

Annual Environmental Report

2018



Ardmore

D0162-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0162-01, Ardmore, in Waterford 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 ARDMORE WWTP with a Plant Capacity PE of 2934. The treatment process includes the following:

1.2.1 ARDMORE WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	Inlet Screen
Primary Treatment	No	
Secondary Treatment	Yes	SBR
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 ARDMORE WWTP

Compliance Status	
Were all parameters compliant for ARDMORE 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
ARDMORE WWTP	Liquid Sludge	541	Volume (m3)	2.77	Cappoquin WWTP

Annual Statement of Measures

No Capital Works were undertaken in 2018 and no works are planned for the next 3 years.

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 - ARDMORE WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
COD-Cr mg/l	11	1098	280.38
Suspended Solids mg/l	11	598	164.09
Total Nitrogen mg/l	11	68.8	20.28
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	11	413	102.72
Total Phosphorus (as P) mg/l	9	4.71	2.26
Hydraulic Capacity	0	3291	864

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 greater 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 - ARDMORE 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)
Faecal coliforms no./100mls	0	0	0	4	0	0	8049.24	Pass
Total Phosphorus (as P) mg/l	0	0	0	12	0	0	1.57	Pass
Suspended Solids mg/l	35	87.5	0	12	0	0	7.54	Pass
Total Nitrogen mg/l	0	0	0	12	0	0	5.65	Pass
Total Oxidised Nitrogen (as N) mg/l	25	30	0	12	0	0	4.36	Pass
pH pH units	0	0	0	12	0	0	7.98	Pass
Ammonia-Total (as N) mg/l	25	30	0	12	0	0	0.28	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	0	12	0	0	1.98	Pass
COD-Cr mg/l	125	250	0	12	0	0	12.05	Pass
ortho-Phosphate (as P) - unspecified mg/l	0	0	0	12	0	0	1.48	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 - ARDMORE 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	219413, 77570	TPEFF3100D0162SW001	Yes	No	No	No	Unassigned

2.3.2 Ambient Monitoring Parameter Summary - ARDMORE 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 - ARDMORE WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
TP	796.24	359.4	54.86	
TN	6709.98	1291.49	80.75	
SS	54294.15	1723.59	96.83	
cBOD	33988.07	453.39	98.67	
COD	92773.68	2754.47	97.03	

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.

ARDMORE WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	1931

ARDMORE WWTP	
DWF to the Treatment Plant (m3/day)	643
Current Hydraulic Loading - annual max (m3/day)	3291
Average Hydraulic loading to the Treatment Plant (m3/day)	864
Organic Capacity (PE) - As Constructed	2934
Organic Capacity (PE) - Collected Load (peak week)	1300
Organic Capacity (PE) - Remaining	1634
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
1	Blocked Sewer	0	1

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	Other	1	No	Yes
Uncontrolled release	EO casued by power failure	1	No	No
Uncontrolled release	EO casued by power failure	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)
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
D0162/ SW004	219901, 078076	Yes	Low	Meeting	24	13710	Monitored
D0162/ SW005	219413, 7570	Yes	Unknown	Not yet Assessed			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/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
Ardmore interim preliminary treatment and storm detention tank	C	14/05/2010	Yes	Works Completed		
Ardmore waste water collection system	C	31/12/2011	Yes	Works Completed		
SW004 (storm tank at WWTP) - Upgrade, as required, to ensure Storm Water Overflows comply with DoE criteria	C	31/03/2013	Yes	Works Completed		Schedule change from C to C.3. Listed under schedule A.4 TA B
SW000 to cease as primary discharge and revert to SWO	A	31/03/2013	Yes	Works Completed		
SW005 (Church PS) - Upgrade, as required, to ensure Storm Water Overflows comply with DoE criteria	C	31/03/2013	Yes	Works Completed		Schedule change from C to C.3. Listed under schedule A.4 TA B
Waste water treatment plant, ancillary works and outfall (DBO contract)	C	31/03/2013	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	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	2015	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: 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

Appendix. 7.2 Ambient Monitoring

D0162 – Ardmore

The Licence requires Ambient Monitoring at two locations in Ardmore, SW1d and SW1u.

The EPA do not carry out any monitoring at the above locations as part of their Transitional and Coastal Monitoring Programme and so EPA data was not available for review.

SW1d is located at Ardmore Beach at E219274, N770990 and is carried out on behalf of Irish Water by the Health Services Executive (HSE) as part of Bathing Water Monitoring. The Licence requires 4 samples be taken between mid-May and the end of August. The following are the results of the Bathing Water Monitoring for 2016.

Table 7.2.1 Ambient Monitoring SWd 2018 Results	Faecal Coliforms	E-Coli	Intestinal Enterococci	Colour
	(assume same count as E coli)	No./ 100 ml	No./ 100 ml	Visual
Date	No./ 100 ml	No./ 100 ml	No./ 100 ml	Visual
22/05/2018	<10	<10	2	Clear
05/06/2018	<10	<10	2	Clear
18/06/2018	10	10	8	Clear
28/06/2018	20	20	<20	Clear
02/07/2018	10	10	5	Clear
04/07/2018	20	20	40	Clear
16/07/2018	31	31	8	Clear
30/07/2018	20	20	28	Clear
13/08/2018	10	10	1	Clear
27/08/2018	42	42	16	Clear
03/09/2018	<10	<10	8	Clear

Bathing water quality was in compliance with National & European requirements.

Ardmore Beach regained its Blue Flag Status in 2018.



Excellent

Waterford City & County Council

Sampled on 03/09/2018

Historical Results

The water quality of each sample is assessed as either 'Excellent', 'Good', 'Sufficient' or 'Poor'.

Sample Date	E. coli	Intestinal Enterococci	Water Sample Quality Status
03/09/2018	<10	3	Excellent
27/08/2018	10	8	Excellent
13/08/2018	20	90	Excellent
30/07/2018	31	14	Excellent
16/07/2018	10	5	Excellent

Download

https://www.beaches.ie/find-a-beach/#/beach/IESEBWC050_0000_0100

The second ambient monitoring point is SW1u at the Ardmore Pier (E219572, N774910) and the Licence requires 1 sample to be taken annually. The results of this monitoring are outlined below.

Table 7.2.2 Ambient Monitoring SW1u Result:			
Parameter	SW1u	Units	EQS (Coastal Water Body)
Date	19/12/2018	-	-
pH	7.92	Scale	Not specified
DO	101	%	120% < 95%ile > 80%
BOD	<1	mg/l	Not specified
Ammonia	<0.2	mg/l	Not Specified
DIN	1.1	mg/l	≤2.6mg/l Good Status
MRP	0.08 [O-P]	mg P/l	(Molybdate Reactive Phosphorus) Not Specified