

Annual Environmental Report

2018



Tralee

D0040-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0040-01, Tralee, 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
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1.2 Treatment Type

The agglomeration is served by a wastewater treatment plant Tralee WWTP with a Plant Capacity PE of 50333. The treatment process includes the following:

1.2.1 Tralee WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	Preliminary Screening & Grit Removal
Primary Treatment	Yes	Primary Clarifiers
Secondary Treatment	Yes	Trickling Filters & Diffused Air
Nutrient Removal	Yes	Ferric dosing
Tertiary Treatment	Yes	UV disinfection

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 Tralee WWTP

Compliance Status	
Were all parameters compliant for Tralee 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
Tralee WWTP	Cake Sludge	1844.78	Weight (Tonnes)	17.9	ENVA

Annual Statement of Measures

Phosphorus removal treatment installed 2018 (completed 09/04/2018)

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 - Tralee WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
Total Nitrogen	30	52.03	20
COD-Cr	30	544	267.11
BOD, 5 days with Inhibition (Carbonaceous BOD)	30	220	100.94
Suspended Solids	30	442	154.85
Total Phosphorus (as P)	30	5.8	2.17
Hydraulic Capacity	0	13441	12207

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 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 - Tralee 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)	2	2.4	0	30	5	2	1.17	Fail
Total Oxidised Nitrogen (as N)	15	18	0	28	0	0	5.83	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD)	25	50	0	30	0	0	5.91	Pass
COD-Cr	125	250	0	30	1	0	51.52	Pass
Suspended Solids	35	87.5	0	30	0	0	14.11	Pass
Total Nitrogen	15	18	0	29	3	1	10.12	Fail
Ammonia-Total (as N)	5	6	0	30	3	1	1.74	Fail
pH	6-9	6-9	0	30	0	0	7.29	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 not designed for P removal for part of the year. Shock load to plant, and a blockage.

Significance of Results:

The WWTP is not 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 - Tralee 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	81255, 113045	TPEFF1300D0040SW001	No	No	No	Yes	Moderate
Downstream	79796, 113503	TPEFF1300D0040SW001	No	No	No	Yes	Moderate
Downstream	79826, 113892	TPEFF1300D0040SW001	No	No	No	Yes	Moderate

2.3.2 Ambient Monitoring Parameter Summary - Tralee 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 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.

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 - Tralee WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
COD	1183071.25	212751.46	82.02	
SS	685872.6	62441.85	90.9	
TP	9591.61	4814.14	49.81	
TN	88591.02	41926.69	52.67	
cBOD	447090.82	24392.59	94.54	

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.

Tralee WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	19050

DWF to the Treatment Plant (m3/day)	6350
Current Hydraulic Loading - annual max (m3/day)	13441
Average Hydraulic loading to the Treatment Plant (m3/day)	12207
Organic Capacity (PE) - As Constructed	50333
Organic Capacity (PE) - Collected Load (peak week)	29961
Organic Capacity (PE) - Remaining	20372
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
90	Blocked Sewer	1	89

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)
Non-compliance	WWTP not designed for P removal	1	Yes	No
Other	Shock load to WWTP	1	No	Yes
Uncontrolled release	EO caused by ragging or blocking	1	No	No

3.4.2 Summary of Overall Incidents

Question	Answer
Number of Incidents in 2018	3
Number of Incidents reported to the EPA via EDEN in 2018	3
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)
Landfill Leachate (delivered by tanker)	30971	Volume (m3)		0.7	Yes	Yes	Yes
Domestic /Septic Tank Sludge	2069	Volume (m3)		0.05	Yes	Yes	Yes

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
SW002	80427, 115878	Yes	Low	Not Meeting			Not Monitored
SW003	84946, 115878	Yes	Low	Not Meeting			Not Monitored
SW004	84498, 115059	Yes	Low	Not Meeting			Not Monitored
SW005	84860, 115293	Yes	Low	Not Meeting			Not Monitored
SW006	84173, 114769	Yes	Low	Not Meeting			Not Monitored
SW007	84115, 113601	Yes	Low	Not Meeting			Not Monitored

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
SW008	84160, 113767	Yes	Low	Not Meeting			Not Monitored
SW009	83004, 113076	Yes	Low	Not Meeting			Not Monitored
SW010	81560, 113076	Yes	Low	Not Meeting			Not Monitored
SW011	81412, 113237	Yes	Low	Not Meeting			Not Monitored
SW012	80427, 113906	Yes	Low	Not Meeting			Not Monitored
SW013	84607, 113217	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?	Yes
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/NAY)	Status of Works	Timeframe for Completing the Work	Comments
Upgrade all stormwaters overflow to comply with criteria outlined in the DoECLG document "Procedures and criteria in relation to stormwater overflows" (1995)	C	31/12/2015	Yes	Not Started		The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis

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	2014	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?	No
List reason e.g. additional SWO identified	
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?	
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: 08/03/2019

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

Station Name	Name of Receiving Water	Sampling Point Description	EDEN Code	Monitoring Location Easting/Northing	Upstream/ Downstream	Sampling Method	Sample Date	Sample ID No.	Visual Inspection	pH	BOD (mg/l)	Total P (mg/l)	Total N (mg/l)	NH3-N (Saline)	TON (mg/l)	Faecal Coli (mpn/100ml)	E. coli (mpn/100ml)	Enterococci (mpn/100ml)	Temperature (degree C)	Dissolved Oxygen % Saturation	Conductivity µS/cm	Salinity
Tralee WWTP Ambient Monitoring	Lee Estuary	Near to Blennerville windmill	TW13004117LT1001	E81255 N113045	N/A	GRAB	20/03/2018	C18-Mar 438	Clear	7.9	2.35	0.04	0.7	0.08	0.14	364	457	84	7.46	103.86		21.99
Tralee WWTP Ambient Monitoring	Lee Estuary	Before outfall pipe (Fenit side)	TW13004117LT1002	E79826 N113892	N/A	GRAB	20/03/2018	C18-Mar 439	Clear	8.0	2.11	<0.04	0.51	<-0.035	0.04	20	31	<10	7.7	104.25		21.9
Tralee WWTP Ambient Monitoring	Lee Estuary	After outfall pipe (Tralee Side)	TW13004117LT1003	E79796 N113503	N/A	GRAB	20/03/2018	C18-Mar 440	Clear	8.0	2.22	0.05	0.73	0.13	0.21	813	1076	256	7.7	105.47		22.26
Tralee WWTP Ambient Monitoring	Lee Estuary	Near to Blennerville windmill	TW13004117LT1001	E81255 N113045	N/A	GRAB	17/04/2018	C18-Apr 411	Brownish	7.8	2.9	0.18	1.31	0.098	0.2				12.67	100.87		15.9
Tralee WWTP Ambient Monitoring	Lee Estuary	Before outfall pipe (Fenit side)	TW13004117LT1002	E79826 N113892	N/A	GRAB	17/04/2018	C18-Apr 412	Brownish	7.9	2.3	0.14	1.06	0.092	0.17				15.7	106.47		16.35
Tralee WWTP Ambient Monitoring	Lee Estuary	After outfall pipe (Tralee Side)	TW13004117LT1003	E79796 N113503	N/A	GRAB	17/04/2018	C18-Apr 413	Brownish	7.9	2.1	0.12	0.99	0.036	0.06				13.45	105.77		19.72
Tralee WWTP Ambient Monitoring	Lee Estuary	Near to Blennerville windmill	TW13004117LT1001	E81255 N113045	N/A	GRAB	15/05/2018	C18-May 343	Clear	8.0	1.5	<0.04	0.8	<-0.035	0.03	426	613	20	13.95	98.07		22.35
Tralee WWTP Ambient Monitoring	Lee Estuary	Before outfall pipe (Fenit side)	TW13004117LT1002	E79826 N113892	N/A	GRAB	15/05/2018	C18-May 344	Clear	8.0	<1	0.06	<0.5	<-0.035	<-0.02	135	146	<10	13.34	104.82		23.51
Tralee WWTP Ambient Monitoring	Lee Estuary	After outfall pipe (Tralee Side)	TW13004117LT1003	E79796 N113503	N/A	GRAB	15/05/2018	C18-May 345	Clear	8.0	1.7	0.14	0.82	<-0.035	<-0.02	110	121	10	13.78	99.44		22.72
Tralee WWTP Ambient Monitoring	Lee Estuary	Near to Blennerville windmill	TW13004117LT1001	E81255 N113045	N/A	GRAB	14/06/2018	C18-Jun 386	Clear	8	2.9	0.13	0.93	<-0.035	<-0.2				16.75	106.28		22.75
Tralee WWTP Ambient Monitoring	Lee Estuary	Before outfall pipe (Fenit side)	TW13004117LT1002	E79826 N113892	N/A	GRAB	14/06/2018	C18-Jun 387	Clear	8.1	2	0.13	0.72	<-0.035	<-0.2				20.08	111		23.53
Tralee WWTP Ambient Monitoring	Lee Estuary	After outfall pipe (Tralee Side)	TW13004117LT1003	E79796 N113503	N/A	GRAB	14/06/2018	C18-Jun 388	Clear	8.1	2.1	0.18	0.7	<-0.035	<-0.2				17.5	106.63		24.37
Tralee WWTP Ambient Monitoring	Lee Estuary	Near to Blennerville windmill	TW13004117LT1001	E81255 N113045	N/A	GRAB	16/07/2018	C18-Jul 282	Clear	8.1	1.4	0.07	<0.5	<-0.035	<-0.02	670	504	20	17.49	89.85		
Tralee WWTP Ambient Monitoring	Lee Estuary	Before outfall pipe (Fenit side)	TW13004117LT1002	E79826 N113892	N/A	GRAB	16/07/2018	C18-Jul 283	Clear	8.1	1.3	0.06	<0.5	<-0.035	<-0.02	158	135	41	16.91	96.62		
Tralee WWTP Ambient Monitoring	Lee Estuary	After outfall pipe (Tralee Side)	TW13004117LT1003	E79796 N113503	N/A	GRAB	16/07/2018	C18-Jul 284	Clear	8.2	<1.0	0.06	<0.5	<-0.035	<-0.02	41	20	10	17.62	94.03		
Tralee WWTP Ambient Monitoring	Lee Estuary	Near to Blennerville windmill	TW13004117LT1001	E81255 N113045	N/A	GRAB	13/08/2018	C18-Aug 239	Clear	8.1	2.5	0.1	0.5	0.11	<-0.02				18.71	101.56		
Tralee WWTP Ambient Monitoring	Lee Estuary	Before outfall pipe (Fenit side)	TW13004117LT1002	E79826 N113892	N/A	GRAB	13/08/2018	C18-Aug 240	Clear	8.2	<1.0	0.05	<0.5	0.09	<-0.02				20.31	110.58		
Tralee WWTP Ambient Monitoring	Lee Estuary	After outfall pipe (Tralee Side)	TW13004117LT1003	E79796 N113503	N/A	GRAB	13/08/2018	C18-Aug 241	Clear	8.1	<1.0	12	<0.5	0.09	<-0.02				18.8	101.58		
Tralee WWTP Ambient Monitoring	Lee Estuary	Near to Blennerville windmill	TW13004117LT1001	E81255 N113045	N/A	GRAB	12/09/2018	C18-Sep 257	Clear	8.0	1	<0.04	0.84	0.08	0.07				14.8	98.70		
Tralee WWTP Ambient Monitoring	Lee Estuary	Before outfall pipe (Fenit side)	TW13004117LT1002	E79826 N113892	N/A	GRAB	12/09/2018	C18-Sep 258	Clear	8.0	<1	<0.04	0.66	0.06	0.05				16.3	102.9		
Tralee WWTP Ambient Monitoring	Lee Estuary	After outfall pipe (Tralee Side)	TW13004117LT1003	E79796 N113503	N/A	GRAB	12/09/2018	C18-Sep 259	Clear	8.0	<1	0.07	0.57	0.05	0.02				14.9	100.5		
Tralee WWTP Ambient Monitoring	Lee Estuary	Near to Blennerville windmill	TW13004117LT1001	E81255 N113045	N/A	GRAB	06/11/2018	C18-Nov 125	Clear	7.9	1.4	0.07	0.81	0.08	0.21	5794	5475	1236	11.1	101.74		
Tralee WWTP Ambient Monitoring	Lee Estuary	Before outfall pipe (Fenit side)	TW13004117LT1002	E79826 N113892	N/A	GRAB	06/11/2018	C18-Nov 126	Clear	8.0	<1.0	0.05	<0.5	<-0.035	0.11	836	414	109	11.98	105.12		
Tralee WWTP Ambient Monitoring	Lee Estuary	After outfall pipe (Tralee Side)	TW13004117LT1003	E79796 N113503	N/A	GRAB	06/11/2018	C18-Nov 127	Clear	8.0	<1.0	<0.04	0.54	<-0.035	0.11	563	471	74	11.35	103.29		
Tralee WWTP Ambient Monitoring	Lee Estuary	Near to Blennerville windmill	TW13004117LT1001	E81255 N113045	N/A	GRAB	22/11/2018	C18-Nov 522	Clear	7.9	1.3	0.07	0.7	0.06	0.35				7.7	98.94		29.4
Tralee WWTP Ambient Monitoring	Lee Estuary	Before outfall pipe (Fenit side)	TW13004117LT1002	E79826 N113892	N/A	GRAB	22/11/2018	C18-Nov 523	Clear	7.9	1	<0.04	0.5	0.04	0.25				8.8	99.8		31.5
Tralee WWTP Ambient Monitoring	Lee Estuary	After outfall pipe (Tralee Side)	TW13004117LT1003	E79796 N113503	N/A	GRAB	22/11/2018	C18-Nov 524	Clear	7.9	<1.0	<0.04	<0.5	<-0.035	0.25				8.2	100.5		31.4
Tralee WWTP Ambient Monitoring	Lee Estuary	Near to Blennerville windmill	TW13004117LT1001	E81255 N113045	N/A	GRAB	06/12/2018	C18-Dec 079	Slightly brown	7.8	1.7	0.15	1.6	0.13	0.93				10.7	98		
Tralee WWTP Ambient Monitoring	Lee Estuary	Before outfall pipe (Fenit side)	TW13004117LT1002	E79826 N113892	N/A	GRAB	06/12/2018	C18-Dec 080	Slightly brown	7.9	1.5	0.07	2.6	0.09	0.32				10.2	98.1		
Tralee WWTP Ambient Monitoring	Lee Estuary	After outfall pipe (Tralee Side)	TW13004117LT1003	E79796 N113503	N/A	GRAB	06/12/2018	C18-Dec 081	Slightly brown	7.9	1.7	0.07	1.3	0.07	0.28				10.6	98.5		