

Annual Environmental Report

2018



Fiddown

D0528-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0528-01, Fiddown, in Kilkenny 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 Fiddown WWTP with a Plant Capacity PE of 608. The treatment process includes the following:

1.2.1 Fiddown WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	No	
Primary Treatment	Yes	Imhof tank
Secondary Treatment	No	
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 Fiddown WWTP

Compliance Status	
Were all parameters compliant for Fiddown 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
Fiddown WWTP	Liquid Sludge	81.81	Volume (m3)	1	D0018 KMD

Annual Statement of Measures

None

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 - Fiddown WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
Suspended Solids mg/l	6	700	365
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	6	432	304.33
Total Nitrogen mg/l	6	183.2	136.47
COD-Cr mg/l	6	1228	874.67
Total Phosphorus (as P) mg/l	6	18.88	13.71
Hydraulic Capacity	0	137	137

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 - Fiddown WWTP

Parameter	Interim % reduction from influent concentration	Number of sample results	Number of exceedences	Annual Mean	Overall Compliance (Pass/Fail)
Suspended Solids mg/l	50	6	2	125.17	Fail
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	20	6	3	204	Fail

Cause of Exceedance(s):

WWTP upgrade required

Significance of Results:

The WWTP is not compliant with the ELV's set in the Wastewater Discharge Licence. Percentage reduction ELVs apply until 31/12/2019.

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 - Fiddown 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
Downstream	246545, 119738	TPEFF1500D0528SW001	No	No	No	No	Poor

2.3.2 Ambient Monitoring Parameter Summary - Fiddown 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 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.

Other Potential cause of deterioration in water quality relevant to this area are: No.

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 - Fiddown WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
cBOD	15218.19	12241.22	19.56	
SS	18251.83	6258.96	65.71	
COD	43737.71	26661	39.04	
TN	6824.02	3940.64	42.25	
TP	685.73	479.63	30.06	

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.

Fiddown WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	411

DWF to the Treatment Plant (m3/day)	137
Current Hydraulic Loading - annual max (m3/day)	137
Average Hydraulic loading to the Treatment Plant (m3/day)	137
Organic Capacity (PE) - As Constructed	608
Organic Capacity (PE) - Collected Load (peak week)	410
Organic Capacity (PE) - Remaining	198
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
There is no Complaint data included in the AER.			

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 upgrade required to meet ELV	5	Yes	No

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? ² (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
TPEFF1500D0528SW002	246806, 119617	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
Upgrade Fiddown WWTP to provide secondary treatment with nutrient removal	C	31/12/2019	No	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).
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

Waterbody	Waterbody	Waterbody	Monitoring	Monitoring	Monitoring	Monitoring	SampleCod	SampleDate	SampleMei	ParameterI	ParameterI	ParameterI	
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-02083	05/02/2018	10:46	TRaC	DeptI	Depth	m	Metres
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-02083	05/02/2018	10:46	TRaC	DeptI	ortho-Phos	mg/l	milligrams
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-02083	05/02/2018	10:46	TRaC	DeptI	pH	pH units	pH Units
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-02083	05/02/2018	10:46	TRaC	DeptI	StationDep	m	Metres
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-02083	05/02/2018	10:46	TRaC	DeptI	Temperatu	°C	Degrees ce
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-02083	05/02/2018	10:46	TRaC	DeptI	Ammonia-1	mg/l	milligrams
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-02083	05/02/2018	10:46	TRaC	DeptI	Salinity(Lak	0/oo	0/oo
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-02083	05/02/2018	10:46	TRaC	DeptI	Silica (as Si	mg/l	milligrams
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-02083	05/02/2018	10:46	TRaC	DeptI	Transparen	m	Metres
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-02083	05/02/2018	10:46	TRaC	DeptI	BOD - 5 da	mg/l	milligrams
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-02083	05/02/2018	10:46	TRaC	DeptI	Chlorophyl	µg/l	Microgram
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-02083	05/02/2018	10:46	TRaC	DeptI	Dissolved C % Saturatic	Percentage	Percentage
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-02083	05/02/2018	10:46	TRaC	DeptI	Salinity	PSU	Practical sa
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-02083	05/02/2018	10:46	TRaC	DeptI	Total Oxidi:	mg/l	milligrams
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-08107	29/05/2018	10:29	TRaC	DeptI	Dissolved C % Saturatic	Percentage	Percentage
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-08107	29/05/2018	10:29	TRaC	DeptI	Transparen	m	Metres
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-08107	29/05/2018	10:29	TRaC	DeptI	pH	pH units	pH Units
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-08107	29/05/2018	10:29	TRaC	DeptI	Salinity	PSU	Practical sa
Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-08107	29/05/2018	10:29	TRaC	DeptI	Silica (as Si	mg/l	milligrams
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Middle Suir	IE_SE_100_Transitiona	TW310021	SR330 - Sui	Operationa	Waterford	18-08107	29/05/2018	10:29	TRaC	DeptI	ortho-Phos	mg/l	milligrams
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Middle Suir IE_SE_100_Transitiona	TW310021	SR330 - Sui Operationa	Waterford	18-13910	27/08/2018 09:22	TRaC Deptl	ortho-Phos mg/l	milligrams

Result	TextResult	ResultStrin	LimitOfDet	ReportResi	ReportText	ReportResi	ReportLimit
0		OK		0		OK	
0.01		OK	0.005	0.01		OK	0.005
8.2		OK	2	8.2		OK	2
6.5		OK	0.1	6.5		OK	0.1
5.8		OK		5.8		OK	
0.053		OK	0.01	0.053		OK	0.01
<0.1		OK	0.1	0.05 <0.1		OK	0.1
5.4		OK	0.1	5.4		OK	0.1
0.5		OK		0.5		OK	
per litre	<1	OK	1	0.5 <1		OK	1
1.4		OK	1	1.4		OK	1
92		OK	1	92		OK	1
0.3		OK	0.1	0.3		OK	0.1
3.3		OK	0.01	3.3		OK	0.01
118		OK	1	118		OK	1
0.3		OK		0.3		OK	
8.1		OK	2	8.1		OK	2
0.2		OK	0.1	0.2		OK	0.1
0.66		OK	0.1	0.66		OK	0.1
4.2		OK	0.1	4.2		OK	0.1
24		OK	1	24		OK	1
0.0076		OK	0.005	0.0076		OK	0.005
2.7		OK	0.01	2.7		OK	0.01
0.021		OK	0.01	0.021		OK	0.01
4.5		OK	1	4.5		OK	1
0		OK		0		OK	
<0.1		OK	0.1	0.05 <0.1		OK	0.1
16.1		OK		16.1		OK	
7.9		OK	2	7.9		OK	2
6		OK	0.1	6		OK	0.1
0.5		OK		0.5		OK	
92		OK	1	92		OK	1

0.02	OK	0.005	0.02	OK	0.005
0.3	OK	0.1	0.3	OK	0.1
0	OK		0	OK	
0.38	OK	0.1	0.38	OK	0.1
18.2	OK		18.2	OK	
0.08	OK	0.01	0.08	OK	0.01
3	OK	1	3	OK	1
30	OK	1	30	OK	1
0.1	OK	0.1	0.1	OK	0.1
2.2	OK	0.01	2.2	OK	0.01
0	OK		0	OK	
94	OK	1	94	OK	1
8.3	OK	2	8.3	OK	2
0.5	OK	0.1	0.5	OK	0.1
1.2	OK	0.1	1.2	OK	0.1
0.046	OK	0.01	0.046	OK	0.01
0.2	OK	0.1	0.2	OK	0.1
16.8	OK		16.8	OK	
2.3	OK	0.01	2.3	OK	0.01
0.4	OK		0.4	OK	
6	OK	0.1	6	OK	0.1
1.4	OK	1	1.4	OK	1
22	OK	1	22	OK	1
0.014	OK	0.005	0.014	OK	0.005