Annual Environmental Report

2020

Castlegregory

D0461-01

CONTENTS

7 APPENDIX

7.1 AMBIENT MONITORING SUMMARY

Rev 1 Note: Section 2.1.2 % Reduction ELVs added to Table. Section 1.3 changed from "Compliant" to "Non Compliant". Approved 26/07/2021

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2020 AER

This Annual Environmental Report has been prepared for D0461-01, Castlegregory, in Kerry 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)

- CASTLEGREGORY WWTP - 2020 with a Plant Capacity PE of 300, the treatment type is 1 - Primary treatment

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
TPEFF1300D0461SW001	CASTLEGREGORY WWTP - 2020	Treated	Non-Compliant	BOD mg/l, SS mg/l

1.4 LICENCE SPECIFIC REPORTING INCLUDED IN AER

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

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 CASTLEGREGORY WWTP - 2020 - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - CASTLEGREGORY WWTP - 2020

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	6	380	122.17
BOD, 5 days with Inhibition (Carbonaceo mg/l	6	222.7	70.47
COD-Cr mg/l	6	420	168.41
Hydraulic Capacity	N/A	803	453

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 greater 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’.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF1300D0461SW001

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)
pH pH units	6-9	9	N/A	6	N/A	N/A	7.19	Pass
COD-Cr mg/l	N/A	N/A	N/A	6	N/A	N/A	173.31	
Faecal coliforms no./100mls	N/A	N/A	N/A	6	N/A	N/A	N/A	
E. Coli no./100mls	N/A	N/A	N/A	6	N/A	N/A	24197	
Ammonia-Total (as N) mg/l	N/A	N/A	N/A	6	N/A	N/A	12.15	
BOD, 5 days with Inhibition (Carbonaceo mg/l	N/A	N/A	20% reduction	6	N/A	N/A	76.16	Fail
ortho-Phosphate (as P) - unspecified mg/l	N/A	N/A	N/A	6	N/A	N/A	1.75	
Enterococci (Intestinal) no./100mls	N/A	N/A	N/A	6	N/A	N/A	24197	

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)
Suspended Solids mg/l	N/A	N/A	50% reduction	6	N/A	N/A	56.21	Fail
Visual Inspection Descriptive	N/A	N/A	N/A	6	N/A	N/A	N/A	

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

Cause of Exceedance(s): See Section 3.2.1

Significance of Results:

The WWTP is not compliant with the ELV's set in the Wastewater Discharge Licence.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF1300D0461SW001

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 Status
Downstream	63584, 112723	CW13004114OT1003	No	No	No	No	High
Downstream	62227, 113189	RS23C400610	Yes	No	No	Yes	Unassigned

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 does not meet the required EQS for ammonia. 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 - CASTLEGREGORY WWTP - 2020

2.1.4.1 Treatment Efficiency Report - CASTLEGREGORY WWTP - 2020

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)
COD	32774	33728	-2.91
TP	N/A	N/A	N/A

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
TN	N/A	N/A	N/A
SS	23776	10939	54
cBOD	13714	14821	-8.07

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

2.1.4.2 Treatment Capacity Report Summary - CASTLEGREGORY WWTP - 2020

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.

CASTLEGREGORY WWTP - 2020	
Peak Hydraulic Capacity (m^3/day) - As Constructed	204
DWF to the Treatment Plant (m^3/day)	68
Current Hydraulic Loading - annual max (m^3/day)	803
Average Hydraulic loading to the Treatment Plant (m^3/day)	453
Organic Capacity (PE) - As Constructed	300
Organic Capacity (PE) - Collected Load (peak week)[Note1]	613
Organic Capacity (PE) - Remaining	0
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 - CASTLEGREGORY WWTP - 2020

'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 is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
There were no relevant environmental complaints in 2020.			

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 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.

3.2.1 SUMMARY OF INCIDENTS

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Breach of ELV	WWTP operating above capacity	1	Yes	No

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2020	1
Number of Incidents reported to the EPA via EDEN in 2020	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	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 2020 (No. of events)	Total volume discharged in 2020 (m3)	Monitoring Status
There are no Storm Water Overflows in this Agglomeration.							

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	N/A
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	N/A
The SWO Assessment included the requirements of relevant of WWDL schedules?	N/A
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 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
D0461-SIP:01	Provision of sufficient primary treatment to treat all of the influent from the agglomeration	C	31/12/2015	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.
D0461-SIP:02	Remediation of the network to provide sufficient hydraulic capacity	C	31/12/2015	Yes	Works Completed		

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 / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
There are no Improvements Programme for this Agglomeration.				

4.2.3 SEWER INTEGRITY RISK ASSESSMENT

N/A

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
Priority Substances Assessment	Yes	2016	No	
Shellfish Impact Assessment	Yes		No	

5.1 PRIORITY SUBSTANCES ASSESSMENT

The Priority Substances Assessment Report has been included in the AER 2016

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	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	No
List reason e.g. changes to monitoring requirements	N/A
Have these processes commenced?	No
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: 26/07/2021

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 ,

Katherine Walshe

Acting Head of Environmental Regulation.

7 APPENDIX

Appendix
Appendix 7.1 - Ambient monitoring summary

			Receiving Waters Designation (Yes/No)					Mean (mg/l)		
Ambient Monitoring Point from WWDL (or as agreed with EPA)	**Irish National Grid Reference (Easting, Northing)**	**EPA Feature Coding Tool code**	**Bathing Water**	**Drinking Water**	**FWPM**	**Shellfish**	**Current WFD Status**	**cBOD**	**o-Phosphate (as P)**	**Ammonia (as N)**
Upstream Monitoring Point							Unassigned	1.000	0.027	0.048
Downstream Monitoring Point			No	No	No	No	Good	1.300		0.072
Difference								*0.300*		*0.024*
EQS								1.500		0.065
% of EQS								20.000%		36.462%

Castlegregory WWDL Ambient Results 2020

		Designations				
Ambient monitoring point/Coastal Monitoring Code	Irish Grid Reference	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
RS23C400610	E62227 N113190	No	No	No	No	Unassigned
CW13004114OT1003	E63584 N112724	No	No	No	No	Good

Ambient Monitoring Results Summary

Monitoring point	Date	Visual Inspection	pH	BOD mg/l	SS mg/l	Ortho P mg/l	NH3-N mg/l	TON mg/l	Faecal Coli	E. coli	Enterococci	Temperature (degree C)
RS23C400610	15/01/2020	Clear	6.8	1	4	0.03	0.03					7.1
CW13004114OT1003	15/01/2020	Clear	7.6	1	4		0.04	0.21	2755	1850	243	6.4
RS23C400610	12/03/2020	Clear	7.1	1.3	4	0.6	0.12					7.5
CW13004114OT1003	12/03/2020	Clear	7.7	1.2	11		0.039	0.19	1793	933	51	7.7
RS23C400610	22/05/2020	Clear	7	1.2	4	0.02	0.11					11.9
CW13004114OT1003	22/05/2020	Clear	8.1	1.7	5		0.035	0.02	1956	4352	512	13.4
RS23C400610	22/07/2020	Clear	7	1	4	0.02	0.12					14.6
CW13004114OT1003	22/072020	Clear	8.1	1.6	4		0.035	0.02	>24,196	>24,196	>24,196	18.5
RS23C400610	30/09/2020	Clear	6.9	1.7	5	0.05	0.11					12.4
CW13004114OT1003	30/09/2020	Clear	7.3	1.9	5		0.11	0.32	8664	12033	5475	12.5
RS23C400610	13/11/2020	Clear	7	1.4	4	0.05	0.06					9.1
CW13004114OT1003	13/11/2020	Clear	7.2	1.6	4		0.035	0.17	7701	8164	179	8

Bathing Water Results Summary (if revelant)

Monitoring point	Date	Parameter 1	Parameter 2	Parameter 3	Parameter 4	etc
		Results	Results	Results	Results	Results