Annual Environmental Report

2018

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ÉIREANN : IRISH
WATER

Millstreet

D0332-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0332-01, Millstreet, in Cork 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

1.2 Treatment Type

The agglomeration is served by a wastewater treatment plant Millstreet WWTP with a Plant Capacity PE of 1600. The treatment process includes the following:

1.2.1 Millstreet WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	Automatic Screening
Primary Treatment	No	
Secondary Treatment	Yes	Conventional Activated Sludge (Oxidation Ditch & 2no. Settlement tanks)
Nutrient Removal	No	
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 Millstreet WWTP

Compliance Status	
Were all parameters compliant for Millstreet 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
Millstreet WWTP	Liquid Sludge	247.88	Volume (m3)	1	Ormonde Organics, ERAS ECO, Youghal, Co.Cork.
Millstreet WWTP	Liquid Sludge	59	Volume (m3)	1	ENVA
Millstreet WWTP	Liquid Sludge	185	Volume (m3)	19	ACORN
Millstreet WWTP	Liquid Sludge	90	Volume (m3)	11	Limerick Main Drainage
Millstreet WWTP	Liquid Sludge	15	Volume (m3)	2	Carrigtwohill WWTP

Annual Statement of Measures

A contract was signed for the Construction of a new WWTP, new Pump Station at Mount Leader, elimination of SWO's and the laying of a new discharge pipe to the River Finnow during 2018. The Contractor moved onto site on 2nd July 2018. The new plant and equipment is expected to be commissioned at March 2020.. The need for measures to prevent environmental damage will continue to be reviewed on an annual basis.

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 - Millstreet WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
COD-Cr mg/l	12	475	167.64
Suspended Solids mg/l	12	181	79.56
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	191	72.91
Hydraulic Capacity	0	1905	1028

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. The design of the wastewater tretament plant allows for peak values and therefore the peak loads have not impacted on compliance with Emission Limit Values.

2.2 Discharges from the agglomeration

2.2.1 Effluent Monitoring Summary - Millstreet 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)
Suspended Solids mg/l	25	62.5	0	12	1	0	9.41	Pass
COD-Cr mg/l	125	250	0	12	0	0	11.22	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	0	12	0	0	2.58	Pass
pH pH units	0	0	0	12	0	0	7.61	Pass
Ammonia-Total (as N) mg/l	1	2	0	12	3	2	1.05	Fail
ortho-Phosphate (as P) - unspecified mg/l	0.5	0.6	0	12	11	10	1.09	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):

Inadequate infrastructure

Significance of Results:

The WWTP is non- compliant with the ELV’s set in the Wastewater Discharge Licence.

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 - Millstreet 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	127464, 91064	TPEFF0500D0332SW001	No	No	Yes	No	Good
Downstream	128342, 92395	TPEFF0500D0332SW001	No	No	Yes	No	Good

2.3.2 Ambient Monitoring Parameter Summary - Millstreet WWTP

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 non-compliant with the ELV's set in the wastewater discharge licence.

The ambient monitoring results did not meet the required EQS.

The parameters which exceeded the EQS and may be causing an effect are: BOD and Orthophosphate

The discharge from the wastewater treatment plant has an observable impact on the water quality.

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

Other Potential cause of deterioration in water quality relevant to this area are: Non-compliant SWO's within the agglomeration

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 - Millstreet WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
SS	30577.27	3024.64	90.11	
COD	64429.92	3606	94.4	
cBOD	28020.98	830.07	97.04	

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.

Millstreet WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	1056
DWF to the Treatment Plant (m3/day)	352
Current Hydraulic Loading - annual max (m3/day)	1905

Average Hydraulic loading to the Treatment Plant (m3/day)	1028
Organic Capacity (PE) - As Constructed	1600
Organic Capacity (PE) - Collected Load (peak week)	2741
Organic Capacity (PE) - Remaining	0
Will the capacity be exceeded in the next three years? (Yes/No)	Yes

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
There is no Complaint data included in the AER.			

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	Yes

Uncontrolled release	Plant or equipment breakdown at WWTP	1	No	Yes
Uncontrolled release	Plant or equipment breakdown at WWTP	3	Yes	No
Uncontrolled release	EO caused by pump failure	1	No	No

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)?[3]	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP?[2](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
NO CODE	127826, 90348	No	Medium	Meeting	Unknown	Unknown	Not Monitored
NO CODE	127398, 91013	No	Medium	Meeting	Unknown	Unknown	Not Monitored
SW002	127282, 90864	Yes	Medium	Not Meeting	Unknown	Unknown	Not Monitored
SW003	127282, 90864	Yes	Medium	Not Meeting	Unknown	Unknown	Not Monitored
SW006	127330, 90754	Yes	Medium	Not Meeting	Unknown	Unknown	Not Monitored

4.1.2 Inspection Summary Report

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	Unknown
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
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
Install back up pump at Mount Leader pump station	C	31/12/2015	Yes	Not Started	16/03/2020	
Install wastewater treatment plant with nutrient removal	C	31/12/2015	Yes	Work ongoing on-site	16/03/2020	
SW007 Primary Discharge Point to be discontinued	C	31/12/2015	Yes	Work ongoing on-site	16/03/2020	

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
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.

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).
Pearl Mussel Report	Yes	2015	No	
Priority Substances Assessment	Yes	2015	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?	Yes
List reason e.g. additional SWO identified	Additional SWO identified on the Collection Network and revised location for proposed future Primary Wastewater Discharge Point.
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	No

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

Signed: Date: 28/03/2019

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

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

Millstreet D0332-01 (SW007)

Ambient -Upstream					Upstream	Upstream	Upstream	Upstream	Mean	95%ile
				Sample Code	70508	71883	73870	75779		
	EQS			Sample Date	15/03/2018	17/05/2018	02/08/2018	25/10/2018		
	Mean	95%ile	Frequency	Actual						
D.O % O_2	80%<95%ile<120%		4	4	113	93.5	75.6	100	95.53	111.05
Temperature C°	≤ 1.5 C° increase		4	4	9.4	12.6	15.5	12	12.38	15.065
pH	6 < pH < 9		4	4	7.4	7.6	7.6	7.6	7.55	7.6
BOD mg/L	≤ 1.5	≤ 2.6	4	4	2.6	0.5	1.5	1.8	1.60	2.48
SS			4	4	73	3	3	21	25.00	65.2
Orthophosphate (P) mg/l	≤ 0.035	≤ 0.075	4	4	0.0595	0.0157	0.115	0.0188	0.05	0.106675
Ammonia (N) mg/l	≤ 0.065	≤ 0.140	4	4	0.106	0.069	0.39	0.0352	0.15	0.3474

Ambient -Downstream					Downstream	Downstream	Downstream	Downstream	Mean	95%ile
				Sample Code	70509	71882	73869	75780		
	EQS			Sample Date	15/03/2018	17/05/2018	02/08/2018	25/10/2018		
	Mean	95%ile	Frequency	Actual						
D.O % O_2	80%<95%ile<120%		4	4	107	87.3	70.7	101	91.5	106.1
Temperature C°	≤ 1.5 C° increase		4	4	9.3	13.5	16.5	12.2	12.9	16.05
pH	6 < pH < 9		4	4	7.5	7.6	7.6	7.5	7.6	7.6
BOD mg/L	≤ 1.5	≤ 2.6	4	4	3	2.5	1.3	7.8	3.7	7.08
SS mg/l		n/a	4	4	65	3	3	32	25.8	60.05
Orthophosphate (P) mg/l	≤ 0.035	≤ 0.075	4	4	0.0708	0.605	0.537	0.0262	0.3	0.5948
Ammonia (N) mg/l	≤ 0.065	≤ 0.140	4	4	0.117	0.038	0.176	0.0324	0.1	0.16715

			Receiving Waters Designation (Yes/No)					Mean (mg/l)		
Ambient Monitoring Point from WWDL (or as agreed with EPA)	**Irish National Grid Reference (Easting, Northing)**	**EPA Feature Coding Tool code**	**Bathing Water**	**Drinking Water**	**FWPM**	**Shellfish**	**Current WFD Status**	**cBOD**	**o-Phosphate (as P)**	**Ammonia (as N)**
Upstream Monitoring Point	127464, 91064	TPEFF0500D0332SW001					Good	1.600	0.050	0.150
Downstream Monitoring Point	128342, 92395	TPEFF0500D0332SW001	No	No	No	No	Good	3.700	0.300	0.100
Difference								*2.100*	*0.250*	*-0.050*
EQS								2.600	0.075	0.140
% of EQS								80.769%	333.333%	-35.714%