Annual Environmental Report

2024

Castlebar

D0047-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2024 AER

This Annual Environmental Report has been prepared for D0047-01, Castlebar, in Mayo 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)

- Castlebar WWTP with a Plant Capacity PE of 28000, 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
TPEFF2200D0047SW001	Castlebar WWTP	Treated	Non-Compliant	ortho-Phosphate (as P) - unspecified 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 CASTLEBAR WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - CASTLEBAR 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
Suspended Solids mg/l	12	496	137
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	298	104
Total Phosphorus (as P) mg/l	12	29	4.60
Total Nitrogen mg/l	12	35	19
COD-Cr mg/l	12	610	236
Hydraulic Capacity	N/A	19215	9745

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 - TPEFF2200D0047SW001

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	26	N/A	N/A	10	Pass
Suspended Solids mg/l	35	87.5	N/A	26	N/A	N/A	3.57	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12.5	25	N/A	26	N/A	N/A	0.852	Pass
pH pH units	9	9	N/A	26	N/A	N/A	7.87	Pass
Total Phosphorus (as P) mg/l	2	2.4	N/A	12	N/A	N/A	0.161	Pass
Ammonia-Total (as N) mg/l	0.7	0.84	N/A	12	N/A	N/A	0.066	Pass
ortho-Phosphate (as P) - unspecified mg/l	0.37	0.44	N/A	12	2	1	0.109	Fail
Enterococci (Intestinal) cfu/100ml	N/A	N/A	N/A	2	N/A	N/A	2826	
E. Coli MPN/100ml	N/A	N/A	N/A	2	N/A	N/A	20792	

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)
Faecal coliforms no./100mls	N/A	N/A	N/A	2	N/A	N/A	12641	

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):

Refer to Incident Section of Report.

Significance of Results:

The WWTP is non-compliant with the ELVs set in the Wastewater Discharge Licence. The impact on receiving waters is assessed in Section 2 of the report.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF2200D0047SW001

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	121937, 293360	RS34M010500	No	No	No	No	Good

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
Downstream	123360, 294478	RS34C010400	No	No	No	No	Moderate

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: 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.

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 - CASTLEBAR WWTP

2.1.4.1 Treatment Efficiency Report - Castlebar 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	16256	683	96
cBOD	366191	3765	99
SS	482474	15786	97

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
TN	67491	N/A	N/A
COD	834214	45429	95

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

2.1.4.2 Treatment Capacity Report Summary - Castlebar 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.

Castlebar WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	23814
DWF to the Treatment Plant (m^3/day)	7938
Current Hydraulic Loading - annual max (m^3/day)	19215
Average Hydraulic loading to the Treatment Plant (m^3/day)	9744.56
Organic Capacity (PE) - As Constructed	28000
Organic Capacity (PE) - Collected Load (peak week)[Note1]	20371
Organic Capacity (PE) - Remaining	7629
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 - CASTLEBAR 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)
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 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	Inadequate Operational Procedures/Training	Yes	No

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2024	1
Number of Incidents reported to the EPA via EDEN in 2024	1
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
SWO-1	115562, 291136	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	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 (m3)?	142540
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?	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
D0047-SIP:01	Increase holding capacity of SW2-SWO to treat flows in excess of 3DWF	C	01/12/2010	Yes	Works Completed		
D0047-SIP:02	Upgrade of the WWTP (DBO contract)	C	01/12/2010	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
D0047-01-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	N/A

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

Signed: Date: 03/07/2025

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

Castlebar WWTP

Ambient Monitoring Points from WWDL (or as agreed by EPA)	Irish Grid Reference	EPA Feature Coding Tool code	Receiving Waters Designation (Y/N)				WFD Status
			Bathing Water	Drinking Water	FWPM	Shellfish	
Upstream Monitoring Station	121937,293360	RS34M010500	No	No	No	No	Good
Downstream Monitoring Station	123360,294478	RS34C010400	No	No	No	No	Moderate

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS (mean)	% EQS
cBOD mg/l	121937,293360	1.2	123360,294478	0.7	1.5	-33
Ortho-Phosphate (as P) mg/l	121937,293360	0.030	123360,294478	0.013	0.035	-0.017
Ammonia (as N) mg/l	121937,293360	0.029	123360,294478	0.03	0.065	-1.5

County	Licence Ref.	Agglomeration	Receiving Water Body	Monitoring Location	Monitoring Result Source	Date	pH	Temperature (°C)	BOD mg/l	COD mg/l	SS mg/l	Total Nitrogen (as N) mg/l	Total Phosphorus (as P) mg/l	Ammonia (as N) mg/l	Orthophosphate (as P) mg/l	Dissolved Oxygen mg/l	Total Oxidised Nitrogen (as N) mg/l	Dissolved Inorganic Nitrogen (as N) mg/l	Faecal Coliforms cfu/100ml	Escherichia coli cfu/100ml	Intestinal Enterococci cfu/100ml	Visual Inspec	SSRS	Water level	Conductivity	Nitrate	Chloride	Fluoride	Ammonium (NH4)	Major anions	Major Cations	Priority Subs	Metals & Organic Compounds	Salinity	Nitrate	Nitrite	Chlorophyll
Mayo	D0047-01	Castlebar	Toormore River	**Number of samples Required**			26	0	26	0	26	26	26	26	26	26.0	0	26	4	4	4	52	0	0	0	0	0	0	0	0	0	As required	0	0	0	0	0
Issued on	12/06/2009			Upstream: SW1u (E25292 N19885)																																		
				Downstream:SW1d (E25365 N20420)																																		
				Castlebar Downstream		5-Jan-2024	7.8		< 1			1.1		< 0.02	0.02	10.5		0.56																				
				Castlebar Upstream		5-Jan-2024	7.7		< 1			1.3		0.06	0.02	11.7		0.53																				
				Castlebar Upstream		9-Feb-2024	7.8		1.8			1.2		0.04	0.01	11.5		0.46																				
				Castlebar Downstream		9-Feb-2024	7.8		1.1			1.3		0.11	0.02	11.4		0.58																				
				Castlebar Upstream		14-Mar-2024													133		82																
				Castlebar Upstream		14-Mar-2024	7.9		< 1			0.9		0.02	< 0.01	10.7		0.82																				
				Castlebar Downstream		14-Mar-2024	8		< 1			0.8		0.03	0.03	11.53		0.32																				
				Castlebar Downstream		14-Mar-2024													52		4																
				Castlebar Upstream		4-Apr-2024	7.9		< 1			0.8		0.05	< 0.01	10.56		< 0.25																				
				Castlebar Downstream		4-Apr-2024	7.9		< 1			0.8		0.03	< 0.01	11.08		0.27																				
				Castlebar Upstream		8-May-2024	8.1		< 1			0.9		0.03	< 0.01	11.11		< 0.25																				
				Castlebar Downstream		8-May-2024	8.1		< 1			0.7		0.09	< 0.01	10.88		< 0.25																				
				Castlebar Downstream		6-June-2024													1733		37																
				Castlebar Upstream		6-June-2024													548		75																
				Castlebar Downstream		6-June-2024	8.4		< 1			0.6		< 0.02	0.02	12.34		< 0.25																				
				Castlebar Upstream		6-June-2024	8.1		< 1			0.6		0.05	< 0.01	9.96		< 0.25																				
				Castlebar Downstream		4-July-2024	8.3	15.6	< 1			0.6		< 0.02	< 0.01	10.59		< 0.25																				
				Castlebar Upstream		4-July-2024	8.2		1.3			0.6		< 0.02	< 0.01	11.79		< 0.25																				
				Castlebar Upstream		15-Aug-2024	8.2		1			0.8		< 0.02	< 0.01	8.9		< 0.25																				
				Castlebar Downstream		15-Aug-2024	8.2		1.1			1		< 0.02	< 0.01	9.14		< 0.25																				
				Castlebar Downstream		15-Aug-2024													> 2420		1300																
				Castlebar Upstream		15-Aug-2024													602		345																
				Castlebar Upstream		3-Oct-2024	8		< 1			0.8		0.03	< 0.01	10.9		< 0.25	1414		365																
				Castlebar Downstream		3-Oct-2024	8.1		< 1			0.9		< 0.02	< 0.01	11.9		< 0.25	115		33																
				Castlebar Upstream		14-Nov-2024	8.2		< 1			0.9		0.17	< 0.01	11.1		< 0.25																				
				Castlebar Downstream		14-Nov-2024	7.7		< 1			0.6		0.04	0.01	10.9		< 0.25																				