Annual Environmental Report

2023

Stradbally

D0353-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2023 AER

This Annual Environmental Report has been prepared for D0353-01, Stradbally, in Waterford 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.

1.2 TREATMENT SUMMARY

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

- Stradbally with a Plant Capacity PE of 1914, the treatment type is 2 - Secondary treatment .

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
TPEFF3100D0353SW002	Stradbally	Treated	Compliant	N/A

1.4 LICENCE SPECIFIC REPORTING

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

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 STRADBALLY - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - STRADBALLY

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	12	308	173
Total Phosphorus (as P) mg/l	3	6.05	2.88
pH pH units	12	7.50	6.83
COD-Cr mg/l	12	687	273
Ammonia-Total (as N) mg/l	12	39	7.96
BOD, 5 days with Inhibition (Carbonaceo mg/l	12	173	73
ortho-Phosphate (as P) - unspecified mg/l	4	3.61	1.19
Hydraulic Capacity	N/A	1386	478

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 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 - TPEFF3100D0353SW001

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 mg/l	125	250	N/A	12	N/A	N/A	12	Pass
Total Oxidised Nitrogen (as N) mg/l	35	42	N/A	12	N/A	N/A	7.33	Pass
Suspended Solids mg/l	35	87.5	N/A	12	N/A	N/A	3.66	Pass
BOD, 5 days with Inhibition (Carbonaceo mg/l	25	50	N/A	12	N/A	N/A	1.22	Pass
Ammonia-Total (as N) mg/l	15	18	N/A	12	N/A	N/A	0.052	Pass
pH pH units	9	9	N/A	12	N/A	N/A	7.44	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)
Dissolved Inorganic Nitrogen (as N) mg/l	N/A	N/A	N/A	7	N/A	N/A	7.23	
ortho-Phosphate (as P) - unspecified mg/l	N/A	N/A	N/A	4	N/A	N/A	1.24	
E. Coli no./100mls	N/A	N/A	N/A	1	N/A	N/A	2421	
Faecal coliforms no./100mls	N/A	N/A	N/A	7	N/A	N/A	1008	
Total Phosphorus (as P) mg/l	N/A	N/A	N/A	4	N/A	N/A	1.47	

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied
2 – For pH the WWDA specifies a range of pH 6 - 9

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 TPEFF3100D0353SW001

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 Ecological Status
Upstream	236877, 97176		Yes	No	No	No	Good

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

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

Other causes of deterioration in water quality in the area are: Other causes of deterioration in water quality in the area are unknown.

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 - STRADBALLY

2.1.4.1 Treatment Efficiency Report - Stradbally

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)
COD	44715	1990	96
SS	28342	620	98
TP	436	212	51
TN	N/A	N/A	N/A
cBOD	11978	207	98

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

2.1.4.2 Treatment Capacity Report Summary - Stradbally

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.

Stradbally	
Peak Hydraulic Capacity (m^3/day) - As Constructed	1292
DWF to the Treatment Plant (m^3/day)	431
Current Hydraulic Loading - annual max (m^3/day)	1386

Stradbally	
Average Hydraulic loading to the Treatment Plant (m^3/day)	478
Organic Capacity (PE) - As Constructed	1914
Organic Capacity (PE) - Collected Load (peak week)[Note1]	598
Organic Capacity (PE) - Remaining	1316
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 - STRADBALLY

'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 related to the discharge(s) to water from the WWTP and network is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
There were no relevant environmental complaints in 2023.			

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 Uisce Éireann 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	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	Emergency overflow caused by power failure	No	Yes
Uncontrolled release	Emergency overflow caused by power failure	No	Yes
Uncontrolled release	Emergency overflow caused by power failure	No	Yes

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	Emergency overflow caused by pump failure	No	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2023	4
Number of Incidents reported to the EPA via EDEN in 2023	4
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 (chamber) where applicable	Irish Grid Ref. (outfall)	Included in Schedule of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2023 (No. of events)	Total volume discharged in 2023 (m3)	Monitoring Status
SW004	237024,97124	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW005	238220,97392	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored

Any TBC SWO(s) were identified as part of the on-going National SWO programme and will be updated in subsequent AER(s) once the information is confirmed.

SWO Summary	
How much wastewater discharge by metered SWOs during the year (m3)?	4466
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	N/A
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?	N/A

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 a 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
D0353-SIP:01	Construct a new WWTP to comply with ELVs specified in Schedule A	C	22/12/2015	Yes	Works Completed		
D0353-SIP:02	SW001 Primary Discharge Point Convert to Storm Water overflow	C	22/12/2015	Yes	Works Completed		

A summary of the status of any other improvements identified by under Condition 5 assessments- is included below.

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
No additional improvements planned at this time.				

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 Tables 4.2.1 and 4.2.2.

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 a list of the various reports required for this agglomeration and a brief summary of their recommendations.

Licence Specific Report	Required by licence	Included in this AER
D0353-01-Priority Substances Assessment	Yes	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?	N/A
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	N/A
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	No

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

Signed: Date: 20/03/2024

This AER has been produced by Uisce Éireann's Environmental Information System (EIMS) and has been electronically signed off in that system for and on behalf of ,

Eleanor Roche

Head of Environmental Regulation.

7 APPENDIX

Appendix
Appendix 7.1 - Ambient monitoring summary
Appendix 7.2 - Other

Ambient Monitoring Summary

Receiving Water Monitoring referred to in the Licence [River Tay] is associated with SW001 [the previous septic tank discharge]. Flows to the septic tank were diverted to the Treatment Plant in April 2016

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**	
RS17T010400	236877, 97176	TBC	Yes	No	No	No	Good

Ambient Impact Assessment Table

Parameter Name	**Upstream Monitoring Point Location**	**Upstream Monitoring Point Annual Mean**	**EQS**	**%EQS**
Ammonia - Total (as N) mg/l	RS17T010400	0.149	0.04	
BOD - 5 days (Total) mg/l	RS17T010400	0.875		
Total Oxidised Nitrogen (as N) mg/l	RS17T010400	2.4		
Chloride mg/l		16.1		
Dissolved Oxygen % saturation	RS17T010400	90.92	80-120	
Ortho-Phosphate (as P) – unspecified mg/l	RS17T010400	0.01475	0.025	

pH	RS17T010400	8		

Receiving Water Monitoring for the current primary discharge point [SW003] must be agreed with the EPA. This monitoring could be undertaken in conjunction with Bathing Water monitoring at Ballyvooney Cove.

The table below contains the Bathing Water analysis undertaken at Ballyvooney Cove in 2023.

Bathing Season Water Quality

Excellent

Waterford City & County Council
Sampled on 04/09/2023

Results - 22 May to 15 September annually

The water quality of each sample is assessed as either 'Excellent', 'Good', 'Sufficient' or 'Poor'. When a local authority takes a water sample to check the bathing water quality, it takes at least 2-3 days to analyse the sample and publish the results below.

Sample Date	E. coli	Intestinal Enterococci	Water Quality
04/09/2023	10	<10	Excellent
21/08/2023	31	10	Excellent
17/07/2023	10	<10	Excellent
12/06/2023	<10	<10	Excellent
30/05/2023	20	10	Excellent
14/09/2022	<10	<10	Excellent

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			Bathing Water	**Drinking Water**	**FWPM**	**Shellfish**	
RS17T010400	236877, 97176	TBC	Yes	No	No	No	Good

Ambient Impact Assessment Table

Parameter Name	**Downstream Monitoring Point Location**	**Downstream Monitoring Point Annual Mean**	**Downstream Monitoring Point Location**	**Downstream Monitoring Point Annual Mean**	**EQS**	**%EQS**
Ammonia - Total (as N) mg/l	RS17T010400	0.149	-	-	0.04	
BOD - 5 days (Total) mg/l	RS17T010400	0.875	-	-		
Total Oxidised Nitrogen (as N) mg/l	RS17T010400	2.4	-	-		
Chloride mg/l		16.1	-	-		
Dissolved Oxygen % saturation	RS17T010400	90.92	-	-	80-120	
Ortho-Phosphate (as P) – unspecified mg/l	RS17T010400	0.01475	-	-	0.025	
pH	RS17T010400	8	-	-		

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Sample Date	E. coli	Intestinal Enterococci	Water Quality
04/09/2023	10	<10	Excellent
21/08/2023	31	10	Excellent
17/07/2023	10	<10	Excellent
12/06/2023	<10	<10	Excellent
30/05/2023	20	10	Excellent
14/09/2022	<10	<10	Excellent

Raw Ambient Data

Downstream								
Monitoring Station	**Date**	**Ammonia-Total (as N) mg/l**	**BOD - 5 days (Total) mg/l**	**Dissolved Oxygen % saturation**	**Chloride mg/l**	**ortho-Phosphate (as P) – unspecified mg/l**	**pH**	**Total Oxidised Nitrogen (as N) mg/l**
RS17T010400	21/03/2023	0.01	0.5	107	16.9	0.014	7.3	2.6
	23/05/2023	0.01	0.5	110	16.9	0.005	7.9	2.5
	22/08/2023	0.01	1	74	14.7	0.015	7.3	1.9
	09/10/2023	0.69	-	97.1	-	-	8.1	-
	24/10/2023	0.025	1.5	65	15.9	0.025	7.3	2.6
mean		0.149	0.875	90.62	16.1	0.01475	7.58	2.4
95%ile		0.557	1.425	109.4	16.9	0.0235	8.06	2.6