Annual Environmental Report

2020

Fethard

D0164-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2020 AER

This Annual Environmental Report has been prepared for D0164-01, Fethard, in Tipperary in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports where relevant are included as an appendix to the AER.

1.1 ANNUAL STATEMENT OF MEASURES

A summary of any improvements undertaken is provided where applicable.

There were no major capital or operational changes undertaken in 2020.

1.2 TREATMENT SUMMARY

The agglomeration is served by a wastewater treatment plant(s)

- Fethard WWTP - 2020 with a Plant Capacity PE of 3000, the treatment type is 3P - Tertiary P removal

1.3 ELV OVERVIEW

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.

Discharge Point Reference	Treatment Plant	Discharge Type	Compliance Status	Parameters failing if relevant
TPEFF2900D0164SW001	Fethard WWTP - 2020	Treated	Compliant	N/A

1.4 LICENCE SPECIFIC REPORTING INCLUDED IN AER

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

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 FETHARD WWTP - 2020 - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - FETHARD WWTP - 2020

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

Parameters	Number of Samples	Annual Max	Annual Mean
Total Nitrogen mg/l	12	50.9	19.96
Total Phosphorus (as P) mg/l	12	10.6	3.64
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	313	91.69
COD-Cr mg/l	12	666	206.07
Suspended Solids mg/l	12	288	61.81
Hydraulic Capacity	N/A	3031	1324

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 2.1.5 if applicable.

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity. Further details on the plant capacity and efficiency can be found under the sectional ‘Operational Performance Summary’. 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.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF2900D0164SW001

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)
COD-Cr mg/l	125	250	N/A	12	N/A	N/A	11.58	Pass
Suspended Solids mg/l	35	87.5	N/A	12	N/A	N/A	3.72	Pass
pH pH units	9	9	N/A	12	N/A	N/A	7.83	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	5	10	N/A	12	N/A	N/A	1.79	Pass
Ammonia-Total (as N) mg/l	0.3	0.6	N/A	12	1	N/A	0.09	Pass
ortho-Phosphate (as P) - unspecified mg/l	0.2	0.4	N/A	12	1	N/A	0.09	Pass
Total Nitrogen mg/l	N/A	N/A	N/A	12	N/A	N/A	5.53	
Total Phosphorus (as P) mg/l	N/A	N/A	N/A	12	N/A	N/A	0.15	

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied

Cause of Exceedance(s):

Not applicable

Significance of Results:

The WWTP is compliant with the ELV's set in the Wastewater Discharge Licence.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF2900D0164SW001

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.

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	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
Upstream	221645, 134803	RS16C010460	No	No	No	No	Good
Downstream	221747, 134621	RS16C010470	No	No	No	No	Good

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
BOD - 5 days (Total) mg/l	RS16C010460	2	RS16C010470	2.02	1.5	1.1

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) mg/l	RS16C010460	0.03	RS16C010470	0.03	0.07	-2.6
ortho-Phosphate (as P) - unspecified mg/l	RS16C010460	0.05	RS16C010470	0.05	0.04	5.7
Total Nitrogen mg/l	RS16C010460	3	RS16C010470			
Dissolved Oxygen mg/l	RS16C010460	11.25	RS16C010470	10.85		
Temperature °C	RS16C010460	11.98	RS16C010470	11.75		
Dissolved Oxygen % O2	RS16C010460	92.8	RS16C010470			
Suspended Solids mg/l	RS16C010460	8.83	RS16C010470	8.5		
pH pH units	RS16C010460	8.4	RS16C010470	8.37		

Significance of Results:

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

The ambient monitoring results does not meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

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.

2.1.4 OPERATIONAL PERFORMANCE SUMMARY - FETHARD WWTP - 2020

2.1.4.1 Treatment Efficiency Report - Fethard WWTP - 2020

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:

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
TP	1441	60	96
TN	7893	2186	72
cBOD	36250	710	98
COD	81472	4577	94
SS	24436	1471	94

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

2.1.4.2 Treatment Capacity Report Summary - Fethard WWTP - 2020

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.

Fethard WWTP - 2020	
Peak Hydraulic Capacity (m^3/day) - As Constructed	2250
DWF to the Treatment Plant (m^3/day)	750
Current Hydraulic Loading - annual max (m^3/day)	3031

Fethard WWTP - 2020	
Average Hydraulic loading to the Treatment Plant (m^3/day)	1324
Organic Capacity (PE) - As Constructed	3000
Organic Capacity (PE) - Collected Load (peak week)[Note1]	3501
Organic Capacity (PE) - Remaining	0
Will the capacity be exceeded in the next three years? (Yes/No)	No

Nominal design capacities can be based on conservative design principles. In some cases assessment of existing plants has shown organic capacities significantly higher than the nominal design capacity. Accordingly plants that appear to be overloaded when comparing a collected peak load with the nominal design capacity can be fully compliant due to the safety factors in the original design.

2.1.5 SLUDGE / OTHER INPUTS - FETHARD WWTP - 2020

'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.							

3 COMPLAINTS AND INCIDENTS

3.1 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 were no relevant environmental complaints in 2020.			

3.2 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.

3.2.1 SUMMARY OF INCIDENTS

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
There were no reportable incidents in 2020.				

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2020	0
Number of Incidents reported to the EPA via EDEN in 2020	0
Explanation of any discrepancies between the two numbers above	N/A

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:

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 2020 (No. of events)	Total volume discharged in 2020 (m3)	Monitoring Status
SW005	221637, 134758	Yes	Low	Meeting	Unknown	0	Monitored
SW006	221649, 134736	Yes	Low	Meeting	Unknown	0	Monitored
SW002	221483, 135071	Yes	Low	Unknown	Unknown	Unknown	Not Monitored
SW003	221069, 134888	Yes	Low	Unknown	Unknown	Unknown	Not Monitored
SW004	221067, 134885	Yes	Low	Unknown	Unknown	Unknown	Not Monitored

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	0
Is each SWO identified as not 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 / changes 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)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0164-SIP:01	Carry out improvement works including nutrient reduction to ensure compliance with the emission limit values for orthophosphate and ammonia as set out in Schedule A: Discharges and Discharge Monitoring.	C	31/12/2019	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.
D0164-SIP:02	Carry out improvement works to increase the organic and hydraulic treatment capacity of the plant to ensure compliance with Condition 1.7	C	31/12/2019	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0164-SIP:03	Complete Improvements to comply with ELVs specified in Schedule A. Implement, in accordance with Condition 5.6.1, either (a) improvements to the existing waste water works to achieve compliance with the emission limit values specified in Schedule A.1: Primary Waste Water Discharge & Monitoring of this licence, or (b) an alternative primary discharge point, or (c) connection to another agglomeration.	C	31/12/2019	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.

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 / or any Operational Improvements	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
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	N/A
Is there a need to request/advise the EPA of any modification to the existing WWDL with respect to condition 4 changes to monitoring location, frequency etc	No
List reason e.g. changes to monitoring requirements	N/A
Have these processes commenced?	N/A
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	Yes

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

Signed: Date: 24/06/2021

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 ,

Katherine Walshe

Acting Head of Environmental Regulation.

7 APPENDIX

Appendix
Appendix 7.1 - Ambient monitoring summary

Fethard Ambient Monitoring Data 2020

								Parameter	Ammonia N	Biological Oxyg	COD Chemical	Dissolved Oxyg	Ortho-Phospha	pH	Suspended Sol	Temperature
								Max.	--	--	--	--	--	--	--	--
								Min.	--	--	--	--	--	--	--	--
								Test Method	--	--	--	--	--	--	--	--
Category	Entity	Station	Station Reference	Easting	Northing	Sample Refere	Sample Date	Analyst Conclu	mg/l	mg/l	mg/l	mg/l	mg/l	pH units	mg/l	Degrees C
Ambient Monitoring	Clashawley	Upstream @ Fethard WWTP	RS16C010460	221645	134803	20550075	21/01/2020	-	0.04	2		11.83	0.038	8.5	11	6.9
Ambient Monitoring	Clashawley	Downstream @ Fethard WWTP	RS16C010470	221747	134621	20550076	21/01/2020	-	0.03	2		11.51	0.038	8.5	11	7.2
Ambient Monitoring	Clashawley	Upstream @ Fethard WWTP	RS16C010460	221645	134803	20550339	04/03/2020	-	0.03	2		11.3	0.038	8.5	11	8.6
Ambient Monitoring	Clashawley	Downstream @ Fethard WWTP	RS16C010470	221747	134621	20550338	04/03/2020	-	0.03	2		11.9	0.043	8.5	11	8.4
Ambient Monitoring	Clashawley	Upstream @ Fethard WWTP	RS16C010460	221645	134803	20550554	06/05/2020	-	0.03	2		12.3	0.016	8.37	4	14.5
Ambient Monitoring	Clashawley	Downstream @ Fethard WWTP	RS16C010470	221747	134621	20550555	06/05/2020	-	0.03	2		12.1	0.016	8.44	4	14.1
Ambient Monitoring	Clashawley	Upstream @ Fethard WWTP	RS16C010460	221645	134803	20550921	08/07/2020	-	0.03	2		12.2	0.02	8.2	9	15.3
Ambient Monitoring	Clashawley	Downstream @ Fethard WWTP	RS16C010470	221747	134621	20550922	08/07/2020	-	0.03	2		10.5	0.029	8.3	5	14.6
Ambient Monitoring	Clashawley	Upstream @ Fethard WWTP	RS16C010460	221645	134803	20551123	26/08/2020	-	0.03	2		9.23	0.074	8.4	7	15.3
Ambient Monitoring	Clashawley	Downstream @ Fethard WWTP	RS16C010470	221747	134621	20551124	26/08/2020	-	0.03	2		9.12	0.072	8.2	9	14.9
Ambient Monitoring	Clashawley	Upstream @ Fethard WWTP	RS16C010460	221645	134803	20551332	08/10/2020	-	0.03	2		10.59	0.096	8.4	11	11.3
Ambient Monitoring	Clashawley	Downstream @ Fethard WWTP	RS16C010470	221747	134621	20551331	08/10/2020	-	0.03	2.1		9.98	0.095	8.3	11	11.3