CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2020 AER

This Annual Environmental Report has been prepared for D0048-01, Ennis North, in Clare 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)

- ENNIS NORTH WWTP - 2020 with a Plant Capacity PE of 31500, the treatment type is 3P - Tertiary P removal

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
TPEFF0300D0048SW001	ENNIS NORTH WWTP - 2020	Treated	Compliant	N/A

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 ENNIS NORTH WWTP - 2020 - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - ENNIS NORTH 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
Total Nitrogen mg/l	13	51.2	0
Suspended Solids mg/l	12	208	0
COD-Cr mg/l	12	396	0
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	208	0
Total Phosphorus (as P) mg/l	12	5.62	0
Hydraulic Capacity	N/A	23467	12516

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 less 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 - TPEFF0300D0048SW001

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)
COD-Cr mg/l	125	250	N/A	12	N/A	N/A	22.8	Pass
Suspended Solids mg/l	35	87.5	N/A	12	N/A	N/A	8.88	Pass
Temperature °C	25	25	N/A	12	N/A	N/A	5.4	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	10	20	N/A	12	N/A	N/A	3.67	Pass
pH pH units	9	9	N/A	12	N/A	N/A	7.52	Pass
Total Phosphorus (as P) mg/l	2	2.4	N/A	12	N/A	N/A	0.58	Pass
Ammonia-Total (as N) mg/l	1	1.2	N/A	12	N/A	N/A	0.21	Pass
ortho-Phosphate (as P) - unspecified mg/l	1	1.2	N/A	12	N/A	N/A	0.42	Pass
Dissolved Inorganic Nitrogen (as N) mg/l	N/A	N/A	N/A	12	N/A	N/A	10.7	

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)
Conductivity @25°C µS/cm	N/A	N/A	N/A	12	N/A	N/A	638.78	
Total Nitrogen mg/l	N/A	N/A	N/A	13	N/A	N/A	12.08	

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):

Not applicable

Significance of Results:

The WWTP is compliant with the ELV's set in the Wastewater Discharge Licence.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF0300D0048SW001

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
Upstream	133905, 177699	RS27F010680	No	No	No	No	Poor
Upstream	134524, 177884	RS27F010700	No	No	No	No	Poor
Upstream	134820, 177944	RS27F010710	No	No	No	No	Poor
Downstream	134888, 176818	RS27F010720	No	No	No	No	Poor

The table below provides a summary of monitoring results for designated ambient monitoring points. The upstream and downstream annual mean values are shown (mg/l), and the difference between both monitoring stations is given as a percentage of the Environmental Quality Standard (EQS) where relevant.

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Ammonia-Total (as N) mg/l	RS27F010700	0.026	RS27F010720	0.068	0.065	64.7
ortho-Phosphate (as P) - unspecified mg/l	RS27F010700	0.016	RS27F010720	0.039	0.035	66.4
Calcium - unspecified mg/l	RS27F010700	59.833	RS27F010720			
BOD - 5 days (Total) mg/l	RS27F010700	1.045	RS27F010720	1.76		
Nitrite (as N) µg/l	RS27F010700	4.176	RS27F010720	9.84		
Mercury - unspecified µg/l	RS27F010700	0.016	RS27F010720			
pH pH units	RS27F010700	7.942	RS27F010720	7.66		

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Thallium - unspecified µg/l	RS27F010700	0.141	RS27F010720			
Manganese - unspecified µg/l	RS27F010700	18.708	RS27F010720			
Selenium - unspecified µg/l	RS27F010700	0.882	RS27F010720			
Vanadium - unspecified µg/l	RS27F010700	0.707	RS27F010720			
Zinc - unspecified µg/l	RS27F010700	2.509	RS27F010720			
True Colour mg/litre Pt Co	RS27F010700	33.083	RS27F010720	69.6		
Alkalinity-total (as CaCO3) mg/l	RS27F010700	164.917	RS27F010720	153.6		
Total Phosphorus (as P) mg/l	RS27F010700	0.034	RS27F010720			
Cadmium - unspecified µg/l	RS27F010700	0.018	RS27F010720			
Antimony - unspecified µg/l	RS27F010700	0.707	RS27F010720			
Boron - unspecified µg/l	RS27F010700	9.208	RS27F010720			

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Barium - unspecified µg/l	RS27F010700	8.767	RS27F010720			
Dissolved Organic Carbon mg/l	RS27F010700	6.05	RS27F010720			
Chromium - unspecified µg/l	RS27F010700	0.707	RS27F010720			
Dissolved Oxygen mg/l	RS27F010700	9.625	RS27F010720	9.08		
Beryllium - unfiltered µg/l	RS27F010700	0.707	RS27F010720			
Dissolved Oxygen % Saturation	RS27F010700	88.667	RS27F010720	87.6		
Copper - unspecified µg/l	RS27F010700	4.701	RS27F010720			
Conductivity @25°C µS/cm	RS27F010700	402	RS27F010720	4239.4		
Chloride mg/l	RS27F010700	23.108	RS27F010720	1228.28		
Iron - unspecified µg/l	RS27F010700	106.917	RS27F010720			
Arsenic - unspecified µg/l	RS27F010700	0.707	RS27F010720			
Cobalt - unspecified µg/l	RS27F010700	0.707	RS27F010720			

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Aluminium - unspecified µg/l	RS27F010700	20.05	RS27F010720			
Sodium - unspecified mg/l	RS27F010700	11.733	RS27F010720			
Nitrate (as N) mg/l	RS27F010700	0.377	RS27F010720	0.714		
Potassium - unspecified mg/l	RS27F010700	1.667	RS27F010720			
Total Hardness (as CaCO3) mg/l	RS27F010700	190.5	RS27F010720	591.4		
Total Oxidised Nitrogen (as N) mg/l	RS27F010700	0.385	RS27F010720	0.72		
Suspended Solids mg/l	RS27F010700	4	RS27F010720			
Total Nitrogen mg/l	RS27F010700	0.869	RS27F010720			
Temperature °C	RS27F010700	11.508	RS27F010720	13		
Strontium - unfiltered µg/l	RS27F010700	84.167	RS27F010720			
Nickel - unspecified µg/l	RS27F010700	1.111	RS27F010720			
Molybdenum - unspecified µg/l	RS27F010700	0.707	RS27F010720			

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Magnesium - unspecified mg/l	RS27F010700	4.392	RS27F010720			
Uranium - unfiltered µg/l	RS27F010700	0.508	RS27F010720			
Lead - unspecified µg/l	RS27F010700	0.147	RS27F010720			

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 EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

Based on ambient monitoring results a deterioration in , concentrations downstream of the effluent discharge is noted.

A deterioration in water quality has been identified, however it is not known if it or is not caused by the WWTP.

Other causes of deterioration in water quality in the area are unknown.

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 - ENNIS NORTH WWTP - 2020

2.1.4.1 Treatment Efficiency Report - ENNIS NORTH 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)
SS	N/A	35911	N/A
cBOD	N/A	14856	N/A
TN	N/A	48872	N/A
COD	N/A	92233	N/A
TP	N/A	2360	N/A

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

2.1.4.2 Treatment Capacity Report Summary - ENNIS NORTH 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.

ENNIS NORTH WWTP - 2020	
Peak Hydraulic Capacity (m^3/day) - As Constructed	16272
DWF to the Treatment Plant (m^3/day)	6784
Current Hydraulic Loading - annual max (m^3/day)	23467
Average Hydraulic loading to the Treatment Plant (m^3/day)	12516
Organic Capacity (PE) - As Constructed	31500
Organic Capacity (PE) - Collected Load (peak week)[Note1]	24178
Organic Capacity (PE) - Remaining	7322
Will the capacity be exceeded in the next three years? (Yes/No)	No

Already hydraulically overloaded.

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 - ENNIS NORTH 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)
There were no reportable incidents in 2020.				

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

SW002 was claimed to be measured in 2017

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
SW002	134850, 177465	No	High	Not Meeting	Unknown	Unknown	Not Monitored
SW3	134353, 177743	Yes	High	Not Meeting	Unknown	Unknown	Not Monitored
SW4	134682, 177994	Yes	High	Not Meeting	Unknown	Unknown	Monitored
TBC	134439, 180542	No	Medium	Not Meeting	Unknown	Unknown	Monitored
TBC	134859, 177466	No	High	Not Meeting	Unknown	Unknown	Unknown
TBC	134350, 177741	No	Medium	Not Meeting	Unknown	Unknown	Unknown

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	Unknown
Is each SWO identified as not 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 / changes 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)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0048-SIP:01	Clonroadmore WWTP installation of tertiary treatment system.	C	31/12/2010	Yes	Works Completed		

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
D0048-SIP:02	Clonroadmore WWTP rehabilitation of the storm/balance tanks	C	31/12/2010	Yes	Works Completed		
D0048-SIP:03	Clonroadmore WWTP upgrade of the inlet works	C	31/12/2010	Yes	Works Completed		
D0048-SIP:04	Clonroadmore WWTP upgrade of the sludge handling facilities	C	31/12/2010	Yes	Works Completed		
D0048-SIP:05	Clonroadmore WWTP upgrade of the treatment capacity of the current aerator and clarifier tanks to cater for the existing and the short term increase in wastewater loading	C	31/12/2010	Yes	Works Completed		
D0048-SIP:06	collection systems: rehabilitation of sewers with high levels of infiltration.	C	31/12/2010	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.

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
D0048-SIP:07	collection systems: separation of known surface water connections from the main combined sewer where feasible.	C	31/12/2010	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.
D0048-SIP:08	collection systems: upgrade of satellite pump station overflows	C	31/12/2010	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.
D0048-SIP:09	Secondary discharge from SW2 to be upgraded to a SWO, as defined in DoEHLG 'Procedures & criteria in relation to SWOs'	A	01/01/2011	Yes	Works Completed		not momitored
D0048-SIP:10	Tulla road and Francis st pump stations: diversion of surface water away from pump stations	C	31/12/2010	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.

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
D0048-SIP:11	Tulla road and Francis st pump stations: repair of grit traps	C	31/12/2010	Yes	Works Completed		
D0048-SIP:12	Tulla road and Francis st pump stations: replacement of pumps and improving the pump controls	C	31/12/2010	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.
D0048-SIP:13	Tulla road and Francis st pump stations: upgrade of the combined sewer overflow regime at the pump stations	C	31/12/2010	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.

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

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
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?	Yes
List reason e.g. additional SWO identified	pH Range clerical error
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	Yes
List reason e.g. changes to monitoring requirements	Change to Ambient monitoring locations: Upstream & Downstream
Have these processes commenced?	No
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	Yes

I certify that the information given in this Annual Environmental Report is truthful, accurate and complete:

Signed: Date: 06/05/2021

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

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	EPA Feature Coding Tool code	Receiving Waters Designation (Y/N)				WFD Status
			Bathing Water	Drinking Water	FWPM	Shellfish	
Upstream Monitoring Point (SW3) Club Bridge	133906, 177700	RS27F01680	No	No	No	No	Poor
Downstream Monitoring Point (SW1) Doora Bridge	134888, 1768090	RS27F010720	No	No	No	No	Poor

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	EPA Feature Coding Tool code	Receiving Waters Designation (Y/N)				WFD Status
			Bathing Water	Drinking Water	FWPM	Shellfish	
Upstream Monitoring Point (SW1) Clonroad Br	134520, 177880	RS27F010700	No	No	No	No	Poor
Downstream Monitoring Point (SW3) Doora Bridge	134888, 1768090	RS27F010720	No	No	No	No	Poor

SW3

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	%EQS
cBOD mg/l	Club Bridge (SW3)	2	Doora Bridge (SW3)	2	0.00%
Ortho-Phosphate (as P) mg/l	Club Bridge (SW3)	0.061	Doora Bridge (SW3)	0.027	-45.33%
Ammonia (as N) mg/l	Club Bridge (SW3)	0.028	Doora Bridge (SW3)	0.0415	9.64%

SW1

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	%EQS
cBOD mg/l	Clonroad Bridge (SW1)	2	Doora Bridge (SW3)	2	0.00%
Ortho-Phosphate (as P) mg/l	Clonroad Bridge (SW1)	0.018	Doora Bridge (SW3)	0.027	12.00%
Ammonia (as N) mg/l	Clonroad Bridge (SW1)	0.057	Doora Bridge (SW3)	0.0415	11.07%

		Parameter	Ammonia N	DO % SAT	DO mg/l	TEMP	TN	BOD	Ortho-P	pH	TP	COD	SS
		Max.	--	120	--	--	--	--	--	9	--	--	--
		Min.	--	80	--	--	--	--	--	6	--	--	--
		Test Method	--	--	--	--	--	--	--	--	--	--	--
Station Reference	Sample Date	Analyst Conclusion	mg/l	% O2	mg/l	Degrees C	mg/l	mg/l	mg/l	pH units	mg/l	mg/l	mg/l
RS27F010720	15-Jan-2020	-	0.04	86.7	10.63	6.7	0.9	< 2	0.01	7.83	< 0.12	16	4.4
RS27F010720	5-Feb-2020	-	0.059	91.6	11.63	6.3	0.8	< 2	0.02	7.95	< 0.12		2.8
RS27F010720	18-Mar 2020	-	0.04	92.7	10.99	8.4	0.7	< 2	< 0.01	7.98	< 0.12		< 2
RS27F010720	6-May 2020	-	0.024	87.5	9.05	14.1	0.4	< 2	0.014	8.02	< 0.12		< 2
RS27F010720	20-May 2020	-	0.053	93.9	9.33	16	< 0.2	< 2	0.036	8.06	< 0.12		< 2
RS27F010720	17 June 2020	-	0.074	73.3	7.23	16.1	1.3	< 2	0.038	7.74	< 0.12		5.6
RS27F010720	8-July-2020	-	0.023	88.2	8.78	15.5		< 2	0.016	7.57	< 0.12		4.8
RS27F010720	19-Aug 2020	-	0.067	75.1	7.05	17.7	1.55	< 2	0.027	7.52	< 0.12		6.4
RS27F010720	15 Sep 2020	-	0.024	80	7.98	15.7	0.3	< 2	0.08	7.81	< 0.12		
RS27F010720	14-Oct 2020	-	0.03	83.7	9.33	11.2	0.99	< 2	0.025	7.81	0.13		2.4
RS27F010720	4 Nov 2020	-	0.036	77.5	9.26	8.7	0.41	< 2	0.014	7.8	0.15		2
RS27F010720	2-Dec-2020	-	0.03	83.1	9.82	8.6	< 1	< 2	0.02	7.85	0.04		< 2
RS27F010720	8-Dec-2020	-					< 1						

		Parameter	Ammonia N	DO % SAT	DO mg/l	TEMP	TN	BOD	Ortho-P	pH	TP	COD	SS
		Max.	--	120	--	--	--	--	--	9	--	--	--
		Min.	--	80	--	--	--	--	--	6	--	--	--
		Test Method	--	--	--	--	--	--	--	--	--	--	--
Station Reference	Sample Date	Analyst Conclusion	mg/l	% O2	mg/l	Degrees C	mg/l	mg/l	mg/l	pH units	mg/l	mg/l	mg/l
RS27F010680	15-Jan-2020	-	0.05	90.9	11.13	6.7	0.8	< 2	< 0.01	7.87	< 0.12	15	
RS27F010680	5-Feb-2020	-	< 0.02	91.9	11.56	6.7	0.8	< 2	0.013	7.96	< 0.12		2
RS27F010680	18-Mar-2020	-	0.028	93.6	11.08	8.4	0.5	< 2	< 0.01	7.98	< 0.12		< 2
RS27F010680	6-May-2020	-	0.035	102.8	10.62	14.2	0.3	< 2	0.045	8.14	< 0.12		< 2
RS27F010680	20-May-2020	-	< 0.02	121.5	12.04	16.1	0.2	< 2	0.012	8.42	< 0.12		2
RS27F010680	17-June-2020	-	0.19	87.2	8.66	15.9	0.4	< 2	0.045	7.91	< 0.12		< 2
RS27F010680	8-July-2020	-	0.031	90.7	9.08	15.3		< 2	0.025	7.7	< 0.12		4.4
RS27F010680	19-Aug 2020	-	0.069	74.7	7	17.9	1.71	< 2	0.034	7.56	< 0.12		3.2
RS27F010680	15-Sep-2020	-	0.099	80	7.96	15.7	0.24	< 2	0.041	7.79	< 0.12		
RS27F010680	14-Oct-2020	-	0.046	88.1	9.73	11.6	1.1	< 2	0.028	7.85	0.16		< 2
RS27F010680	4-Nov-2020	-	0.024	75.4	9.06	8.5	0.34	< 2	0.013	7.79	0.06		< 2
RS27F010680	2-Dec-2020	-	0.04	83.4	9.79	8.7	< 1	< 2	0.02	7.84	0.02		3
RS27F010680	8-Dec-2020	-					< 1						

		Parameter	Ammonia N	DO % SAT	DO mg/l	TEMP	TN	BOD	Ortho-P	pH	TP	COD	SS
		Max.	--	120	--	--	--	--	--	9	--	--	--
		Min.	--	80	--	--	--	--	--	6	--	--	--
		Test Method	--	--	--	--	--	--	--	--	--	--	--
Station Reference	Sample Date	Analyst Conclusion	mg/l	% O2	mg/l	Degrees C	mg/l	mg/l	mg/l	pH units	mg/l	mg/l	mg/l
RS27F010700	15-Jan-2020	-	0.06	91.4	11.18	6.3	0.7	< 2	< 0.01	7.86	< 0.12	15	2
RS27F010700	5-Feb-2020	-	0.064	93.2	11.76	6.6	0.8	< 2	0.015	7.98	< 0.12		< 2
RS27F010700	18-Mar-2020	-	0.042	93.7	11.02	8.7	0.6	< 2	< 0.01	8.02	< 0.12		< 2
RS27F010700	6-May-2020	-	< 0.02	109.1	11.28	14.1	0.3	< 2	< 0.01	8.24	< 0.12		< 2
RS27F010700	20-May 2020	-	< 0.02	128.8	12.77	16.1	0.3	< 2	< 0.01	8.48	< 0.12		< 2
RS27F010700	17 June 2020	-	0.063	87.2	8.66	15.9	1.8	< 2	0.01	7.92	< 0.12		< 2
RS27F010700	8-July 2020	-	< 0.02	92	9.22	15.2		< 2	0.013	7.68	< 0.12		6.8
RS27F010700	19-Aug-2020	-	0.118	74.6	6.98	17.9	2.65	< 2	0.033	7.55	< 0.12		4
RS27F010700	15-Sep-2020	-	0.078	82.1	8.25	15.4	0.42	< 2	0.024	7.82	< 0.12		
RS27F010700	14-Oct-2020	-	0.026	90.2	9.99	11.4	0.99	< 2	0.019	7.91	0.04		< 2
RS27F010700	4-Nov-2020	-	0.051	76.4	9.11	8.8	0.39	< 2	0.013	7.84	0.02		2.8
RS27F010700	2-Dec-2020	-	0.03	85.4	9.79	8.9	< 1	< 2	0.02	7.83	0.13		2
RS27F010700	8-Dec-2020	-					< 1						

Annual Environmental Report

2021

Ennis North

D0048-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2021 AER

This Annual Environmental Report has been prepared for D0048-01, Ennis North, in Clare 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)

- ENNIS NORTH WWTP with a Plant Capacity PE of 31500, the treatment type is 3P - Tertiary P removal

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
TPEFF0300D0048SW001	ENNIS NORTH WWTP	Treated	Non-Compliant	Ammonia-Total (as N) mg/l ortho-Phosphate (as P) - unspecified mg/l

1.4 LICENCE SPECIFIC REPORTING

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

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 ENNIS NORTH WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - ENNIS NORTH WWTP

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
pH units	12	7.69	7.48
Total Nitrogen mg/l	12	37	20
Suspended Solids mg/l	12	186	58
Total Phosphorus (as P) mg/l	12	4.04	1.90
Ammonia-Total (as N) mg/l	12	30	14
COD-Cr mg/l	12	354	161
ortho-Phosphate (as P) - unspecified mg/l	12	4.77	1.77
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	264	73
Hydraulic Capacity	N/A	18748	10652

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 less 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 - TPEFF0300D0048SW001

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 exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	125	250	N/A	12	N/A	N/A	19	Pass
Suspended Solids mg/l	35	87.5	N/A	12	N/A	N/A	5.70	Pass
Temperature °C	25	25	N/A	12	N/A	N/A	6.77	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	10	20	N/A	12	N/A	N/A	3.68	Pass
pH units	9.00	9.00	N/A	12	N/A	N/A	7.39	Pass
Total Phosphorus (as P) mg/l	2.00	2.40	N/A	12	N/A	N/A	0.393	Pass
ortho-Phosphate (as P) - unspecified mg/l	1.00	1.20	N/A	13	1	1	0.503	Fail
Ammonia-Total (as N) mg/l	1.00	1.20	N/A	13	2	2	0.604	Fail

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 exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Conductivity @25°C µS/cm	N/A	N/A	N/A	11	N/A	N/A	737	
Dissolved Inorganic Nitrogen (as N) mg/l	N/A	N/A	N/A	12	N/A	N/A	10	
Total Nitrogen mg/l	N/A	N/A	N/A	12	N/A	N/A	13	

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied
2 – For pH the WWDA specifies a range of pH 6 - 9

Cause of Exceedance(s):

Ammonia ELV Breach was due to changes in aeration levels. This was noticed and rectified immediately and the WWTP returned to full compliance.

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 TPEFF0300D0048SW001

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 Ecological Status
Upstream	133905, 177699	RS27F010680	No	No	No	No	Poor
Upstream	134524, 177884	RS27F010700	No	No	No	No	Poor
Upstream	134820, 177944	RS27F010710	No	No	No	No	Poor
Downstream	134888, 176818	RS27F010720	No	No	No	No	Poor

The table below provides a summary of monitoring results for designated ambient monitoring points. The upstream and downstream annual mean values are shown (mg/l), and the difference between both monitoring stations is given as a percentage of the Environmental Quality Standard (EQS) where relevant.

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
BOD - 5 days (Total) mg/l	RS27F010700	0.756	RS27F010720	0.964	1.50	
Ammonia-Total (as N) mg/l	RS27F010700	0.020	RS27F010720	0.057	0.065	57.8
ortho-Phosphate (as P) - unspecified mg/l	RS27F010700	0.014	RS27F010720	0.023	0.035	26.1
Dissolved Oxygen % Saturation	RS27F010700	93	RS27F010720	87	N/A	
Temperature °C	RS27F010700	12	RS27F010720	12	N/A	

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Total Oxidised Nitrogen (as N) mg/l	RS27F010700	0.338	RS27F010720	0.506	N/A	
Total Hardness (as CaCO3) mg/l	RS27F010700	178	RS27F010720	188	N/A	
Nitrate (as N) mg/l	RS27F010700	0.336	RS27F010720	0.498	N/A	
Total Phosphorus (as P) mg/l	RS27F010700	0.031	RS27F010720	N/A	N/A	
Total Nitrogen mg/l	RS27F010700	0.813	RS27F010720	N/A	N/A	
Nitrite (as N) µg/l	RS27F010700	3.08	RS27F010720	5.96	N/A	
pH units	RS27F010700	7.92	RS27F010720	7.78	N/A	
Suspended Solids mg/l	RS27F010700	3.27	RS27F010720	N/A	N/A	

Significance of Results:

The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence for the following: ortho-Phosphate (as P) - unspecified mg/l, Ammonia-Total (as N) mg/l.

The ambient monitoring results meet the required EQS. 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.

A deterioration in water quality has been identified, however it is not known if it or is not caused by the WWTP.

Other causes of deterioration in water quality in the area are unknown.

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 - ENNIS NORTH WWTP

2.1.4.1 Treatment Efficiency Report - ENNIS NORTH WWTP

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)
SS	210738	19197	91
TN	74397	44505	40
cBOD	265091	12402	95
TP	6931	1325	81
COD	588242	63896	89

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

2.1.4.2 Treatment Capacity Report Summary - ENNIS NORTH WWTP

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.

ENNIS NORTH WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	16272
DWF to the Treatment Plant (m^3/day)	6784
Current Hydraulic Loading - annual max (m^3/day)	18748

ENNIS NORTH WWTP	
Average Hydraulic loading to the Treatment Plant (m^3/day)	10652
Organic Capacity (PE) - As Constructed	31500
Organic Capacity (PE) - Collected Load (peak week)[Note1]	24303
Organic Capacity (PE) - Remaining	7197
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 - ENNIS NORTH 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 for the Treatment Plant included in the AER.							

3 COMPLAINTS AND INCIDENTS

3.1 COMPLAINTS SUMMARY

A summary of complaints of an environmental nature related to the discharge(s) to water from the WWTP and network is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
There were no relevant environmental complaints in 2021.			

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	Other	1	No	Yes
Breach of ELV	Plant or equipment maintenance at WWTP	1	No	No
Uncontrolled release	EO caused by pump failure	1	No	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2021	3
Number of Incidents reported to the EPA via EDEN in 2021	3
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 (chamber) where applicable	Irish Grid Ref. (outfall)	Included in Schedule of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2021 (No. of events)	Total volume discharged in 2021 (m3)	Monitoring Status
TBC	134436, 180553	No	Medium	Not Meeting	Unknown	Unknown	Monitored
TBC	134851, 177466	No	High	Not Meeting	Unknown	Unknown	Not Monitored
TBC	134350, 177741	No	Medium	Not Meeting	Unknown	Unknown	Not Monitored
SW002	134851, 177466	Yes	High	Not Meeting	Unknown	Unknown	Not Monitored
SW3	134354, 177744	Yes	High	Not Meeting	Unknown	Unknown	Not Monitored
SW4	134682, 177994	Yes	High	Not Meeting	Unknown	Unknown	Monitored

Any TBC SWO(s) were identified as part of the on-going National SWO programme and will be updated in subsequent AER(s) once the information is confirmed.

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	Unknown
Is each SWO identified as not 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 / 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 a 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
D0048-SIP:01	Clonroadmore WWTP installation of tertiary treatment system.	C	31/12/2010	Yes	Works Completed		
D0048-SIP:02	Clonroadmore WWTP rehabilitation of the storm/balance tanks	C	31/12/2010	Yes	Works Completed		

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
D0048-SIP:03	Clonroadmore WWTP upgrade of the inlet works	C	31/12/2010	Yes	Works Completed		
D0048-SIP:04	Clonroadmore WWTP upgrade of the sludge handling facilities	C	31/12/2010	Yes	Works Completed		
D0048-SIP:05	Clonroadmore WWTP upgrade of the treatment capacity of the current aerator and clarifier tanks to cater for the existing and the short term increase in wastewater loading	C	31/12/2010	Yes	Works Completed		
D0048-SIP:06	collection systems: rehabilitation of sewers with high levels of infiltration.	C	31/12/2010	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.
D0048-SIP:07	collection systems: separation of known surface water connections from the main combined sewer where feasible.	C	31/12/2010	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.

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
D0048-SIP:08	collection systems: upgrade of satellite pump station overflows	C	31/12/2010	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.
D0048-SIP:09	Secondary discharge from SW2 to be upgraded to a SWO, as defined in DoEHLG 'Procedures & criteria in relation to SWOs'	A	01/01/2011	Yes	Works Completed		
D0048-SIP:10	Tulla road and Francis st pump stations: diversion of surface water away from pump stations	C	31/12/2010	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.
D0048-SIP:11	Tulla road and Francis st pump stations: repair of grit traps	C	31/12/2010	Yes	Works Completed		
D0048-SIP:12	Tulla road and Francis st pump stations: replacement of pumps and improving the pump controls	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the

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
							2025-2029 investment period.
D0048-SIP:13	Tulla road and Francis st pump stations: upgrade of the combined sewer overflow regime at the pump stations	C	31/12/2010	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.

A summary of the status of any other improvements identified by under Condition 5 assessments- is included below.

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
No additional improvements planned at this time.				

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 Tables 4.2.1 and 4.2.2.

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 a list of the various reports required for this agglomeration and a brief summary of their recommendations.

Licence Specific Report	Required by licence	Year included in AER	Included in this AER
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
Has a Technical amendment/licence review application been submitted to the Agency by IW?	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	Yes
List reason e.g. changes to monitoring requirements	Ambient Monitoring Location Changes
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: 07/04/2022

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

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	EPA Feature Coding Tool code	Receiving Waters Designation (Y/N)		
			Bathing Water	Drinking Water	FWPM
Upstream Monitoring Point (SW3) Club Bridge	133906, 177700	RS27F01680	No	No	No
Downstream Monitoring Point (SW3) Doora Bridge	134888, 1768090	RS27F010720	No	No	No

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	EPA Feature Coding Tool code	Receiving Waters Designation (Y/N)		
			Bathing Water	Drinking Water	FWPM
Upstream Monitoring Point (SW1) Clonroad Br	134520, 177880	RS27F010700	No	No	No
Downstream Monitoring Point (SW3) Doora Bridge	134888, 1768090	RS27F010720	No	No	No

SW3 Assessment

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% EQS
cBOD mg/l	RS27F01680	2.3	RS27F010720	2.4	1.50	6.67%
Ortho-Phosphate (as P) mg/l	RS27F01680	0.02	RS27F010720	0.04	0.035	57.14%
Ammonia (as N) mg/l	RS27F01680	0.07	RS27F010720	0.08	0.065	15.38%
Dissolved Oxygen (% SAT)	RS27F01680	93.15	RS27F010720	86.74		
Dissolved Oxygen (mg/l)	RS27F01680	10	RS27F010720	9.21		
Total Nitrogen (mg/l)	RS27F01680	0.97	RS27F010720	1.15		
Temperature (0C)	RS27F01680	12.77	RS27F010720	13.3		
Total Phosphorus (mg/l)	RS27F01680	0.06	RS27F010720	0.1		
pH (pH units)	RS27F01680	7.89	RS27F010720	7.81		

SW1 Assessment

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% EQS
cBOD mg/l	RS27F010700	2.35	RS27F010720	2.4	1.50	3.33%
Ortho-Phosphate (as P) mg/l	RS27F010700	0.02	RS27F010720	0.04	0.035	57.14%
Ammonia (as N) mg/l	RS27F010700	0.04	RS27F010720	0.08	0.065	61.54%
Dissolved Oxygen (% SAT)	RS27F010700	89.68	RS27F010720	86.74		
Dissolved Oxygen (mg/l)	RS27F010700	9.49	RS27F010720	9.21		
Total Nitrogen (mg/l)	RS27F010700	0.94	RS27F010720	1.15		
Temperature (0C)	RS27F010700	13.49	RS27F010720	13.3		
Total Phosphorus (mg/l)	RS27F010700	0.08	RS27F010720	0.1		
pH (pH units)	RS27F010700	7.86	RS27F010720	7.81		

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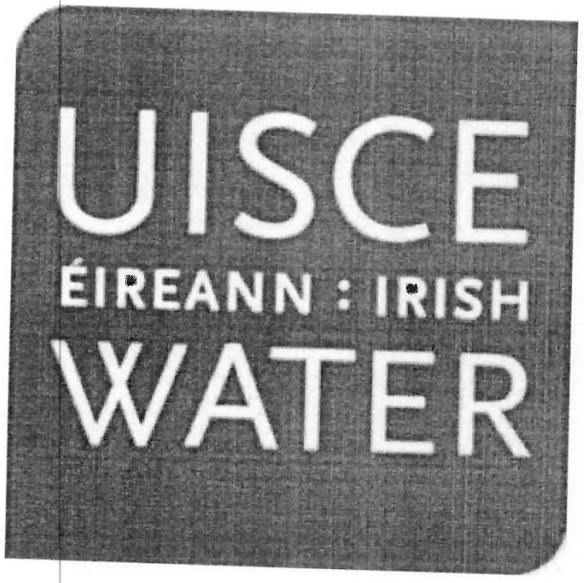

Ennis North

D0048-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2022 AER

This Annual Environmental Report has been prepared for D0048-01, Ennis North, in Clare 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.

Ennis DAP project commenced

1.2 TREATMENT SUMMARY

The agglomeration is served by a wastewater treatment plant(s)

- Ennis North WWTP with a Plant Capacity PE of 31500, the treatment type is 3P - Tertiary P removal .

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
TPEFF0300D0048SW001	Ennis North WWTP	Treated	Non-Compliant	Ammonia-Total (as N) mg/l

1.4 LICENCE SPECIFIC REPORTING

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

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 ENNIS NORTH WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - ENNIS NORTH WWTP

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
pH pH units	12	8.39	7.54
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	169	75
ortho-Phosphate (as P) - unspecified mg/l	12	4.10	2.24
Total Nitrogen mg/l	12	66	27
Total Phosphorus (as P) mg/l	12	12	3.22
COD-Cr mg/l	12	294	164
Ammonia-Total (as N) mg/l	12	33	21
Suspended Solids mg/l	12	216	70
Hydraulic Capacity	N/A	18520	11366

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 less 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'. 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.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF0300D0048SW001

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 exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	125	250	N/A	12	N/A	N/A	21	Pass
Suspended Solids mg/l	35	87.5	N/A	12	N/A	N/A	3.49	Pass
Temperature °C	25	25	N/A	12	N/A	N/A	6.11	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	10	20	N/A	12	N/A	N/A	3.15	Pass
pH pH units	9	9	N/A	12	N/A	N/A	7.46	Pass
Total Phosphorus (as P) mg/l	2	2.4	N/A	12	N/A	N/A	0.385	Pass
ortho-Phosphate (as P) - unspecified mg/l	1	1.2	N/A	12	N/A	N/A	0.406	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 exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Ammonia-Total (as N) mg/l	1	1.2	N/A	12	1	1	0.339	Fail
Total Nitrogen mg/l	N/A	N/A	N/A	12	N/A	N/A	16	
Conductivity @25°C µS/cm	N/A	N/A	N/A	12	N/A	N/A	696	
Dissolved Inorganic Nitrogen (as N) mg/l	N/A	N/A	N/A	12	N/A	N/A	13	

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied
2 – For pH the WWDA specifies a range of pH 6 - 9

Cause of Exceedance(s):

Refer to incident section of the report

Significance of Results:

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

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF0300D0048SW001

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 Ecological Status
Upstream	133905, 177699	RS27F010680	No	No	No	No	Moderate
Upstream	134524, 177884	RS27F010700	No	No	No	No	Moderate
Downstream	134888, 176818	RS27F010720	No	No	No	No	Moderate

The table below provides a summary of monitoring results for designated ambient monitoring points. The upstream and downstream annual mean values are shown (mg/l), and the difference between both monitoring stations is given as a percentage of the Environmental Quality Standard (EQS) where relevant.

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
BOD - 5 days (Total) mg/l	RS27F010700	1.61	RS27F010720	1.79	1.50	12.3
Ammonia-Total (as N) mg/l	RS27F010700	0.028	RS27F010720	0.049	0.065	33.1
ortho-Phosphate (as P) - unspecified mg/l	RS27F010700	0.013	RS27F010720	0.018	0.035	14.3

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Dissolved Organic Carbon mg/l	RS27F010700	6.94	RS27F010720	N/A	N/A	
Boron - unspecified µg/l	RS27F010700	9.44	RS27F010720	N/A	N/A	
Aluminium - unspecified µg/l	RS27F010700	19	RS27F010720	N/A	N/A	
Calcium - unspecified mg/l	RS27F010700	60	RS27F010720	N/A	N/A	
Arsenic - unspecified µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Copper - unspecified µg/l	RS27F010700	1.62	RS27F010720	N/A	N/A	
Lead - unspecified µg/l	RS27F010700	0.141	RS27F010720	N/A	N/A	
Sodium - unspecified mg/l	RS27F010700	11	RS27F010720	N/A	N/A	
Manganese - unspecified µg/l	RS27F010700	23	RS27F010720	N/A	N/A	
Molybdenum - unspecified µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Nickel - unspecified µg/l	RS27F010700	0.930	RS27F010720	N/A	N/A	
Potassium - unspecified mg/l	RS27F010700	1.58	RS27F010720	N/A	N/A	

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Iron - unspecified µg/l	RS27F010700	93	RS27F010720	N/A	N/A	
Nitrite (as N) µg/l	RS27F010700	3.01	RS27F010720	5.84	N/A	
Selenium - unspecified µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Dissolved Oxygen % Saturation	RS27F010700	97	RS27F010720	90	N/A	
Dissolved Oxygen % O2	RS27F010700	91	RS27F010720	88	N/A	
Mercury - unspecified µg/l	RS27F010700	0.015	RS27F010720	N/A	N/A	
Total Nitrogen mg/l	RS27F010700	0.958	RS27F010720	1.40	N/A	
Vanadium - unspecified µg/l	RS27F010700	0.823	RS27F010720	N/A	N/A	
Temperature °C	RS27F010700	12	RS27F010720	12	N/A	
Total Phosphorus (as P) mg/l	RS27F010700	0.055	RS27F010720	0.065	N/A	
Strontium - unfiltered µg/l	RS27F010700	85	RS27F010720	N/A	N/A	
Cadmium - unspecified µg/l	RS27F010700	0.029	RS27F010720	N/A	N/A	

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Alkalinity-total (as CaCO3) mg/l	RS27F010700	164	RS27F010720	165	N/A	
Chromium - unspecified µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Conductivity @25°C µS/cm	RS27F010700	409	RS27F010720	549	N/A	
Barium - unspecified µg/l	RS27F010700	9.65	RS27F010720	N/A	N/A	
Chloride mg/l	RS27F010700	25	RS27F010720	62	N/A	
Antimony - unspecified µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Beryllium - unfiltered µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Cobalt - unspecified µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
pH pH units	RS27F010700	7.90	RS27F010720	7.85	N/A	
Nitrate (as N) mg/l	RS27F010700	0.466	RS27F010720	0.644	N/A	
Dissolved Oxygen mg/l	RS27F010700	10	RS27F010720	9.51	N/A	
Magnesium - unspecified mg/l	RS27F010700	4.46	RS27F010720	N/A	N/A	
Zinc - unspecified µg/l	RS27F010700	3.90	RS27F010720	N/A	N/A	

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
True Colour mg/litre Pt Co	RS27F010700	28	RS27F010720	44	N/A	
Uranium - unfiltered µg/l	RS27F010700	0.503	RS27F010720	N/A	N/A	
Total Hardness (as CaCO3) mg/l	RS27F010700	189	RS27F010720	202	N/A	
Thallium - unspecified µg/l	RS27F010700	0.141	RS27F010720	N/A	N/A	
Suspended Solids mg/l	RS27F010700	3.46	RS27F010720	N/A	N/A	
Total Oxidised Nitrogen (as N) mg/l	RS27F010700	0.467	RS27F010720	0.646	N/A	

Significance of Results:

The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence for the following: Ammonia-Total (as N) mg/l.

The ambient monitoring results do not meet the required EQS at the upstream and the downstream monitoring locations. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

Based on ambient monitoring results a deterioration in Ammonia and BOD. , concentrations downstream of the effluent discharge is noted.

A deterioration in water quality has been identified, however it is not known if it is or is not caused by the WWTP.

Other causes of deterioration in water quality in the area are unknown.

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 - ENNIS NORTH WWTP

2.1.4.1 Treatment Efficiency Report - Ennis North WWTP

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)
TP	11400	1179	90
TN	96399	49113	49
SS	246900	10689	96
cBOD	266232	9630	96
COD	582855	64374	89

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

2.1.4.2 Treatment Capacity Report Summary - Ennis North WWTP

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.

Ennis North WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	16272
DWF to the Treatment Plant (m^3/day)	6784
Current Hydraulic Loading - annual max (m^3/day)	18520

Ennis North WWTP	
Average Hydraulic loading to the Treatment Plant (m^3/day)	11366
Organic Capacity (PE) - As Constructed	31500
Organic Capacity (PE) - Collected Load (peak week)[Note1]	24632
Organic Capacity (PE) - Remaining	6868
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 - ENNIS NORTH 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 for the Treatment Plant included in the AER.							

3 COMPLAINTS AND INCIDENTS

3.1 COMPLAINTS SUMMARY

A summary of complaints of an environmental nature related to the discharge(s) to water from the WWTP and network is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
There were no relevant environmental complaints in 2022.			

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 Uisce Éireann 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)
There were no reportable incidents in 2022.				

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2022	0
Number of Incidents reported to the EPA via EDEN in 2022	0
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 (chamber) where applicable	Irish Grid Ref. (outfall)	Included in Schedule of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2022 (No. of events)	Total volume discharged in 2022 (m3)	Monitoring Status
TBC	134436,180553	No	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
SW002	134851,177466	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	Not Monitored
SW3	134354,177744	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	134851,177466	No	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	134350,177741	No	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
SW4	134682,177994	Yes	High Significance	Not Meeting Criteria	Unknown	458391	Monitored

Any TBC SWO(s) were identified as part of the on-going National SWO programme and will be updated in subsequent AER(s) once the information is confirmed.

SWO Summary	
How much sewage was discharged via monitored SWOs in the agglomeration in the year (m3)?	458391
Is each SWO identified as not 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 / 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 a 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
D0048-SIP:01	Clonroadmore WWTP installation of tertiary treatment system.	C	31/12/2010	Yes	Works Completed		

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
D0048-SIP:02	Clonroadmore WWTP rehabilitation of the storm/balance tanks	C	31/12/2010	Yes	Works Completed		
D0048-SIP:03	Clonroadmore WWTP upgrade of the inlet works	C	31/12/2010	Yes	Works Completed		
D0048-SIP:04	Clonroadmore WWTP upgrade of the sludge handling facilities	C	31/12/2010	Yes	Works Completed		
D0048-SIP:05	Clonroadmore WWTP upgrade of the treatment capacity of the current aerator and clarifier tanks to cater for the existing and the short term increase in wastewater loading	C	31/12/2010	Yes	Works Completed		
D0048-SIP:06	collection systems: rehabilitation of sewers with high levels of infiltration.	C	31/12/2010	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.

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
D0048-SIP:07	collection systems: separation of known surface water connections from the main combined sewer where feasible.	C	31/12/2010	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.
D0048-SIP:08	collection systems: upgrade of satellite pump station overflows	C	31/12/2010	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.
D0048-SIP:09	Secondary discharge from SW2 to be upgraded to a SWO, as defined in DoEHLG 'Procedures & criteria in relation to SWOs'	A	01/01/2011	Yes	Works Completed		
D0048-SIP:10	Tulla road and Francis st pump stations: diversion of surface water away from pump stations	C	31/12/2010	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.

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
D0048-SIP:11	Tulla road and Francis st pump stations: repair of grit traps	C	31/12/2010	Yes	Works Completed		
D0048-SIP:12	Tulla road and Francis st pump stations: replacement of pumps and improving the pump controls	C	31/12/2010	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.
D0048-SIP:13	Tulla road and Francis st pump stations: upgrade of the combined sewer overflow regime at the pump stations	C	31/12/2010	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.

A summary of the status of any other improvements identified by under Condition 5 assessments- is included below.

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
No additional improvements planned at this time.				

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 Tables 4.2.1 and 4.2.2.