Annual Environmental Report

2018

Ballinamore

D0281-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0281-01, Ballinamore, in Leitrim 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 BALLINAMORE WWTP with a Plant Capacity PE of 2000. The treatment process includes the following:

1.2.1 BALLINAMORE WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	6mm Screen
Primary Treatment	No	
Secondary Treatment	Yes	Conventional Aeration
Nutrient Removal	Yes	Ferric Dosing
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 BALLINAMORE WWTP

Compliance Status	
Were all parameters compliant for BALLINAMORE 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
BALLINAMORE WWTP	Cake Sludge	207.5	Weight (Tonnes)	12.68	Biocore, Ballivor, Co. Meath

Annual Statement of Measures

Works commenced on the upgrade of the Return Activated Sludge/Waste Activated Sludge (RAS/WAS) Pumping facility. Work has commenced on the construction of a new sludge holding tank. Upgrade to the polymer feed to the sludge belt press. Works are underway on the associated mechanical and electrical works associated with the works mentioned above. This work is projected to be completed in quarter 2 2019.

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 - BALLINAMORE WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
Total Nitrogen	7	63	36.82
Total Phosphorus (as P)	7	8.52	4.52
BOD, 5 days with Inhibition (Carbonaceous BOD)	7	299	135.1
Suspended Solids	7	275	124.98
COD-Cr	7	691	343.16
Hydraulic Capacity	0	538	413.21

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 greater 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 - BALLINAMORE 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 exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Ammonia-Total (as N)	3	3.6	0	7	1	1	2.05	Fail
ortho-Phosphate (as P) - unspecified	1	1.2	0	7	1	0	0.31	Pass
Temperature	25	0	0	7	0	0	10.5	Pass
Total Nitrogen	0	0	0	7	0	0	12.82	Pass
pH	0	0	0	7	0	0	7.35	Pass
COD-Cr	125	250	0	7	0	0	27.53	Pass
Appearance (on Sampling)	0	0	0	7	0	0	0	Pass
Conductivity 20 C	0	0	0	7	0	0	483.33	Pass
Suspended Solids	10	25	0	7	1	1	8.02	Fail
BOD, 5 days with Inhibition (Carbonaceous	6.5	13	0	7	1	0	2.7	Pass

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 exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
BOD)								
Total Phosphorus (as P)	0	0	0	7	0	0	0.46	Pass
Odour	0	0	0	7	0	0	0	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):

The exceedance of the Ammonia ELV on 6th June was during a period of very hot weather.

Significance of Results:

The WWTP was non-compliant with the ELV's set in the Wastewater Discharge Licence. There was one exceedance in relation to the ammonia parameter ELV, which was above the Condition 2 ELV. There was also one exceedance in relation to the Suspended Solids parameter ELV, which was above the Condition 2 ELV. There was one exceedance of both the BOD and ortho-Phosphate parameter ELVs which were not above Condition 2 ELV. The impact on the recieving 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 - BALLINAMORE 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	212789, 311441	TPEFF1700D0281SW001	No	No	No	No	Unassigned
Downstream	212244, 310931	TPEFF1700D0281SW001	No	No	No	No	Unassigned
Downstream	212244, 310931	TPEFF1700D0281SW001	No	No	No	No	Unassigned

2.3.2 Ambient Monitoring Parameter Summary - BALLINAMORE 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
Ammonia-Total (as N)	RS36Y010400	0.03	RS36Y010620	0.05	0.15	10.4
ortho-Phosphate (as P) - unspecified	RS36Y010400	0.01	RS36Y010620	0.01	0.075	8.8
BOD, 5 days with Inhibition (Carbonaceous BOD)	RS36Y010400	0.87	RS36Y010620	0.73	2.6	-5.3
Suspended Solids	RS36Y010400	4.4	RS36Y010520	1.25		
E. Coli	RS36Y010400	126	RS36Y010620	130		
Total Nitrogen	RS36Y010400	0.46	RS36Y010520	0.6		
pH	RS36Y010400	7.25	RS36Y010620	7.29		
ortho-Phosphate (as P) -	RS36Y010400	0.01	RS36Y010520	0.01	0.075	8.7

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
unspecified						
pH	RS36Y010400	7.25	RS36Y010520	7.33		
Enterococci (Intestinal)	RS36Y010400	22	RS36Y010520	60		
Faecal coliforms	RS36Y010400	102	RS36Y010620	102		
Total Nitrogen	RS36Y010400	0.46	RS36Y010620	0.66		
Temperature	RS36Y010400	12.91	RS36Y010520	12.9		
Dissolved Oxygen	RS36Y010400	49.01	RS36Y010520	49.66		
BOD - 5 days (Total)	RS36Y010400	0.63	RS36Y010520	0.5	2.6	-4.8
Ammonia-Total (as N)	RS36Y010400	0.03	RS36Y010520	0.05	0.15	13
E. Coli	RS36Y010400	126	RS36Y010520	128		
Enterococci (Intestinal)	RS36Y010400	22	RS36Y010620	28		
Temperature	RS36Y010400	12.91	RS36Y010620	12.28		
BOD - 5 days (Total)	RS36Y010400	0.63	RS36Y010620	0.75	2.6	4.8
Dissolved Oxygen	RS36Y010400	49.01	RS36Y010620	52.17		
Faecal coliforms	RS36Y010400	102	RS36Y010520	84		
BOD, 5 days with Inhibition (Carbonaceous BOD)	RS36Y010400	0.87	RS36Y010520	0.92	2.6	1.8

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	RS36Y010400	4.4	RS36Y010620	4.4		

Significance of Results:

The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence.

The ambient monitoring results meet the required EQS.

The discharge from the wastewater treatment plant does not have an observable negative impact on the water quality.

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

Any other know impacts: Boating activities. August Summer festival - large number of visitors to the town - increased discharge to the plant.

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 - BALLINAMORE WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
TN	4442.45	1805.3	59.36	
cBOD	16301.53	379.8	97.67	
TP	544.92	65.11	88.05	
SS	15079.82	1129.27	92.51	
COD	41404.61	3877.08	90.64	

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.

BALLINAMORE WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	400

BALLINAMORE WWTP	
DWF to the Treatment Plant (m3/day)	400
Current Hydraulic Loading - annual max (m3/day)	538
Average Hydraulic loading to the Treatment Plant (m3/day)	413.21
Organic Capacity (PE) - As Constructed	2000
Organic Capacity (PE) - Collected Load (peak week)	1355
Organic Capacity (PE) - Remaining	645
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
2	Blocked Sewer	0	2

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)
Non-compliance	WWTP upgrade required to meet ELV	2	Yes	No
Spillage	Other	1	No	Yes
Other	Plant or equipment breakdown at WWTP	1	No	Yes

3.4.2 Summary of Overall Incidents

Question	Answer
Number of Incidents in 2018	4
Number of Incidents reported to the EPA via EDEN in 2018	4
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)
There is no Sludge and Other Input data for the Treatment Plant included in the AER.							

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
SW003 (WWTP INLET)	212395, 311225	Yes	High	Meeting	111	37954	Monitored
SW004 (ARDRUM RD.)	212354, 311243	Yes	Medium	Meeting			Not Monitored
SW005 (LAWERENCES PUBLIC HOUSE)	213021, 311487	No	Medium	Meeting			Not Monitored

4.1.2 Inspection Summary Report

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	37954
Is each SWO identified as non meeting DoEHLG Guidance included in the Programme of Improvements?	No

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

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
Cessation of unauthorized discharges from SW2 and upgrade of sewer network at SW2 to ensure compliance with the criteria outlined inthe DoEHLG Guidance	C	29/04/2012	Yes	Works Completed		

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
D0281-IP:37	Works commenced on the upgrade of the Return Activated Sludge/Waste Activated Sludge (RAS/WAS) Pumping facility. Work has commenced on the construction of a new sludge holding tank. Upgrade to the polymer feed to the sludge belt press. Works are underway on the associated mechanical and electrical works associated with the works mentioned above. This work is projected to be completed in quarter 2 2019.	Improved Operational Control	9/30/2019	

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).
There is no Licence Specific Report Required in this AER Annual Review.				

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?	No
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:

Signed: Date: 07/03/2019

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

There are no Appendices included