Annual Environmental Report

2018

Spiddal

D0396-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0396-01, Spiddal, in Galway 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
No licence specific reporting included in the AER	NA

1.2 Treatment Type

The agglomeration is not served by a wastewater treatment plant therefore the Plant Capacity PE of 0. The treatment process includes the following:

1.2.1 Spiddal Untreated Discharge

Treatment type	Yes / No	Details
Preliminary Treatment	No	
Primary Treatment	No	
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 Spiddal Untreated Discharge

Compliance Status	
Were all parameters compliant for Spiddal Untreated Discharge 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 site.

Treatment Plant	Sludge type	Quantity	Unit	% Dry Solids	Destination
There is no Sludge data included in the AER.					

Annual Statement of Measures

Plant to be constructed.

2 MONITORING REPORTS SUMMARY

2.1 Summary report on monthly influent monitoring

Influent monitoring would be primarily undertaken in order to determine the overall efficiency of the plant in removing pollutants from the raw wastewater; however, there is no treatment in place and therefore, no influent monitoring has been done.

2.1.1 Influent Monitoring Summary - Spiddal Untreated Discharge

Parameters	Number of Samples	Annual Max	Annual Mean
There is no Influent data included in the AER.			

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:

NA

2.2 Discharges from the agglomeration

2.2.1 Effluent Monitoring Summary - Spiddal Untreated Discharge

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)
Faecal coliforms no./100mls	0	0	0	1	0	0	0.5	Pass
Total Oxidised Nitrogen (as N) mg/l	35	42	0	1	0	0	0.05	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	0	1	1	1	173	Fail
COD-Cr mg/l	125	250	0	1	1	1	446	Fail
E. Coli cfu/100ml	0	0	0	1	0	0	1330000	Pass
Ammonia-Total (as N) mg/l	15	18	0	1	0	0	13.3	Pass
Suspended Solids mg/l	35	87.5	0	1	1	1	152	Fail
pH pH units	0	0	0	1	0	0	7.5	Pass

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)
Enterococci (Intestinal) cfu/100ml	0	0	0	1	0	0	8300	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):

No plant in place.

Significance of Results:

The untreated discharge is non- compliant with the ELV's set in the Wastewater Discharge Licence.

There was an exceedance each in relation to the BOD, COD and SS parameter ELVs, all of which were above their Condition 2 ELVs.

The impact on receiving water is assessed further in Section 2.3.

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 - Spiddal Untreated Discharge

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	115460, 219869	TPEFF1200D0396SW001	Yes	No	No	Yes	High

2.3.2 Ambient Monitoring Parameter Summary - Spiddal Untreated Discharge

Included in the Appendix.

Significance of Results:

The untreated discharges were not compliant with the ELV's set in the wastewater discharge licence.

The ambient monitoring results did not meet the required EQS.

The parameters which exceeded the EQS and may be causing an impact are: cBOD, Ortho Phosphate, Ammonia.

The discharge does not meet Surface Water Regulations for Dissolved Inorganic Nitrogen. It does not meet Bathing Water Regulations for Enterococci and E coli and it does not meet Shellfish Regulations for Faceal Coliforms.

The untreated discharge has an observable impact on the water quality.

A deterioration in water quality has been identified, however it is not know if it or is not caused by the untreated discharge.

The untreated discharge has 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 - Spiddal Untreated Discharge

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
TN	-	-	NA	
COD	Unknown	25395.24	Unknown	
cBOD	Unknown	9850.62	Unknown	
SS	Unknown	8654.88	Unknown	
TP	-	-	-	

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.

Spiddal Untreated Discharge	
Peak Hydraulic Capacity (m^3/day) - As Constructed	0
DWF to the Treatment Plant (m^3/day)	Unknown
Current Hydraulic Loading - annual max (m^3/day)	Unknown
Average Hydraulic loading to the Treatment Plant (m^3/day)	Unknown
Organic Capacity (PE) - As Constructed	0
Organic Capacity (PE) - Collected Load (peak week)	Unknown
Organic Capacity (PE) - Remaining	NA
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	1	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)?	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 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
There are no Storm Water Overflows in this Agglomeration.							

4.1.2 Inspection Summary Report

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m^3)?	0.00
Is each SWO identified as non meeting DoEHLG Guidance included in the Programme of Improvements?	NA
The SWO Assessment included the requirements of relevant of WWDL schedules?	No
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
Construct a WWTP, as necessary, to comply with ELVs specified in Schedule A: Discharges and Discharge Monitoring, of this licence.	C	22/12/2015	Yes	Not Started	30/06/2021	

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 Programmes 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.

5.1.1 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?	No
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	NA

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

There is an Ambient Monitoring Summary report relevant to Section 2.3.

Laboratory Analysis Report

Sample Location : Public WWTP
Spiddal, Spiddal - Downstream
Grid Coordinates : X: 115460 Y: 219869

Sample Details : Reference : 128372/001
Template : Downstream
Sampled by : ELS Ltd
Sample Date: 08/05/2018 Time: 12:30 Method: Grab

Laboratory : ELS Ltd
Analyst : ELS Ltd

Sample Notes : ---- ----

Sample Parameters		Parameter Standards		Results		
Parameter	Unit	Max. Limit	Min. Limit	Date	Time	Result
Ammonia N	mg/l	--	--	08/05/18		18
Biological Oxygen Demand	mg/l	--	--	08/05/18		26
pH	pH units	--	--	08/05/18		7.5
Total Nitrogen N	mg/l	--	--	08/05/18		19.5
E Coli	MPN/100mls	--	--	08/05/18		2064000
Enterococci	cfu/100mls	--	--	08/05/18		33600
Dissolved Oxygen	mg/l	--	--	08/05/18		9
Visual Inspection	Descriptive	--	--	08/05/18		FloatingMatter
Dissolved Inorganic Nitrogen DIN	mg/l	--	--	08/05/18		17.877
Faecal Coliforms	no./100mls	--	--	08/05/18		3120000
Nitrate N	mg/l	--	--	08/05/18		< 0.15
Nitrite N	mg/l	--	--	08/05/18		< 0.005
Colour (True)	Pt-Co	--	--	08/05/18		62.8

Approved..... : Date..... : Signed ..... David O'Connell, Executive Technician

Queries in relation to this report should be addressed to environ@galwaycoco.ie

Laboratory Analysis Report

Sample Location : Public WWTP
Spiddal, Spiddal - Downstream
Grid Coordinates : X: 115460 Y: 219869

Sample Details : Reference : 136543/001
Template : Downstream
Sampled by : Stephen
Sample Date: 06/09/2018 Time: 08:30 Method: Grab

Laboratory : ELS Ltd
Analyst : ELS Ltd

Sample Notes : ---- ----

Sample Parameters		Parameter Standards		Results		
Parameter	Unit	Max. Limit	Min. Limit	Date	Time	Result
Ammonia N	mg/l	--	--	06/09/18		11
Biological Oxygen Demand	mg/l	--	--	06/09/18		1.5
Ortho-Phosphate P	mg/l	--	--	06/09/18		< 0.009
pH	pH units	--	--	06/09/18		7.2
Total Nitrogen N	mg/l	--	--	06/09/18		16
E Coli	MPN/100mls	--	--	06/09/18		50120
Enterococci	cfu/100mls	--	--	06/09/18		910
Dissolved Oxygen	mg/l	--	--	06/09/18		4
Dissolved Inorganic Nitrogen DIN	mg/l	--	--	06/09/18		10.76
Faecal Coliforms	no./100mls	--	--	06/09/18		61000
Nitrate N	mg/l	--	--	06/09/18		< 0.15
Nitrite N	mg/l	--	--	06/09/18		0.079

Approved..... : Date..... : Signed ..... David O'Connell, Executive Technician

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Laboratory Analysis Report

Sample Location : Public WWTP
Spiddal, Spiddal - Downstream
Grid Coordinates : X: 115460 Y: 219869

Sample Details : Reference : 912805
Template : Downstream
Sampled by : CLS
Sample Date: 21/11/2018 Time: 12:00 Method: Grab

Laboratory : CLS
Analyst : CLS

Sample Notes : ---- ----

Sample Parameters		Parameter Standards		Results		
Parameter	Unit	Max. Limit	Min. Limit	Date	Time	Result
Ammonia N	mg/l	--	--	21/11/18		0.022
Biological Oxygen Demand	mg/l	--	--	21/11/18		< 1
COD Chemical Oxygen Demand	mg/l	--	--	21/11/18		80
pH	pH units	--	--	21/11/18		8.1
Dissolved Oxygen % Saturation	% Sat.	--	--	21/11/18		95.3
Total Nitrogen N	mg/l	--	--	21/11/18		< 0.5
Enterococci	cfu/100mls	--	--	21/11/18		0
Visual Inspection	Descriptive	--	--	21/11/18		Very Good Water Quality
Dissolved Inorganic Nitrogen DIN	mg/l	--	--	21/11/18		0.162
E Coli	cfu/100mls	--	--	21/11/18		2
Faecal Coliforms	no./100mls	--	--	21/11/18		2

Approved..... : Date..... : Signed ..... David O'Connell, Executive Technician

Queries in relation to this report should be addressed to environ@galwaycoco.ie