Annual Environmental Report 2016

Agglomeration Name:	**Dingle**
Licence Register No.	**D0185-01**

Contents

Section 1. Executive Summary and Introduction to the 2016 AER

1.1 Summary Report on 2016

This Annual Environmental Report has been prepared for **D0185-01, Dingle,** in County **Kerry**, 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:

- Storm water overflow assessment

The agglomeration is served by a wastewater treatment plant with a Plant Capacity PE of 12000. The treatment process includes the following:-

- Preliminary Treatment (Preliminary Screening)
- Primary Treatment (Diffused aeration)
- Secondary Treatment (Final Settlement)
- Nutrient Removal (Phosphate Removal)

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

417kgs total weight of liquid sludge with 16% dry solids and 66,691kgs total weight of dewatered sludge cake was removed from the wastewater treatment plant in 2016. Sludge was transferred to Cremin Composting Co. Limerick.

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)	Hydraulic Loading (m3/d)	Organic Loading (PE/Day)
Number of Samples	14	14	14		
Annual Max.	320	558	314	17333	42,293
Annual Mean	129.56	266.32	107.16	4759.52	10608.13

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 greater than the peak Treatment Plant Capacity as detailed further in Section 3.2. The design of the wastewater treatment plant allows for peak values and therefore the peak loads have not impacted on 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 greater 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)	pH	Total Oxidised Nitrogen (mg/l)
WWDL ELV (Schedule A) where applicable	20	125	30	6 to 9	35
ELV with Condition 2 Interpretation included	40	250	75	N/A	42.00
Number of sample results	14	14	14	12	14
Number of sample results above WWDL ELV	0	1	0	0	0
Number of sample results above ELV with Condition 2 Interpretation	0	0	0	0	0
Overall Compliance (Pass/Fail)	Pass	Pass	Pass	Pass	Pass

Significance of results

The WWTP was compliant with the ELV's set in the wastewater discharge licence.

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	X:4311 Y:900245	None					Good
Downstream Monitoring Point	X:44554 Y:99900	None	Yes	No	No	No	Good

The results for the upstream and downstream monitoring and/or additional monitoring data sets from Southern Scientific are included in the Appendix.

Significance of results

- The WWTP was compliant with the ELV's set in the wastewater discharge licence as detailed in Section 2.2.
- The receiving waters do meet the EQS for Bathing Waters.
- 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.

2.4 Data collection and reporting requirements under the UWWTD

The electronic submission of data was completed on 28/02/2017

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)
Influent mass loading (kg/year)	232,318	477,565	192,156
Effluent mass emission (kg/year)	9,731	117,501	22,053
% Efficiency (% reduction of influent load)	96%	75%	89%

3.2 Treatment Capacity Report

Table 3.2 - Treatment Capacity Report Summary

Hydraulic Capacity – Design / As Constructed (dry weather flow) (m3/day)	1,728
Hydraulic Capacity – Design / As Constructed (peak flow) (m3/day)	5,184
Hydraulic Capacity – Current loading (m3/day)	4,760
Hydraulic Capacity – Remaining (m3/day)	424
Organic Capacity - Design / As Constructed (PE)	12,000
Organic Capacity - Current loading (PE)	10,608
Organic Capacity – Remaining (PE)	1,392
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	Estimated

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
1	Investigative Sewage Flooding	0	1

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)
None	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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	N/A
Number of Incidents reported to the EPA via EDEN in 2016	N/A
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	251	Unknown	0.01%	No	Yes	No
Industrial / Commercial Sludge	189	Unknown	0.01%	No	Yes	No
Landfill Leachate (delivered by tanker)	0	N/A	0.00%	No	No	No
Landfill Leachate (delivered by sewer network)	0	N/A	0.00%	No	No	No
Other (specify)	0	N/A	0.00%	No	No	No

Section 4. Infrastructure Assessments and Programme of Improvements

4.1 Storm water overflow identification and inspection report

The Storm Water Overflow Identification & Inspection report is included in Appendix 7.4. 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
TPEFF1300D0185 SW004	100426N 044236E	Yes	Low	Compliant	Unknown	Unknown	Unknown	N/A
TPEFF1300D0185 SW002	100907N 044554E	Yes	Low	Compliant	Unknown	Unknown	Unknown	N/A
TPEFF1300D0185 SW003	101332N 043405E	Yes	Low	Compliant	Unknown	Unknown	Unknown	N/A
SW005	102761N 42969E	No	Low	Compliant	Unknown	Unknown	Unknown	N/A

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 2016?	Unknown
Is each SWO identified as non-compliant with DoEHLG Guidance included in the Programme of Improvements?	N/A
The SWO assessment includes the requirements of relevant WWDL Schedules (Yes/No)	Yes
Have the EPA been advised of any additional SWOs / changes to Schedules A/C under Condition 1 ?	No

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

The Improvement Programme report 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
None							

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
None					

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 7.6 & AER 2015	n/a	n/a
Environmental Risk Assessment Score	Low	275	Appendix 7.6 & AER 2015	n/a	n/a
Structural Risk Assessment Score	High	150	Appendix 7.6 & AER 2015	n/a	n/a
Operation & Maintenance Risk Assessment Score	Low	14	Appendix 7.6 & AER 2015	n/a	n/a
Overall Risk Score for the agglomeration	High	584	Appendix 7.6 & AER 2015	n/a	n/a

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	Not Required	No	No	N/A
Drinking Water Abstraction Point Risk Assessment	Not Required	No	No	N/A
Shellfish Impact Assessment	Not Required	No	No	N/A
Pearl Mussel Report	Not Required	No	No	N/A
Toxicity/Leachate Management	Not Required	No	No	N/A
Toxicity of Final Effluent Report	Not Required	No	No	N/A
Small Stream Risk Score Assessment	Not Required	No	No	N/A
Habitats Impact Assessment	Not Required	No	No	N/A

Licence Specific Reports Summary of Findings

Licence Specific Report	Recommendations in Report	Summary of Recommendations in Report
Priority Substances Assessment	No	
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	No	
Habitats Impact Assessment	No	

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	Additional SWO identified
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?	Yes
Ensure the following reports are included	Storm water overflow assessment

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:....23 February 2017.....

Elizabeth Arnett
Head of Corporate Affairs and Environmental Regulation

Section 7 - Appendices

Appendix 7.1 – Annual Statement of Measures

Annual Statement of Measures

No additional measures have been taken in 2016 in relation to prevention of environmental damage. The need for measures to prevent environmental damage will be reviewed on an annual basis.

Appendix 7.2 – Ambient Monitoring Summary

Station Name	Name of Receiving Water	Sampling Point Description	EDEN Code	Monitoring Location Easting/Northing	Sample Reason	Sampling Method	Sample Date	Sample Time	Name of Sample Collector	Laboratory Used (KCC/S.Scientific)	Visual Inspection	pH	cBOD	Ortho P	NH3-N	TON	Dissolved Inorganic Nitrogen	Temperature (degree C)	Dissolved Oxygen	NO3	NO2
DINGLE WWTP Ambient Monitoring	Dingle Harbour	Point A	None	Q4311900245	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	23/04/2016	12	Sinead Fagan	S.Scientific	Clear	8	<1	0.02	0.3	<3.0	3.305	10.21	9.27	<3.0	<0.005
DINGLE WWTP Ambient Monitoring	Dingle Harbour	Point B	None	V44554 99900	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	23/04/2016	12	Sinead Fagan	S.Scientific	Clear	8	<1	0.02	0.2	<3.0	3.205	10.36	9.3	<3.0	<0.005
DINGLE WWTP Ambient Monitoring	Dingle Harbour	Point C	None	Q44261 00418	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	23/04/2016	12	Sinead Fagan	S.Scientific	Clear	8	<1	0.02	0.7	<3.0	3.707	12.3	8.85	<3.0	<0.005
DINGLE WWTP Ambient Monitoring	Dingle Harbour	Point A	None	Q4311900245	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	27/06/2016	12	Sinead Fagan	S.Scientific	Clear	8.1	<1	<0.01		<0.02	0.26	15	8.4	102.2	
DINGLE WWTP Ambient Monitoring	Dingle Harbour	Point B	None	V44554 99900	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	27/06/2016	12	Sinead Fagan	S.Scientific	Clear	8.1	<1	<0.01		<0.02	<0.02	14.9	8.46	102.7	
DINGLE WWTP Ambient Monitoring	Dingle Harbour	Point C	None	Q44261 00418	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	27/06/2016	12	Sinead Fagan	S.Scientific	Clear	8.1	<1	0.03		<0.02	<0.02	16.1	8.06	99.3	
DINGLE WWTP Ambient Monitoring	Dingle Harbour	Point A	None	Q4311900245	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	17/08/2016	12	Sinead Fagan	S.Scientific	Clear	8.1	<1	<0.01		<0.2	<0.25	16.2	8.41	105	
DINGLE WWTP Ambient Monitoring	Dingle Harbour	Point B	None	V44554 99900	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	17/08/2016	12	Sinead Fagan	S.Scientific	Clear	8.1	<1	<0.01		<0.2	<0.25	16.5	8.1	102	
DINGLE WWTP Ambient Monitoring	Dingle Harbour	Point C	None	Q44261 00418	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	17/08/2016	12	Sinead Fagan	S.Scientific	Clear	8.1	<1	<0.01		<0.2	<0.25	16.9	8.8	104	
DINGLE WWTP Ambient Monitoring	Dingle Harbour	Point A	None	Q4311900245	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	17/11/2016	12	Sinead Fagan	S.Scientific	Clear	8	<1	<0.01		0.07	0.09	10.79	8.83	101.45	
DINGLE WWTP Ambient Monitoring	Dingle Harbour	Point B	None	V44554 99900	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	17/11/2016	12	Sinead Fagan	S.Scientific	Clear	8	<1	0.03		0.07	0.09	11.3	8.68	100.69	
DINGLE WWTP Ambient Monitoring	Dingle Harbour	Point C	None	Q44261 00418	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	17/11/2016	12	Sinead Fagan	S.Scientific	Clear	8	<1	<0.01		0.14	0.12	13.47	8.16	97.16	

Appendix 7.3 – Pollutant Release and Transfer Register (PRTR) Summary Sheets

Pollutant Release and Transfer Register (PRTR) Summary Sheets are not a requirement of the Waste Water Discharge Licence for 2015.
Agglomerations greater than 2,000 p.e. and less than 100,000 p.e. have no reporting requirement for 2015. These agglomerations are required to report their mass emissions to Air and Water, and their Waste Transfers using the AER/PRTR Emissions Reporting Workbook every 2 years with the next report due for 2016 i.e. by 28th February 2017.

Appendix 7.4 – Storm Water Overflow Identification and Inspection Report

Storm Water Overflow Assessment

Agglomeration Name:	Dingle
Licence Register No.	D0185-01

Table of Contents

1 Introduction

This report has been prepared for D0185-01, Dingle, in County Kerry in accordance with the requirements of Condition 4.12 of the wastewater discharge licence for the agglomeration. This report identifies storm water overflows within the agglomeration and assesses the compliance of the storm water overflows with the criteria set out in the DoEHLG document on *'Procedures and Criteria in Relation to Storm Water Overflows', 1995.*

There are 4Nr. SWOs within the agglomeration. These are listed in Table 1.

Table 1: Storm Water Overflows in the Agglomeration

Licence Code	Discharge Location		Receiving Water Name and WFD Code	WFD Status of Receiving Water	Other designation of receiving water
	Easting	Northing			
TPEFF1300D0185SW002 Bypass Rd. PS (Main)	44554	100907	Dingle Harbour	Unassigned	None
TPEFF1300D0185SW003 (Milltown Br. PS)	43405	101332	Milltown River	Unassigned	None
TPEFF1300D0185SW004 (WWTP)	44236	100426	Dingle Harbour	Unassigned	None
SW005 (Interim Code as not in licence) Ballyhea Ind. Est. PS	42969	102761	Milltown River	Poor	None

A storm water overflow assessment is required to comply with the requirements of the wastewater discharge licence condition as detailed below.

Condition 4.12 - Storm Water Overflows

4.12.1 *The licensee shall, prior to the date for submission of the second AER (required under Condition 6.10), carry out an investigation for the identification and assessment of storm water overflows. A report on the storm water overflows shall be submitted to the Agency as part of the second AER. The assessment shall include a determination of compliance with the criteria for storm water overflows, as set out in the DoEHLG 'Procedures and Criteria in Relation to Storm Water Overflows', 1995, and any other guidance as may be specified by the Agency*

4.12.2 *The licensee shall carry out an assessment of storm water overflows at least once every three years thereafter and report to the Agency on each occasion as part of the AER. The assessment shall include a determination of compliance with the criteria for storm water overflows, as set out in the DoEHLG 'Procedures and Criteria in Relation to Storm Water Overflows', 1995 and any other guidance as may be specified by the Agency. The licensee shall maintain a written record of all assessments and remedial measures arising from the assessment.*

2 Storm Water Overflow Assessment

2.1 Description of SWOs

There are three SWOs and one Emergency Overflow (EO) within the Dingle agglomeration. The SWOs are as follows: one located within the WWTP site from the storm tanks, one from the Milltown Bridge PS, and the one is located at the main PS on the Bypass Road. The EO is located at the Ballyhea Industrial Estate Pumping Station

(PS), however this EO can also act as a SWO at times of heavy rainfall. The storm storage capacity at the WWTP, Ballyhea Industrial Estate PS, and Milltown Bridge PS is 345m^3, 2.4m^3 and 3m^3 respectively. The SWO at the WWTP is screened, however all other overflows are unscreened. There is an overflow alarm on the SWO from the Main PS on the Bypass Road. This SWO discharges to a culverted stream which in turn discharges to Dingle Harbour. There is no data on the frequency of operation or of the volume discharged from any of the SWOs.

2.2 Assessment of Operating Criteria of SWOs

The following criteria for each SWO on the network have been examined in accordance with the assessment criteria set out in *Procedures and Criteria in Relation to Storm Water Overflows* in order to determine possible capacity constraints.

1. Does the SWO cause significant visual or aesthetic impact and public complaints
2. Does the SWO cause deterioration in water quality in the receiving water (i.e. is there a deterioration in ecological quality status attributable to the SWO)
3. Does the SWO gives rise to failure in meeting the requirements of national regulations on foot of EU Directives (e.g. bathing water quality standards, shellfish water quality standards, Water Framework Directive status etc.),
4. Does the SWO operate in dry weather.

Table 2: Assessment of Operating Criteria

CSO Ref	Causes significant visual or aesthetic impact and public complaints.	Causes deterioration in water quality in the receiving water	Gives rise to failure in meeting the requirements of national Regulations on foot of EU Directives.	Operates in dry weather	Compliant / Non-Compliant
TPEFF1300D0185 SW002	No	No There are no upstream or downstream monitoring points on the stream, however unlikely to be impacting on water quality as the receiving waters (Dingle Harbour) of the culverted stream are classed as Unpolluted (2010 – 2012)	No	No	Compliant
TPEFF1300D0185 SW003	No	No Upstream: Q2-3, Q3 (River 2004-2015) Downstream: Unpolluted (Coastal 2010 – 2012)	No	No	Compliant
TPEFF1300D0185 SW004	No	No There are no upstream or downstream monitoring points on the stream, however unlikely to be impacting on water quality as the receiving waters (Dingle Harbour) of the culverted stream are classed as Unpolluted (2010 – 2012)	No	No	Compliant

SW005	No	No Upstream: Q2-3, Q3 (River 2004-2015) (RS22M030200) Downstream: Q2-3, Q3 (River 2004-2015) (RS22M030300)	No	No	Compliant

2.3 Assessment of Design Criteria of SWOs

2.3.1 Compliance with Formula A

Formula A is used in the *Procedures and Criteria in Relation to Storm Water Overflows* as follows:-

Formula A = DWF + 1.36P + 2E (m3/day)

P = design domestic population contributing to SWO (estimated)

E = design industrial effluent flow (estimated to be 0% of domestic PE based on review of industrial activity in the agglomeration)

*DWF = Dry weather flow m^3/day (dry weather flow of total PE, based on **0.175m^3**/PE/day)*

TPEFF1300D0185SW002

Formula A (DWF + 1.36P + 2E)

DWF = PG + E

- P = Design population = 1028.70 (obtained directly from Kerry County Council personnel who calculated this from geodirectory and the following occupancy rates: Residential Property – 2.3; Commercial Property – 5; and Holiday Property - 50).
- G = 0.175m^3/PE/day for DWF
- PG = 180.02m^3/day
- E = Industrial effluent, 0% of PG = 0m^3/day
- DWF = 180.02m^3/day + 0m^3/day = 180.02m^3/day

P = 1028.70*0.225 = 231.46m^3/day

Note: Average water consumption per head per day = 0.225m^3/head/day)

E = 231.46*0.00 = 0m^3/day

Formula A = 180.02 + 1.36(231.46) + 2(0) = **494.80m^3/day**

Dilution Factor

Dilution Factor for discharge to Coastal Waters = 8930*b / F where:

b = average depth of the receiving water (m) from Infomar Data Viewer = 1.51m

F = maximum hourly flowrate of the discharge allowable under the licence (m^3/hr)

= 533.5m^3/hr (from AER 2015, Table 2.1)

Dilutions available = (8930*1.51)/533.5 = 25

TPEFF1300D0185SW003

Formula A (DWF + 1.36P + 2E)

DWF = PG + E

- P = Design population = 104.20 (obtained directly from Kerry County Council personnel who calculated this from geodirectory and the following occupancy rates: Residential Property – 2.3; Commercial Property – 5; and Holiday Property - 50).
- G = 0.175m^3/PE/day for DWF
- PG = 18.24m^3/day
- E = Industrial effluent, 0% of PG = 0m^3/day
- DWF = 18.24m^3/day + 0m^3/day = 18.24m^3/day

P = 104.20*0.225 = 23.45m^3/day

Note: Average water consumption per head per day = 0.225m^3/head/day)

E = 23.45*0.00 = 0m^3/day

Formula A = 18.24 + 1.36(23.45) + 2(0) = **50.12m^3/day**

Dilution Factor

Dilution Factor = 95%ile flow / SWO DWF = (0.15m^3/s, from Hydro Station 22022) / (0.0002111m^3/s) = 710.7

TPEFF1300D0185SW004

Formula A (DWF + 1.36P + 2E)

DWF = PG + E

- P = Design population = 4427.20 (obtained directly from Kerry County Council personnel who calculated this from geodirectory and the following occupancy rates: Residential Property – 2.3; Commercial Property – 5; and Holiday Property - 50).
- G = 0.175m^3/PE/day for DWF
- PG = 774.76m^3/day
- E = Industrial effluent, 0% of PG = 0m^3/day
- DWF = 774.76m^3/day + 0m^3/day = 774.76m^3/day

P = 4427.20*0.225 = 996.12m^3/day

Note: Average water consumption per head per day = 0.225m^3/head/day)

E = 996.12*0.00 = 0m^3/day

Formula A = 774.76 + 1.36(996.12) + 2(0) = **2129.48m^3/day**

Dilution Factor

Dilution Factor for discharge to Coastal Waters = 8930*b / F where:

b = average depth of the receiving water (m) from Infomar Data Viewer = 2.4m

F = maximum hourly flowrate of the discharge allowable under the licence (m^3/hr)

= 533.5m^3/hr (from AER 2015, Table 2.1)

Dilutions available = (8930*2.4)/533.5 = 40

SW005

Formula A (DWF + 1.36P + 2E)

DWF = PG + E

- P = Design population = 170*5 = 850 (number of properties obtained from geodirectory, occupancy assumed based on commercial only flows).
- G = 0.175m^3/PE/day for DWF
- PG = 148.8m^3/day
- E = Industrial effluent, 0% of PG = 0m^3/day
- DWF = 148.8m^3/day + 0m^3/day = 148.8m^3/day

P = 850*0.225 = 191.3m^3/day

Note: Average water consumption per head per day = 0.225m^3/head/day)

E = 191.3*0.00 = 0m^3/day

Formula A = 148.8 + 1.36(191.3) + 2(0) = **408.9m^3/day**

Dilution Factor

Dilution Factor = 95%ile flow / SWO DWF = (0.15m^3/s, from Hydro Station 22022) / (0.00172m^3/s) = 87

2.3.2 Significance of Spill

Monitoring information in relation to frequency and duration of overflows is not available. The significance of overflows to inland freshwaters has been assessed as follows:

Low Significance: >8:1 Dilutions in Receiving water (average SWO DWF / 95%ile river flow) No interaction with other discharges
Medium Significance - only if all these criteria apply. Dilution < 8 : 1 Limited or no interaction with other discharges > 2,000 population equivalent Cyprinid fishery
High Significance - only if all these criteria apply. Dilution < 2 : 1 Interaction with other discharges > 10,000 population equivalent Cyprinid or salmonid fishery

The significance of overflows to transitional and coastal waters has been assessed as follows:

Low Significance: Estuarial and coastal waters not containing EC identified bathing waters or shellfish waters
Medium Significance - only if all these criteria apply. Population equivalent 2,000 - 10,000 Affects identified in bathing waters or shellfish waters
High Significance - only if all these criteria apply. Population equivalent > 10,000 Affects identified in bathing waters or shellfish waters

Table 3: Assessment of Significance

CSO Ref	Dilution	PE Range	Designation of Receiving Water	Significance
TPEFF1300D0185SW002	25	2,000 – 10,000	None	Low
TPEFF1300D0185SW003	710.7	<2,000	None	Low
TPEFF1300D0185SW004	40	2,000 – 10,000	None	Low
SW005	87	<2,000	None	Low

2.4 Assessment of Requirement for Storage

The necessity for a storm tank within the sewer network has been assessed based on available dilution as detailed in Table 3 (from Procedures and Criteria in Relation to Storm Water Overflows) included as Table 4 below. The requirement for a storm tank at a wastewater treatment plant shall be based on an overflow setting of 3 DWF.

Table 4 – SDD Method Recommended Storage at Overflows[1]

Dilution Factor[2]	Overflow Setting	Storage Tank
> 8	Formula A	None
> 6	Formula A + 455 P or Formula A	None 40 l/PE
> 4	Formula A	40 l/PE
> 2	Formula A	80 l/PE
> 1	Formula A	120 l/PE

1. Table 3 extracted from Procedures and Criteria in Relation to Storm Water Overflows
2. Dilution factor = average DWF / 95%ile river flow.

Table 5 – Stormwater Storage within Agglomeration

CSO Ref	Dilution Factor[1]	Required Overflow Setting (l/s)	Actual Overflow Setting (l/s)	Required Storage Tank Volume (m^3)	Actual Storage Tank Volume (m^3)	Compliant / Non-Compliant
TPEFF1300D0185SW002	25	29.8	Unknown (Noted as not operating	None	None	Compliant

			in dry weather)			
TPEFF1300D0185SW003	710.7	4.4	Unknown (Noted as not operating in dry weather)	None	3	Compliant
TPEFF1300D0185SW004	40	31.8[2]	Unknown (Noted as not operating in dry weather)	None	345	Compliant
SW005	87	4.7	Unknown (Noted as not operating in dry weather)	None	2.4	Compliant

1. Dilution factor = average DWF / 95%ile river flow
2. SWO at WWTP, therefore 3DWF used here.

3 Remedial Measures to Ensure Compliance

3.1 Specified Improvement and Improvement Programme Works

There are no specified improvement works or improvement programmes relating to stormwater overflows.

3.2 Additional Measures

There are no additional measures required in this report.

Appendix 7.5 – Specified Improvement Programme

Report outstanding refer to Section 4.2.1, 4.2.2 and Section 6.

Appendix 7.6 – Sewer Integrity Tool Output

Project Title	Guideline Document for Assessment of Sewers
Project Element	Assessment Matrix

Revisions

Revision No.	Date	Changed by	Checker	Revision
H	26/06/2012	BJD	MMcD	Amendments following feedback from Roscrea Workshop of 15/03/12
I	Not Used	N/A	N/A	"I" not used to avoid confusion with Number 1
J	18/12/2014	CK	MMcD	Amendments to allow Licensee to add rows in Agglomeration Details and correct default entries in Environmental Risk
K	07/01/2015	CK	MMcD	Ammendment to dates in Agglomeration Details
L	03/03/2015	CK	MMcD	Update editing rights of particular cells and drop down menus

	Section 1.1 Agglomeration Details					
	Name	**Dingle WWTP**				
	Licence Number	**D0185-01**				
	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)	**Dingle**				
	Date Licence Issued	**21st March 2011**				
	Current Date	**19/01/2017**				
			Year	Year	Year	Year
	Waste Water Works - Wastewater Treatment Plant Details	**Unit**	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	639364	4759523.287		
1.3	Average Daily Influent BOD or Average BOD Load from area served (If no measured data exists, insert estimated figure)	mg/l, measured	112.9	113.2		
1.4	Total BOD Load	kg/day	72.1841956	538.7780361	0	0
1.5	Average Population Equivalent (@0.06kg/person/day)	p.e.	1203	8980	0	0
1.6	Estimated (existing) Non-Domestic Load	p.e.	380	380		
1.7	Estimated Domestic Load	p.e.	823	8600	0	0
1.8	Occupancy Rate for the Agglomeration	pop/house	2.67	2.67		
1.9	Estimated Number of Connected Properties	houses	308	3221	0	0
1.10	Number of properties within the agglomeration when compared with CSO Data or An Post Geodirectory	houses	1876	1876		
	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	28.39	27.9		
1.12	Estimated 3DWF	l/sec	85.17	83.70	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	32.67	116.099		
1.14	This Annual Average Peak as Multiples of Dry Weather Flow (Peaking Factor)	Nr	3.00	4.16	0.00	0.00
1.15	Highest Peak Flow Recorded (Insert UNKNOWN if no records exist)	l/s	148.19	200.61		
1.16	Does this Peak Flow (multiple of DWF) cause hydraulic capacity problems within the network ?	---	Yes	Yes	Yes	Yes
1.17	Total Rainfall for Previous Year	mm	1736.1	1616.9		
1.18	Comparison - Mean Annual Rainfall for the agglomeration	mm		1557.4		
1.18.1	Define the Weather Station Used		Valentia	Valentia		
1.19	If Storm Water Storage is available at the Wastewater Treatment plant, what is the volume of the storm tank ?	m^3	345	345		
1.20	Is the capacity of the storm tanks sufficient to capture and retain all overflows to the tank?	---	No	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	250	250		
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)		> 5 times per month	> 5 times per month	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		SUS 2001	SUS 2001	SUS 2002	SUS 2003
1.23.1	If other or combination of the above please describe	Describe	SUS2000 & AutoCad	SUS2000 & AutoCad		
1.24	Total length of sewers (use drop down menus to define whether these figures are estimated or measured)	km Estimated	13.07	13.07	0.00	0.00
1.24.1	Total length of sewers > 450mm Diameter	km Estimated	0.66	0.66		
1.24.2	Total length of sewers > 300mm but ≤ 450mm in Diameter	km Estimated	2.60	2.60		
1.24.3	Total length of sewers > 225mm but ≤ 300mm in Diameter	km Measured	2.60	2.60		
1.24.4	Total length of sewers ≤ 225mm in Diameter	km Estimated	7.21	7.21		
1.24.5	Other	km Estimated	0.14	0.14		
1.25	Pipeline Material					
1.25.1	What portion of the sewer network consists of Concrete Pipes	% Estimated	70%	70%		
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	10%	10%		
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	0%	0%		
1.26	Total number of Storm Water Overflows	Nr	3	3		
1.27	What Screening or other mechanical devices are employed at the storm water overflows					
	SWO No. 1 located at Bypass Road	None				
	SWO No. 2 located at Milltown Bridge	None				
	SWO No. 3 located at Ballyhea	None				
	SWO No. 4 located at WWTP	Screened				
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. 1 located at Bypass Road	Describe	Q4-Q5	Q4-Q5		
	SWO No. 2 located at Milltown Bridge	Describe	Q4-Q5	Q4-Q5		
	SWO No. 3 located at Ballyhea		Q4-Q5	Q4-Q5		
	SWO No. 4 located at WWTP		Q4-Q5	Q4-Q5		
			Select level	Select level	Select level	Select level
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)		Select level			
	SWO No. 1 located at Bypass Road	Dingle Harbour	High	High		
	SWO No. 2 located at Milltown Bridge	Dingle Harbour	High	High		
	SWO No. 3 located at Ballyhea	Dingle Harbour	High	High		
	SWO No. 4 located at WWTP					
			Sensitive	Not Listed		
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. _ located at	Describe				
	SWO No. located at	Describe				
	SWO No. located at	Describe	Sensitivity?			
			Sensitive	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. _ located at	Designation				
	SWO No. located at	Designation				
	SWO No. located at	Designation				
			Sensitive	Not Listed		
1.28.5	With reference to the SWO's detailed above define do the receiving waters have any other designations.					
			Sensitive			
	SWO No. _ located at	Designation				
	SWO No. _ located at	Designation				

	Section 1.5 Waste Water Works - Pumping Stations					
1.29	Number of Pumping Stations (operated by the Local Authority)	Nr	3			
1.30	Total Length of Rising Mains (operated by the Local Authority)	km	750			
1.31	Rising Main Material	AC & DI				
1.31.1	What portion of the rising mains consists of ductile iron pipes	% Measured	100.00	100%		
1.31.2	What portion of the rising mains consists of plastic pipes	% Measured	N/A			
1.31.3	What portion of the rising mains consists of other materials	% Estimated	N/A	N/A		
1.32	Discharge Capacity of the Pump Set (s) at normal duty point					
	At Pump Station 1 at Bypass Road	240 l/s Foul 200 l/s Storm				
	At Pump Station 2 at Milltown Bridge	65 l/s				
	At Pump Station 3 at Ballyhea	20 l/s				
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%)	%	10	10		
1.34	Available Storage Capacity at Pump Stations (include pump sump and any storm water/emergency overflow tanks)		0	0		
	At Pump Station 1 at Bypass Road	m^3	2.4			
	At Pump Station 2 at Milltown Bridge		3			
	At Pump Station 3 at Ballyhea		2.4			
1.35	Total Number of ***"Licenced Secondary Discharge Points and Stormwater Overflows"*** at pumping stations	Nr	0			
1.36	Total Number of ***"Emergency Overflow Points"*** at pumping stations	Nr	4			
1.37	What Screening or other mechanical devices are employed at the secondary discharge points or emergency overflows ?	Nr				
	At Pump Station 1 at Bypass Road	Describe	No screening			
	At Pump Station 2 at Milltown Bridge		No screening			
	At Pump Station 3 at Ballyhea		No screening			
1.38	Water Quality at the receiving waters at each pumping station location		Q5			
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)		Select Q			
	At Pump Station at	Describe				
	At Pump Station at	Describe				
			Enter Status			
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 1 at Bypass Road	Dingle Harbour	High			
	At Pump Station 2 at Milltown Bridge	Dingle Harbour	High			
	At Pump Station 3 at Ballyhea	Dingle Harbour	High			
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 at					
	At Pump Station at					
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 at	Designation				
	At Pump Station at	Designation				
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 at	Designation				
	At Pump Station at	Designation				
1.39	Estimated Number of Private Pumping Stations within the agglomeration (not operated by the Local Authority)	Nr	1			
	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	0	2		
1.41	Number of Reported Complaints which have been rectified	Nr	0	2	0	0
	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			
1.46	Number of Recorded Emergency Overflow Discharges	Nr	0			
1.47	Estimated Total Number of Emergency Overflow Discharges	Nr	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 *(The individual personnel shall not be named , only grade and level of training needs to be provided)*					
1.48.1	1 number full time technician based at the WWTP. Operating WWTP and surrounding smaller village WWTP's					
1.48.2	Full time GO		2015	2016	2017	2018
1.48.3						
1.48.4			0	0		
	Waste Water Works - Investment Details	**Unit**	0	0		
	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	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				
1.54	Pumping Stations Operated by Local Authority Upgraded or Repaired	Nr		0		
1.55	WWTW operated by Local Authority Upgraded or Replaced	Nr		0		
1.56	In the following two cells describe the actual Capital Investment undertaken in the reporting period.					
1.56.1	For example : Sewer Rehabilitation Contract Works being undertaken under the WSIP					
1.56.2						

	Section 1.9 Licence Specified Improvements Works					
1.57	*The Local Authority is required to report on the extent of Improvement Works which have been specifed under the Licence as issued by the EPA. Reference which AER contains this information*					
	Section 1.10 Other Updates Since Last Report					
1.58	*For example : 50% of the sewer network is currently being upgraded under the WSIP with an investment of €1.5m in 2010.*					

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		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 onging 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	What Environmental or Discharge Quality Data is available with regard to the sewer network ?	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	Do trade effluents discharge to the sewer network?	Yes	20		If the answer is **No**, proceed to Query 3.1.2. If the answer is **Yes**, Proceed to Query 3.2
3.1.2	Are there Storm Water Overflows within the network ?	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	Are there Secondary Discharges within the network (excluding Emergency Overflows at Pump Stations)?	No	0		If the answer is **No**, proceed to Query 3.1.4.
3.1.4	Is there any evidence that exfiltration is occurring from the network ?	No	0		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	If Answer to Query 3.1.1 is "Yes", what % of trade effluents have a licence to Discharge to the Public Sewer ?	0 - 10%	40		Select N/A if answer to Query 3.1.1 is **No**. If not all trade effleunts are licenced, Local Authority should consider issuing and controlling such discharges under the appropriate Legislation.
3.2.1	Are all licenced trade Discharges compliant with their relevant licence and associated conditions	No	10		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	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)	11 - 25%	10		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	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?	<25%	50		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	Have samples from any Secondary Discharges within the system been analysed ?	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	What percentage of discharges from the system are known to cause environmental pollution of the receiving waters ?	None	0		If the answer is greater than 50% then detail, in the AER, the Improvement Programme necessary to reduce this percentage.
3.6	In relation to possible exfiltration has a risk analysis of ground water contamination or pollution been undertaken ?	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
3.6.1	If Answer to Query 3.6 is "Yes", have any groundwater aquifers been identified in the area of the Network and/or Discharge Points?	N/A	0		Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
3.6.2	If Answer to Query 3.6.1 is "Yes", state the classification of groundwater aquifer identified in the area?	N/A	0		Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
3.6.3	In relation to Query 3.6.1, is the aquifer used as a source for Public, Private or Group Water Supply Schemes?	No	0		Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
3.7	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?	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	What percentage of storm water overflows comply with the performance criteria referred to in Query 3.7?	0 - 10%	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	Have the causes of these Capacity Deficiencies (storm water overflows & Secondary Discharges) been identified ?	No	15		no SWOs in system. If the answer to Query 3.9 is **No**, consider further examination of the environmental
		Total Risk Assessment Score (RAS)	275		
3.10	Prepare Assessment of Needs & Sewer Upgrade Implementation Plan	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 calcuating 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 calcuating 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 calcuating the %. If information is not available type "Unknown" intoPrompt 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 calcuating 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 automitically 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?	No	10		If the answer is **No**, consider further examination of the sewer network, the structural loading conditions, gradients and possible H_2S Formation. If Yes completed Query 4.7
Total Risk Assessment Score (RAS)			**150**		

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	Are complaints of an environmental nature recorded and held in a central database?	Yes	0		Consider setting up Central Database for Complaints
5.2	Is there an emergency response procedure in place?	Yes	0		Consider setting up target response times for dealing with Complaints
5.3	What has been the highest frequency of flooding in the network due to hydraulic inadequacy, over the past 5 years?	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	What has been the highest frequency of flooding in the network due to operational causes over the past 5 years?	None	0		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	What has been the highest frequency of surcharging of critical sewers in the network, over the past 5years?	Once/yr	2		Select the highest number of events in any 12 month period.
5.6	What has been the highest frequency of reportable incidents in the network, over the past 5 years?	None	0		Select the highest number of events in any 12 month period.
5.7	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?	None	0		Select the highest number of events at any given Pumping Station in any 12 month period.
5.8	What has been the highest frequency of blockages in sewers in the network over the past 5 years?	0.01 - 0.05/km/yr	8		Select the highest number of events per km of sewer network in any 12 month period.
5.9	What has been the highest frequency of collapses in sewers in the network over the past 5 years?	None	0		Select the highest number of events in any 12 month period.
5.10	What has been the highest frequency of bursts in rising mains in the network over the past 5 years?	None	0		Select the highest number of events in any 12 month period.
		Total Risk Assessment Score (RAS)	14		
5.11	Prepare Up Dated Operational and Maintenance Plan				

Section 6.1 Summary of Risk Assessment Scores

Element	Risk Assessment Score	Risk Category	% R
Section 2.1 Hydraulic Risk Assessment	145	High Risk	
Section 3.1 Environmental Risk Assessment	275	Low Risk	
Section 4.1 Structural Risk Assessment	150	High Risk	
Section 5.1 O&M Risk Assessment	14	Low Risk	
Total RAS for Network	584	High Risk	

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"

Appendix 7.7 – Priority Substances Assessment

A Priority Substances Assessment Report is not a requirement of the Waste Water Discharge Licence.

Appendix 7.8 – Drinking Water Assessment

A Drinking Water Abstraction Point Risk Assessment is not a requirement of the Waste Water Discharge Licence.

Appendix 7.9 – Pearl Mussel Assessment/Habitats Impact Assessment Report

A Pearl Mussel Assessment/Habitats Impact Assessment Report is not a requirement of the Waste Water Discharge Licence.

Appendix 7.10 – Shellfish Water Assessment

A Shellfish Water Assessment Report is not a requirement of the Waste Water Discharge Licence.

Appendix 7.11 – Toxicity/Leachate Management Report

A Toxicity/Leachate Management Report is not a requirement of the Waste Water Discharge Licence

Appendix 7.12 – Final Effluent Toxicity Assessment

A Final Effluent Toxicity Assessment Report is not a requirement of the Waste Water Discharge Licence.

End of Report