

Annual Environmental Report

2018



Cahir

D0167-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0167-01, Cahir, in Tipperary 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 Cahir WWTP with a Plant Capacity PE of 5000. The treatment process includes the following:

1.2.1 Cahir WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	Automatic Inlet Screen
Primary Treatment	Yes	Inlet sump
Secondary Treatment	Yes	Acivated Sludge Process
Nutrient Removal	Yes	Chemical dosing
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 Cahir WWTP

Compliance Status	
Were all parameters compliant for Cahir 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
Cahir WWTP	Liquid Sludge	50	Weight (Tonnes)	0.28	Cashel WWTP
Cahir WWTP	Cake Sludge	152.4	Weight (Tonnes)	15.92	Molaisin Composting
Cahir WWTP	Cake Sludge	250.42	Weight (Tonnes)	18.5	Clonmel Sludge Dryer
Cahir WWTP	Cake Sludge	28.04	Weight (Tonnes)	17.58	Ormonde Organics

Annual Statement of Measures

No Significant works or changes were undertaken 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 - Cahir WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	540	246.4
Total Nitrogen mg/l	12	92.6	57.47
Total Phosphorus (as P) mg/l	12	15.62	8.35
Suspended Solids mg/l	12	532	169.77
COD-Cr mg/l	12	1139	513.82
Hydraulic Capacity	0	3637	989

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 - Cahir 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)
pH pH units	0	0	0	12	0	0	7.13	Pass
Suspended Solids mg/l	35	87.5	0	12	0	0	5.49	Pass
Total Phosphorus (as P) mg/l	0	0	0	12	0	0	0.28	Pass
Ammonia-Total (as N) mg/l	5	6	0	12	1	1	2.43	Fail
COD-Cr mg/l	125	250	0	12	0	0	29.71	Pass
ortho-Phosphate (as P) - unspecified mg/l	2	2.4	0	12	0	0	0.13	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	0	12	0	0	2.17	Pass
Total Nitrogen mg/l	0	0	0	12	0	0	28.01	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):

The ammonia was elevated for a period due to a drop off in air flow to the aeration system; the root cause appears to have been low temperatures at the time.

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 - Cahir 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	204982, 123923	TPEFF2900D0167SW001	No	No	Yes	No	Good
Downstream	205054, 123744	TPEFF2900D0167SW001	No	No	Yes	No	Good

2.3.2 Ambient Monitoring Parameter Summary - Cahir 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.

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: None. 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 - Cahir WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
TP	2980.21	99.31	96.67	
SS	60603.9	1958.21	96.77	
COD	183416.7	10604.13	94.22	
TN	20515.97	10000.3	51.26	
cBOD	87956.33	773.92	99.12	

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.

Cahir WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	3759

Cahir WWTP	
DWF to the Treatment Plant (m3/day)	1253
Current Hydraulic Loading - annual max (m3/day)	3637
Average Hydraulic loading to the Treatment Plant (m3/day)	989
Organic Capacity (PE) - As Constructed	5000
Organic Capacity (PE) - Collected Load (peak week)	4426
Organic Capacity (PE) - Remaining	574
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
24	Blocked Sewer	3	21

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	Plant or equipment breakdown at WWTP	1	No	Yes

3.4.2 Summary of Overall Incidents

Question	Answer
Number of Incidents in 2018	1
Number of Incidents reported to the EPA via EDEN in 2018	1
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??(Y/N)
There is no Sludge and Other Input data for the Treatment Plant included in the AER.							

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
SWO02	205063, 124743	Yes	Low	Meeting			Not Monitored
SWO03	205116, 125139	Yes	Low	Meeting			Not Monitored
SWO04	204891, 124785	Yes	Low	Meeting			Not Monitored
SWO05	204945, 125306	Yes	Low	Meeting			Not Monitored
SWO06	204940, 125307	Yes	Low	Meeting			Not Monitored
SWO07	205079, 124640	Yes	Low	Meeting			Not Monitored
SWO08	204921, 124924	Yes	Low	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
SWO09	204886, 124921	Yes	Low	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
There are no Specified Improvement Programmes for this Agglomeration.						

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).
There is no Licence Specific Report Required in this AER Annual Review.				

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: 29/03/2019

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

Cahir Ambient Monitoring Data 2018

Parameter	Ammonia N	Biological Oxyg	COD Chemical	Dissolved Oxyg	Ortho-Phospha	pH	Temperature								
Max.	--	--	--	--	--	--	--								
Min.	--	--	--	--	--	--	--								
Test Method	--	--	--	--	--	--	--								
Category	Entity	Station	Station Reference	Easting	Northing	Sample Refer	Sample Date	Analyst Conclus	mg/l	mg/l	mg/l	mg/l	mg/l	pH units	Degrees C
Ambient Monitoring	River Suir	Upstream @ Cahir WWTP	RS16S021790	204982	123920	18550072	24/01/2018	-	0.05	2		9.8	0.02	7.9	8.6
Ambient Monitoring	River Suir	Downstream @ Cahir WWTP	RS16S021910	205054	123744	18550073	24/01/2018	-	0.05	2		10.02	0.02	7.9	8.2
Ambient Monitoring	River Suir	Upstream @ Cahir WWTP	RS16S021790	204982	123920	18550162	13/02/2018	-	0.07	5		11.1	0.04	8	4.9
Ambient Monitoring	River Suir	Downstream @ Cahir WWTP	RS16S021910	205054	123744	18550163	13/02/2018	-	0.07	4		11.5	0.04	8	4.9
Ambient Monitoring	River Suir	Upstream @ Cahir WWTP	RS16S021790	204982	123920	18550829	12/06/2018	-	0.02	2		9.81	0.02	8.3	
Ambient Monitoring	River Suir	Downstream @ Cahir WWTP	RS16S021910	205054	123744	18550830	12/06/2018	-	0.02	2		9.44	0.02	8.3	
Ambient Monitoring	River Suir	Upstream @ Cahir WWTP	RS16S021790	204982	123920	18550887	27/06/2018	-	0.1	2.97	8	8.3	0.002	8.2	19.8
Ambient Monitoring	River Suir	Downstream @ Cahir WWTP	RS16S021910	205054	123744	18550886	27/06/2018	-	0.1	3.36	8	8.17	0.001	8.2	21
Ambient Monitoring	River Suir	Upstream @ Cahir WWTP	RS16S021790	204982	123920	18550963	19/07/2018	-	0.01	1		8.54	0.009	8	16.6
Ambient Monitoring	River Suir	Downstream @ Cahir WWTP	RS16S021910	205054	123744	18550964	19/07/2018	-	0.01	1.1		9.74	0.013	8.2	16.4
Ambient Monitoring	River Suir	Upstream @ Cahir WWTP	RS16S021790	204982	123920	18551051	08/08/2018	-	0.08	1.46		9.34	0.027	8.1	14.9
Ambient Monitoring	River Suir	Downstream @ Cahir WWTP	RS16S021910	205054	123744	18551052	08/08/2018	-	0.06	1.431		9.56	0.024	8.1	15.1
Ambient Monitoring	River Suir	Upstream @ Cahir WWTP	RS16S021790	204982	123920	18551229	12/09/2018	-	0.07	5		8.76	0.02	8.21	14.3
Ambient Monitoring	River Suir	Downstream @ Cahir WWTP	RS16S021910	205054	123744	18551230	12/09/2018	-	0.02	2		9.48	0.13	8.28	14.7
Ambient Monitoring	River Suir	Upstream @ Cahir WWTP	RS16S021790	204982	123920	18551423	15/10/2018	-	0.02	1	5	9.3	0.08	8.03	11.1
Ambient Monitoring	River Suir	Downstream @ Cahir WWTP	RS16S021910	205054	123744	18551424	15/10/2018	-	0.02	1	5	9.79	0.18	7.94	11.1
Ambient Monitoring	River Suir	Upstream @ Cahir WWTP	RS16S021790	204982	123920	18551583	13/11/2018	-	0.026	1.3		8.5	0.085	8	9.7
Ambient Monitoring	River Suir	Downstream @ Cahir WWTP	RS16S021910	205054	123744	18551582	13/11/2018	-	0.026	0.9		10.02	0.044	8	8.3
Ambient Monitoring	River Suir	Upstream @ Cahir WWTP	RS16S021790	204982	123920	18551599	21/11/2018	-	0.17	0.1	37	11.41	0.057	7.9	7.6
Ambient Monitoring	River Suir	Downstream @ Cahir WWTP	RS16S021910	205054	123744	18551603	21/11/2018	-	0.18	0.02	36	11.72	0.056	7.9	7.5