Annual Environmental Report

2018

Leitrim Village

D0278-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0278-01, Leitrim Village, 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 LEITRIM VILLAGE WWTP with a Plant Capacity PE of 1000. The treatment process includes the following:

1.2.1 LEITRIM VILLAGE WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	6 mm 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 LEITRIM VILLAGE WWTP

Compliance Status	
Were all parameters compliant for LEITRIM VILLAGE 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
LEITRIM VILLAGE WWTP	Cake Sludge	2.45	Weight (Tonnes)	13.6	Biocore,Ballivor, Co. Meath
LEITRIM VILLAGE WWTP	Liquid Sludge	580	Volume (m3)	1.5	Carrick on Shannon WWTP

Annual Statement of Measures

Works commenced on the upgrade of the Return Activated Sludge/Waste Activated Sludge (RAS/WAS) Pumping facility. 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. This work is being completed by RCC Engineering.

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 - LEITRIM VILLAGE WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
BOD, 5 days with Inhibition (Carbonaceous BOD)	8	189	77.98
Total Phosphorus (as P)	8	9.43	3.44
Total Nitrogen	8	166	63.1
COD-Cr	8	479	205.45
Suspended Solids	8	153	86.1
Hydraulic Capacity	0	452	329.53

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 - LEITRIM VILLAGE 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)
COD-Cr	125	250	0	8	1	0	60.28	Pass
pH	0	0	0	8	0	0	7.06	Pass
Total Phosphorus (as P)	0	0	0	8	0	0	1.27	Pass
Odour	0	0	0	8	0	0	0	Pass
Suspended Solids	35	87.5	0	8	2	0	23.12	Pass
Appearance (on Sampling)	0	0	0	8	0	0	0	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD)	25	50	0	8	1	0	9.85	Pass
Temperature	25	0	0	8	0	0	11.69	Pass
Ammonia-Total (as N)	10	12	0	8	1	1	5.83	Fail
Conductivity 20 C	0	0	0	8	0	0	507.14	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)
Total Nitrogen	0	0	0	8	0	0	16.27	Pass
ortho-Phosphate (as P) - unspecified	1	1.2	0	8	1	1	0.82	Fail

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):

Due to a busy visitor period in Leitrim and the lack of tertiary treatment facility.

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 Ortho-Phosphate parameter ELV, which was above the condition 2 ELV. There were two exceedances in relation to the Suspended Solids parameter ELV, neither of which were above the Condition 2 ELV. There was one exceedance of the BOD parameter ELV which was not above the Condition 2 ELV. The impact on the 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 - LEITRIM VILLAGE 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	195543, 304328	TPEFF1700D0278SW001	No	No	No	No	Unassigned
Downstream	195297, 303459	TPEFF1700D0278SW001	No	No	No	No	Unassigned
Downstream	195297, 303459	TPEFF1700D0278SW001	No	No	No	No	Unassigned

2.3.2 Ambient Monitoring Parameter Summary - LEITRIM VILLAGE 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
Chloride	RS26S020500	12.34	RS26S020550			
Ammonia-Total (as N)	RS26S020500	0.03	RS26S020570	0.02	0.14	-4
Conductivity @25°C	RS26S020500	115	RS26S020550			
Alkalinity-total (as CaCO3)	RS26S020500	35.25	RS26S020570			
Ammonia-Total (as N)	RS26S020500	0.03	RS26S020550	0.06	0.14	18.9
True Colour	RS26S020500	73.58	RS26S020570			
BOD - 5 days (Total)	RS26S020500	0.78	RS26S020570	0.8	2.6	0.7
BOD - 5 days (Total)	RS26S020500	0.78	RS26S020550	0.8	2.6	0.7

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Dissolved Oxygen	RS26S020500	53.78	RS26S020570	51.61		
Temperature	RS26S020500	11.45	RS26S020550	19.4		
pH	RS26S020500	7.31	RS26S020550	7.16		
ortho-Phosphate (as P) - unspecified	RS26S020500	0.01	RS26S020570	0.01	0.075	-2.4
Temperature	RS26S020500	11.45	RS26S020570	12.01		
Alkalinity-total (as CaCO3)	RS26S020500	35.25	RS26S020550			
Total Nitrogen	RS26S020500	0.3	RS26S020570	0.35		
Total Oxidised Nitrogen (as N)	RS26S020500	0.23	RS26S020550			
Total Hardness (as CaCO3)	RS26S020500	40.67	RS26S020570			
Nitrate (as N)	RS26S020500	0.23	RS26S020550			
pH	RS26S020500	7.31	RS26S020570	7.12		
Dissolved Oxygen	RS26S020500	53.78	RS26S020550	47.3		
Total Nitrogen	RS26S020500	0.3	RS26S020550	0.25		
Total Hardness (as CaCO3)	RS26S020500	40.67	RS26S020550			

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
ortho-Phosphate (as P) - unspecified	RS26S020500	0.01	RS26S020550	0	0.075	-8.1
Chloride	RS26S020500	12.34	RS26S020570			
Nitrate (as N)	RS26S020500	0.23	RS26S020570			
Conductivity @25°C	RS26S020500	115	RS26S020570			
True Colour	RS26S020500	73.58	RS26S020550			
Total Oxidised Nitrogen (as N)	RS26S020500	0.23	RS26S020570			

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 ELV's.

The discharge from the wastewater treatment plant does not have an observable 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.

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 - LEITRIM VILLAGE WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
TN	6071.95	1123.04	81.5	
cBOD	7503.31	680.18	90.93	
TP	331.08	87.84	73.47	
COD	19768.72	4161.27	78.95	
SS	8285	1595.78	80.74	

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.

LEITRIM VILLAGE WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	200

LEITRIM VILLAGE WWTP	
DWF to the Treatment Plant (m3/day)	200
Current Hydraulic Loading - annual max (m3/day)	452
Average Hydraulic loading to the Treatment Plant (m3/day)	329.53
Organic Capacity (PE) - As Constructed	1000
Organic Capacity (PE) - Collected Load (peak week)	853
Organic Capacity (PE) - Remaining	147
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
1	Blocked Sewer	0	1

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)
Other	Plant or equipment breakdown at WWTP	1	No	Yes
Non-compliance	Plant or equipment breakdown at WWTP	4	Yes	Yes
Non-compliance	Other	1	No	No

3.4.2 Summary of Overall Incidents

Question	Answer
Number of Incidents in 2018	6
Number of Incidents reported to the EPA via EDEN in 2018	6
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
SW002	195338, 304460	Yes	Medium	Meeting			Not Monitored
SW003	195754, 304514	Yes	Medium	Not Meeting			Not Monitored
SW004	195771, 304565	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)?	
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?	Yes

SWO Summary	
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
Installation of phosphorous removal	C	01/01/2012	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
D0278-IP:36	Works commenced on the upgrade of the Return Activated Sludge/Waste Activated Sludge (RAS/WAS) Pumping facility. 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. This work is being completed by RCC Engineering.	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).
Priority Substances Assessment	Yes	2012	No	
Drinking Water Abstraction Point Risk Assessment	Yes	2012	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?	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