Annual Environmental Report

2019

Longford

D0060-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2019 AER

This Annual Environmental Report has been prepared for D0060-01, Longford, in Longford in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports where relevant are included as an appendix to the AER.

1.1 ANNUAL STATEMENT OF MEASURES

A summary of any improvements undertaken is provided where applicable.

There were no capital works, significant changes or operational improvements undertaken this year.

1.2 TREATMENT SUMMARY

The agglomeration is served by a wastewater treatment plant(s)

- LONGFORD WWTP with a Plant Capacity PE of 20000, the treatment type is 3NP - Tertiary N&P removal

1.3 ELV OVERVIEW

The overall compliance of the final effluent with the Emission Limit Values (ELVs) is shown below. More detailed information on the below ELV's can be found in Section 2.

Discharge Point Reference	Treatment Plant	Discharge Type	Compliance Status	Parameters failing if relevant
TPEFF2000D0060SW001	LONGFORD WWTP	Treated	Compliant	N/A

1.4 LICENCE SPECIFIC REPORTING INCLUDED IN AER

Assessment / Report	Included in AER
There are no Licence Specific Reports included in the AER.	

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 LONGFORD WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - LONGFORD WWTP

A summary of influent monitoring for the treatment plant is presented below. This monitoring is primarily undertaken in order to determine the overall efficiency of the plant in removing pollutants from the raw wastewater.

Parameters	Number of Samples	Annual Max	Annual Mean
Total Phosphorus (as P) mg/l	12	8.55	4.58
COD-Cr mg/l	12	1229	508.71
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	499	214.66
Total Nitrogen mg/l	12	48	30.09
Suspended Solids mg/l	12	1090	494.37
Hydraulic Capacity	N/A	11590	5922

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 2.1.5 if applicable.

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is less than the peak Treatment Plant Capacity. Further details on the plant capacity and efficiency can be found under the sectional ‘Operational Performance Summary’. The design of the wastewater treatment plant allows for peak values and therefore the peak loads have not impacted on compliance with Emission Limit Values.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF2000D0060SW001

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	125	250	N/A	12	N/A	N/A	42.59	Pass
Suspended Solids mg/l	35	87.5	N/A	12	N/A	N/A	16.38	Pass
Temperature °C	25	N/A	N/A	12	N/A	N/A	13.32	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	20	40	N/A	12	N/A	N/A	2.42	Pass
Fats, Oils & Greases mg/l	15	18	N/A	3	N/A	N/A	2.54	Pass
pH pH units	6-9	6-9	N/A	12	N/A	N/A	7.2	Pass
Ammonia-Total (as N) mg/l	5	10	N/A	12	N/A	N/A	0.44	Pass
Total Phosphorus (as P) mg/l	1	1.2	N/A	12	N/A	N/A	0.14	Pass

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied

Cause of Exceedance(s):

Not applicable

Significance of Results:

The WWTP is compliant with the ELV's set in the Wastewater Discharge Licence.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF2000D0060SW001

A summary of monitoring from ambient monitoring points associated with the wastewater discharge is provided in the sections below. For discharges to rivers upstream (U/S) and downstream (D/S) location data is provided. For other ambient points in lakes, coastal or transitional waters, monitoring data from the most appropriate monitoring station is selected.

The table below provides details of ambient monitoring locations and details of any designations as sensitive areas.

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
Upstream	212028, 275631	RS26C010857	No	No	No	No	Unassigned
Downstream	211645, 275909	RS26C010900	No	No	No	No	Unassigned

The results for ambient results and / or additional monitoring data sets are included in the **Appendix 7.1 - Ambient monitoring summary.**

Significance of Results:

The WWTP discharge was compliant with the ELV's set in the wastewater discharge licence.

The ambient monitoring results does not meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

Based on ambient monitoring results a deterioration in BOD and Ammonia concentrations downstream of the effluent discharge is noted.

A deterioration in water quality has been identified, however it is not known if it or is not caused by the WWTP.

Other causes of deterioration in water quality in the area are unknown.

The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

2.1.4 OPERATIONAL PERFORMANCE SUMMARY - LONGFORD WWTP

2.1.4.1 Treatment Efficiency Report - LONGFORD WWTP

Treatment efficiency is based on the removal of key pollutants from the influent wastewater by the treatment plant. In essence the calculation is based on the balance of load coming into the plant versus the load leaving the plant. The efficiency is presented as a percentage removal rate.

A summary presentation of the efficiency of the treatment process including information for all the parameters specified in the licence is included below:

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
COD	1085970	99785	91
cBOD	458254	5660	99
TP	9768	328	97
SS	1055356	38370	96
TN	64241	26220	59

Note: The above data is based on sample results for the number of dates reported

2.1.4.2 Treatment Capacity Report Summary - LONGFORD WWTP

Treatment capacity is an assessment of the hydraulic (flow) and organic (the amount of pollutants) load a treatment plant is designed to treat versus the current loading of that plant.

LONGFORD WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	12000
DWF to the Treatment Plant (m^3/day)	4000
Current Hydraulic Loading - annual max (m^3/day)	11590

LONGFORD WWTP	
Average Hydraulic loading to the Treatment Plant (m^3/day)	5922
Organic Capacity (PE) - As Constructed	20000
Organic Capacity (PE) - Collected Load (peak week)[Note1]	16196
Organic Capacity (PE) - Remaining	3804
Will the capacity be exceeded in the next three years? (Yes/No)	No

Nominal design capacities can be based on conservative design principles. In some cases assessment of existing plants has shown organic capacities significantly higher than the nominal design capacity. Accordingly plants that appear to be overloaded when comparing a collected peak load with the nominal design capacity can be fully compliant due to the safety factors in the original design.

2.1.5 SLUDGE / OTHER INPUTS - LONGFORD WWTP

'Other inputs' to the waste water treatment plant are summarised in table below

Input type	Quantity	Unit	P.E.	% of load to WWTP	Included in Influent Monitoring (Y/N)?	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
Domestic /Septic Tank Sludge	424	Volume (m3)	5	0.02	No	No	No
Industrial / Commercial Sludge	15583	Volume (m3)	190	0.72	No	No	No
Other	15444	Volume (m3)	188	0.7	No	No	No
Waterworks Sludge	31051	Volume (m3)	378	1.4	No	No	No

3 COMPLAINTS AND INCIDENTS

3.1 COMPLAINTS SUMMARY

A summary of complaints of an environmental nature is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
12	Blocked Sewer	0	12

3.2 REPORTED INCIDENTS SUMMARY

Environmental incidents that arise in an agglomeration are reported on an on-going basis in accordance with our waste water discharge licences. Where an incident occurs and it is reportable under the licence, it is reported to the Environmental Protection Agency through their Environmental Data Exchange Network, or in some instances by telephone. Some incidents which arise in the agglomeration are recorded by Irish Water but may not be reportable under our licence for example where the incident does not have an impact on environmental performance.

A summary of reported incidents is included below.

3.2.1 SUMMARY OF INCIDENTS

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Abatement Equipment offline	Plant or equipment breakdown at WWTP	1	No	Yes
Spillage	Blocked Sewer	1	No	Yes
Abatement Equipment offline	Plant or equipment breakdown at WWTP	1	No	Yes

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	Other	1	No	No
Abatement Equipment offline	Plant or equipment breakdown at WWTP	1	No	Yes
Uncontrolled release	EO caused by ragging or blocking	1	No	Yes
Uncontrolled release	EO caused by ragging or blocking	1	No	Yes
Uncontrolled release	EO caused by pump failure	1	No	Yes
Abatement Equipment offline	Plant or equipment breakdown at WWTP	1	No	Yes
Abatement Equipment offline	Plant or equipment breakdown at WWTP	1	No	Yes
Abatement Equipment offline	Plant or equipment breakdown at WWTP	1	No	Yes
Spillage	Blocked Sewer	1	No	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2019	12
Number of Incidents reported to the EPA via EDEN in 2019	12
Explanation of any discrepancies between the two numbers above	N/A

4 INFRASTRUCTURAL ASSESSMENTS AND PROGRAMME OF IMPROVEMENTS

4.1 STORM WATER OVERFLOW IDENTIFICATION AND INSPECTION REPORT

A summary of the operation of the storm water overflows and their significance where known is included below:

4.1.1 SWO IDENTIFICATION

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2019 (No. of events)	Total volume discharged in 2019 (m3)	Monitoring Status
SW2	212684, 275691	Yes	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	200515, 269231	No	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	201665.974, 269348.406	No	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	212609, 274606	No	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	213205, 277968	No	Low	Meeting	Unknown	Unknown	Unknown
TBC	213318.921, 275682.42	No	Low	Meeting	Unknown	Unknown	Not Monitored

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2019 (No. of events)	Total volume discharged in 2019 (m3)	Monitoring Status
TBC	213666, 275325	No	Low	Not yet Assessed	Unknown	Unknown	Not Monitored
TBC	213666, 275325	No	Low	Not yet Assessed	Unknown	Unknown	Not Monitored
TBC	213671, 277739	No	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	213671, 277740	No	Low	Not yet Assessed	Unknown	Unknown	Not Monitored
TBC	200515, 269231	No	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	201665.974, 269348.406	No	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	212609, 274606	No	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	213205, 277968	No	Low	Meeting	Unknown	Unknown	Not Monitored

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	Unknown
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	N/A

SWO Summary	
The SWO Assessment included the requirements of relevant of WWDL schedules?	Yes
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	N/A

4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS

4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides list of the various reports required for this agglomeration and a brief summary of their recommendations.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0060-SIP:01	Discharge from SW2 shall comply with the definition of a SWO, as defined in DoEHLG 'Procedures & criteria in relation to SWOs', by 30/06/11	A	30/06/2011	Yes	Works Completed		
D0060-SIP:02	WWTP and Ancillary works Phase Note 1(Increased plant capacity to 30,000p.e.)	C	30/06/2011	Yes	Works Completed		

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0060-SIP:03	WWTP and Ancillary works Phase Note 1(Pipeline to the R. Shannon to convey treated effluent.)	C	30/03/2011	Yes	Not Started		The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis

A summary of the status of any improvements identified by under Condition 5.2 is included below.

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
There are no Improvements Programme for this Agglomeration.				

4.2.3 SEWER INTEGRITY RISK ASSESSMENT

The utilisation of multiple capital maintenance programmes and the outputs of the workshops with the Local Authority Operations Staff held under the programme can be used to satisfy the requirements of Condition 5 regarding network integrity. Improvement works identified by way of these programmes and workshops will be included in the Improvements Summary Table.

5 LICENCE SPECIFIC REPORTS

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides list of the various reports required for this agglomeration and a brief summary of their recommendations.

Licence Specific Report	Required by licence	Year included in AER	Included in this AER	Reference to relevant section of AER
Priority Substances Assessment	Yes	2013	No	
Toxicity of Final Effluent	Yes	2016	No	

5.1 PRIORITY SUBSTANCES ASSESSMENT

The Priority Substances Assessment Report has been included in the AER 2013.

5.2 TOXICITY OF FINAL EFFLUENT

The Toxicity of Final Effluent Report has been included in the AER 2016.

6 CERTIFICATION AND SIGN OFF

6.1 SUMMARY OF AER CONTENTS

Parameter	Answer
Does the AER include an Executive Summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for consideration of a Technical Amendment / Review of the licence?	No
List reason e.g. additional SWO identified	N/A
Is there a need to request/advise the EPA of any modification to the existing WWDL with respect to condition 4 changes to monitoring location, frequency etc	No
List reason e.g. changes to monitoring requirements	N/A
Have these processes commenced?	N/A
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	N/A

I certify that the information given in this Annual Environmental Report is truthful, accurate and complete:

Date: 05/03/2020

This AER has been produced by Irish Water's Environmental Information System (EIMS) and has been electronically signed off in that system for and on behalf of,

Katherine Walshe

Acting Head of Environmental Regulation.

7 APPENDIX

Appendix
Appendix 7.1 - Ambient monitoring summary

Longford 2019 Ambient Monitoring Summary

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish National Grid Reference (Easting, Northing)	EPA Feature Coding Tool code	Receiving Waters Designation (Yes/No)			
			Bathing Water	Drinking Water	FWPM	Shellfish
Upstream Monitoring Point	212028, 275631	RS26C010857				
Downstream Monitoring Point	211645, 275909	RS26C010900	No	No	No	No

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Current WFD Status	cBOD	o-Phosphate (as P)	Ammonia (as N)
Upstream Monitoring Point	Unassigned	0.658	0.042	0.047
Downstream Monitoring Point	Unassigned	0.817	0.038	0.068
Difference		*0.158*	*-0.004*	*0.021*
EQS		1.500	0.035	0.065
% of EQS		10.556%	-11.429%	32.051%

2019 Ambient Monitoring Data

Upstream Results				
Date		Ammonia (mg/l) *	Ortho P (mg/l)	BOD (mg/l) *
09/01/19	U/S	0.099	0.036	<1
13/02/19	U/S	0.036	0.026	<1
13/03/19	U/S	0.049	0.035	1.300
10/04/19	U/S	<0.02	0.019	<1
01/05/19	U/S	0.031	0.027	<1
12/06/19	U/S	0.039	0.034	1.100
10/07/19	U/S	0.082	0.038	<1
14/08/19	U/S	0.065	0.135	<1
11/09/19	U/S	0.042	0.042	<1
09/10/19	U/S	0.02	0.037	<1
13/11/19	U/S	0.048	0.037	1.000
12/12/19	U/S	0.04	0.035	<1
Mean		**0.047**	**0.042**	**0.658**
95%ile		**0.090**	**0.084**	**1.190**

Downstream Results				
Date		Ammonia (mg/l)	Ortho P (mg/l)	BOD (mg/l) *
09/01/19	D/S	0.125	0.037	1.100
13/02/19	D/S	0.090	0.029	<1
13/03/19	D/S	0.049	0.035	<1
10/04/19	D/S	0.158	0.027	<1
01/05/19	D/S	0.022	0.027	1.000
12/06/19	D/S	0.036	0.034	<1
10/07/19	D/S	0.110	0.041	<1
14/08/19	D/S	0.057	0.058	1.100
11/09/19	D/S	0.063	0.063	1.100
09/10/19	D/S	0.020	0.034	<1
13/11/19	D/S	0.035	0.035	1.400
12/12/19	D/S	0.046	0.033	1.100
Mean		**0.068**	**0.038**	**0.817**
95%ile		**0.140**	**0.060**	**1.235**

* Where the concentration in the result is less than the limit of detection (LOD), a value of 50% of the LOD was used in calculating the mean and 95%ile concentrations.