Annual Environmental Report

2018

Kenmare

D0184-01

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0184-01, Kenmare, in Kerry 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

1.2 Treatment Type

The agglomeration is served by a wastewater treatment plant KENMARE WWTP with a Plant Capacity PE of 5833. The treatment process includes the following:

1.2.1 KENMARE WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	Prelimenary Screening
Primary Treatment	Yes	Diffused Aeration
Secondary Treatment	Yes	Final settlement
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 KENMARE WWTP

Compliance Status	
Were all parameters compliant for KENMARE WWTP treatment plant	Yes
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
KENMARE WWTP	Cake Sludge	425.82	Weight (Tonnes)	17	ENVA

Annual Statement of Measures

A new inlet screen was installed in July 2018. The diffusers in the Aeration ditch were fully replaced with Strip diffusers in November 2018. Kenmare WWTP is currently on the IW Capital Investment Programme to increase the Design PE of the WWTP.

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 - KENMARE WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
Suspended Solids	12	534	176.78
COD-Cr	12	1043	404.93
BOD, 5 days with Inhibition (Carbonaceous BOD)	12	480	209.94
Hydraulic Capacity	0	1988	1424.26

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 less than the peak Treatment Plant Capacity as detailed further in Section 3.2. The design of the wastewater tretament 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 - KENMARE 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 exceedences	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Total Phosphorus (as P)	0	0	0	1	0	0	1.38	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD)	25	50	0	12	0	0	4.78	Pass
COD-Cr	125	250	0	12	0	0	33.65	Pass
ortho-Phosphate (as P) - unspecified	0	0	0	12	0	0	2.8	Pass
Visual Inspection	0	0	0	12	0	0	0	Pass
Conductivity 20 C	0	0	0	12	0	0	769.71	Pass
pH	0	0	0	12	0	0	7.25	Pass
Ammonia-Total (as N)	0	0	0	12	0	0	4.84	Pass
Suspended Solids	35	87.5	0	12	0	0	6.28	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):

Not Applicable

Significance of Results:

The WWTP is 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 - KENMARE 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
Upstream	90912, 70992	TPEFF1300D0184SW001	No	No	No	Yes	Good
Downstream	89408, 69831	TPEFF1300D0184SW001	No	No	No	Yes	Good

2.3.2 Ambient Monitoring Parameter Summary - KENMARE 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 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.

The discharge from the wastewater treatment plant do not have an observable negative impact on the Water Framework Directive status.

Other Potential cause of deterioration in water quality relevant to this area are: The EQS assessed relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009, as amended.

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 - KENMARE WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
TP		731.88		
SS	89643	2581.08	97.12	
TN				
cBOD	106456.72	1801	98.31	
COD	205330.39	12669.55	93.83	

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.

KENMARE WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	2419

KENMARE WWTP	
DWF to the Treatment Plant (m3/day)	806
Current Hydraulic Loading - annual max (m3/day)	1988
Average Hydraulic loading to the Treatment Plant (m3/day)	1424.26
Organic Capacity (PE) - As Constructed	5833
Organic Capacity (PE) - Collected Load (peak week)	5176
Organic Capacity (PE) - Remaining	657
Will the capacity be exceeded in the next three years? (Yes/No)	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
4	Blocked Sewer	0	4

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	EO caused by pump failure	1	No	Yes
Non-compliance	Plant or equipment breakdown at WWTP	1	No	No

3.4.2 Summary of Overall Incidents

Question	Answer
Number of Incidents in 2018	2
Number of Incidents reported to the EPA via EDEN in 2018	2
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)?[3]	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP?[2](Y/N)
Industrial / Commercial Sludge	231.71	Volume (m3)		0.04	Yes	No	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
KILLOWEN ROAD PUMPING STATION	91456, 70917	No	Low	Not yet Assessed			Not Monitored
PIER ROAD PUMPING STATION	90899, 70204	No	Low	Meeting			Not Monitored
RIVERSDALE PUMPING STATION	91192, 69837	No	Low	Not Meeting			Not Monitored
SCARTEEN PARK PMPING STATION	91198, 71073	No	Low	Not Meeting			Not Monitored
TPEFF1300D0184SW002 (CROMWELLS BRIDGE MAIN PUMP STATION)	90786, 70837	Yes	Low	Not Meeting			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
Any improvement works required to ensure compliance with the emission limit values as set out in Schedule A: Discharges & Discharge Monitoring	C	31/12/2019	No	Not Started		Kenmare WWTP is currently on the IW Capital Investment Programme to increase the Design PE of the WWTP.

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
There are no Improvements Programme for this Agglomeration.				

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).
Priority Substances Assessment	Yes	2016	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	Additional SWOs
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?	Yes
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: 26/03/2019

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

Kenmare WWTP Ambient Monitoring	Name of Receiving Water	Sampling Point Description	EDEN Code	Monitoring Location Easting/Northing	Upstream/ Downstream	Sample Reason	Sampling Method	Sample Date	Sample Time	Name of Sample Collector	Laboratory Used (KCC/S.Scientific)	KCC Lab Sample ID No.	Visual Inspection	pH	cBOD mg/l	COD mg/l	SS mg/l	Ortho P mg/l	NH3-N mg/l	Temperature (degree C)	Dissolved Oxygen	Saline Ammonia	Salinity	Ecoli MPN/100 ML
Kenmare WWTP Ambient Monitoring	River Finnihy	Upstream	RS21F010510	E90912 /N 70992	Upstream	SAMPLETYPE_COMPLIANCE	GRAB	26/02/2018		S.Fagan	S.Scientific	C18-Feb619	Clear	7.5	<1	<10	2	0.01	0.03	5.8	12.69mg/l, 108.37		0	
Kenmare WWTP Ambient Monitoring	Inner Kenmare River	Downstream	TW13003200KN1006	E89408/N69831	Downstream	SAMPLETYPE_COMPLIANCE	GRAB	26/02/2018		S.Fagan	S.Scientific	C18-Feb620	Clear	8.1	<1	<10	16	0.01		7.3	10.45mg/l,109.42%sat	<0.035		
Kenmare WWTP Ambient Monitoring	River Finnihy	Upstream	RS21F010510	E90912 /N 70992	Upstream	SAMPLETYPE_COMPLIANCE	GRAB	24/04/2018		S.Fagan	S.Scientific	C18-Apr547	Clear	7.1	<1.0	20	<2	<0.01	0.02	11.9	11.0mg/l, 102.7% sat		0.03	
Kenmare WWTP Ambient Monitoring	Inner Kenmare River	Downstream	TW13003200KN1006	E89408/N69831	Downstream	SAMPLETYPE_COMPLIANCE	GRAB	24/04/2018		S.Fagan	S.Scientific	C18-Apr548	Clear	7.9	1.56	16	3	<0.01	0.18	12.2	10.8mg/l,105% sat		6.3	
Kenmare WWTP Ambient Monitoring	River Finnihy	Upstream	RS21F010510	E90912 /N 70992	Upstream	SAMPLETYPE_COMPLIANCE	GRAB	27/08/2018		DoLeary	S.Scientific	C18-AUG593	Clear	7.8	<1	16	<2	<0.01	0.06	16.7	9.7mg/l,101.1%sat		0.2	697
Kenmare WWTP Ambient Monitoring	Inner Kenmare River	Downstream	TW13003200KN1006	E89408/N69831	Downstream	SAMPLETYPE_COMPLIANCE	GRAB	27/08/2018		DoLeary	S.Scientific	C18-AUG594	Clear	8	1.5	16	3	0.01		17.9	8.9mg/l,103.5%sat	0.04	16.44	432
Kenmare WWTP Ambient Monitoring	River Finnihy	Upstream	RS21F010510	E90912 /N 70992	Upstream	SAMPLETYPE_COMPLIANCE	GRAB	19/10/2018		S.Fagan	S.Scientific	C18-Oct411	Clear	8	<1	12	<2	<0.01		12.92	10.83mg/l,101.60%sat		0.12	
Kenmare WWTP Ambient Monitoring	Inner Kenmare River	Downstream	TW13003200KN1006	E89408/N69831	Downstream	SAMPLETYPE_COMPLIANCE	GRAB	19/10/2018		S.Fagan	S.Scientific	C18-Oct412	Clear	8	1.1	12	4	0.01		13.32	9.02 mg/l,96.69 %sat		20.48	