influent Source	Residential/Industrial		
	2 x Category 3 Customers, 1 x Category 4 Customers		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2023		

Figure 32-1: Longford Sewage Treatment Plant



## 32.2 Monitoring and compliance summary

### 32.2.1 Flow data

Table 32-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location Name	Inlet	Back Creek	No reuse scheme
Coordinates	E 507922 N 5395712	E 508948 N 5396629	NA
Method of Measurement	In line meter	In line meter	NA
Date of last Calibration/Validation (if applicable).	13/07/2022	13/07/2022	NA

Table 32-B: Annual flow and rainfall data

Month	Average Daily Influent Volume (kL/day)	Rainfall (mm/month) BOM Station ID 91167	Discharge to Waters Total Effluent Volume (ML)	Discharge to Reuse Total Effluent Volume (ML)
July 2022	1,830	19.6	56.80	--
August 2022	1,830	101.7	104.87	--
September 2022	2,374	52.8	78.16	--
October 2022	2,762	120.6	94.57	--
November 2022	2,366	56.6	62.81	--
December 2022	1,970	44.2	68.15	--
January 2023	1,654	21.8	54.26	--
February 2023	1,719	28.4	49.13	--
March 2023	1,663	62.1	51.55	--
April 2023	1,457	43.8	44.31	--
May 2023	1,476	11.6	47.55	--
June 2023	1,912	24.8	58.78	--
Annual 2022-23	1,918	588.0	770.95	0.00
% of Total Discharge	--	--	100.0%	0.0%

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

### 32.2.2 Bypass events

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

### 32.3 Discharge compliance with permit limits

Table 32-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	10	40	--	20	20	8.5	5	2000	--
90th percentile	5	30	--	15	15	--	3	1000	--
50th Percentile	2	20	--	10	10	--	1	200	--
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	12	12	--	12	12	12	12	12	--
Number analysed	35	35	--	35	35	35	35	35	--
Statistical summary									
Max	1.915	8	--	9.2	1.5	8.9	7.080	480	--
90th percentile	1.581	5	--	7.5	1.0	7.8	4.582	178	--
50th percentile	0.716	5	--	5.8	1.0	7.0	1.340	10	--
Min	0.005	5	--	1.4	1.0	6.2	0.027	10	--
EPN Limit Compliance									
% compliance with Maximum	100%	100%	--	100%	100%	--	91%	100%	--
% compliance with 90th percentile	100%	100%	--	100%	100%	--	66%	100%	--
% compliance with 50th percentile	100%	100%	--	100%	100%	--	46%	89%	--

Parameter	Ammonia	BOD5	Chlorine	Nitrogen	Oil and grease	pH	Phosphorous	E coli	Total suspended solids
% compliance with pH range	--	--	--	--	--	83%	--	--	--

Table 32-D: Mass loads to the environment

Parameter	EPN Limit	Frequency	2022-23 result
Nitrogen (kg)	12812	Annual	3823.4
Phosphorous (kg)	2168	Annual	1909.0
Method	Time weighted/Grab sample method		

Table 32-E: Performance Analysis (Discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
pH	7/09/2022 4/04/2023 13/04/2023 18/04/2023 2/05/2023 9/05/2023	Algal growth in the lagoons downstream of the secondary treatment process is the reason for elevated pH on 7/09/2022 (prior to operation of the new STP).  As part of the commissioning and servicing of the new STP, the alum dosing duty pumps were taken offline between 14/03/2023 to 17/05/2023. This required all alum to be dosed by the larger capacity standby pump, which resulted in overdosing of alum to the tertiary filters. Alum dropped the effluent pH with no means to increase it prior to discharge.	The alum dosing duty pump was returned to operation following servicing.
Phosphorus	12-month 90 <sup>th</sup> percentile limit exceeded 12-month 50 <sup>th</sup> percentile limit exceeded	The new STP has aimed to achieve full biological phosphorus removal without reliance on chemical precipitation. Poor performance of the biological phosphorus removal was likely due to low winter temperatures and underloading of the treatment plant.	Increasing chemical alum dosing in response to high effluent phosphorus.

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
		Results have also been averaged with samples taken in 2022 prior to the operation of the new STP. The previous treatment plant was not designed for phosphorus removal, hence was consistently above the 50 <sup>th</sup> percental limit.	

No other parameters had exceedances in the reporting period.

### 32.4 Reuse Annual Reporting

No Recycled Water Scheme associated with this STP.

### 32.5 Ambient monitoring program

Table 32-F: Program details

<b>Program</b>	Longford Post Commissioning AMP
<b>Status</b>	Post Commissioning Ambient Monitoring Plan (AMP) in progress.
<b>Update</b>	Water quality and biological monitoring is being completed as per the EPA approved Post-Commissioning AMP.
<b>Comments</b>	Monthly water quality ambient monitoring commenced in March 2023 and will continue for 12 months. Biological monitoring will continue biannually for 1 year, then be reviewed. An Ambient Monitoring Report will be provided separately to this AER.

### 32.6 Groundwater monitoring

**Groundwater Site Status:** Green – no sign of STP impact (2022 report)

Longford groundwater monitoring network consists of nine bores, ID numbers LOGW1-9. Due to timing and resourcing constraints no sampling was completed during the reporting period. In response biannual sampling is scheduled for the 2023-24 groundwater monitoring program.

### 32.7 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 14 out of 79 in priority.

### 32.8 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 is fully compliant with the 2022-23 SSMP. Continuous production and regular removal from site commenced from September 2022, therefore the BACC summary (Table 32-G) has been undertaken on 10 samples only for this reporting year.

Table 32-G: Biosolids sludge classification summary

Month	Number of Samples	Maximum (mg/kg)	Mean (mg/kg)	Minimum (mg/kg)	BACC (mg/kg)	Contaminant Classification
Arsenic	10	37.6	6.4	2	28.4	B
Cadmium	10	0.4	0.3	0.1	0.5	A
Chromium	10	50.2	32.2	0.1	58.2	B
Copper	10	189.0	130.2	34.3	213.8	B
Lead	10	9.3	6.7	4.3	10.2	A

Month	Number of Samples	Maximum (mg/kg)	Mean (mg/kg)	Minimum (mg/kg)	BACC (mg/kg)	Contaminant Classification
Mercury	10	0.5	0.3	0.03	0.6	A
Nickel	10	38.1	26.0	7	47.1	A
Zinc	10	521.0	325.1	145	516.2	B

Table 32H: Volume and disposal destination

Quantity (DST)	Average solids content	Stabilisation method	Stabilisation Grade	Contamination Grade	Biosolids Classification	End use destination
142.47	22.1%	Anaerobic digestion	B	B	2	Logan Farm
25.37	22.1%	Anaerobic digestion	U/C	U/C	U/C	Dulverton Compost

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

Table 32-I: Stockpile comments

Stockpile onsite	Volume of stockpile (estimated m <sup>3</sup> )
Yes	Sludge remaining within the Longford lagoon chain and the sludge lagoon.

### 32.9 Non-compliance with other permit requirements

Table 32-J: EPN non-compliances

EPN Condition	Description of non-conformance	Future Actions to be taken
EF2 Effluent quality limits for discharge to water	Discharge compliance with permit limits	See section 32.3 Discharge compliance with permit limits and Performance Analysis
OP2 Operational Procedures Manual	No contemporary Operational Procedures Manual	New SharePoint based solution for OPMMs currently being developed. First version to be implemented in FY24

### 32.10 Complaints and incident reporting

Table 32K: Complaints Reporting

Date	Category	Details	Mitigation actions
19/05/2023	Odour	Odour reported in sewerage network/STP	Odour assessment completed on 1 June 2023. The sludge lagoon was identified as a potential contributing factor to the odour. In response to this, a layer of water was added on top of the sludge lagoon, acting as a physical barrier to reduce the release of any odorous gases into the atmosphere.
13/06/2023	Odour	Odour reported in sewerage network/STP	Occurred during EPA investigation in the wider Longford area. No process issues were identified at the STP attributable to this complaint.

No incidents reported during the FY2022-23 reporting period.

### 32.11 Any other relevant information

Table 32-L: Projects or significant operational events that occurred in FY 2022-23:

Project or significant operational event	Progress
Longford STP Upgrade	Completed
Meander Valley Sewerage Strategy (MVSS)	Longford is currently being considered within the MVSS for a regional rationalisation program. A MVSS Strategic Business Case and Strategic Options Report will be completed in FY 2023-24.

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

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