

Annual Environmental Report

2018



Ballinasloe

D0032-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0032-01, Ballinasloe, in Galway in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports are included as an appendix to the AER as follows:

1.1 Licence specific reporting included in AER

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

1.2 Treatment Type

The agglomeration is served by a wastewater treatment plant Ballinasloe WWTP with a Plant Capacity PE of 13500. The treatment process includes the following:

1.2.1 Ballinasloe WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	screening & grit removal
Primary Treatment	No	
Secondary Treatment	Yes	conventional activated sludge
Nutrient Removal	Yes	chemical dosing for phosphorus removal
Tertiary Treatment	No	

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 2.2 Discharges from the agglomeration.

1.3 ELV Overview

1.3.1 Ballinasloe WWTP

Compliance Status	
Were all parameters compliant for Ballinasloe WWTP treatment plant	No
Where noncompliant see table 2.2.1 for details of parameters	

1.4 Sludge Removal

The amount of sludge removed from the wastewater treatment plant is shown below along with the transported destination of the sludge from the treatment plant.

Treatment Plant	Sludge type	Quantity	Unit	% Dry Solids	Destination
Ballinasloe WWTP	Dried Sludge	3.32	Weight (Tonnes)	18.05	Barry Hanley Lands, School Road, Carnmore, Co.Galway
Ballinasloe WWTP	Dried Sludge	11.45	Weight (Tonnes)	18.05	Dennis Delaney Lands, Rookhill, Ballinamore Bridge, Ballinasloe, Co.Galway.
Ballinasloe WWTP	Dried Sludge	3.77	Weight (Tonnes)	18.05	Michael Lally Lands, Carnacregg, Moylough, Ballinasloe, Co.Galway.
Ballinasloe WWTP	Dried Sludge	3.28	Weight (Tonnes)	18.05	Patrick Murray Lands, Cross, Menlough, Co.Galway.

Treatment Plant	Sludge type	Quantity	Unit	% Dry Solids	Destination
Ballinasloe WWTP	Dried Sludge	111.35	Weight (Tonnes)	18.05	Roscommon AD, Tibohine, Ballaghadeereen, Co.Roscommon.
Ballinasloe WWTP	Dried Sludge	18.09	Weight (Tonnes)	18.05	Marcus Hanley, Laragan, Elphin, Co.Roscommon.
Ballinasloe WWTP	Dried Sludge	24.99	Weight (Tonnes)	18.05	H&L Environmental Services Ltd., Derryville, Moyne, Thurles, Co.Tipperary.

Annual Statement of Measures

There was no major capital or operational changes undertaken

2 MONITORING REPORTS SUMMARY

2.1 Summary report on monthly influent monitoring

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

2.1.1 Influent Monitoring Summary - Ballinasloe WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	436	165.14
Suspended Solids mg/l	12	1100	228.36
COD-Cr mg/l	12	3533	509.39
Hydraulic Capacity	0	10208	3192

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 3.5 if applicable

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity as detailed further in Section 3.2. The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity as detailed further in Section 3.2.

2.2 Discharges from the agglomeration

2.2.1 Effluent Monitoring Summary - Ballinasloe WWTP

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedences	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	0	12	0	0	3.2	Pass
Suspended Solids mg/l	35	87.5	0	12	0	0	16.68	Pass
Ammonia-Total (as N) mg/l	2	2.4	0	12	0	0	0.23	Pass
Total Phosphorus (as P) mg/l	0	0	0	2	0	0	1.11	Pass
ortho-Phosphate (as P) - unspecified mg/l	1	1.2	0	12	1	1	0.24	Fail
COD-Cr mg/l	125	250	0	12	0	0	42.11	Pass
pH pH units	0	0	0	12	0	0	7.85	Pass

Notes:

- 1- This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied
- 2 - For parameters where a mean ELV applies

Cause of Exceedance(s):

Dosing Pump Failure

Significance of Results:

The WWTP is non-compliant with the ELV's set in the Wastewater Discharge Licence. There was one exceedance in relation to ortho-Phosphate, which was above the Condition 2 ELV. The impact on receiving water is assessed further in Section 2.3.

2.3 Ambient monitoring summary

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.

2.3.1 Ambient Monitoring Report Summary - Ballinasloe WWTP

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	Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
Upstream	185477, 231416	TPEFF1200D0032SW001	No	No	No	No	Moderate
Downstream	187334, 229145	TPEFF1200D0032SW001	No	No	No	No	Moderate

2.3.2 Ambient Monitoring Parameter Summary - Ballinasloe WWTP

The table below provides a summary of monitoring results for designated ambient monitoring points. The upstream and downstream annual mean values are shown (mg/l), and the difference between both monitoring stations is given as a percentage of the Environmental Quality Standard (EQS) where relevant.

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
pH pH units	RS26S071290	8.12	RS26S071400	7.98		
Ammonia-Total (as N) mg/l	RS26S071290	0.05	RS26S071400	0.05	0.14	-3.9

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Suspended Solids mg/l	RS26S071290	3.92	RS26S071400			
Temperature °C	RS26S071290	11.17	RS26S071400	12.01		
Dissolved Oxygen mg/l	RS26S071290	10.2	RS26S071400	9.43		
BOD - 5 days (Total) mg/l	RS26S071290	1.75	RS26S071400	1.1	2.6	-25
ortho-Phosphate (as P) - unspecified mg/l	RS26S071290	0	RS26S071400	0.01	0.075	1.5
Dissolved Oxygen % Saturation	RS26S071290	99	RS26S071400	85.86		

Significance of Results:

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

3 OPERATIONAL REPORTS SUMMARY

3.1 Treatment Efficiency Report

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:

3.1.1 Treatment Efficiency Report Summary - Ballinasloe WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
TN				
TP		1319.79		
SS	246067.94	16601.41	93.25	
cBOD	177945.41	3180.21	98.21	
COD	548884.48	41907.71	92.36	

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

3.2 Treatment Capacity Report Summary

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.

Ballinasloe WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	10125

DWF to the Treatment Plant (m3/day)	3375
Current Hydraulic Loading - annual max (m3/day)	10208
Average Hydraulic loading to the Treatment Plant (m3/day)	3192
Organic Capacity (PE) - As Constructed	13500
Organic Capacity (PE) - Collected Load (peak week)	8425
Organic Capacity (PE) - Remaining	5075
Will the capacity be exceeded in the next three years? (Yes/No)	No

3.3 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
14	Blocked Sewer	1	13

3.4 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.

3.4.1 Summary of Incidents

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	EO caused by power failure	1	No	No
Non-compliance	Dosing Pump Failure	1	No	No

3.4.2 Summary of Overall Incidents

Question	Answer
Number of Incidents in 2018	2
Number of Incidents reported to the EPA via EDEN in 2018	2
Explanation of any discrepancies between the two numbers above	

3.5 Sludge / Other inputs to the 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	543	Weight (Tonnes)	6.61	0.05	Yes	No	Yes
Domestic /Septic Tank Sludge	40	Weight (Tonnes)	0.49	0	Yes	No	Yes

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)
Landfill Leachate (delivered by sewer network)	35821	Volume (m3)	436	3.07	Yes	Yes	Yes
Landfill Leachate (delivered by tanker)	11847	Weight (Tonnes)	144	1.01	No	Yes	Yes
Waterworks Sludge	26674	Volume (m3)	324	2.28	Yes	No	Yes

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:

No Appendix Included

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 2018 (No. of events)	Total volume discharged in 2018 (m3)	Monitoring Status
SW004	185928, 230488	Yes	Unknown	Not yet Assessed			Not Monitored
SW006	184190, 231738	Yes	Unknown	Not yet Assessed			Not Monitored
SW007	185309, 231086	Yes	Unknown	Not yet Assessed			Not Monitored
SW008	185437, 230940	Yes	Unknown	Not yet Assessed			Not Monitored
SW009	185384, 230871	Yes	Unknown	Not yet Assessed			Not Monitored
SW010	186845, 230046	Yes	Unknown	Not yet Assessed			Not Monitored

4.1.2 Inspection Summary Report

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	
Is each SWO identified as non meeting DoEHLG Guidance included in the Programme of Improvements?	No
The SWO Assessment included the requirements of relevant of WWDL schedules?	No
Have the EPA been advised of any additional SWOs / charges to Schedule C3 and A4 under Condition 1.7?	No

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)	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0032-SIP:01	C	31/12/2015	Yes	Not Started		
D0032-SIP:02	C	31/12/2015	Yes	Not Started	08/01/2019	

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	Improvement Source	Expected Completion Date	Comments
D0032-IP:7	Carry out repair work to the grit removal unit.	Improved Operational Control	12/12/2018	100% complete
D0032-IP:8	Air Blowers will be replaced on Aeration tanks, and improvement to DO control made.	Improved Operational Control	4/1/2018	100% complete
D0032-IP:9	Replace Diffusers in 3 aeration tanks	Improved Operational Control	4/1/2018	100% complete
D0032-IP:10	Sludge Transfer pumps will be replaced in the dewatering building	Improved Operational Control	12/1/2019	50% complete

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.

5.a Licence Specific Reports Summary Table

Licence Specific Report	Required by licence	Year included in AER	Included in this AER	Reference to relevant section of AER (e.g. Appendix X).
Priority Substances Assessment	Yes	2015	No	
Toxicity/Leachate Management	Yes	2017	No	

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	
Is there a need to request/advise the EPA of any modifications to the existing WWDL?	No
List reason e.g. changes to monitoring requirements	
Have these processes commenced?	
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	NA

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

Signed:

Date: 28/02/2019

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:

Eleanor Roche

Acting Head of Environmental Regulation.

7 APPENDIX

In the appendix include all the detailed or site specific reports that are relevant to the AER. Reports omitted from previous AERs should also be appended here.

Appendix
Appendix 7.1 - Ambient monitoring summary
Appendix 7.2 - Other

D0032 - Ballinasloe Secondary Discharge - Ambient Data (Down Stream) 2018

									Parameter	pH	Biological Oxygen Demand	Ortho-Phosphate P	Ammonia N	Dissolved Oxygen	Suspended Solids	Temperature	Dissolved Oxygen % Saturation
									Max.	--	--	--	--	--	--	--	--
									Min.	--	--	--	--	--	--	--	--
									Test Method	--	--	--	--	--	--	--	--
Station	Sample Reference	Sample Date	Sample Time	Sample Method	Sampled By	Reason	Comments	Analyst	Conclusion	pH units	mg/l	mg/l	mg/l	mg/l	mg/l	Degrees C	% Sat.
Ballinasloe WWTP: Downstream Secondary Discharge	845547	27-Feb-2018	08:30	Grab	Brian Mc Lough	Compliance		-	-	8	< 1	< 0.01	0.017	10	< 2	1.9	97
Ballinasloe WWTP: Downstream Secondary Discharge	126148/003	28-Mar-2018	10:20	Grab	Stephen	Compliance		-	-	8.1	< 1	< 0.005	0.009	12	< 5	9.6	
Ballinasloe WWTP: Downstream Secondary Discharge	128520/001	10-May-2018	13:00	Grab	Stephen	Compliance	-	-	-	8.3	6.7	0.01	0.21	10	< 5	12.8	
Ballinasloe WWTP: Downstream Secondary Discharge	134255/003	3-Aug-2018	11:50	Grab	Stephen	Compliance	-	-	-	8.1	1.3	< 0.005	0.035	9	12	17.4	
Ballinasloe WWTP: Downstream Secondary Discharge	136306/003	4-Sep-2018	15:20	Grab	Stephen	Compliance		-	-	8.1	3.1	0.01	0.03	10	< 5	16.1	
Ballinasloe WWTP: Downstream Secondary Discharge	141307/003	8-Nov-2018	10:35	Grab	ELS Ltd	Compliance		-	-	8.2	2.1	0.017	0.02	10	8	12.2	

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)				Current WFD Status	Mean (mg/l)		
			Bathing Water	Drinking Water	FWPM	Shellfish		cBOD	o-Phosphate (as P)	Ammonia (as N)
Upstream Monitoring Point										
Downstream Monitoring Point	185748, 231068	IE_SH_26S071400	No	No	No	No	Moderate	2.360	0.007	0.053
<i>Difference</i>								2.360	0.007	0.053
EQS								2.600	0.075	0.140
% of EQS								90.769%	9.333%	37.857%

Ballinasloe WWTP - Additional Effluent pH readings

Taken at the plant by the plant operator

Number of Additional pH readings in 2018	Average pH of these readings	Max pH	Min pH
161	7.97	8.25	7.50