

# Annual Environmental Report

2018



Tramore

D0015-01

## **TABLE OF CONTENTS**

### **1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER**

- 1.1 LICENCE SPECIFIC REPORTING INCLUDED IN AER
- 1.2 TREATMENT TYPE
  - 1.2.1 TRAMORE WWTP
- 1.3 ELV OVERVIEW
  - 1.3.1 TRAMORE WWTP
- 1.4 SLUDGE REMOVAL

### **2 MONITORING REPORTS SUMMARY**

- 2.1 SUMMARY REPORT ON MONTHLY INFLUENT MONITORING
  - 2.1.1 INFLUENT MONITORING SUMMARY - TRAMORE WWTP
- 2.2 DISCHARGES FROM THE AGGLOMERATION
  - 2.2.1 EFFLUENT MONITORING SUMMARY - TRAMORE WWTP
- 2.3 AMBIENT MONITORING SUMMARY
  - 2.3.1 AMBIENT MONITORING REPORT SUMMARY - TRAMORE WWTP
  - 2.3.2 AMBIENT MONITORING PARAMETER MEAN (MG/L) - TRAMORE WWTP

### **3 OPERATIONAL REPORTS SUMMARY**

- 3.1 TREATMENT EFFICIENCY REPORT
  - 3.1.1 TREATMENT EFFICIENCY REPORT SUMMARY - TRAMORE WWTP
- 3.2 TREATMENT CAPACITY REPORT SUMMARY
- 3.3 COMPLAINTS SUMMARY
- 3.4 REPORTED INCIDENTS SUMMARY
  - 3.4.1 SUMMARY OF INCIDENTS
  - 3.4.2 SUMMARY OF OVERALL INCIDENTS
- 3.5 SLUDGE / OTHER INPUTS TO THE WWTP

### **4 INFRASTRUCTURAL ASSESSMENTS AND PROGRAMME OF IMPROVEMENTS**

- 4.1 STORM WATER OVERFLOW IDENTIFICATION AND INSPECTION REPORT
  - 4.1.1 SWO IDENTIFICATION
  - 4.1.2 INSPECTION SUMMARY REPORT
- 4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS

4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

4.2.3 SEWER INTEGRITY RISK ASSESSMENT SUMMARY

**5 LICENCE SPECIFIC REPORTS**

**6 CERTIFICATION AND SIGN OFF**

6.1 SUMMARY OF AER CONTENTS

6.2 DECLARATION BY IRISH WATER

**7 APPENDIX**

7.1 AMBIENT MONITORING SUMMARY

# 1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0015-01, Tramore, in Waterford in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports are included as an appendix to the AER as follows:

## 1.1 Licence specific reporting included in AER

Assessment / Report	Included in AER
There is no Licence Specific Reports included in the AER.	

## 1.2 Treatment Type

The agglomeration is served by a wastewater treatment plant TRAMORE WWTP with a Plant Capacity PE of 20000. The treatment process includes the following:

### 1.2.1 TRAMORE WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	Inlet screens
Primary Treatment	No	
Secondary Treatment	Yes	Conventional Activated Sludge
Nutrient Removal	No	
Tertiary Treatment	No	

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 2.2 Discharges from the agglomeration.

## 1.3 ELV Overview

### 1.3.1 TRAMORE WWTP

Compliance Status	
Were all parameters compliant for TRAMORE WWTP treatment plant	No
Where noncompliant see table 2.2.1 for details of parameters	

## 1.4 Sludge Removal

The amount of sludge removed from the wastewater treatment plant is shown below along with the transported destination of the sludge from the treatment plant.

Treatment Plant	Sludge type	Quantity	Unit	% Dry Solids	Destination
TRAMORE WWTP	Cake Sludge	1371.02	Weight (Tonnes)	16.12	Ormonde Organics Portlaw Co. Waterford

### Annual Statement of Measures

Tramore has been recently approved for a Drainage Area Plan, to commence in Q3 2019. This DAP will establish the capacity of the SWOs and drive where investment is required. New Pumps were installed in Elizabeth's Cove PS in 2018.

## 2 MONITORING REPORTS SUMMARY

### 2.1 Summary report on monthly influent monitoring

A summary of influent monitoring for the treatment plant is presented in below. This monitoring is primarily undertaken in order to determine the overall efficiency of the plant in removing pollutants from the raw wastewater.

#### 2.1.1 Influent Monitoring Summary - TRAMORE WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
<b>Total Nitrogen</b>	12	47.3	15.31
<b>BOD, 5 days with Inhibition (Carbonaceous BOD)</b>	10	609	124.99
<b>Total Phosphorus (as P)</b>	11	6.45	2.57
<b>COD-Cr</b>	12	632	273.9
<b>Suspended Solids</b>	12	254	138.84
<b>BOD - 5 days (Total)</b>	2	187	167.04
<b>Hydraulic Capacity</b>	0	28714	5994

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 3.5 if applicable

#### Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity as detailed further in Section 3.2. The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity as detailed further in Section 3.2. 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.

## 2.2 Discharges from the agglomeration

### 2.2.1 Effluent Monitoring Summary - TRAMORE WWTP

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 with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
ortho-Phosphate (as P) - unspecified	0	0	0	12	0	0	0.34	Pass
Chloride	0	0	0	1	0	0	0	Pass
Suspended Solids	35	87.5	0	12	0	0	5.81	Pass
Total Nitrogen	0	0	0	11	0	0	10.22	Pass
Total Phosphorus (as P)	0	0	0	12	0	0	0.22	Pass
Faecal coliforms	0	0	0	1	0	0	14390	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD)	25	50	0	10	0	0	3.21	Pass
Total Oxidised Nitrogen (as N)	20	24	0	12	1	0	8.89	Pass
E. Coli	0	0	0	1	0	0	3050	Pass
pH	0	0	0	12	0	0	7.39	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 with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Nitrite (as N)	0	0	0	11	0	0	0.41	Pass
Conductivity 20 C	0	0	0	11	0	0	3028.52	Pass
Ammonia-Total (as N)	5	6	0	12	1	1	2.06	Fail
Enterococci (Intestinal)	0	0	0	1	0	0	1000	Pass
COD-Cr	125	250	0	12	0	0	16.99	Pass
Fats, Oils & Greases	0	0	0	12	0	0	0.3	Pass
BOD - 5 days (Total)	25	50	0	2	0	0	2.67	Pass
Nitrate (as N)	0	0	0	11	0	0	7.95	Pass

Notes:

1- This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied

2 - For parameters where a mean ELV applies

#### Cause of Exceedance(s):

WWTP is not designed for nutrient removal

#### Significance of Results:

The WWTP is non-compliant with the ELV's set in the Wastewater Discharge Licence.



## 2.3 Ambient monitoring summary

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.

### 2.3.1 Ambient Monitoring Report Summary - TRAMORE WWTP

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	Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
<b>There is no available EPA WFD monitoring data for 2018 for Tramore Bay.</b>							

### 2.3.2 Ambient Monitoring Parameter Summary - TRAMORE WWTP

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.

The ambient monitoring results meet the required EQS.

The discharge from the wastewater treatment plant do not have an observable impact on the water quality.

Receiving waters are Coastal. Tramore retained its Blue Flag Bathing Water Status in 2018.

### 3 OPERATIONAL REPORTS SUMMARY

#### 3.1 Treatment Efficiency Report

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:

##### 3.1.1 Treatment Efficiency Report Summary - TRAMORE WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
TN	39199.31	23038.86	41.23	
SS	355544.19	12446.21	96.5	
cBOD	354964.58	7378.51	97.92	
COD	701389.54	36393.42	94.81	
TP	6922.99	518.98	92.5	

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

#### 3.2 Treatment Capacity Report Summary

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.

TRAMORE WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	12000

<b>DWF to the Treatment Plant (m3/day)</b>	4000
<b>Current Hydraulic Loading - annual max (m3/day)</b>	28714
<b>Average Hydraulic loading to the Treatment Plant (m3/day)</b>	5994
<b>Organic Capacity (PE) - As Constructed</b>	20000
<b>Organic Capacity (PE) - Collected Load (peak week)</b>	17120
<b>Organic Capacity (PE) - Remaining</b>	2880
<b>Will the capacity be exceeded in the next three years? (Yes/No)</b>	No

### 3.3 Complaints Summary

A summary of complaints of an environmental nature is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
23	Blocked Sewer	1	22

### 3.4 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 Irish Water 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.

#### 3.4.1 Summary of Incidents

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	Screen not operating	1	No	Yes
Uncontrolled release	EO caused by ragging or blocking	3	No	No
Uncontrolled release	SWO Exceptional rainfall	1	Yes	Yes
Non-compliance	WWTP not designed for N removal	1	No	No

### 3.4.2 Summary of Overall Incidents

Question	Answer
Number of Incidents in 2018	6
Number of Incidents reported to the EPA via EDEN in 2018	6
Explanation of any discrepancies between the two numbers above	

### 3.5 Sludge / Other inputs to the 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)? <sup>3</sup>	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP? <sup>2</sup> (Y/N)
Landfill Leachate (delivered by tanker)	28	Volume (m3)		<1%	Yes	Yes	No

## 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:

**No Appendix Included**

#### 4.1.1 SWO Identification

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2018 (No. of events)	Total volume discharged in 2018 (m3)	Monitoring Status
<b>SW2 (previously SW*, Tramore back strand)</b>	N/A	No	Unknown	Unknown			Not Monitored
<b>SW2</b>	258996, 101067	Yes	Unknown	Unknown			Not Monitored
<b>SW3</b>	258772, 101107	Yes	Unknown	Unknown			Not Monitored
<b>SW4</b>	258220, 101099	Yes	Unknown	Unknown			Not Monitored
<b>SW5</b>	257625, 100507	Yes	Unknown	Unknown			Not Monitored

#### 4.1.2 Inspection Summary Report

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	
Is each SWO identified as non 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 / charges 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 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)	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
Upgrade the emergency overflow, as required, to minimise overflows	C	31/12/2010	Yes	Not Started	Tramore has been recently approved for a Drainage Area Plan, to commence in Q3 2019. This DAP will establish the capacity of the SWOs and drive where investment is required.	
SW3 - Upgrading of sewer network, as required, to ensure Storm Water Overflows comply with the criteria outlined in DoEHLG.	C	01/11/2012	Yes	Not Started		

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
<b>SW4 - Upgrading of sewer network, as required, to ensure Storm Water Overflows comply with the criteria outlined in DoEHLG.</b>	C	01/11/2012	Yes	Not Started		
<b>SW5 - Upgrading of sewer network, as required, to ensure Storm Water Overflows comply with the criteria outlined in DoEHLG.</b>	C	01/11/2012	Yes	Not Started		

A summary of the status of any improvements identified by under Condition 5.2 is included below.

#### 4.2.2 Improvement Programme Summary

Improvement Identifier	Improvement Description	Improvement Source	Expected Completion Date	Comments
<b>There are no Improvements Programme for this Agglomeration.</b>				

#### 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 Table".

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

### 5.a Licence Specific Reports Summary Table

Licence Specific Report	Required by licence	Year included in AER	Included in this AER	Reference to relevant section of AER (e.g. Appendix X).
<b>There is no Licence Specific Report Required in this AER Annual Review.</b>				



## 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	Extension of Improvement Works Completion timelines. Completion of the DAP will allow assessment of the SWOs and identify where targeted capital investment is required.
Is there a need to request/advise the EPA of any modifications to the existing WWDL?	No
List reason e.g. changes to monitoring requirements	
Have these processes commenced?	No
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: 27/02/2019

This AER has been produced by Irish Water'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

In the appendix include all the detailed or site specific reports that are relevant to the AER. Reports omitted from previous AERs should also be appended here.

### Appendix

#### Appendix 7.1 - Ambient monitoring summary

Date	E-Coli Resu	Intestinal E	Water Sample	Status
03/09/2018	<10		8	Excellent
27/08/2018		42	16	Excellent
13/08/2018		10	1	Excellent
30/07/2018		20	28	Excellent
16/07/2018		31	8	Excellent
02/07/2018		10	5	Excellent
18/06/2018		10	8	Excellent
05/06/2018	<10		2	Excellent
22/05/2018	<10		2	Excellent