

Annual Environmental Report 2016

Agglomeration Name:	Emyvale
Licence Register No.	D0346-01



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Section 1. Executive Summary and Introduction to the 2016 AER

1.1 Summary Report on 2016

This Annual Environmental Report has been prepared for **D0346-01, Emyvale**, in County **Monaghan**, in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified assessments are included as an appendix to the AER as follows:

- Sewer Integrity Risk Assessment in **Appendix 7.3**

The agglomeration is served by a wastewater treatment plant with a Plant Capacity PE of 2150. The treatment process includes the following:-

- Preliminary Treatment (Screening)
- Primary Treatment (Primary Settlement Tanks)
- Secondary Treatment (RBC and Percolating Filters)
- Nutrient Removal (Ferric Dosing)

The final effluent from the Primary Discharge Point was non-compliant with the Emission Limit Values in 2016.

The following parameters exceeded the emission limit values in 2016:-

- Ortho P (mg/l)
- Ammonia NH₃ (mg/l)

682,000kgs sludge as liquid sludge was removed from the wastewater treatment plant in 2016. Sludge was transferred to Sludge was transferred to Monaghan WWTP.

There were no major capital or operational changes undertaken in 2016

An Annual Statement of Measures is included in **Appendix 7.1**

Section 2. Monitoring Reports Summary

2.1 Summary report on monthly influent monitoring

Table 2.1 Influent Monitoring Summary

2.1.1 Monthly Influent Monitoring	BOD (mg / l)	COD (mg / l)	SS (mg / l)	TP (mg / l)	TN (mg / l)	Hydraulic Loading (m3/d)	Organic Loading (PE/Day)
Number of Samples	6	6	6	6	6		
Annual Max.	850	1196	382	13.4	102.6	636	1,373
Annual Mean	376.47	863.59	181.70	8.81	56.75	135.36	912.93

Other inputs in the form of sludge/leachate are added to the WWTP after the influent monitoring point and are therefore not represented by influent monitoring. Other inputs, where relevant, are detailed in Section 3.6.

Significance of results

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity as detailed further in Section 3.2

The annual maximum hydraulic loading is less than the peak Treatment Plant Capacity as detailed further in Section 3.2. The design of the wastewater treatment plant allows for peak values and therefore the peak loads have not impacted on compliant with Emission Limit Values

The annual mean organic loading is less than the Treatment Plant Capacity as detailed further in Section 3.2.

The annual maximum organic loading is less than the Treatment Plant Capacity as detailed further in Section 3.2.

2.2 Discharges from the agglomeration

Table 2.2 - Effluent Monitoring

2.2.1 Effluent Monitoring Summary	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	Ortho P (mg/l)	Ammonia NH3 (mg/l)	pH
WWDL ELV (Schedule A) where applicable	14.00	125.00	35.00	0.75	1.00	6 to 9
ELV with Condition 2 Interpretation included	28.00	250.00	87.50	0.90	2.00	no allowable exceedances
Interim % Reduction (Schedule A)						
Number of sample results	6	6	6	6	6	6
Number of sample results above WWDL ELV	0	0	0	3	3	0
Number of sample results above ELV with Condition 2 Interpretation	0	0	0	3	3	N/A
Annual Mean (for parameters where a mean ELV applies)						
Overall Compliance (Pass/Fail)	Pass	Pass	Pass	Fail	Fail	Pass

Significance of results

The WWTP was non-compliant with the ELV's set in the wastewater discharge licence. There were 6 samples non-compliant with the ELVs in relation to Ortho P (mg/l), Ammonia NH₃ (mg/l). The non-compliance is due to ammonia exceedances were as follows: 04/05/16 4.7mg/l n , 16/08/16 3.9mg/l n, 15/11/16 4mg/l n. elv 1 for ammonia is 1mg/l and elv with condition 2 interpretation is 2mg/l. low influent volumes were the cause of the ammonia exceedances on at least one occasion in 2016. ortho p exceedances were due to equipment breakdown. The ortho p exceedances were as follows: 0.96mg/l p on 06/04/16, 1.5mg/l p on the 04/05/16 and 2.2mg/l p on the 16/08/16. elv 1 for ortho p is 0.75mg/l and elv with condition 2 interpretation is 0.9mg/l p. The impact on receiving waters is assessed further in Section 2.3.

2.3.1. Ambient Monitoring Summary

Table 2.3. Ambient Monitoring Report Summary Table

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	EPA Feature Coding Tool code	Bathing Water	Drinking Water	FWPM	Shellfish	Current WFD Status
Upstream Monitoring Point	267744E 343773N	RS03M010450					Poor
Downstream Monitoring Point	269400E 343137N	RS03M010500	No	No	No	No	Poor

The results for the upstream and downstream monitoring and/or additional monitoring data sets from Irish Water are included in the Appendix 7.2.

Significance of results

- The WWTP was non-compliant with the ELV's set in the wastewater discharge licence as detailed in Section 2.2.
- The discharge from the wastewater treatment plant does have an observable negative impact on the water quality.
- The discharge from the WWTP doesn't have an observable negative impact on the Water Framework Directive status.
- Other potential causes of deterioration in water quality relevant to this area are unknown

2.4 Data collection and reporting requirements under the UWWTD

The electronic submission of data was completed on 11/01/2017

2.5 Pollutant Release and Transfer Register (PRTR) - report for previous year

A PRTR is not required as the PE is < 100000

Section 3. Operational Reports Summary

3.1 Treatment Efficiency Report

	cBOD (kg/yr)	COD (kg/yr)	SS (kg/yr)	Total P (kg/yr)	Total N (kg/yr)
Influent mass loading (kg/year)	19,993	45,863	9,650	468	3,014
Effluent mass emission (kg/year)	344	1,985	553	67	1,359
% Efficiency (% reduction of influent load)	98%	96%	94%	86%	55%

3.2 Treatment Capacity Report

Table 3.2 - Treatment Capacity Report Summary

Hydraulic Capacity – Design / As Constructed (dry weather flow) (m3/day)	488
Hydraulic Capacity – Design / As Constructed (peak flow) (m3/day)	1,464
Hydraulic Capacity – Current loading (m3/day)	135
Hydraulic Capacity – Remaining (m3/day)	1,329
Organic Capacity - Design / As Constructed (PE)	2,150
Organic Capacity - Current loading (PE)	913
Organic Capacity – Remaining (PE)	1,237
Will the capacity be exceeded in the next three years? (Yes / No)	No
Is an upgrade or expansion of the WWTP proposed? (i.e. if on Minor Programme or CIP) (Yes/No)	No

3.3 Extent of Agglomeration Summary Report

In this section Irish Water is required to report on the amount of urban waste water generated within the agglomeration. It does not include any waste water collected and created in a private system and discharged to water under a Section 4 Licence issued under the Water Pollution Acts 1977 (as amended).

Table 3.3 - Extent of Agglomeration Summary Report

	% of P.E. load generated in the agglomeration	Estimated / Measured
Load generated in the agglomeration that is collected in the sewer network	100%	Estimated
Load collected in the agglomerations that enters treatment plant	Unknown	Estimated
Load collected in the sewer network but discharges without treatment (includes SWO, EO, and any discharges that are not treated)	Unknown	

Load generated in the agglomeration that is collected in the sewer network is the total load generated and collected in the municipal network within the boundary of the agglomeration.

Load collected in the agglomerations that enters treatment plant is that portion of the previous figure which enters the waste water treatment plant.

Load collected but discharged without treatment is that portion of the first figure which is discharged without treatment.

3.4 Complaints Summary

A summary of complaints of an environmental nature is included below.

Table 3.4 - Complaints Summary Table

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
0			

3.5 Reported Incidents Summary

A summary of reported incidents is included below.

Table 3.5.1 - Summary of Incidents

3.5.1 Incident Type (e.g. Non-compliance, Emission, spillage, pollution incident)	Incident Description	Cause	No. of Incidents	Recurring Incident (Yes/No)	Corrective Action	Authorities Contacted. Note 1	Reported to EPA (Yes/No)	Closed (Yes/No)
Non compliance	INCI009103 Breach of ELV for Ortho P and Ammonia	Ortho P exceedance caused by failure of Ferric dosing pump. Ferric dosing is flow related dosing. Low influent volumes contributed to at least 1 Ammonia failure in 2016.	4	Yes	Ferric pumps repaired, Primary settlement tanks desludged. Settlement tanks reduced capacity during low flow period to prevent septic conditions developing. IW process optimisation visit December 2016.	IFI	Yes	No

Note 1: For shellfish waters notify the Marine Institute (MI) Sea Fisheries Protection Authority (SFPA) Food Safety Authority (FSAI) and An Bord Iascaigh Mhara (BIM). This should also include any other authorities that should be contacted arising from the findings of any Licence Specific Reports also e.g. Drinking Water Abstraction Impact Risk Assessment, Fresh Water Pearl Mussel Impact Assessments etc.

Table 3.5.2 - Summary of Overall Incidents

Number of Incidents in 2016	4
Number of Incidents reported to the EPA via EDEN in 2016	4
Explanation of any discrepancies between the two numbers above	N/A

3.6 Sludge / Other inputs to the WWTP

Other inputs to the waste water treatment plant are summarised in Table 3.6 below.

Table 3.6 - Other Inputs

Input Type	m3/year	P.E.	% of load to WWTP	Included in Influent Monitoring? (Y/N)	Is there a leachate/sludge acceptance procedure for the WWTP? (Y/N)	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
Domestic /Septic Tank Sludge	0	0	N/A			
Industrial / Commercial Sludge	0	0	N/A			
Landfill Leachate (delivered by tanker)	0	0	N/A			
Landfill Leachate (delivered by sewer network)	0	0	N/A			
Other (specify)	0	0	N/A			

Section 4. Infrastructure Assessments and Programme of Improvements

4.1 Storm water overflow identification and inspection report

The Stormwater Overflow Assessment was submitted previously in AER 2014. A summary of the significance and operation is included below.

Table 4.1.1 - SWO Identification and Inspection Summary Report

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow (High/Med/Low)	Compliance with DoEHLG criteria	No. of times activated in 2016 (No. of events)	Total volume discharged in 2016 (m3)	Total volume discharged in 2016 (P.E.)	Estimated / Measured data
SW001 (TPEFF2400D 0346SW001)	267952E 343568N	Yes	Low	Compliant	Unknown	Unknown	Unknown	Estimated

Table 4.1.2 - SWO Identification and Inspection Summary Report

How much sewage was discharged via SWOs in the agglomeration in the year (m3/yr)?	Unknown
How much sewage was discharged via SWOs in the agglomeration in the year (p.e.)?	Unknown
What % of the total volume of sewage generated in the agglomeration was discharged via SWOs in the agglomeration in 2013?	Unknown
Is each SWO identified as non-compliant with DoEHLG Guidance included in the Programme of Improvements?	No
The SWO assessment includes the requirements of relevant WWDL Schedules (Yes/No)	No
Have the EPA been advised of any additional SWOs / changes to Schedules A/C under Condition 1 ?	N/A

4.2 Report on progress made and proposals being developed to meet the improvement programme requirements.

The Improvement Programme report included in Appendix: 7.1 Annual Statement of Measures addresses the **Specified Improvement Programmes** as detailed in Schedules A3 and C of the WWDL. It should detail other improvements identified through assessments required under the licence.

Table 4.2.1 - Specified Improvement Programme Summary

Specified Improvement Programmes	Licence Schedule	Licence Completion Date	Date Expired	Status of Works	% Construction Work Completed	Licensee Timeframe for Completing the Work	Comments
Commissioning and operation of ferric sulphate dosing unit	C	01/01/2013	Yes	Completed	100%	N/A	N/A

A summary of the status of any improvements identified by under Condition 5.2 is included below.

Table 4.2.2 - Improvement Programme Summary

Improvement Identifier / Name	Improvement Description	Improvement Source	Progress (% complete)	Expected Completion Date	Comments
High Inflows into the Emyvale WWTP during storm conditions/periods of heavy rainfall	CCTV survey of network and remedial measures identified carried out.	WWTP assessment (Condition 5.2)	0%	Unknown	The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis
No record of SWO activating	Install SWO measurement /	SWO assessment	0%		Emyvale is on 2nd Phase of the MN flow and Sampling

or measurement of flows	recorder device to measure flows/record no of times it activates				Programme . The 2nd phase of this programme is underway.
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Table 4.2.3 - Sewer Integrity Risk Assessment Tool Summary

The Improvement Programme should include an assessment of the integrity of the existing wastewater works for the following:	Risk Assessment Rating (High, Medium, Low)	Risk Assessment Score	Reference to relevant section of AER (e.g. Appendix 2 Section 4).	Specified improvements	Comment
Hydraulic Risk Assessment Score	High	145	Appendix 7.3 AER 2016		
Environmental Risk Assessment Score	Low	185	Appendix 7.3 AER 2016		
Structural Risk Assessment Score	High	140	Appendix 7.3 AER 2016		
Operation & Maintenance Risk Assessment Score	Low	72	Appendix 7.3 AER 2016		
Overall Risk Score for the agglomeration	High	542	Appendix 7.3 AER 2016		

Section 5. Licence Specific Reports

Licence Specific Reports Summary Table

Licence Specific Report	Never required by condition 5 in Licence	Required in this AER or outstanding from previous AER	Included in this AER / Remains outstanding	Reference to previous AER containing report or relevant section of this AER
Priority Substances Assessment	Required	No	No	AER 2014
Drinking Water Abstraction Point Risk Assessment	Not Required	No	No	
Shellfish Impact Assessment	Not Required	No	No	
Pearl Mussel Report	Not Required	No	No	
Toxicity/Leachate Management	Not Required	No	No	
Toxicity of Final Effluent Report	Not Required	No	No	
Small Stream Risk Score Assessment	Not Required	No	No	
Habitats Impact Assessment	Not Required	No	No	

Licence Specific Reports Summary of Findings

Licence Specific Report	Recommendations in Report	Summary of Recommendations in Report
Priority Substances Assessment	Yes	No further screening required
Drinking Water Abstraction Point Risk Assessment	No	
Shellfish Impact Assessment	No	
Pearl Mussel Report	No	
Toxicity/Leachate Management	No	
Toxicity of Final Effluent Report	No	
Small Stream Risk Score Assessment		
Habitats Impact Assessment	No	

5.1 Priority Substances Assessment

The Priority Substances Assessment was submitted previously in AER 2014 and is summarised below:

Priority Substance Assessment Summary Report	Licensee self- assessment checks to determine whether all relevant information is included in the Assessment.
Does the assessment use the Desk Top Study Method or Screening Analysis to determine if the discharge contains the parameters in Appendix 1 of the EPA guidance	Desktop Study and Screening Analysis
Does the assessment include a review of Trade inputs to the works?	Yes
Does the assessment include a review of other inputs to the works?	No
Does the report include an assessment of the significance of the results where a listed material is present in the discharge? (e.g. impact on the relevant EQS standard for the receiving water)	N/A
Does the assessment identify that priority substances may be impacting the receiving water?	No
Does the Improvement Programme for the agglomeration include the elimination / reduction of all priority substances identified as having an impact on receiving water quality?	No
Recommendations	No further screening required
Status of any improvement measures required	N/A

Section 6. Certification and Sign Off

Table 6.1 - Summary of AER Contents

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	N/A
Is there a need to request/advise the EPA of any modifications to the existing WWDL? Refer to Condition 1.7 (changes to works/discharges) & Condition 4 (changes to monitoring location, frequency etc.)	No
List reason e.g. failure to complete specified works within dates specified in the licence, changes to monitoring requirements	N/A
Have these processes commenced? (i.e. Request for Technical Amendment / Licence Review / Change Request)	N/A
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER?	No, none outstanding
Ensure the following reports are included	

Declaration by Irish Water

The AER contains the following:

- Introduction and background to 2016 AER.
- Monitoring Reports Summary.
- Operational Reports Summary.
- Infrastructural Assessment and Programme of Improvements.
- Licence specific reports
- Certification and Sign Off
- Appendices

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

Signed:  Date: 13/02/2017.....

Elizabeth Arnett
Head of Corporate Affairs and Environmental Regulation

Section 7. Appendices

Appendix 7.1 Statement of Measures

1	Issue	High Inflows into Emyvale WWTP during storm conditions/ periods of heavy rainfall
	Mitigation Measure	CCTV survey of network and remedial measures identified carried out
	Status	The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis.
2	Issue	No record of SWO activating or measurement of flows
	Mitigation Measure	Install SWO measurement / recorder device
	Status	Emyvale is on the MN flow monitoring and sampling programme 2017

Improvement Programme

- a) Specified Improvement Programme
- b) Programme of Improvements

As per condition 5.1 of the licence, a programme of infrastructural improvements to maximise the efficiency and effectiveness of the waste water works shall be prepared and submitted:

The treatment capacity and removal efficiencies of the Emyvale WWTP are addressed in section 2.1 and 3.1 of the AER.

Under Schedule C.1 of the licence, ‘Specified Improvement Programme’, ‘Commissioning and operation of the ferric Sulphate dosing unit’ is specified with completion date of 1st January 2013. The ferric dosing unit has been commissioned and is operating at the Emyvale WWTP. There were a number of exceedance for ortho P in 2016 due to issues with ferric dosing. These issues were addressed and will continue to be monitored in 2017.

No other specified improvement works are specified for the Emyvale WWTP.

Under condition 5.2 (a) of the licence, the programme of infrastructural improvements shall include an assessment of the waste water treatment plant having regard to the effectiveness of the treatment provided by reference to the following:

(i) The existing level of treatment, capacity of treatment plant and associated equipment:

The capacity of the wwtpp is detailed in table 3.2 of the AER

(ii) The emission limit values specified in Schedule A: Discharges, of this licence:

The wastewater treatment plant was non-compliant with ELV’s for Ammonia and Orthophosphate in 2016. Details of these breaches are included in Section 2.2 and 3.5 of the AER.

(iii) The designations of the receiving water body:

The Mountain Water River is not a designated Salmonid Water (under the European Communities (Quality of Salmonid Waters) Regulations, 1988), it is not identified as sensitive water in terms of the Urban Waste Water Treatment Regulations 2001. The river is not designated as an SPA, SAC or NHA. The Mountain Water River is in the Neagh Bann river basin district with overall status classified as ‘1a’ –Poor status and at risk of not meeting good status by 2015, with overall objective to restore its status by 2021 The ‘point risk source’ and potential for impact from the Emyvale WWTP discharge on the river is categorised as ‘1a –at risk’ and the combined storm overflows (CSOs) categorised as ‘2b – not at risk’.

Ambient monitoring results were assessed in section 2.3 of this report

(iv) Water quality objective for the receiving water body:

This item is addressed in point no. 4.2 (iii) above.

(v) The standards and volumetric limitations applied to any industrial waste water that is licensed to discharge to the waste water works:

There are no industries licensed to discharge to the waste water works.

Condition 5.2 (b) of the licence, the programme of infrastructural improvements requires an assessment of the integrity of the waste water works having regard to:

(i) Capacity of the waste water works:

There is adequate capacity at the treatment plant (Section 3.2).

(ii) Leaks from the waste water works:

There are no known leaks at the WWTP site.

(iii) Misconnections between foul sewers and surface water drainage network:

There are no known misconnections on the Emyvale network.

(iv) Infiltration by surface water/ground water:

Emyvale network is a combined system, during storm conditions/periods of extensive rainfall, inflows into the Emyvale WWTP increase greatly. It is unknown if there is infiltration by surface/ground water into the network. A CCTV survey of the network would identify any defects in the network and any remedial works required.

Under condition 5.2 (c) of the licence, the programme of infrastructural improvements shall include an assessment of all storm water overflows associated with the waste water works to determine the effectiveness of their operation and in particular identify improvements necessary to comply with the requirements of this licence:

There are no specified improvement works in the Emyvale discharge licence in relation to storm water overflows.

An assessment of the SWO from a storm tank at the WWTP in relation to the ‘Procedures and criteria in relation to Storm Water Overflows’, 1995 document, was carried out as part of the 2014 AER a summary of this assessment is included in Section 4.1 of this AER.

Condition 5.3 (a) and (b) of the licence, the programme of infrastructural improvements shall include a plan for implantation for each individual improvement identified:

Under Schedule C.1 of the licence, ‘Specified Improvement Programme’, ‘Commissioning and operation of the ferric Sulphate dosing unit’ is specified with completion date of 1st January 2013. The ferric dosing unit has been commissioned and is operating at the Emyvale WWTP.

There are no other specified improvement works under schedule C of the discharge licence. Appendix 7.1 details the improvement programme for Emyvale.

Appendix 7.2 Ambient Monitoring Results

Emyvale Upstream							
Sample Date	Sample Method	Dissolved Oxygen mg/l	TempoC	Ortho Phosphorus mg/l	Ammonia mg/l	pH units	BOD mg/l
03/02/16	Grab	13.1	5.8	0.032	0.032	7.8	<1
06/04/16	Grab	10.98	9.8	0.029	0.044	8	2.6
04/05/16	grab	11.5	9.5	0.015	0.016	8.1	1.5
16/08/16	Grab	7.53	17.6	0.043	0.051	8	1.8
15/11/16	Grab	11.1	7.2	0.023	0.013	7.9	1
06/12/16	Grab	14.13	4.6	0.012	0.023	8	<1
	Average	11.39	9.08	0.026	0.03	7.96	1.48
Emyvale Downstream							
Sample Date	Sample Method	Dissolved Oxygen mg/l	TempoC	Ortho Phosphorus mg/l	Ammonia mg/l	pH units	BOD mg/l
03/02/16	Grab	13.69	5.1	0.041	0.043	7.9	<1
06/04/16	Grab	10.51	9.6	0.017	0.05	8	2.7
04/05/16	grab	11.55	9.6	0.013	0.034	8	2.6
16/08/16	Grab	9.11	18.1	0.066	0.16	7.8	2
15/11/16	Grab	11.31	6.8	0.023	0.01	7.9	1
06/12/16	Grab	14.26	4.6	0.014	0.026	8.1	<1
	Average	11.74	8.96	0.029	0.054	7.95	1.71

Appendix 7.3 Sewer Integrity Risk Assessment 2016

Section 1.1 Agglomeration Details						
Name		Emyvale				
Licence Number		D0346-01				
Insert Name of Catchment if the Risk Assessment is for part of an agglomeration (only divide agglomeration where p.e. >5,000p.e. and where such division is warranted)		Emyvale				
Date Licence Issued		23/05/2012				
Current Date		10/02/2017				
Waste Water Works - Wastewater Treatment Plant Details		Unit	Year	Year	Year	Year
			2015	2016	2017	2018
1.1	Is there an existing WWTP in operation?		Yes	Yes	Yes	Yes
Section 1.2 BOD Loading & Population Equivalent						
1.2	Average Daily Influent Flow or Average Total Flow in system (If no measured data exists, insert estimated figure)	l/day, measured	177040	135360		
1.3	Average Daily Influent BOD or Average BOD Load from area served (If no measured data exists, insert estimated figure)	mg/l, measured	145.89	376.46		
1.4	Total BOD Load	kg/day	25.8283656	50.9576256	0	0
1.5	Average Population Equivalent (@0.06kg/person/day)	p.e.	430	849	0	0
1.6	Estimated (existing) Non-Domestic Load	p.e.	0	0		
1.7	Estimated Domestic Load	p.e.	430	849	0	0
1.8	Occupancy Rate for the Agglomeration	pop/house	2.7	2.7		
1.9	Estimated Number of Connected Properties	houses	159	315	0	0
1.10	Number of properties within the agglomeration when compared with CSO Data or An Post Geodirectory	houses	288	288		
Section 1.3 Hydraulic Details						
1.11	Average Dry Weather Flow arriving at WWTP OR Total Average DWF in system (If no measured data exists insert estimated figure)	l/s, measured	2.04	1.585069444		
1.12	Estimated 3DWF	l/sec	6.12	4.76	0.00	0.00
1.13	Annual Average Peak Flow to WWTP or discharging from whole system if there is no existing WWTP	l/s, measured	9.00462963	10.57		
1.14	This Annual Average Peak as Multiples of Dry Weather Flow (Peaking Factor)	Nr	4.41	6.67	0.00	0.00
1.15	Highest Peak Flow Recorded (Insert UNKNOWN if no records exist)	l/s	Unknown	10.57		
1.16	Does this Peak Flow (multiple of DWF) cause hydraulic capacity problems within the network ?	---	No	No	Yes	Yes
1.17	Total Rainfall for Previous Year	mm	1269	891		
1.18	Comparison - Mean Annual Rainfall for the agglomeration	mm	1006.9	1006.9		
1.18.1	Define the Weather Station Used		Ballyhaise	Ballyhaise		
1.19	If Storm Water Storage is available at the Wastewater Treatment plant, what is the volume of the storm tank ?	m ³	Unknown	Unknown		
1.20	Is the capacity of the storm tank sufficient to capture and retain all overflows to the tank ?	---	Unknown	No	No	No
1.21	Total monthly average volume of Storm Water Stored or Returned for Treatment within the Waste Water Treatment Plant	m ³ per month	Unknown	Unknown		
1.22	If the answer to 1.20 above is No, What is the estimated frequency of Overflows from the Storm Tank ? (N/A if no overflow)		Unknown	Unknown	1 to 2 times per month	< 1 per month
Waste Water Works - Sewer Network Details		Unit	2015	2016	2017	2018
Section 1.4 Waste Water Works - Gravity Sewer Details						
1.23	What database is used to maintain records of the sewer network		Hard Copy Drawings only	Hard Copy Drawings only	SUS 2002	SUS 2003
1.23.1	If other or combination of the above please describe	Describe				
1.24	Total length of sewers (use drop down menus to define whether these figures are estimated or measured)	km Estimated	2.77	2.77	0.00	0.00
1.24.1	Total length of sewers > 450mm Diameter	km Estimated	0.00	0.00		
1.24.2	Total length of sewers > 300mm but ≤ 450mm in Diameter	km Estimated	0.35	0.35		
1.24.3	Total length of sewers > 225mm but ≤ 300mm in Diameter	km Measured	0.59	0.59		
1.24.4	Total length of sewers ≤ 225mm in Diameter	km Estimated	1.83	1.83		
1.24.5	Other	km Estimated	0.30	0.30		
1.25	Pipeline Material					
1.25.1	What portion of the sewer network consists of Concrete Pipes	% Estimated	0%	0%		
1.25.2	What portion of the sewer network consists of Plastic Pipes	% Estimated	20%	20%		
1.25.3	What portion of the sewer network consists of Clay materials	% Estimated	0%	0%		
1.25.4	What portion of the sewer network consists of Brick Type Sewers	% Estimated	0%	0%		
1.25.5	What portion of the sewer network consists of Other Materials	% Estimated	80%	80%		
1.26	Total number of Storm Water Overflows	Nr	1	1		

1.27	What Screening or other mechanical devices are employed at the storm water overflows					
	SWO No. 001 located at southern corner of WWTP site 267952E 343568N	Describe	discharge is shared with the primary discharge.			
1.28	Water Quality at the receiving waters					
1.28.1	Where the receiving water is a river - indicate the EPA Biological Rating of the Receiving Water for each SWO below (Particularly if there is more than one receiving water within the agglomeration)					
	SWO No. 001 located at southern corner of WWTP site.	Describe	Q2-Q3	Q2-Q3		
1.28.2	Where the receiving water is a coastal water indicate the Status of the Receiving Water for each SWO below (Particularly if there is more than one receiving water within the agglomeration)					
	SWO No. 001 located at southern corner of WWTP site.	Describe	N/A	N/A		
1.28.3	With reference to the SWO's detailed above define if the receiving waters are sensitive in accordance with the Urban Wastewater Treatment Regulations as amended.					
	SWO No. 001 located at southern corner of WWTP site.	Describe	Not Listed	Not Listed		
1.28.4	With reference to the SWO's detailed above define are the receiving waters Protected Areas (designated or awaiting designation)					
	SWO No. 001 located at southern corner of WWTP site.	Designation	Not Listed	Not Listed		
1.28.5	With reference to the SWO's detailed above define do the receiving waters have any other designations.					
	SWO No. 001 located at southern corner of WWTP site.	Designation	Not Listed	Not Listed		
Section 1.5 Waste Water Works - Pumping Stations						
1.29	Number of Pumping Stations (operated by the Local Authority)	Nr	5	5		
1.30	Total Length of Rising Mains (operated by the Local Authority)	km	0.9	0.9		
1.31	Rising Main Material					
1.31.1	What portion of the rising mains consists of ductile iron pipes	% Measured	Unknown	Unknown		
1.31.2	What portion of the rising mains consists of plastic pipes	% Measured	Unknown	Unknown		
1.31.3	What portion of the rising mains consists of other materials	% Estimated	Unknown	Unknown		
1.32	Discharge Capacity of the Pump Set (s) at normal duty point					
	At Pump Station Mullan Road (Hugh Paddy) at 267949E, 344156N		Unknown	Unknown		
	At Pump Station Mullan Road (New Houses) at 267812E, 344133N		Unknown	Unknown		
	At Pump Station Lakeview at 267524E, 344235N		Unknown	Unknown		
	At Pump Station Cois Locha at 267604E, 344251N		Unknown	Unknown		
	At Pump Station Sruth an Mhuileann at 267358E, 343813N		34	34		
1.33	What percentage of the pumping stations have recorded flow data (i.e. if all pumping stations have flow meters on the rising mains then this would read 100%)	%	0.00%	0.00%		
1.34	Available Storage Capacity at Pump Stations (include pump sump and any storm water/emergency overflow tanks)					
	At Pump Station Mullan Road (Hugh Paddy) at 267949E, 344156N	m ³	Unknown	Unknown		
	At Pump Station Mullan Road (New Houses) at 267812E, 344133N	m ³	Unknown	Unknown		
	At Pump Station Lakeview at 267524E, 344235N	m ³	Unknown	Unknown		

	At Pump Station Cois Locha at 267604E, 344251N	m ³	Unknown	Unknown		
	At Pump Station Sruth an Mhuileann at 267358E, 343813N	m ³	ers emergency	ers emergency storage		
1.35	Total Number of " Licensed Secondary Discharge Points and Stormwater Overflows " at pumping stations	Nr	0	0		
1.36	Total Number of " Emergency Overflow Points " at pumping stations	Nr	0	0		
1.37	What Screening or other mechanical devices are employed at the secondary discharge points or emergency overflows ?					
	At Pump Station Mullan Road (Hugh Paddy) at 267949E, 344156N	Describe	N/A	N/A		
	At Pump Station Mullan Road (New Houses) at 267812E, 344133N	Describe	N/A	N/A		
	At Pump Station Lakeview at 267524E, 344235N	Describe	N/A	N/A		
	At Pump Station Cois Locha at 267604E, 344251N	Describe	N/A	N/A		
	At Pump Station Sruth an Mhuileann at 267358E, 343813N	Describe	N/A	N/A		
1.38	Water Quality at the receiving waters at each pumping station location					
1.38.1	Where the receiving water is a river - indicate the EPA Biological Rating of the Receiving Water for each secondary discharge point or emergency overflow at each pumping station (Particularly if there is more than one receiving water within the agglomeration)					
	At Pump Station Mullan Road (Hugh Paddy) at 267949E, 344156N	Describe	Q2-Q3	Q2-Q3		
	At Pump Station Mullan Road (New Houses) at 267812E, 344133N	Describe	Q2-Q3	Q2-Q3		
	At Pump Station Lakeview at 267524E, 344235N	Describe	Q2-Q3	Q2-Q3		
	At Pump Station Cois Locha at 267604E, 344251N	Describe	Q2-Q3	Q2-Q3		
	At Pump Station Sruth an Mhuileann at 267358E, 343813N	Describe	Q2-Q3	Q2-Q3		
1.38.2	Where the receiving water is a coastal water indicate the Status of the Receiving Water for each secondary discharge point or emergency overflow at each pumping station (Particularly if there is more than one receiving water within the agglomeration)					
	At Pump Station Mullan Road (Hugh Paddy) at 267949E, 344156N	Describe	N/A	N/A		
	At Pump Station Mullan Road (New Houses) at 267812E, 344133N	Describe	N/A	N/A		
	At Pump Station Lakeview at 267524E, 344235N	Describe	N/A	N/A		
	At Pump Station Cois Locha at 267604E, 344251N	Describe	N/A	N/A		
	At Pump Station Sruth an Mhuileann at 267358E, 343813N	Describe	N/A	N/A		
1.38.3	With reference to the pumping stations, for each secondary discharge point or emergency overflow detailed above, define if the receiving waters are sensitive in accordance with the Urban Wastewater Treatment Regulations as amended.					
	At Pump Station Mullan Road (Hugh Paddy) at 267949E, 344156N		Sensitive	Sensitive		
	At Pump Station Mullan Road (New Houses) at 267812E, 344133N		Sensitive	Sensitive		
	At Pump Station Lakeview at 267524E, 344235N		Sensitive	Sensitive		
	At Pump Station Cois Locha at 267604E, 344251N		Sensitive	Sensitive		
	At Pump Station Sruth an Mhuileann at 267358E, 343813N		Sensitive	Sensitive		
	^^ All pump stations to Mountain water which is a tributary of R.Blackwater, a sensitive water course.					

1.38.4	With reference to the pumping stations, for each secondary discharge point or emergency overflow detailed above, are the receiving waters Protected Areas (designated or awaiting designation) .					
	At Pump Station Mullan Road (Hugh Paddy) at 267949E, 344156N	Designation	No	No		
	At Pump Station Mullan Road (New Houses) at 267812E, 344133N	Designation	No	No		
	At Pump Station Lakeview at 267524E, 344235N	Designation	No	No		
	At Pump Station Cois Locha at 267604E, 344251N	Designation	No	No		
	At Pump Station Sruth an Mhuileann at 267358E, 343813N	Designation	No	No		
1.38.5	With reference to the pumping stations, for each secondary discharge point or emergency overflow detailed above, do the receiving waters have any other designations.					
	At Pump Station Mullan Road (Hugh Paddy) at 267949E, 344156N	Designation	No	No		
	At Pump Station Mullan Road (New Houses) at 267812E, 344133N	Designation	No	No		
	At Pump Station Lakeview at 267524E, 344235N	Designation	No	No		
	At Pump Station Cois Locha at 267604E, 344251N	Designation	No	No		
	At Pump Station Sruth an Mhuileann at 267358E, 343813N	Designation	No	No		
	^^Mountain water meets with R.Blackwater, a salmonid fishery	Designation				
1.39	Estimated Number of Private Pumping Stations within the agglomeration (not operated by the Local Authority)	Nr	0	0		
	Section 1.6 Reporting					
	Section 1.6.1 Reported Number of Sewer Related Complaints (‘Complaint’ as defined in the Discharge Licence)					
1.40	Number of Reported Complaints	Nr	1	1		
1.41	Number of Reported Complaints which have been rectified	Nr	1	1		
	Section 1.6.2 Reported/Recorded/Estimated Number of Secondary Discharges					
1.42	Number of Reported Secondary Discharges	Nr	0	0		
1.43	Number of Recorded Secondary Discharges	Nr	0	0		
1.44	Estimated Total Number of Secondary Discharges	Nr	0	0	0	0
	Section 1.6.3 Reported/Recorded/Estimated Number of Emergency Overflow Discharges from Pumping Stations					
1.45	Number of Reported Emergency Overflow Discharges	Nr	0	0		
1.46	Number of Recorded Emergency Overflow Discharges	Nr	0	0		
1.47	Estimated Total Number of Emergency Overflow Discharges	Nr	0	0	0	0
	Section 1.7 Operational Staff					
1.48	In the four boxes below, describe the extent of operation staff employed by the Local Authority to maintain and operate the sewer network and pumping stations <i>(The individual personnel shall not be named, only grade and level of training needs to be provided)</i>					
1.48.1	Caretaker 3 is responsible for the maintenance and operation of the Emyvale network and WWTP. This Caretaker is also responsible for the Glaslough and Carrickroe agglomerations.					
1.48.2	Caretaker operates under the supervision of a Line Manager Technician					
1.48.3	The Line Manager Technician is supervised by the Senior Executive Engineer					
1.48.4						
	Waste Water Works - Investment Details	Unit	2015	2016	2017	2018
	Section 1.8 Capital Investment works carried out since most recent report (including works not included on WSIP Programme or not WSIP funded)					
1.49	Sewers Upgraded or Replaced	m	0	0		
1.50	Sewers Rehabilitated	m	0	0		
1.51	Manholes Rehabilitated	Nr	0	0		

1.52	Local Repairs	Nr	0	0		
1.53	Total Length of sewers Upgraded, Replaced or Rehabilitated	m	0	0	0	0
1.54	Pumping Stations Operated by Local Authority Upgraded or Repaired	Nr	0	0		
1.55	WWTW operated by Local Authority Upgraded or Replaced	Nr	0	0		
1.56	In the following two cells describe the actual Capital Investment undertaken in the reporting period.					
1.56.1	There were no major capital or operational changes undertaken in 2015. An Annual Statement of Measures is included in Appendix 7.1.					
1.56.2						
	Section 1.9 Licence Specified Improvements Works					
1.57	2015 AER, Appendix 7.3					
	Section 1.10 Other Updates Since Last Report					
1.58						

Section 2.1 Hydraulic Risk Assessment

Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
2.1	Has a Hydraulic Performance Assessment been undertaken for the Sewer Network (e.g., Computer Model or other Engineering Design or Design Review) ?	No	40	Identified, therefore a	If the answer is No assess the need and cost benefit of developing a computer model or engineering design assessment of the Sewer Network and complete Query 2.12. If the answer is Yes proceed to Queries 2.1.1 to 2.1.4 inclusive
2.1.1	If Answer to Query 2.1 is Yes, what % of the Network is covered by the hydraulic assessment ?	N/A	0		The % coverage of the Network by the Hydraulic Assessment can be estimated by the area assessed against the area served by the Network. ENTER "N/A" IF COMPUTER MODEL or DESIGN DOES NOT EXIST. DO NOT LEAVE BLANK OR ENTER "0".
2.1.2	How many years has it been since the completion of the hydraulic assessment ?	N/A	0		Select N/A response if no design assessment or design exists.
2.1.3	Are the outcomes of the Hydraulic Assessment being implemented ?	N/A	0		Select N/A response if no design assessment or design exists.
2.1.4	How many years has it been since the outcomes of the hydraulic assessment have been implemented ?	N/A	0		Select N/A response if no hydraulic performance assessment or design exists. For ongoing works select "less than 5".
2.2	Has a Dynamic Computer Model been used to Assess the Hydraulic Performance of the Sewer Network ?	No	10		Computer Model means a Hydroworks/Infoworks Model, Micro-Drainage Model or equivalent.
2.3	Has a Manhole Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Manhole Location Surveys and the Production of Record Maps" ?	No	10		If the answer is No assess the need and cost benefit of undertaking a Manhole Survey and complete Query 2.12. If the answer is Yes proceed to Query 2.2.1
2.3.1	If yes, how many years has it been since the survey was undertaken or updated?	N/A	0		Select N/A if no Manhole Survey has been undertaken. Enter N/A value for Confidence Grade if Prompt Box is "N/A"
2.4	Has a Flow Survey been undertaken in accordance with WRc Documentation "A Guide to Short Term Flow Surveys of Sewer Systems" and "Contract Documents for Short Term Sewer Flows" ?	No	20		If the answer is No assess the need and cost benefit of undertaking a Flow Monitoring Survey and complete Query 2.12. If answer is Yes Proceed to Query 2.5
2.5	What was this Flow Survey Information Used for ?				
2.5.1	To Determine the extent of Problematic Sewer Catchments	N/A	0		Select N/A if no Flow Survey has been undertaken.
2.5.2	To Verify a Computer or Mathematical Model of the Network	N/A	0		Select N/A if no Flow Survey has been undertaken.
2.6	Have Performance Criteria been developed to determine the short, medium or long term capacity of the sewer network ?	No	10		If the answer is No assess the Future Needs of the Sewer Network and complete Query 2.12. If the answer is Yes proceed to Query 2.8
2.7	How many flood events resulting from surcharge in the network have occurred in the past 3 years?	1 to 3	5		Flood events in this context means water/sewage backing up from the Network causing flooding of properties or causing disruption of traffic
2.8	Are there deficiencies in performance criteria within the sewer network ?	Yes	20		If the answer is No , Proceed to Query 2.10 and complete Query 2.12. If the answer is Yes proceed to Query 2.9
2.9	Have the causes of these deficiencies in the Performance Criteria been identified and rectified ?	No	10		If the answer is No , consider further examination of the hydraulic model (if available) and complete Query 2.12. If the answer is Yes proceed to Query 2.10
2.10	Can the Hydraulic Assessment (defined in Query 2.1 above) be used to determine the benefit of reducing the contributory Impermeable Areas or extent of surface water contributions	No	10		If the answer is No , consider further development of the Hydraulic Assessment (or model if available) and complete Query 2.12. If the answer is Yes proceed to Query 2.11
2.11	Has an Impermeable Area Survey been carried out for the agglomeration or parts of the agglomeration ?	No	10		If the answer is No , consider the need and cost benefit of undertaking an Impermeable Survey for parts of the agglomeration which are under hydraulic pressure and complete Query 2.12.
Total Risk Assessment Score (RAS)			145		
2.12	Prepare Assessment of Needs & Sewer Upgrade Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
2.13	In the AER provide Summary of Proposed Works or Direction to be taken to improve hydraulic efficiency				

Section 3.1 Environmental Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
3.1	<u>What Environmental or Discharge Quality Data is available with regard to the sewer network ?</u>	largely anecdotal	20		Select N/A if no discharges, secondary discharges or overflows from network; if discharges do exist complete Query 3.12
3.1.1	<u>Do trade effluents discharge to the sewer network?</u>	No	0		If the answer is No , proceed to Query 3.1.2. If the answer is Yes , Proceed to Query 3.2
3.1.2	<u>Are there Storm Water Overflows within the network ?</u>	Yes	20		If the answer is No , proceed to Query 3.1.3. If the answer is Yes , Proceed to Query 3.3
3.1.3	<u>Are there Secondary Discharges within the network (excluding Emergency Overflows at Pump Stations)?</u>	Unknown	20		If the answer is No , proceed to Query 3.1.4.
3.1.4	<u>Is there any evidence that exfiltration is occurring from the network ?</u>	Unknown	20		If the answer is No , does all wastewater enter a wastewater treatment plant (insert summary details in the AER)? If Yes , Proceed to Query 3.6
3.2	<u>If Answer to Query 3.1.1 is "Yes", what % of trade effluents have a licence to Discharge to the Public Sewer ?</u>	N/A	0		Select N/A if answer to Query 3.1.1 is No . If not all trade effluents are licenced, Local Authority should consider issuing and controlling such discharges under the appropriate Legislation.
3.2.1	<u>Are all licenced trade Discharges compliant with their relevant licence and associated conditions.</u>	N/A	0		Answer N/A if none of the trade effluents are licenced. Answer No if this information is unknown. If the answer is Unknown or No , consider issuing a direction to the relevant Licencee. If the answer is Yes , no further action is needed.
3.2.2	<u>If Answer to Query 3.2.1 is "No", state what % of Trade Discharges are NOT compliant with their relevant licence and associated conditions (where that non-compliance led to enforcement action)</u>	N/A	0		Select N/A if answer to Query 3.2.1 is Yes . If N/A is selected as answer to Query 3.2.2
3.3	<u>In accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows", what % of storm water overflows in the system have been classified for their significance?</u>	N/A	0		If the answer is No , consider a review of each discharge within the sewer network complete and Query 3.11. If the answer is Yes , proceed to Query 3.6
3.4	<u>Have samples from any Secondary Discharges within the system been analysed ?</u>	No	30		Select N/A if no secondary discharges in system. If the answer to Query 3.4 is No , consider examining the quality of each secondary discharge within the sewer network complete Query 3.11. If the answer is Yes , proceed to Query 3.5
3.5	<u>What percentage of discharges from the system are known to cause environmental pollution of the receiving waters ?</u>	None	0		If the answer is greater than 50% then detail, in the AER, the Improvement Programme necessary to reduce this percentage.
3.6	<u>In relation to possible exfiltration has a risk analysis of ground water contamination or pollution been undertaken ?</u>	No	20		Select N/A if answer to Query 3.1.4 is No . If the answer is No , consider undertaking ground water risk analysis and complete Query 3.12 If the answer is Yes , proceed to Query 3.6
3.6.1	<u>If Answer to Query 3.6 is "Yes", have any groundwater aquifers been identified in the area of the Network and/or Discharge Points?</u>	No	0		Select N/A if no risk analysis of groundwater contamination has been undertaken.
3.6.2	<u>If Answer to Query 3.6.1 is "Yes", state the classification of groundwater aquifer identified in the area?</u>	N/A	0		Select N/A if no risk analysis of groundwater contamination has been undertaken.
3.6.3	<u>In relation to Query 3.6.1, is the aquifer used as a source for Public, Private or Group Water Supply Schemes?</u>	N/A	0		Select N/A if no risk analysis of groundwater contamination has been undertaken.
3.7	<u>Has an Impact Assessment of each Storm Water Overflow been undertaken in accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows" including setting performance criteria?</u>	No	40		If the answer is No , consider assessing the risk category of the receiving waters. If the answer is Yes , proceed to Query 3.8 and provide summary details of the assessment in the AER.
3.8	<u>What percentage of storm water overflows comply with the performance criteria referred to in Query 3.7?</u>	N/A	0		Select N/A if answer to Query 3.7 is No or if there are no SWOs in system. (Risk Score is locked at 0 if no SWOs in system is stated in Agglomeration Details)
3.9	<u>Have the causes of these Capacity Deficiencies (storm water overflows & Secondary Discharges) been identified ?</u>	No	15		Select N/A if answer to Query 3.7 is No or if there are no SWOs in system. If the answer to Query 3.9 is No , consider further examination of the environmental model in the AER.
Total Risk Assessment Score (RAS)			185		
3.10	<u>Prepare Assessment of Needs & Sewer Upgrade Implementation Plan</u>	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
3.11	Provide Summary Details (in the AER) of records upstream and downstream of licenced discharges with regard to Environmental Performance of the network. These details can be included as part of the AER submitted for the agglomeration.				

Section 4.1 Structural Risk Assessment

Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
4.1	Has a CCTV Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Sewer Condition Inspections" and "Manual of Sewer Condition Classification" ?	No	10		If the answer is No assess the need and benefit of undertaking CCTV Survey. If Yes Proceed to Query 4.2
4.1.1	How many years has it been since the completion of the CCTV Survey?	N/A	0		If no CCTV has been undertaken, select "N/A" response
4.2	What was this CCTV Survey Information Used for?	N/A	10		Select N/A if answer to Query 4.1 is NO.
4.3	Has the CCTV Survey been used to Assess the Structural Condition of the Sewer Network or targeted sections of the Sewer Network?	No	5		If no CCTV has been undertaken, select "No" response. If the answer is No assess the need and benefit of undertaking an assessment of the Structural Condition of the Sewer Network. If the answer is Yes proceed to Q
4.4	Have Performance Criteria been developed to determine the short, medium or long term structural condition of the sewer network ?	No	5		If the answer is No , enter "unknown" in response to Queries 4.4.1 to 4.4.5; consider assessing the Future Needs of the Sewer Network. If the answer is Yes proceed to Queries 4
4.4.1	What % of the Total Sewer Length contains Collapsed or Imminent Collapse of Sewers (Grade 5)	unknown	30		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 5 collapse, include the total length of that sewer in calculating the %. If information is not available type "Unknown" into Prompt Box
4.4.2	What % of Total Sewer Length contains Sewers Likely to Collapse (Grade 4)	unknown	25		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 4 condition, include the total length of that sewer in calculating the %. If information is not available type "Unknown" into Prompt Box
4.4.3	What % of Total Sewer Length contains sewers with Further Possible Deterioration (Grade 3)	unknown	10		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 3 deterioration, include the total length of that sewer in calculating the %. If information is not available type "Unknown" into Prompt Box
4.4.4	What % of Total Sewer Length contains sewers with Minimal Collapse (Grade 2)	unknown	5		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 2 feature, include the total length of that sewer in calculating the %. If information is not available type "Unknown" into Prompt Box
4.4.5	What % of Total Sewer Length contains sewers of Acceptable Structural Condition (Grade 1)	unknown	5		Insert Percentage of Overall Network Length. If information is not available type "Unknown" into Prompt Box
If all % lengths are known, Check Total Length = 100%			75		If answers to Queries 4.4.1, 4.4.2 or 4.4.3 are above a set level, the RAS for Query 4 is automatically set at the maximum of 140.
4.5	What % of the deficiencies, as detailed in Items 4.4.1, 4.4.2 and 4.4.3, have been rectified ?	N/A	35		Select N/A if answer to Query 4.4 is No . If the answer is No , Proceed to Query 4.6 If the answer is Yes , what monitoring is in place to ensure continued acceptance of structural condition? Proceed to Query 4.7
4.6	Have the causes of the Structural Deficiencies (Grades 3, 4 and 5) been identified or is there a Preventative Maintenance Programme in place?	N/A	0		If the answer is No , consider further examination of the sewer network, the structural loading conditions, gradients and possible H ₂ S Formation. If Yes completed Query 4.7
Total Risk Assessment Score (RAS)			140		
4.7	Prepare Assessment of Needs & Sewer Rehabilitation Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			

Section 5.1 O&M Risk Assessment

Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
5.1	<u>Are complaints of an environmental nature recorded and held in a central database?</u>	Yes	0		Consider setting up Central Database for Complaints
5.2	<u>Is there an emergency response procedure in place?</u>	No	20		Consider setting up target response times for dealing with Complaints
5.3	<u>What has been the highest frequency of flooding in the network due to hydraulic inadequacy, over the past 5 years?</u>	Once/yr	4		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.4	<u>What has been the highest frequency of flooding in the network due to operational causes over the past 5 years?</u>	Once/yr	4		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.5	<u>What has been the highest frequency of surcharging of critical sewers in the network, over the past 5 years?</u>	Once/yr	2		Select the highest number of events in any 12 month period.
5.6	<u>What has been the highest frequency of reportable incidents in the network, over the past 5 years?</u>	Once/yr	2		Select the highest number of events in any 12 month period.
5.7	<u>What has been the highest frequency of reportable incidents due to discharges, for whatever reason, from Pumping Station Emergency Overflows in the network, over the past 5 years?</u>	More than 5 times/yr	20		Select the highest number of events at any given Pumping Station in any 12 month period.
5.8	<u>What has been the highest frequency of blockages in sewers in the network over the past 5 years?</u>	unknown	20		Select the highest number of events per km of sewer network in any 12 month period.
5.9	<u>What has been the highest frequency of collapses in sewers in the network over the past 5 years?</u>	None	0		Select the highest number of events in any 12 month period.
5.10	<u>What has been the highest frequency of bursts in rising mains in the network over the past 5 years?</u>	None	0		Select the highest number of events in any 12 month period.
Total Risk Assessment Score (RAS)			72		
5.11	<u>Prepare Up Dated Operational and Maintenance Plan</u>				

Section 6.1 Summary of Risk Assessment Scores

Element	Risk Assessment Score	Risk Category	% Risk Score	Maximum Risk Score
Section 2.1 Hydraulic Risk Assessment	145	High Risk	97%	150
Section 3.1 Environmental Risk Assessment	185	Low Risk	37%	500
Section 4.1 Structural Risk Assessment	140	High Risk	93%	150
Section 5.1 O&M Risk Assessment	72	Low Risk	36%	200
Total RAS for Network	542	High Risk	54%	1000

If the total RAS is greater than 750, or if any of the individual RASs are greater than 75% of the Maximum Available Score, the Risk category for the Network is graded "High Risk"