

Annual Environmental Report

2024



Portlaoise

D0001-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2024 AER

This Annual Environmental Report has been prepared for D0001-01, Portlaoise, in Laois 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 capital works, significant changes or operational changes undertaken in 2024.

1.2 TREATMENT SUMMARY

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

- Portlaoise WWTP with a Plant Capacity PE of 39000, 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
TPEFF1600D0001SW001	Portlaoise WWTP	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 PORTLAOISE WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - PORTLAOISE WWTP

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
COD-Cr mg/l	26	2860	776
Ammonia-Total (as N) mg/l	26	58	34
BOD, 5 days with Inhibition (Carbonaceous) mg/l	26	1288	279
Suspended Solids mg/l	26	1744	353
ortho-Phosphate (as P) - unspecified mg/l	26	7.96	3.11
Total Phosphorus (as P) mg/l	12	9.52	6.14
Total Nitrogen mg/l	12	54	43
pH pH units	26	7.95	7.70
Hydraulic Capacity	N/A	27515	11012

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'.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF1600D0001SW001

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)
Chloride mg/l	250	300	N/A	12	N/A	N/A	183	Pass
COD-Cr mg/l	125	250	N/A	26	N/A	N/A	15	Pass
Suspended Solids mg/l	35	87.5	N/A	26	N/A	N/A	3.11	Pass
Fats, Oils and Greases mg/l	15	18	N/A	6	N/A	N/A	12	Pass
pH pH units	6	9	N/A	26	N/A	N/A	7.90	Pass
Nitrate (as N) mg/l	7.3	8.76	N/A	26	1	N/A	5.33	Pass
BOD, 5 days with Inhibition (Carbonaceous) mg/l	4	8	N/A	26	N/A	N/A	0.810	Pass
Total Phosphorus (as P) mg/l	2	2.4	N/A	12	N/A	N/A	0.100	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)
Ammonia-Total (as N) mg/l	0.26	0.52	N/A	26	2	N/A	0.098	Pass
ortho-Phosphate (as P) - unspecified mg/l	0.13	0.26	N/A	26	1	N/A	0.052	Pass
Faecal coliforms MPN/100ml	N/A	N/A	N/A	2	N/A	N/A	9649	
Nitrite (as N) mg/l	N/A	N/A	N/A	26	N/A	N/A	0.015	
E. Coli MPN/100ml	N/A	N/A	N/A	2	N/A	N/A	4195	
Enterococci (Intestinal) cfu/100ml	N/A	N/A	N/A	1	N/A	N/A	3480	
Enterococci (Intestinal) MPN/100ml	N/A	N/A	N/A	1	N/A	N/A	2700	
Total Nitrogen mg/l	N/A	N/A	N/A	12	N/A	N/A	6.68	
Conductivity @20°C µS/cm	N/A	N/A	N/A	13	N/A	N/A	1104	

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 TPEFF1600D0001SW001

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	246849, 199036	RS14T010170	No	No	No	No	Poor
Downstream	246373, 200616	RS14T010200	No	No	No	No	Poor

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.

The ambient monitoring results do not meet the required EQS at the upstream and the downstream monitoring locations. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

Based on ambient monitoring results a deterioration in BOD, Ortho-P (as P), Ammonia (as N) concentrations downstream of the effluent discharge is noted.

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

As per the 3rd Cycle Barrow Catchment Report (HA 14), the significant pressures on the At Risk TRIGOUE_020 waterbody are Urban Runoff & Urban Waste Water.

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 - PORTLAOISE WWTP

2.1.4.1 Treatment Efficiency Report - Portlaoise WWTP

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	28029	454	98
COD	3252707	64320	98
cBOD	1171490	3398	100
TN	195068	30495	84
SS	1478430	13047	99

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

2.1.4.2 Treatment Capacity Report Summary - Portlaoise WWTP

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.

Portlaoise WWTP	
Peak Hydraulic Capacity (m³/day) - As Constructed	23400
DWF to the Treatment Plant (m³/day)	7800
Current Hydraulic Loading - annual max (m³/day)	27515
Average Hydraulic loading to the Treatment Plant (m³/day)	11011.97
Organic Capacity (PE) - As Constructed	39000
Organic Capacity (PE) - Collected Load (peak week)^{Note1}	33482
Organic Capacity (PE) - Remaining	5518
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 - PORTLAOISE 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)
Industrial / Commercial Sludge	571.98	Volume (m ³)	6.96	0.01	No	No	No
Landfill Leachate (delivered by tanker)	6705	Volume (m ³)	81.64	0.17	No	No	No

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 2024.			

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)
There were no reportable incidents in 2024.			

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2024	0
Number of Incidents reported to the EPA via EDEN in 2024	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 (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 2024 (No. of events)	Total volume discharged in 2024 (m3)	Monitoring Status
SW002	245317, 200018	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored
SW3	246597, 199599	Yes	Low Significance	Not Meeting Criteria	0	0	Monitored

The contents presented in this table include the most up to date information available at the time of writing. 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 (m ³)?	Unknown
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	Yes
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 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
D0001-SIP:01	Discharge to cease: SW3 from old storm water tank at the treatment works	A	29/07/2009	Yes	Works Completed		
D0001-SIP:02	Discharge to cease: SW4 from the inlet works of the plant	A	29/07/2009	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
D0001-01-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?	Yes
List reason e.g. additional SWO identified	Capital Upgrade
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	Yes
List reason e.g. changes to monitoring requirements	Ambient Monitoring Location Changes
Have these processes commenced?	No
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	N/A

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

Date: 27/02/2025

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

Portlaoise Ambient Monitoring Summary 2024

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish National Grid Reference (Easting, Northing)	EPA Feature Coding Tool code	Receiving Waters Designation (Yes/No)				Current WFD Status	Mean (mg/l)		
			Bathing Water	Drinking Water	FWPM	Shellfish		cBOD	o-Phosphate (as P)	Ammonia (as N)
Upstream Monitoring Point	246849, 199036	RS14T010170	No	No	No	No	Poor	2.292	0.0305	0.076
Downstream Monitoring Point	246373, 200598	RS14T010200	No	No	No	No	Poor	2.438	0.0383	0.079
<i>Difference</i>								<i>0.145</i>	<i>0.0078</i>	<i>0.003</i>
EQS								1.500	0.035	0.065
% of EQS								9.697%	22.301%	4.495%

Portlaoise Ambient Monitoring Summary 2024

Upstream Results										
Date		Ammonia as N	BOD	COD	Dissolved Oxygen	Ortho-P as P	Suspended Solids	pH	Temperature	Total Nitrogen
		mg/l	mg/l	mg/l	% Sat.	mg/l	mg/l	pH units	Degrees C	mg/l
25/01/2024	U/s	0.083	< 1	23	92.9	0.024	< 2	8	10.9	3.7
26/03/2024	U/s	0.079	2.3	45	8.9	0.096	35.6	8.07	92.5	3.1
30/04/2024	U/s	0.026	1.4	20	98.9	< 0.02	15.6	8.25	10.4	4.1
28/05/2024	U/s	0.036	< 1	15	104.9	0.034	< 2	8.07	16	4.8
12/06/2024	U/s	0.034	2.2	< 10	100.2	< 0.02	< 2	8.09	11.7	3.8
30/07/2024	U/s	0.084	1.2	< 20	91.5	0.024	< 2	8.21	18.4	3.4
27/08/2024	U/s	0.052	1.6	11	83.1	0.03	52	8.07	17.3	2.8
26/09/2024	U/s	0.15	6.2	33	81.8	0.037	9.6	7.97	11.9	4
16/10/2024	U/s	0.18	5.2	25	94.1	0.034	< 2	8	12.8	3.2
20/11/2024	U/s	0.065	2	32	87.4	< 0.02	< 2	8.04	6	3.3
17/12/2024	U/s	0.043	1.7	21	89.5	< 0.02	< 2	8.14	9.3	3.4
Mean		0.076	2.292	21.740	84.836	0.0305	11.154	8.083	19.745	3.600
95%ile		0.165	5.700	39.000	102.550	0.067	43.800	8.230	55.450	4.450

Downstream Results										
Date		Ammonia as N	BOD	COD	Dissolved Oxygen	Ortho-P as P	Suspended Solids	pH	Temperature	Total Nitrogen
		mg/l	mg/l	mg/l	% Sat.	mg/l	mg/l	pH units	Degrees C	mg/l
25/01/2024	D/s	0.07	< 1	18	90.7	0.022	< 2	7.85	11.4	4.7
26/03/2024	D/s	0.061	6.9	46	91.6	0.027	22	8.22	9.3	3.4
30/04/2024	D/s	< 0.02	1.3	18	108.4	< 0.02	< 2	8.21	11.1	4.4
28/05/2024	D/s	0.071	1.1	13	104.9	0.038	< 2	8.15	16.4	4.8
12/06/2024	D/s	0.026	1.3	19	105.1	0.029	< 2	8.1	13.6	6.3
30/07/2024	D/s	0.076	1.4	16	94.2	0.066	< 2	8.18	19.5	5.6
27/08/2024	D/s	0.098	2	16	99.8	0.079	< 2	8.07	17.6	4.8
26/09/2024	D/s	0.14	6.7	30	85.4	0.068	14.8	7.94	13.4	5.5
16/10/2024	D/s	0.078	1.7	18	93	0.05	< 2	7.94	12.5	7
20/11/2024	D/s	0.13	3	25	90.7	< 0.02	11.2	7.96	7.4	5
17/12/2024	D/s	0.1	< 1	20	90.6	< 0.02	< 2	7.99	9.9	4.5
Mean		0.079	2.438	21.727	95.855	0.038	5.392	8.055	12.918	5.091
95%ile		0.135	6.800	38.000	106.750	0.074	18.400	8.215	18.550	6.650

Note: Where the concentration in the result is less than the limit of detection (LOD), a value of $LOD/\sqrt{2}$ was used in calculating the mean and 95%ile concentrations.