

Annual Environmental Report

2020



Wexford town

D0030-02

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2020 AER

- 1.1 ANNUAL STATEMENT OF MEASURES
- 1.2 TREATMENT SUMMARY
- 1.3 ELV OVERVIEW
- 1.4 LICENSE SPECIFIC REPORT INCLUDED IN AER

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

- 2.1 WEXFORD TOWN WWTP - 2020 - TREATED DISCHARGE
 - 2.1.1 INFLUENT SUMMARY - WEXFORD TOWN WWTP - 2020
 - 2.1.2 EFFLUENT MONITORING SUMMARY - WEXFORD TOWN WWTP - 2020 -
 - 2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE -
 - 2.1.4 OPERATIONAL REPORTS SUMMARY FOR WEXFORD TOWN WWTP - 2020
 - 2.1.5 SLUDGE/OTHER INPUTS TO WEXFORD TOWN WWTP - 2020

3 COMPLAINTS SUMMARY

- 3.1 REPORTED INCIDENTS SUMMARY
 - 3.1.1 SUMMARY OF INCIDENTS
 - 3.1.2 SUMMARY OF OVERALL INCIDENTS

4 INFRASTRUCTURAL ASSESSMENT AND PROGRAMME OF IMPROVEMENTS

- 4.1 STORM WATER OVERFLOW IDENTIFICATION AND INSPECTION REPORT
 - 4.1.1 SWO IDENTIFICATION AND INSPECTION SUMMARY REPORT
- 4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS
 - 4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY
 - 4.2.2 IMPROVEMENT PROGRAMME SUMMARY
 - 4.2.3 SEWER INTEGRITY RISK ASSESSMENT

5 LICENCE SPECIFIC REPORTS

- 5.1 PRIORITY SUBSTANCES ASSESSMENT
- 5.2 SHELLFISH IMPACT ASSESSMENT

6 CERTIFICATION AND SIGN OFF

- 6.1 SUMMARY OF AER CONTENTS

7 APPENDIX

7.1 AMBIENT MONITORING SUMMARY

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2020 AER

This Annual Environmental Report has been prepared for D0030-02, Wexford town, in Wexford 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 significant changes nor improvements in 2020, DAP for Wexford is currently at Stage 2

1.2 TREATMENT SUMMARY

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

- Wexford town WWTP - 2020 with a Plant Capacity PE of 45000, the treatment type is 3NP - Tertiary N&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
TPEFF3300D0030SW001	Wexford town 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 WEXFORD TOWN WWTP - 2020 - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - WEXFORD TOWN 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
Suspended Solids mg/l	13	323	118.07
Total Phosphorus (as P) mg/l	13	6.23	2.98
COD-Cr mg/l	13	579	284.55
Total Nitrogen mg/l	13	27.4	16.58
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	13	267	110.89
Hydraulic Capacity	N/A	27352	13291.21

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 less 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 treatment 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 - TPEFF3300D0030SW001

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	13	N/A	N/A	50.38	Pass
Suspended Solids mg/l	35	87.5	N/A	13	N/A	N/A	10.76	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	N/A	13	N/A	N/A	3.95	Pass
Temperature °C	25	25	N/A	12	N/A	N/A	7.76	Pass
Total Nitrogen mg/l	15	18	N/A	13	N/A	N/A	5.01	Pass
Total Oxidised Nitrogen (as N) mg/l	15	18	N/A	12	N/A	N/A	2.87	Pass
Ammonia-Total (as N) mg/l	10	12	N/A	13	N/A	N/A	1.08	Pass
pH pH units	9	9	N/A	13	N/A	N/A	7.15	Pass
Total Phosphorus (as P) mg/l	2	2.4	N/A	13	N/A	N/A	0.27	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 with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Faecal coliforms no./100mls	N/A	N/A	N/A	2	N/A	N/A	654	
E. Coli MPN/100ml	N/A	N/A	N/A	2	N/A	N/A	211	
Visual Inspection Descriptive	N/A	N/A	N/A	12	N/A	N/A	N/A	
Enterococci (Intestinal) cfu/100ml	N/A	N/A	N/A	2	N/A	N/A	34	

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 TPEFF3300D0030SW001

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	301365, 123270	TW33002085SY2003	No	No	No	Yes	Poor
Downstream	307402 121085	TW33002085SY2014	No	No	No	Yes	Poor

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	TW33002085SY2003	1.9	TW33002085SY2014	2.45	1.5	36.7
Ammonia-Total (as N) mg/l	TW33002085SY2003	0.08	TW33002085SY2014	0.07	0.065	-15.4
Total Phosphorus (as P) mg/l	TW33002085SY2003	0.12	TW33002085SY2014	0.4		
Total Nitrogen mg/l	TW33002085SY2003	1.84	TW33002085SY2014	1.27		
Enterococci (Intestinal) cfu/100ml	TW33002085SY2003	33	TW33002085SY2014	40.5		
pH pH units	TW33002085SY2003	7.84	TW33002085SY2014	7.93		
Dissolved Inorganic Nitrogen (as N) mg/l	TW33002085SY2003	1.21	TW33002085SY2014	1.48		

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 mg/l	TW33002085SY2003	53.08	TW33002085SY2014	68.58		
E. Coli MPN/100ml	TW33002085SY2003	66.5	TW33002085SY2014	118.5		

Significance of Results:

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

The ambient monitoring results 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 - WEXFORD TOWN WWTP - 2020

2.1.4.1 Treatment Efficiency Report - Wexford town 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	12962	1365	89
TN	72140	21804	70

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
COD	1237774	271748	78
SS	513613	53706	90
cBOD	482351	22154	95

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

2.1.4.2 Treatment Capacity Report Summary - Wexford town 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.

Wexford town WWTP - 2020	
Peak Hydraulic Capacity (m³/day) - As Constructed	30375
DWF to the Treatment Plant (m³/day)	10125
Current Hydraulic Loading - annual max (m³/day)	27352
Average Hydraulic loading to the Treatment Plant (m³/day)	13291.21
Organic Capacity (PE) - As Constructed	45000
Organic Capacity (PE) - Collected Load (peak week)^{Note1}	30343
Organic Capacity (PE) - Remaining	14657
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 - WEXFORD TOWN 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)
Waterworks Sludge	4216	Volume (m3)		0.1	Yes	Yes	No
Waterworks Sludge	2086	Volume (m3)		0.1	Yes	Yes	No
Domestic /Septic Tank Sludge	17.74	Volume (m3)	250	0.7	Yes	Yes	No
Landfill Leachate (delivered by sewer network)	3315	Volume (m3)		0.15	Yes	Yes	No
Landfill Leachate (delivered by sewer network)	32015	Volume (m3)		1.38	Yes	Yes	No

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)
Uncontrolled release	Adverse Weather	1	Yes	Yes
Uncontrolled release	Adverse Weather	1	No	Yes
Uncontrolled release	Blocked Sewer	1	No	Yes

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	EO caused by pump failure	1	No	Yes
Uncontrolled release	Blocked Sewer	1	No	Yes
Uncontrolled release	Adverse Weather	1	No	Yes
Uncontrolled release	Adverse Weather	1	No	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2020	7
Number of Incidents reported to the EPA via EDEN in 2020	7
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
SW-5	305379, 121458	Yes	Medium	Meeting	Unknown	Unknown	Not Monitored
SW-6	305009, 118086	Yes	Medium	Meeting	Unknown	Unknown	Not Monitored
SW003	303706, 122672	No	Medium	Not Meeting	Unknown	Unknown	Not Monitored
SW004	304782, 120996	No	Medium	Meeting	Unknown	Unknown	Not Monitored
SW007	305534, 126826	No	Unknown	Not yet Assessed	Unknown	Unknown	Not Monitored
SW009	292090, 119545	No	Medium	Meeting	Unknown	Unknown	Not Monitored

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
SW010	298980, 122742	No	Medium	Meeting	Unknown	Unknown	Not Monitored
SW011	302920, 115654	No	Medium	Meeting	Unknown	Unknown	Not Monitored
SW012	305288, 122926	No	Medium	Meeting	Unknown	Unknown	Not Monitored
SW013	304969, 121457	No	Unknown	Not yet Assessed	Unknown	Unknown	Not Monitored
TBC	300654, 115984	No	Unknown	Not yet Assessed	Unknown	368514	Monitored

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	Unknown
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?	No
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/NAY)	Status of Works	Timeframe for Completing the Work	Comments
D0030-SIP:01	Discharge to be discontinued: SW002 (A0269SW001)	C	31/12/2018	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 / 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
Priority Substances Assessment	Yes	2014	No	
Shellfish Impact Assessment	Yes		No	

5.1 PRIORITY SUBSTANCES ASSESSMENT

The Priority Substances Assessment Report has been included in the AER 2014

5.2 SHELLFISH IMPACT ASSESSMENT

The Shellfish Impact Assessment Report has been included in the AER

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: 08/07/2021

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

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	EPA Feature Coding Tool code	Receiving Waters Designation (Y/N)				WFD Status
			Bathing Water	Drinking Water	FWPM	Shellfish	
TW33002085SY2003	301365, 123270	TPEFF3300D0030SW001	No	No	No	Yes	Poor
TW33002085SY2014	307402, 121085	TPEFF3300D0030SW001	No	No	No	Yes	Poor

Ambient Impact Assessment Table

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS (95%ile)	%EQS
BOD mg/l	TW33002085SY2003	1.9	TW33002085SY2014	2.45	4.0	13.75
Ortho-Phosphate (as P) mg/l	TW33002085SY2003	No data	TW33002085SY2014	No Data		
Ammonia (as N) mg/l	TW33002085SY2003	0.083	TW33002085SY2014	0.068	0.140	10.7

	Ammonia N	Visual Inspection	pH	Biological Oxygen Demand	Suspended Solids	Total Nitrogen N	Total Phosphate P	Dissolved Inorganic Nitrogen DIN	Faecal Coliforms	E Coli	Enterococci
Sample Date	mg/l	Descriptive	pH units	mg/l	mg/l	mg/l	mg/l	mg/l	no./100mls	MPN/100mls	cfu/100mls
TW33002085SY2003 - Upstream											
4-Feb-2020	0.04	Clear, Low SS No Tarry residue, mineral oil or detergents	7.9	1	15.7	3.9	0.12	2.33	184	99	44
19-May-2020	0.06	Clear, No SS, No Tarry residue, mineral oil or detergents	8.05	2	72.8	1.7	0.12	0.84			
2-Sep-2020	0.14	Clear, No SS, No Tarry residue, mineral oil or detergents	7.75	2	69.3	0.5	0.12	0.5	118	34	22
3-Nov-2020	0.09	Clear, No SS, No Tarry Residue, Mineral Oils or Detergents	7.65	2.6	54.5	1.25	0.12	1.19			
mean	0.083		7.838	1.900	53.075	1.838	0.120	1.215	151.000	66.500	33.000
TW33002085SY2014 - Downstream											
4-Feb-2020	0.03	Clear, Low SS No Tarry residue, mineral oil or detergents	8.13	3	42.3	1.7	0.12	3.41	687	178	59
19-May-2020	0.03	Clear, No SS, No Tarry residue, mineral oil or detergents	8.12	2	79.4	0.7	1.2	0.81			
2-Sep-2020	0.12	Clear, No SS, No Tarry residue, mineral oil or detergents	7.78	2	79.4	0.5	0.12	0.5	172	59	22
3-Nov-2020	0.09	Clear, No SS, No Tarry Residue, Mineral Oils or Detergents, Debris noted- not sewage related	7.67	2.8	73.2	2.19	0.14	1.19			
Mean	0.068		7.925	2.450	68.575	1.273	0.395	1.478	429.500	118.500	40.500