Annual Environmental Report

2018

Tubbercurry

D0092-01

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0092-01, Tubbercurry, in Sligo 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 Tubbercurry WWTP with a Plant Capacity PE of 1400. The treatment process includes the following:

1.2.1 Tubbercurry WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	No	
Primary Treatment	Yes	Screening
Secondary Treatment	Yes	Imhoff Tank, Percolation Tank
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 Tubbercurry WWTP

Compliance Status	
Were all parameters compliant for Tubbercurry 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
Tubbercurry WWTP	Liquid Sludge	432980	Volume (m3)	2.57	D0014-01 (Sligo WwTP)

Annual Statement of Measures

There is a new WWTP currently under construction with expected completion in Q4 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 - Tubbercurry WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
Suspended Solids mg/l	15	2015	422.78
Total Nitrogen mg/l	5	52.5	19.23
COD-Cr mg/l	15	845	196.4
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	15	372	124.36
Total Phosphorus (as P) mg/l	5	4.8	2.85
Hydraulic Capacity	0	6820	1296

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 - Tubbercurry 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 with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	0	15	7	3	14.08	Fail
pH pH units	0	0	0	5	0	0	7.88	Pass
Temperature °C	25	0	0	1	0	0	0	Pass
Total Oxidised Nitrogen (as N) mg/l	0	0	0	1	0	0	0	Pass
ortho-Phosphate (as P) - unspecified mg/l	0.65	0.78	0	12	10	10	1.82	Fail
COD-Cr mg/l	125	250	0	15	5	0	96.65	Fail
Ammonia-Total (as N) mg/l	2	2.4	0	12	9	9	7.51	Fail
Suspended Solids mg/l	25	62.5	0	15	12	3	32.35	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):

The plant is hydraulically & organically overloaded. There is an upgrade ongoing.

Significance of Results:

The WWTP is non-compliant with the ELV's set in the Wastewater Discharge Licence:

- There were seven exceedances in relation to the cBOD ELV, three of which were above the Condition 2 ELV.
- There were 10 exceedances in relation to Ortho-Phosphate ELV, all of which were above the Condition 2 ELV.
- There were five exceedances in relation to COD ELV, all of which were bellow the Condition 2 ELV.
- There were nine exceedances in relation to Ammonia ELV, all of which were above the Condition 2 ELV.
- There were 12 exceedances in relation to SS ELV, three of which were above the Condition 2 ELV.

The impact on the receiving waters 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 - Tubbercurry 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	151339, 312040	TPEFF2700D0092SW001	No	No	No	No	Poor
Downstream	151078, 311707	TPEFF2700D0092SW001	No	No	No	No	Poor

2.3.2 Ambient Monitoring Parameter Summary - Tubbercurry WWTP

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

Significance of Results:

The WWTP discharge was not 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 impact are: Ammonia & Ortho-Phosphate.

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

The discharge from the wastewater treatment plant has 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 - Tubbercurry WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
TP	1976.28	Unknown	Unknown	
cBOD	62264.27	7050.24	88.68	
TN	13319.08	Unknown	Unknown	
SS	211669.21	16194.99	92.35	
COD	98329.29	48386.69	50.79	

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.

Tubbercurry WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	1013
DWF to the Treatment Plant (m^3/day)	338
Current Hydraulic Loading - annual max (m^3/day)	6820
Average Hydraulic loading to the Treatment Plant (m^3/day)	1296
Organic Capacity (PE) - As Constructed	1400
Organic Capacity (PE) - Collected Load (peak week)	2362
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
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)
Non-compliance	WWTP operating above capacity	1	Yes	No

3.4.2 Summary of Overall Incidents

Question	Answer
Number of Incidents in 2018	1
Number of Incidents reported to the EPA via EDEN in 2018	1
Explanation of any discrepancies between the two numbers above	re-occurring incidents all reported

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 (m^3)	Monitoring Status
SW002	152102, 311953	Yes	Low	Meeting			Not Monitored
SW003	151117, 311784	Yes	Low	Meeting			Not Monitored

4.1.2 Inspection Summary Report

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m^3)?	
Is each SWO identified as non meeting DoEHLG Guidance included in the Programme of Improvements?	Yes
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
Construction of outfall pipe to River Moy and pumping station	C	29/06/2016	Yes	Not Started	Q4 2020	
Discharges to be discontinued (SW002)	A	29/06/2016	Yes	Not Started		
Waste Water Treatment plant and ancillary works	C	29/06/2016	Yes	Not Started	Q4 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
There are no Improvement Programmes 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.

5.1.1 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	2014	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	A new WWTP is currently under construction, expected completion Q4 2019. New Outfall & ambient monitoring location required in 2020.
Is there a need to request/advise the EPA of any modifications to the existing WWDL?	
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	NA

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

Signed: Date: 06/03/2019

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

Appendix
Appendix 7.1 - Ambient monitoring summary

Data/Statistics - 2018

					Result Not Acc
					Ammonia N
Entity	**Station**	**Station Code**	**Sample Reason**	**Sample Date**	**mg/l**
Tubbercurry	Upstream Of Tubbercurry WWTP	RS34T020040	Compliance	16/01/2018	0.2
Tubbercurry	Upstream Of Tubbercurry WWTP	RS34T020040	Compliance	26/03/2018	1.49
Tubbercurry	Upstream Of Tubbercurry WWTP	RS34T020040	Compliance	09/04/2018	0.028
Tubbercurry	Upstream Of Tubbercurry WWTP	RS34T020040	Compliance	01/05/2018	0.025
Tubbercurry	Upstream Of Tubbercurry WWTP	RS34T020040	Compliance	06/06/2018	0.01
Tubbercurry	Upstream Of Tubbercurry WWTP	RS34T020040	Compliance	03/07/2018	0.177
Tubbercurry	Upstream Of Tubbercurry WWTP	RS34T020040	Compliance	07/09/2018	0.092
Tubbercurry	Upstream Of Tubbercurry WWTP	RS34T020040	Compliance	05/10/2018	0.083
Tubbercurry	Downstream of Tubbercurry WWTF	RS34T020050	Compliance	16/01/2018	0.2
Tubbercurry	Downstream of Tubbercurry WWTF	RS34T020050	Compliance	26/03/2018	0.2
Tubbercurry	Downstream of Tubbercurry WWTF	RS34T020050	Compliance	09/04/2018	1.149
Tubbercurry	Downstream of Tubbercurry WWTF	RS34T020050	Compliance	01/05/2018	0.895
Tubbercurry	Downstream of Tubbercurry WWTF	RS34T020050	Compliance	06/06/2018	2.029
Tubbercurry	Downstream of Tubbercurry WWTF	RS34T020050	Compliance	03/07/2018	2.442
Tubbercurry	Downstream of Tubbercurry WWTF	RS34T020050	Compliance	07/09/2018	1.629
Tubbercurry	Downstream of Tubbercurry WWTF	RS34T020050	Compliance	05/10/2018	0.474

Upstream Avg	0.263125
Downstream Avg	1.12725
Difference	0.864125
EQS	0.14
% of EQS	617.2321429

redited

BOD, 5 days w	Dissolved Oxy	Ortho-Phosph	pH	Temperature	Total Nitrogen N
mg/l	mg/l	mg/l	pH units	Degrees C	mg/l
1	10.6	0.0222	7.44	7.1	1.57
3.44	7.2	0.245	8	8.4	3.2
1.3	10	0.02	7.6	10.7	1
1	12	0.013	7.4	8.4	1
5.5	10	0.083		17.9	1
1.5	13	0.006	7.4	17.7	58.8
1	10	0.03	7.6	13	1
2.1	12	0.024	7.5	12.1	4.3
1	11.09	0.0476	7.5	7	1.73
1	8.99	0.02	8.32	9	1
5.3	10	0.214	7.7	10.5	3
2.8	10	0.183	7.7	8	2.2
1.8	11	0.496		15.6	3.6
3.3	9	0.5	7.5	15.9	30
9.4	11	0.29	7.6	13.3	3.8
1	12	0.198	7.6	11.5	5.6

2.105	10.6	0.0554	7.562857143	11.9125	8.98375
3.2	10.385	0.243575	7.702857143	11.35	6.36625
1.095	-0.215	0.188175	0.14	-0.5625	-2.6175
2.6		0.08			
42.11538462		235.21875			