Annual Environmental Report

2024

Athy

D0003-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2024 AER

This Annual Environmental Report has been prepared for D0003-01, Athy, in Kildare 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)

- Athy WWTP with a Plant Capacity PE of 15000, 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
TPEFF1400D0003SW001	Athy WWTP	Treated	Non-Compliant	ortho-Phosphate (as P) - unspecified mg/l Total Phosphorus (as P) mg/l

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 ATHY WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - ATHY 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
Total Nitrogen mg/l	13	50	33
Total Phosphorus (as P) mg/l	13	17	6.57
Suspended Solids mg/l	13	1095	313
Ammonia-Total (as N) mg/l	1	22	22
COD-Cr mg/l	13	1615	500
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	509	174
Hydraulic Capacity	N/A	10888	5678

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 - TPEFF1400D0003SW001

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	13	N/A	N/A	32	Pass
Suspended Solids mg/l	35	87.5	N/A	13	1	N/A	16	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	15	30	N/A	13	N/A	N/A	3.19	Pass
pH pH units	6	9	N/A	13	N/A	N/A	7.45	Pass
Ammonia-Total (as N) mg/l	5	6	N/A	13	N/A	N/A	0.803	Pass
Total Phosphorus (as P) mg/l	2	2.4	N/A	13	1	1	0.910	Fail
ortho-Phosphate (as P) - unspecified mg/l	1	1.2	N/A	13	1	1	0.475	Fail
Nitrite (as N) mg/l	N/A	N/A	N/A	13	N/A	N/A	0.332	
Total Nitrogen mg/l	N/A	N/A	N/A	13	N/A	N/A	15	

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)
Fats, Oils and Greases mg/l	N/A	N/A	N/A	1	N/A	N/A	5.00	
Nitrate (as N) mg/l	N/A	N/A	N/A	13	N/A	N/A	13	

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):

Dosing pump failure or maintenance at WWTP & Inadequate Operational Procedures/Training.

Significance of Results:

The WWTP is non compliant with the ELV's set in the Wastewater Discharge Licence. The impact on receiving waters is assessed further in Section 2.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF1400D0003SW001

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	268384, 192811	RS14B011740	No	No	No	No	Poor
Downstream	268357, 192710	RS14B011760	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 not compliant with the ELV's set in the wastewater discharge licence for the following: Total Phosphorus (as P) mg/l, ortho-Phosphate (as P) - unspecified mg/l.

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.

Based on ambient monitoring results a deterioration in Ortho-P 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.

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 - ATHY WWTP

2.1.4.1 Treatment Efficiency Report - Athy 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)
cBOD	282226	7565	97
TP	10892	2156	80
TN	54590	36113	34
SS	518326	38128	93
COD	828257	75827	91

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

2.1.4.2 Treatment Capacity Report Summary - Athy 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.

Athy WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	10500
DWF to the Treatment Plant (m^3/day)	3500
Current Hydraulic Loading - annual max (m^3/day)	10888
Average Hydraulic loading to the Treatment Plant (m^3/day)	5678
Organic Capacity (PE) - As Constructed	15000
Organic Capacity (PE) - Collected Load (peak week)[Note1]	13034
Organic Capacity (PE) - Remaining	1966
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 - ATHY 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)
Domestic /Septic Tank Sludge	3087	Volume (m^3)	37.59	0.15	Yes	Yes	Yes

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)
Breach of ELV	Dosing pump failure or maintenance at WWTP	No	Yes
Monitoring Equipment offline	Plant or equipment breakdown at WWTP	No	Yes
Breach of ELV	Inadequate Operational Procedures/Training	No	No

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

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2024	4
Number of Incidents reported to the EPA via EDEN in 2024	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 2024 (No. of events)	Total volume discharged in 2024 (m^3)	Monitoring Status
SW2	268361, 192793	Yes	Low Significance	Meeting Criteria	Unknown	291	Monitored
SW3	268206, 193815	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW4	268245, 194137	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW5	268246, 193923	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW6	268243, 193817	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	-, -	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not 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)?	291
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?	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
D0003-SIP:01	Monitoring of discharge frequency and volume from storm water holding tank at the WWTP	C	31/07/2010	Yes	Works Completed		
D0003-SIP:02	New trunk sewer to serve development land to SE of Athy Town	C	As agreed	No	Not Started		
D0003-SIP:03	Upgrading of sewer network to ensure SWO's comply with the criteria outlined in DoEHLG	C	As agreed	No	Not Started		
D0003-SIP:04	Wastewater sewer network rehabilitation - East (Stage 1) to improve primary discharge	C	31/07/2010	Yes	Works Completed		

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
D0003-SIP:05	Wastewater sewer network rehabilitation - East (Stage 1) to improve SWOs	C	31/07/2010	Yes	Works Completed		
D0003-SIP:06	Wastewater sewer network rehabilitation – West (Stage 2) to improve primary discharge	C	31/01/2011	Yes	Not Started		
D0003-SIP:07	Wastewater sewer network rehabilitation – West (Stage 2) to improve SWOs	C	31/01/2011	Yes	Not Started		

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
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	N/A

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

Date: 26/04/2025

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

Athy Ambient Monitoring Summary 2024

			Receiving Waters Designation (Yes/No)					Mean (mg/l)		
Ambient Monitoring Point from WWDL (or as agreed with EPA)	**Irish National Grid Reference (Easting, Northing)**	**EPA Feature Coding Tool code**	**Bathing Water**	**Drinking Water**	**FWPM**	**Shellfish**	**Current WFD Status**	**cBOD**	**o-Phosphate (as P)**	**Ammonia (as N)**
Upstream Monitoring Point	268384, 192811	RS14B011740	No	No	No	No	Poor	1.304	0.009	0.049
Downstream Monitoring Point	268357, 192710	RS14B011760	No	No	No	No	Poor	0.951	0.010	0.024
Difference								*-0.353*	*0.001*	*-0.025*
EQS								1.500	0.035	0.065
% of EQS								-23.52%	3.49%	-38.53%

Athy Ambient Monitoring Summary 2024

Upstream Results								
Station Name	Sample Date	pH pH units	BOD mg/ l	Total Nitrogen mg/l	Ammonia mg/l	Ortho-Phosphate mg/l	DO % sat	DO mg/l
Upstream	05/01/2024	7.8	1	4.4	0.06	0.03	77.3	9.01
Upstream	06/03/2024	7.9	1	4.3	0.099	< 0.01	61.8	7.2
Upstream	03/04/2024	8	< 1	4.6	< 0.015	< 0.01	81.1	9.4
Upstream	10/05/2024	8.1	< 1	4.5	0.063	< 0.01	93.2	9.1
Upstream	21/06/2024	8.2	2	4.1	< 0.015	< 0.01	76.4	7.3
Upstream	09/07/2024	8.1	6	3.3	< 0.015	< 0.01	91.1	8.8
Upstream	25/07/2024	8.1	< 1	2.7	< 0.015	< 0.01	75.3	7.2
Upstream	14/08/2024	8.3	1	3	0.097	< 0.01	92.5	8.4
Upstream	19/09/2024	8.2	< 1	3.2	0.041	< 0.01	78.9	7.5
Upstream	10/10/2024	7.9	< 1	2.4	0.17	< 0.01	98.1	10.8
Upstream	14/11/2024	8	1	4.1	< 0.015	< 0.01	91.3	10.5
Upstream	18/12/2024	8	< 1	4.4	0.039	< 0.01	96.2	12.1
Upstream	19/12/2024	8.1	< 1	3.2	0.016	< 0.01	79.1	8.4
Mean		**8.054**	**1.304**	**3.708**	**0.049**	**0.009**	**84.023**	**8.901**
95%ile		**8.240**	**3.600**	**4.540**	**0.127**	**0.016**	**96.960**	**11.320**

Downstream Results								
Station Name	Sample Date	pH pH units	BOD mg/ l	Total Nitrogen mg/l	Ammonia mg/l	Ortho-Phosphate mg/l	DO % sat	DO mg/l
Downstream	05/01/2024	7.6	1	4.2	0.04	0.03	74.7	8.64
Downstream	06/03/2024	7.9	< 2	4	0.02	0.02	69.3	8.1
Downstream	03/04/2024	8.1	< 1	3.8	0.02	< 0.01	82.9	9.8
Downstream	10/05/2024	8.1	< 1	4.2	0.025	< 0.01	93.9	9.3
Downstream	21/06/2024	8.1	1	3.9	< 0.015	0.01	78.5	7.6
Downstream	09/07/2024	8.1	1	3.5	< 0.015	< 0.01	74.6	7.3
Downstream	25/07/2024	8	< 1	3.4	< 0.015	< 0.01	74.1	7.1
Downstream	14/08/2024	8.3	1	3	0.034	< 0.01	90.5	8.3
Downstream	19/09/2024	8.3	< 1	3.3	0.026	< 0.01	80.1	7.7
Downstream	10/10/2024	7.7	< 1	2.1	0.063	< 0.01	83	9.3
Downstream	14/11/2024	8.1	2	3.5	< 0.015	< 0.01	92.3	10.7
Downstream	18/12/2024	7.9	< 1	3.8	0.024	< 0.01	96	12
Downstream	19/12/2024	7.8	< 1	3.3	0.018	< 0.01	73.9	7.7
Mean		**8.000**	**0.951**	**3.538**	**0.024**	**0.010**	**81.831**	**8.734**
95%ile		**8.300**	**1.649**	**4.200**	**0.049**	**0.024**	**94.740**	**11.220**

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.