

# Annual Environmental Report

2022



Carrigart

D0523-01

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Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
COD	N/A	5189	N/A
TP	N/A	N/A	N/A
TN	N/A	N/A	N/A
cBOD	N/A	2847	N/A

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

#### **2.1.4.2 Treatment Capacity Report Summary - Umlagh 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.

Umlagh WWTP	
Peak Hydraulic Capacity (m <sup>3</sup> /day) - As Constructed	150
DWF to the Treatment Plant (m <sup>3</sup> /day)	50
Current Hydraulic Loading - annual max (m <sup>3</sup> /day)	N/A
Average Hydraulic loading to the Treatment Plant (m <sup>3</sup> /day)	N/A
Organic Capacity (PE) - As Constructed	225
Organic Capacity (PE) - Collected Load (peak week) <sup>Note<sup>1</sup></sup>	75
Organic Capacity (PE) - Remaining	150
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 - UMLAGH 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.							

## 2.2 CARRIGART VILLAGE WWTP - TREATED DISCHARGE

### 2.2.1 INFLUENT MONITORING SUMMARY - CARRIGART VILLAGE 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
ortho-Phosphate (as P) - unspecified mg/l	6	6.82	3.98
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	6	329	220
pH pH units	6	8.60	7.88
Suspended Solids mg/l	6	532	278

Parameters	Number of Samples	Annual Max	Annual Mean
Ammonia-Total (as N) mg/l	6	93	37
COD-Cr mg/l	6	838	524
Total Nitrogen mg/l	1	0.560	0.560
Hydraulic Capacity	N/A	800	209

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'.

## 2.2.2 EFFLUENT MONITORING SUMMARY - TPEFF0600D0523SW001

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)
pH pH units	N/A	N/A	N/A	6	N/A	N/A	7.28	
Suspended Solids mg/l	N/A	N/A	N/A	6	N/A	N/A	53	
Nitrate (as N) mg/l	N/A	N/A	N/A	6	N/A	N/A	0.440	
Nitrite (as N) mg/l	N/A	N/A	N/A	6	N/A	N/A	0.085	

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)
<b>Total Oxidised Nitrogen (as N) mg/l</b>	N/A	N/A	N/A	6	N/A	N/A	0.525	
<b>ortho-Phosphate (as P) - unspecified mg/l</b>	N/A	N/A	N/A	6	N/A	N/A	3.22	
<b>COD-Cr mg/l</b>	N/A	N/A	N/A	6	N/A	N/A	194	
<b>Conductivity @20°C µS/cm</b>	N/A	N/A	N/A	6	N/A	N/A	736	
<b>Faecal coliforms cfu/100ml</b>	N/A	N/A	N/A	6	N/A	N/A	1225607	
<b>Enterococci (Intestinal) cfu/100ml</b>	N/A	N/A	N/A	6	N/A	N/A	149417	
<b>Ammonia-Total (as N) mg/l</b>	N/A	N/A	N/A	6	N/A	N/A	28	
<b>E. Coli MPN/100ml</b>	N/A	N/A	N/A	6	N/A	N/A	3058725	
<b>BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l</b>	N/A	N/A	N/A	6	N/A	N/A	100	

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.

## 2.2.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF0600D0523SW001

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
Downstream	212852, 437003	CW06007069MB1015	No	No	No	Yes	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 coastal/transitional 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 WWTP discharge was compliant with the ELV's set in the wastewater discharge licence.

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.

## 2.2.4 OPERATIONAL PERFORMANCE SUMMARY - CARRIGART VILLAGE WWTP

### 2.2.4.1 Treatment Efficiency Report - Carrigart Village 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	19832	9049	54
TN	96	N/A	N/A
COD	47197	17489	63
SS	25039	4736	81
TP	N/A	N/A	N/A

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

### 2.2.4.2 Treatment Capacity Report Summary - Carrigart Village 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.

Carrigart Village WWTP	
Peak Hydraulic Capacity (m <sup>3</sup> /day) - As Constructed	297



Carrigart Village WWTP	
DWF to the Treatment Plant (m <sup>3</sup> /day)	99
Current Hydraulic Loading - annual max (m <sup>3</sup> /day)	800
Average Hydraulic loading to the Treatment Plant (m <sup>3</sup> /day)	209
Organic Capacity (PE) - As Constructed	450
Organic Capacity (PE) - Collected Load (peak week) <sup>Note<sup>1</sup></sup>	322
Organic Capacity (PE) - Remaining	128
Will the capacity be exceeded in the next three years? (Yes/No)	Yes

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.

## 2.2.5 SLUDGE / OTHER INPUTS - CARRIGART VILLAGE 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)
<b>There is no Sludge and Other Input data for the Treatment Plant included in the AER.</b>							

## 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
<b>There were no relevant environmental complaints in 2022.</b>			

### 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	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
<b>Breach of ELV</b>	Inadequate Infrastructure	1	Yes	No

### 3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2022	1
Number of Incidents reported to the EPA via EDEN in 2022	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 2022 (No. of events)	Total volume discharged in 2022 (m3)	Monitoring Status
<b>SW003</b>	212921,436709	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Not 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 sewage was discharged via monitored 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?	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
D0523-SIP:01	Appropriate works to ensure compliance with Condition 1.7 of this licence	C	13/12/2019	Yes	At Planning Stage	2026	

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	Year included in AER	Included in this AER
Priority Substances Assessment	Yes	2015	No
Shellfish Impact 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: 18/08/2023

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

Acting Head of Environmental Regulation.

# 7 APPENDIX

Appendix
Appendix 7.1 - Ambient monitoring summary

Municipal	Month	Entity Name	Station	Date	Ammonia (as N)	BOD	COD	Conductivity @ 20°C	Dissolved Inorganic Nitrogen DIN	DO	E coli	Enterococci	Faecal Coliforms	Nitrate (as N)	Nitrite (as N)	Ortho-phosphate	pH	Suspended Solids	Temperature	TON	Total Nitrogen	Total Phosphorus	Chlorophyll	Salinity	SSRS
Letterkenny	February	Magheramagorgan River	Carrigart No. 2 - Upstream(Umhlagh)	10-Feb-22	0.049	1	NT	295	NT	97.5	750	210	820	NT	NT	<0.05	7.4	<6	5.4	NT	NT	NT	NT	NT	NT
Letterkenny	February	Magheramagorgan River	Carrigart No. 2 - Downstream(Umhlagh)	10-Feb-22	0.183	1	NT	333	NT	95.5	4864	440	2760	NT	NT	<0.05	7.4	<6	5.5	NT	NT	NT	NT	NT	NT
Letterkenny	April	Magheramagorgan River	Carrigart No. 2 - Upstream(Umhlagh)	12-Apr-22	0.025	1	NT	317	NT	91.4	360	190	231	NT	NT	<0.05	7.4	<6	10.6	NT	NT	NT	NT	NT	NT
Letterkenny	April	Magheramagorgan River	Carrigart No. 2 - Downstream(Umhlagh)	12-Apr-22	0.291	1	NT	365	NT	88.4	24196	1540	>24196	NT	NT	0.062	7.2	7	10.7	NT	NT	NT	NT	NT	NT
Letterkenny	June	Magheramagorgan River	Carrigart No. 2 - Upstream(Umhlagh)	28-Jun-22	0.021	2	NT	311	NT	92.4	3873	1370	1616	NT	NT	0.063	7.7	8	14.2	NT	NT	NT	NT	NT	NT
Letterkenny	October	Magheramagorgan River	Carrigart No. 2 - Upstream(Umhlagh)	18-Oct-22	0.2	1	NT	301	NT	89.3	8664	710	11199	NT	NT	<0.05	7.3	<6	10.1	NT	NT	NT	NT	NT	NT
Letterkenny	October	Magheramagorgan River	Carrigart No. 2 - Downstream(Umhlagh)	18-Oct-22	0.187	1	NT	324	NT	90.2	10462	720	6867	NT	NT	<0.05	7.4	7	10.2	NT	NT	NT	NT	NT	NT