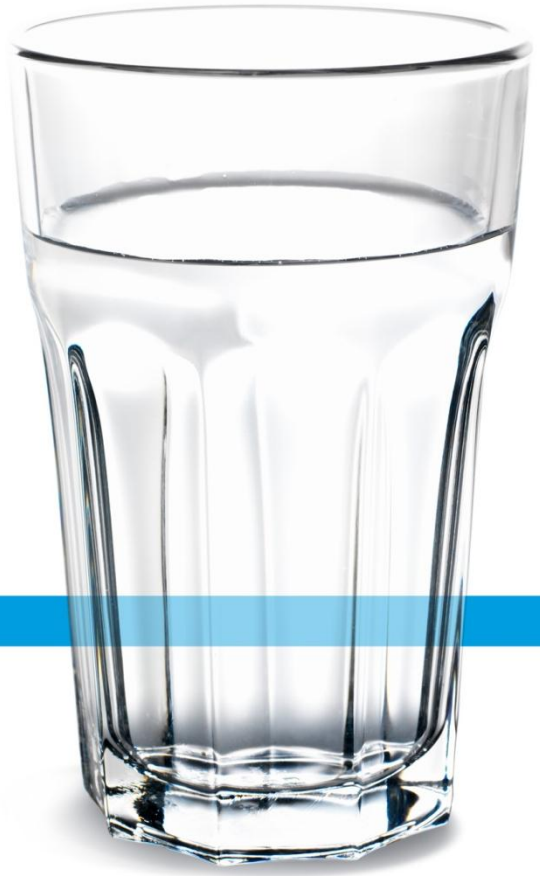
Annual Environmental Report 2014

Agglomeration Name:	**Passage West / Monkstown**
Licence Register No.	**D0129-01**



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Section 1. Executive Summary and Introduction to the 2014 AER

1.1 Summary report on 2014

This Annual Environmental Report has been prepared for D0129-01, Passage West - Monkstown, in County Cork in accordance with the requirements of the wastewater discharge licence for the agglomeration. The licence was granted on 20th July 2010. The aim of this AER is to provide a review of activities relevant to the discharge from 1st January 2014 to 31st December 2014.

This license relates to the Passage West / Monkstown agglomeration serving the villages of Passage West, Glenbrook and Monkstown. The existing sewer network, with the exception of the newer residential estates, is served by a combined system.

There is no waste water treatment plant in Passage West / Monkstown and waste water discharges untreated to Lough Mahon through three outfall points. The largest flow is discharged through Pembroke outfall (primary discharge) in Passage West. There are two other secondary discharges of untreated waste water from the agglomeration. There are five pumping stations and four of these have emergency overflows which also act as combined storm water overflows. There is evidence of seawater and rainfall infiltration. The current load from the agglomeration is estimated at a population equivalent (p.e.) of 7,600 which includes an estimated load of 10% for pending development. The waste water is predominantly domestic with 10% attributed to commercial and institutional waste water.

As the agglomeration is between 2,000 and 10,000 p.e., a secondary treatment was required under the Urban Waste Water Regulations, 2001 (S.I. No 254 of 2001) (UWW Regulations) by 31/12/05 but such treatment has not been provided. It is proposed to upgrade the Passage West / Monkstown sewer network and pump waste water to the proposed urban waste water treatment plant at Shanbally which is expected to be operational by late 2016 with the Passage West and Monstown network being connected by the end of 2017. This proposal forms part of the Cork Lower Harbour Sewerage Scheme (also known as Cork Harbour Main Drainage Scheme). It is proposed that storm water overflows will be designed in accordance with the DoECLG 'Procedures and Criteria in relation to storm water overflows', 1995. There was no major capital or operational changes undertaken in 2014.

Section 2. Monitoring Reports Summary

2.1 Summary report on monthly influent monitoring

Table 2.1 - Influent Monitoring Summary

	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	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Annual Max.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Annual Mean	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Influent monitoring is not carried out as there is no waste water treatment plant in Passage West / Monkstown and waste water discharges to Lough Mahon through three outfall points.

2.2 Discharges from the agglomeration

Table 2.2 - Effluent Monitoring Summary

	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	Total P (mg/l)	Total N (mg/l)	Other Parameters specified in the WWDL	Comment
WWDL ELV (Schedule A)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ELV with Condition 2 Interpretation included	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of sample results	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of sample results above WWDL ELV	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of sample results above ELV with Condition 2 Interpretation included	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Annual Mean (for parameters where a mean ELV applies)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Overall Compliance (Pass/Fail)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Significance of results

There is direct discharge so there is no monitoring as per the license.

2.3 Ambient monitoring summary

Table 2.3 - Ambient Monitoring Report Summary

Ambient Monitoring Point from WWDL (or as agreed with EPA)	***Irish Grid Reference***	**EPA Feature Coding Tool code**	**Current EQS Status**	**Does assessment of the ambient monitoring results indicate that the discharge is impacting on water quality?**
Upstream monitoring point		LE310		No
		LE330		No
		LE340		No
Downstream monitoring point		LE380		No

The results for the upstream and downstream monitoring are included as in Appendix 7.2.

2.4 Data collection and reporting requirements under the Urban Waste Water Treatment Directive

The effluent monitoring carried out by Cork County Council's Waste Water Laboratory includes the Data Collection and Reporting Requirements under the UWWT Directive. This data was submitted by Cork County Council, no later than 28th February 2015, on behalf of Irish Water, on-line via both EDEN and the On-line Urban Waste Water System in parallel to the drafting of this report.

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

The results for the upstream and downstream monitoring are included as in Appendix 7.3.

Section 3 Operational Reports Summary

3.1 Treatment Efficiency Report

A summary presentation of the efficiency of the treatment process including information for all the parameters specified in the licence is included below:-

Table 3.1 - Treatment Efficiency Report Summary

	cBOD (kg/yr)	COD (kg/yr)	SS (kg/yr)	Total P (kg/yr)	Total N (kg/yr)	Comment
Influent mass loading (kg/year)	N/A	N/A	N/A	N/A	N/A	N/A
Effluent mass emission (kg/year)	N/A	N/A	N/A	N/A	N/A	N/A
% Efficiency (% reduction of influent load)	N/A	N/A	N/A	N/A	N/A	N/A

3.2 Treatment Capacity Report

Table 3.2 - Treatment Capacity Report Summary

Hydraulic Capacity – Design / As Constructed (dry weather flow) (m3/year)	N/A
Hydraulic Capacity – Design / As Constructed (peak flow) (m3/year)	N/A
Hydraulic Capacity – Current loading (m3/year)	N/A
Hydraulic Capacity – Remaining (m3/year)	N/A
Organic Capacity - Design / As Constructed (PE)	N/A
Organic Capacity - Current loading (PE)	N/A
Organic Capacity – Remaining (PE)	N/A
Will the capacity be exceeded in the next three years? (Yes / No)	N/A

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 treated 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
Load generated in the agglomeration that is collected in the sewer network	**100%**
Load collected in the agglomeration that enters treatment plant	**0%**
Load collected in the sewer network but discharged without treatment	**100%**

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**.**

The data in Table 3.3 above is based the fact that no waste water treatment takes place.

3.4 Complaints Summary

No complaints of an environmental nature were made.

Table 3.4 - Complaints Summary Table:

Number	Date & Time	Nature of Complaint	Cause of Complaint	Actions taken to resolve issue	Closed (Y/N)
N/A					
N/A					

3.5 Reported Incidents Summary

A summary of reported incidents is included below.

Table 3.5.1 - Summary of Incidents

Incident Type (e.g. Non-compliance, Emission, spillage, Emergency Overflow Activation)	Incident Description	Cause	No. of incidents	Corrective Action	Authorities Contacted Note 1	Reported to EPA (Yes/No)	Closed (Y/N)
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 BordIascaighMhara (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 2014	N/A
Number of Incidents reported to the EPA via EDEN in 2014	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**	**PE/year**	**% of load to WWTP**	**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	N/A				
Industrial / Commercial Sludge	N/A				
Landfill Leachate (delivered by tanker)	N/A				
Landfill Leachate (delivered by sewer network)	N/A				
Other (specify)	N/A				

Notes:

1. Other Inputs include; septic tank sludge, industrial /commercial sludge, landfill leachate and any other sludge that is collected and added to the treatment plant.
2. Sludge that is added to a dedicated sludge reception facility at a waste water treatment plant not included in Table 3.6. Only include sludge which is added to the waste water treatment process stream. Enter zero where there are no inputs

Section 4. Infrastructural Assessments and Programme of Improvements

4.1 Storm water overflow identification and inspection report

Storm Water Overflows have not yet been assessed as direct discharge is in operation. 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 / Medium / Low)**	**Compliance with DoEHLG Criteria**	**No. of times activated in 2014 (No. of events)**	**Total volume discharged in 2014 (m3)**	**Total volume discharged in 2014 (P.E.)**	**Estimated /Measured data**
SWO4 PASS	**175621E 069656N**	Yes	Low	Not yet assessed	0	0		E
SWO5 PASS	***176987E 068831N***	Yes	Low		***0***	***0***		***E***
SWO6 PASS	***177116E 067734N***	Yes	Low		***0***	***0***		***E***
SWO7 PASS	***177114E 066095N***	Yes	Low		***0***	***0***		***E***

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 2014?	Unknown
Is each SWO identified as non-compliant with DoEHLG Guidance included in the Programme of Improvements?	Yes
The SWO assessment includes the requirements of Schedule A3 & C3	Yes
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	N/A

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

At present sewage produced in the towns and villages in the Lower Harbour area discharges untreated into Cork Harbour at a number of locations. There are plans in place to provide a wastewater treatment plant (WWTP) for the Lower Harbour area as part of the proposed Cork Lower Harbour Sewerage Scheme.

An Bord Pleanala granted approval for the proposed Cork Lower Harbour Sewerage Scheme during June 2009 and the preliminary report “Cork Harbour Main Drainage Scheme Preliminary Report March 2008” was

submitted to the Department of Environment, Heritage and Local Government (DOEHLG) for approval. Cork County Council issued an addeddum report to the Preliminary Report to the DOEHLG in January 2011. Cork County Council advertised to pre-qualify Consultants for the Design, Tender, Construction and Handover Stages in February 2013. Site Investigation Contracts were completed early 2014 and Detailed Design was also completed early 2014. Commencement of construction is expected early in 2015. A revised project programme is attached in Attachment 2.

The Improvement Programme report included in Appendix 7.4 addresses the **Specified Improvement Programmes** as detailed in Schedules A3 and C of the WWDL. It should details other improvements identified through assessments required under the licence

Table 4.2.1 - Specified Improvement Programme Summary

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule (A or C)	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works ((i) Not Started; (ii) At planning stage; (iii) Work ongoing on-site; (iv) Commissioning Phase; (v) Completed; (vi) Delayed;)	% Construction Work Completed	Timeframe for Completing the Work	Comments
Construction of a WWTP and collection system	**A & C**	**1st January 2015**	**Y**	**At planning stage**	**0**	**See Appendix 7.4**	**Included in Capital Investment Plan**

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	Improvement Description	Improvement Source	Progress (% completed)	Expected Completion Date	Comments
Schedule C: C.1	***Upgrade collecting system: reduce infiltration, remediate structural damage, seperate storm water and install major pumping station***	*WWTP assessment (Condition 5.2).*	**Planning / Tender**		**Included in Capital Investment Plan**
Schedule C: C.1	***Infrastructural Works necessary to cease discharges***	*Sewer Integrity Tool (Condition 5.2).*			**Included in Capital Investment Plan**

	Insert rows as required	*Secondary discharges assessment (Condition 5.2).*			
		SWO assessment (Condition 4 & 5.2).			
		Drinking Water Abstraction Risk Assessment (Condition 4)			
		Shellfish Impact Risk Assessment (Condition 5)			
		Pearl Mussel Impact Assessment (Condition 4)			
		Improved Operational Control			
		Incident Reduction			
		Elimination/Reduction of Priority Substances			

Improvements identified above also include measures taken to prevent environmental damage anticipated following events or accidents/incidents associated with discharges or overflows from the waste water works and as such are considered to fulfil any Statement of Measures requirements. Refer also to Appendix 7.1 which summarises the Annual Statement of Measures.

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***	***Comment***
Hydraulic Risk Assessment Score	*Medium*	*78*	
Environmental Risk Assessment Score	*High*	*435*	
Structural Risk Assessment Score	*High*	*125*	
Operation & Maintenance Risk Assessment Score	*Medium*	*140*	
Overall Risk Score for the agglomeration	*High*	*778*	

Section 5. Licence Specific Reports

Licence Specific Reports Summary Table

Licence Specific Report	Required in 2014 AER or outstanding from previous AER	Included in 2014 AER	*Reference to relevant section of AER (e.g. Appendix 2 Section4.*
Priority Substances Assessment	No	No	N/A
Drinking Water Abstraction Point Risk Assessment	No	No	
Habitats Impact Assessment	No	No	
Shellfish Impact Assessment	No	No	
Pearl Mussel Report	No	No	
Toxicity/Leachate Management	No	No	
Toxicity of Final Effluent Report	No	No	

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	
Habitats Impact Assessment	No	
Shellfish Impact Assessment	No	
Pearl Mussel Report	No	
Toxicity/Leachate Management	No	
Toxicity of Final Effluent Report	No	

5.1 Priority Substances Assessment

The Priority Substances Assessment report is included in Appendix _____.. A summary of the findings of this report is included below.

Table 5.1 - Priority Substance Assessment Summary

	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	N/A
Does the assessment include a review of Trade inputs to the works?	N/A
Does the assessment include a review of other inputs to the works?	N/A
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?	N/A
Does the Improvement Programme for the agglomeration include the elimination / reduction of all priority substances identified as having an impact on receiving water quality?	N/A

5.2 Drinking Water Abstraction Point Risk Assessment.

The Drinking Water Abstraction Point Risk Assessment report is included in Appendix _____.. A summary of the findings of this report is included below.

Table 5.2 - Drinking Water Abstraction Point Risk Assessment Summary

	Licensee self- assessment checks to determine whether all relevant information is included in the Assessment.
Is a Drinking Water Abstraction Risk Assessment required in the 2014 AER (or outstanding from a previous AER)	The discharge is to a tidal zone.
Does the Drinking Water Abstraction Risk Assessment identify whether any of the discharges in Schedule A of the licence pose a risk to a drinking water abstraction	N/A
Does the assessment identify if any other discharge(s) from the works pose a risk to a drinking water abstraction (includes emergency overflows)	N/A

What is the overall risk ranking applied by the licensee	N/A
Does the risk assessment consider the impacts of normal operation	N/A
Does the risk assessment consider the impacts of abnormal operation (e.g. incidents /overflows)	N/A
Does the risk assessment include control measures for each risk identified	N/A
Does the risk assessment consider operational control measures e.g?waste water incident notification to drinking water abstraction operator	N/A
Does the risk assessment include infrastructural control measures	N/A
Does the Improvement Programme for the agglomeration include control measures / corrective actions to eliminate / reduce priority substances identified as having an impact on receiving water quality?	N/A

A copy of the detailed assessment should be included as an appendix to the AER. Where relevant, findings from this assessment should be considered under the Programme of Improvements required under Condition 5.

5.3 Shellfish Impact Assessment Report.

The Shellfish Impact Assessment Report is included in Appendix _____.. A summary of the findings of this report is included below.

Table 5.3 - Preferred format for Shellfish Impact Assessment Summary

Is a Shellfish Impact assessment required in the 2014 AER (or outstanding from a previous AER)?	N/A
List prescribed organisations consulted when preparing the assessment (BIM, SFPA, MI)	N/A
Does the assessment consider the impact of all discharges from the works?	N/A
Does the assessment identify that any of the discharges from the works are impacting on the microbiological quality of the shellfish?	N/A
Does the assessment recommend that there is a requirement to install UV/other disinfection equipment on any of the discharges?	N/A
Provide details on disinfection system to be employed	N/A
Has this been completed?	N/A
If not yet complete what is the expected date for completion?	N/A
Where disinfection is required, is there a programme in place to demonstrate the efficiency of any disinfection system in place?	N/A
What is the demonstrated efficiency of the disinfection system?	N/A
Is there a shellfish monitoring programme in place?	N/A
Does the shellfish or shellfish water monitoring programme include results generated by other organisations	N/A

List organisations contributing data to the assessment	N/A
Does the Improvement Programme for the agglomeration include the findings and recommendations of the shellfish impact risk assessment?	N/A

A copy of the detailed assessment should be included as an appendix to the AER. Where relevant, findings from this assessment should be considered under the Programme of Improvements required under Condition 5.

5.4 Toxicity / Leachate Management

The Toxicity / Leachate Management Assessment report is included in Appendix _____.. A summary of the findings of this report is included below.

Table 5.4 - Toxicity / Leachate Management Report Summary

Is a Toxicity / Leachate Management Report required in the 2014 AER (or outstanding from previous AER)	N/A
What % of the total influent for the year is leachate?	N/A
Does leachate addition exceed 4% ((volume) of the influent load at any time?	N/A
Maximum leachate loading rate	N/A
Does the leachate study identify any constituents of the material that present an environmental risk?	N/A
List leachate constituent identified and impact *(insert a row for each constituent)*	N/A
Has the WWTP suitability to treat the leachate been assessed?	N/A
What are the results of the assessment (Suitable / Not Suitable / Suitable subject to improvement programme works completion)	N/A
Has the study identified the max and operational loadings (mass, volume and rate of addition) for leachate to the WWTP?	N/A
Is there a monitoring programme for the priority substances identified above?	N/A
Have trigger and action levels for the concentration of identified leachate constituents been established to prevent impact on the receiving water?	N/A
Does the Improvement Programme for the agglomeration include any procedural and/or infrastructural works to reduce the impacts of leachate acceptance on the operation of the wwtp?	N/A

5.5 Toxicity of the Final Effluent Report

The Toxicity / Leachate Management Assessment report is included in Appendix _____.. A summary of the findings of this report is included below.

Table 5.5 - Toxicity of the Final Effluent Assessment Summary

Is a Toxicity report required? (Condition 4)	N/A
Has the study been carried out against 4 species in 3 trophic levels?	N/A
Does the report identify that the discharge is toxic to any of the species in the study?	N/A
List species impacted	N/A
Does the Improvement Programme for the agglomeration include any procedural and/or infrastructural works to reduce the toxicity of the final discharge?	N/A

A copy of the detailed assessment is included in Appendix ____ to the AER. Where relevant, findings from this assessment should be considered under the Programme of Improvements required under Condition 5.

5.6 Pearl Mussel Measures Report

A sub-basin management plan in relation to Pearl Mussels is included in Appendix _____.. A summary of the findings of this report is included below.

Table 5.6 - Pearl Mussel Measure Report Summary

Is a progress report on implementation of the findings of Pearl Mussel Protection Measures report required in the 2014 AER (or outstanding from previous AER)	N/A
Is there a Pearl Mussel Protection Measures Report for the receiving water body?	N/A
Include hyperlink to internet location of report	N/A
Does this report identify measures relevant to discharges from the waste water works as having a potential impact on the Pearl Mussel habitat?	N/A
List measures relevant to discharges from the waste water works	N/A
Does the Improvement Programme for the agglomeration include any procedural and/or infrastructural works to reduce the impacts of discharge on pearl mussel habitat / populations?	N/A
List Condition 5 Improvement Programme reference	N/A

5.7 Habitats Impact Assessment Report

The Habitats Impact Assessment Report is included in Appendix _____.. A summary of the findings of this report is included below.

Table 5.7 - Habitats Impact Assessment Summary

	Licensee self- assessment checks to determine whether all relevant information is included in the Assessment.
Is a Habitats Assessment required in the 2014 AER (includes outstanding assessments from previous years)?	N/A
Was the scope of the study agreed in advance with NPWS	N/A
Does the report include a Stage 1 screening assessment?	N/A
Does the screening identify that discharges are causing an impact on listed sites?	N/A
Does the report require a Stage 2 Appropriate assessment?	N/A
Does the report identify any European Sites (e.g. SPA, SAC, NHA) that discharges from the works could have an impact on?	N/A
List European sites identified (insert a line for each site identified)	N/A
Does the report include mitigation measures for each identified impact?	N/A
Does each measure explain how the adverse impact will be avoided/reduced?	N/A
Does the Improvement Programme for the agglomeration include any procedural and/or infrastructural works to reduce the impacts of discharges on the a listed site (NHA, SAC, SPA)?	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)?	N/A
Is there a need to advise the EPA for consideration of a technical amendment / review of the licence?	No
List reason e.g. additional SWO identified *(insert lines as required)*	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 *(insert lines as required)*	
Have these processes commenced? (i.e. Request for Technical Amendment / Licence Review / Change Request)	Yes / No / N/A
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER?	N/A
List outstanding reports *(insert lines as required)*	N/A

Declaration by Irish Water

The AER contains the following;

- Introduction and background to 2014 AER
- Monitoring reports summary.
- Operational reports summary.
- Infrastructural Assessment and Programme of Improvements.
- Licence specific reports.
- Certification and Sign Off
- Appendices

I certify that to the best of my knowledge the information given in this Annual Environmental Report is truthful, accurate and complete:

Signed: _____ Date: 06/03/15

Gerry Galvin
Chief Technical Advisor

Section 7. Appendix

In the appendix include all the detailed or site specific reports that are relevant to the AER. Reports omitted from previous AERs should also be appended here.

Appendix 7.1 – Annual Statement of Measures
Appendix 7.2 - Ambient monitoring summary
Appendix 7.3 - Pollutant Release and Transfer Register (PRTR) Summary Sheets
Appendix 7.4 – Specified Improvement Programme
Appendix 7.5 – Sewer integrity tool output

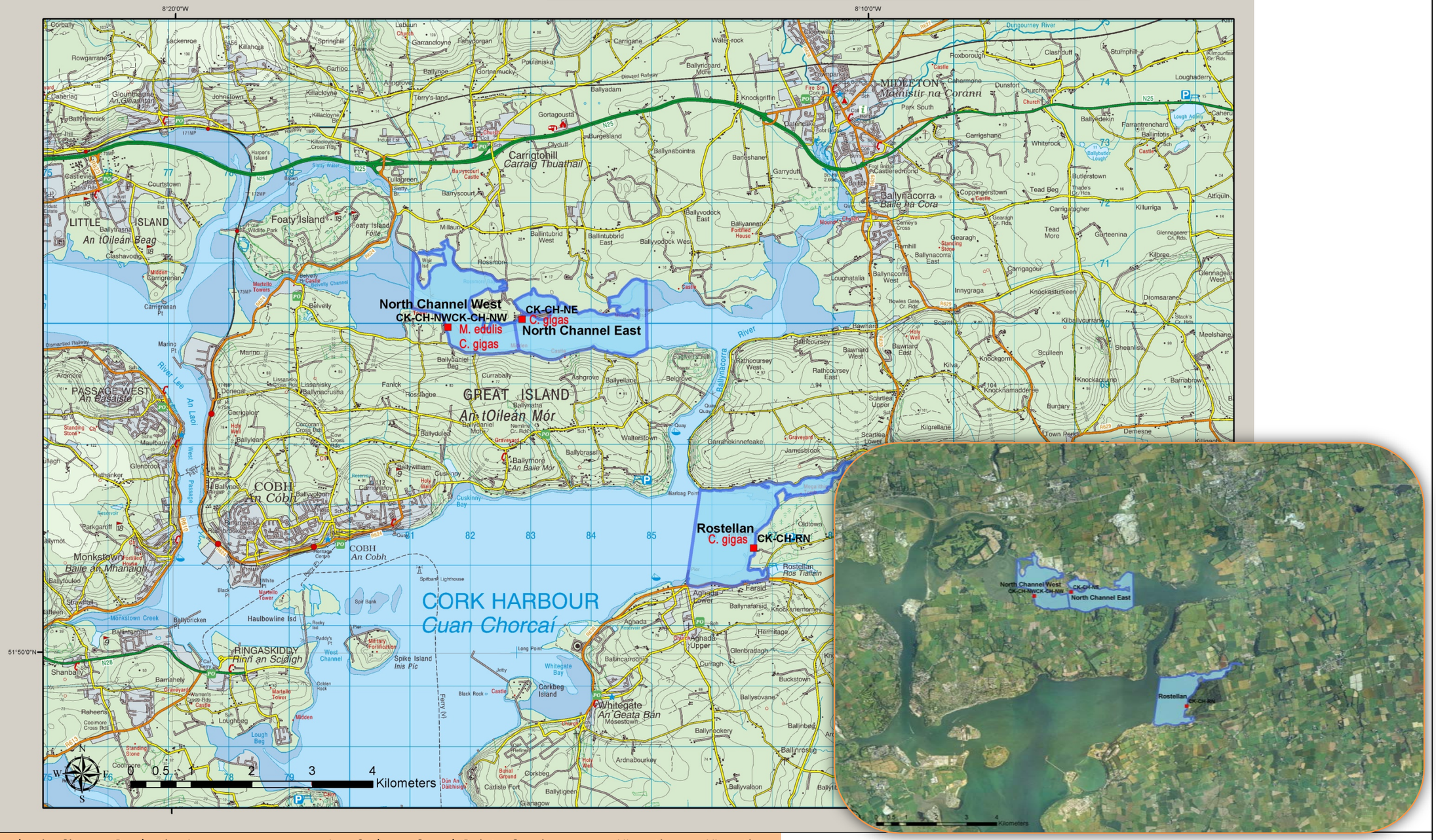
Appendix 7.1 – Annual Statement of Measures

No additional measures have been taken in 2014 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

Cork Harbour Live Bivalve Mollusc Classified Production Areas 2013



ProductionSite	ProductionArea	AreaCode	SamplePoint	Species	XLocation	YLocation
Cork Harbour	North Channel West	CK-CH-NW		M. edulis	-8.2675	51.8819
Cork Harbour	North Channel West	CK-CH-NW		C. Gigas	-8.2675	51.8819
Cork Harbour	North Channel East	CK-CH-NE		C. Gigas	-8.2497	51.8831
Cork Harbour	Rostellan	CK-CH-RN		C. Gigas	-8.1939	51.8492

Data from Sea Fisheries Protection Authority

Area	Result Number	Sample Position	Sampling Date	Sample Type	ECShell*	E. Coli (MPN 100g-1 shellfish flesh)
CORK HARBOUR	30807	NORTH CHANNEL EAST	15-Jan-14	POY	2.3	230
CORK HARBOUR	30964	NORTH CHANNEL EAST	19-Feb-14	POY	**7.9**	**790****
CORK HARBOUR	31084	NORTH CHANNEL EAST	18-Mar-14	POY	0.8	80
CORK HARBOUR	31207	NORTH CHANNEL EAST	15-Apr-14	POY	0.2	20
CORK HARBOUR	31726	NORTH CHANNEL EAST	18-Aug-14	POY	0.2	20
CORK HARBOUR	31868	NORTH CHANNEL EAST	10-Sep-14	POY	0.2	20
CORK HARBOUR	31991	NORTH CHANNEL EAST	8-Oct-14	POY	0.45	45
CORK HARBOUR	32160	NORTH CHANNEL EAST	24-Nov-14	POY	2.3	230
CORK HARBOUR	32270	NORTH CHANNEL EAST	8-Dec-14	POY	0.78	78

Area	Result Number	Sample Position	Sampling Date	Sample Type	ECShell*	E. Coli (MPN 100g-1 shellfish flesh)
CORK HARBOUR	30808	NORTH CHANNEL WEST	15-Jan-14	MUS	**13**	**1300****
CORK HARBOUR	30966	NORTH CHANNEL WEST	19-Feb-14	MUS	**54**	**5400*****
CORK HARBOUR	31209	NORTH CHANNEL WEST	15-Apr-14	MUS	0.8	80
CORK HARBOUR	31508	NORTH CHANNEL WEST	16-Jun-14	MUS	**7.9**	**790****
CORK HARBOUR	31627	NORTH CHANNEL WEST	14-Jul-14	MUS	0.8	80
CORK HARBOUR	31870	NORTH CHANNEL WEST	10-Sep-14	MUS	**3.3**	**330****
CORK HARBOUR	32161	NORTH CHANNEL WEST	24-Nov-14	MUS	**7.9**	**790****
CORK HARBOUR	32272	NORTH CHANNEL WEST	8-Dec-14	MUS	**24**	**240****

*Results column (EC Shell) for the *E.coli* are expressed as Most Probable Number *E. coli* /Gram shellfish flesh so multiply this result by 100 to get the regulatory MPN *E. coli* /100grams shellfish flesh and intervalvular fluid

Category	Microbiological Standard (MPN 100g-1 shellfish flesh)	Treatment required
Class A	<230 *E.coli*	May go direct for human consumption
Class B **	<4,600 *E.coli* (90% compliance)	Must be depurated, heat treated or relayed to meet class A requirements
Class C ***	<46,000 *E.coli*	Must be relayed for 2 months to meet class A or B requirements or may also be heat treated

Note: Cork Harbour is a B classified shellfish production area for Oysters and C classified shellfish production area for mussels

Area	Result Number	Sample Position	Sampling Date	Sample Type	ECShell*	E. Coli (MPN 100g-1 shellfish flesh)
CORK HARBOUR	30809	NORTH CHANNEL WEST	15-Jan-14	POY	**4.9**	**490****
CORK HARBOUR	30965	NORTH CHANNEL WEST	19-Feb-14	POY	2.2	220
CORK HARBOUR	31078	NORTH CHANNEL WEST	18-Mar-14	POY	2.3	230
CORK HARBOUR	31208	NORTH CHANNEL WEST	15-Apr-14	POY	0.2	20
CORK HARBOUR	31313	NORTH CHANNEL WEST	13-May-14	POY	0.2	20
CORK HARBOUR	31504	NORTH CHANNEL WEST	16-Jun-14	POY	0.5	50
CORK HARBOUR	31626	NORTH CHANNEL WEST	14-Jul-14	POY	**7**	**700****
CORK HARBOUR	31727	NORTH CHANNEL WEST	18-Aug-14	POY	0.2	20
CORK HARBOUR	31869	NORTH CHANNEL WEST	10-Sep-14	POY	2.1	210
CORK HARBOUR	31992	NORTH CHANNEL WEST	8-Oct-14	POY	0.18	18
CORK HARBOUR	32162	NORTH CHANNEL WEST	24-Nov-14	POY	0.45	45
CORK HARBOUR	32271	NORTH CHANNEL WEST	8-Dec-14	POY	**4.9**	**490****

Area	Result Number	Sample Position	Sampling Date	Sample Type	ECShell*	E. Coli (MPN 100g-1 shellfish flesh)
CORK HARBOUR	31080	ROSTELLAN	18-Mar-14	POY	0.7	70
CORK HARBOUR	31625	ROSTELLAN	14-Jul-14	POY	1.3	130

*Results column (EC Shell) for the *E.coli* are expressed as Most Probable Number *E. coli* /Gram shellfish flesh so multiply this result by 100 to get the regulatory MPN *E. coli* /100grams shellfish flesh and intervalvular fluid

Category	Microbiological Standard (MPN 100g-1 shellfish flesh)	Treatment required
Class A	<230 *E.coli*	May go direct for human consumption
Class B**	<4,600 *E.coli* (90% compliance)	requirements
Class C***	<46,000 *E.coli*	requirements or may also be heat treated

Note: Cork Harbour is a B classified shellfish production area for Oysters and C classified shellfish production area for mussels.

Cork Harbour North Channel Norovirus Analysis of Pacific Oysters from Sea Fisheries Protection Authority		
2013 Sampling		
14/01/2013	MBU-4 Norovirus determination in shellfish	**NoV GI:** Positive; 122 detectable virus genome copies/g **NoV GII:** Positive; 2475 detectable virus genome
13/02/2013	MBU-4 Norovirus determination in shellfish	**NoV GI:** Positive; Positive <LOQ **NoV GII:** Positive; 878 detectable virus genome
24/04/2013	MBU-4 Norovirus determination in shellfish	**NoV GI:** Not detected **NoV GII:** Not detected
27/05/2013	MBU-4 Norovirus determination in shellfish	**NoV GI:** Not detected **NoV GII:** Positive <LOQ
25/06/2013	MBU-4 Norovirus determination in shellfish	**NoV GI:** Not detected **NoV GII:** Not detected
24/07/2013	MBU-4 Norovirus determination in shellfish	**NoV GI:** Not detected **NoV GII:** Not detected
20/08/2013	MBU-4 Norovirus determination in shellfish	**NoV GI:** Not detected **NoV GII:** Not detected
17/09/2013	MBU-4 Norovirus determination in shellfish	**NoV GI:** Not detected **NoV GII:** Not detected
16/10/2013	MBU-4 Norovirus determination in shellfish	**NoV GI:** Not detected **NoV GII:** Positive: 305 detectable virus genome
06/11/2013	MBU-4 Norovirus determination in shellfish	**NoV GI:** Not detected **NoV GII:** Positive: 446 detectable virus genome
05/12/2013	MBU-4 Norovirus determination in shellfish	**NoV GI:** Positive; 151 detectable virus genome copies/g **NoV GII:** Positive; 757 detectable virus genome

Cork Harbour North Channel Norovirus Analysis of Pacific Oysters from Sea Fisheries Protection Authority		
2014 Sampling		
15/01/2014	MBU-4 Norovirus determination in shellfish	**NoV GI:** Positive; 900 detectable virus genome copies/g **NoV GII:** Positive; 6840 detectable virus genome
19/02/2014	MBU-4 Norovirus determination in shellfish	**NoV GI:** Positive; <LOQ **NoV GII:** Positive; 3752 detectable virus genome
18/03/2014	MBU-4 Norovirus determination in shellfish	**NoV GI:** Positive; <LOQ **NoV GII:** Positive; 1621 detectable virus genome
15/04/2014	MBU-4 Norovirus determination in shellfish	**NoV GI:** Positive; <LOQ **NoV GII:** Positive; 203 detectable virus genome
13/05/2014	MBU-4 Norovirus determination in shellfish	**NoV GI:** Not detected **NoV GII:** Positive <LOQ
16/06/2014	MBU-4 Norovirus determination in shellfish	**NoV GI:** Not detected **NoV GII:** Not detected
14/07/2014	MBU-4 Norovirus determination in shellfish	**NoV GI:** Not detected **NoV GII:** Not detected
10/09/2014	MBU-4 Norovirus determination in shellfish	**NoV GI:** Positive; <LOQ **NoV GII:** Not detected
08/10/2014	MBU-4 Norovirus determination in shellfish	**NoV GI:** Positive; 114 detectable virus genome copies/g **NoV GII:** Positive <LOQ
24/11/2014	MBU-4 Norovirus determination in shellfish	**NoV GI:** Positive; 109 detectable virus genome copies/g **NoV GII:** Positive; 489 detectable virus genome
08/12/2014	MBU-4 Norovirus determination in shellfish	**NoV GI:** Positive; <LOQ **NoV GII:** Positive; 690 detectable virus genome

Cork Harbour North Channel Norovirus Analysis of Pacific Oysters from Sea Fisheries Protection Authority		
2015 Sampling		
21/01/2015	MBU-4 Norovirus determination in shellfish	**NoV GI:** Positive; <LOQ **NoV GII:** Positive; 1228 detectable virus genome

Data from Marine Institute for Shellfish Water Directive

Sample Area	Cork Great Island North Channel	Rostellan South	Rostellan South	Shellfish Mandatory Value	Shellfish Water Guide Value	Compliance
MI Reference No.	147	155	148			
Date	14/11/12	14/11/12	06/11/13			
Species Sampled	*Mytilus edulis*	*Crassostrea*	*Crassostrea*			
Number of Individuals	35	10	7			
Method of Cultivation	intertidal/trestle	trestle	trestle			
Shellfish						
Shell length range (mm)	51 - 60	99 - 200	113 - 196			
Shell mean length (mm)	56.8	146	153			
Shell length std dev (mm)	2.40	34.4	31.0			
Shell weight (%)	74.7	92.9	87.3			
Meat weight (%)	25.3	7.10	12.7			
Moisture (%)	77.3	81.9	82.1			
Total Lipids (%)	2.48	3.00				
Metals mg kg^{-1} (ppm)						
arsenic	1.50	1.50			30	**Yes**
cadmium	0.07	0.17			5	**Yes**
chromium	0.17	0.13			6	**Yes**
copper	0.77	23.2			400	**Yes**
lead	0.41	0.21			7.5	**Yes**
mercury	0.02	0.05	0.03		1	**Yes**
nickel	0.14	<0.13			5	**Yes**
silver	<0.010	0.86			15	**Yes**
zinc	12.6	399			4000	**Yes**
PCB µg kg^{-1} (ppb)						
PCB Congener 18	0.010	0.02				
PCB Congener 28*	0.05	0.02				
PCB Congener 31	0.008	0.03				
PCB Congener 44	0.11	0.31				

PCB Congener 52*	0.18	0.23		*300	*100	**Yes**
PCB Congener 101*	0.30	0.54				
PCB Congener 105	0.12	0.14				
PCB Congener 118*	0.26	0.63				
PCB Congener 138*	0.38	0.62				
PCB Congener 149	0.27	0.60				
PCB Congener 153*	0.62	1.64				
PCB Congener 156	0.02	0.03				
PCB Congener 170	0.003	nd (<0.002)				
PCB Congener 180*	0.15	0.18				
PCB Congener 194	0.008	nd (<0.002)				
PCB Congener 209	0.008	0.004				

Sample Area	**Cork Great Island North Channel**	**Rostellan South**	**Rostellan South**	**Shellfish Mandatory Value**	**Shellfish Water Guide Value**	**Compliance**
MI Reference No.	147	155	148			
Date	14/11/12	14/11/12	06/11/13			
PBDE µg kg⁻¹ (ppb)						
BDE28	0.009	0.02				
BDE47	0.20	0.64				
BDE99	0.07	0.04				
BDE100	0.03	0.05				
BDE153	0.008	0.02				
BDE154	0.02	0.04				
PAH µg kg⁻¹ (ppb)						
acenaphthene	1.23	0.50				
acenaphthylene	0.24	0.39				
anthracene	1.41	2.37				
benzo[a]anthracene	0.70	2.19				

benzo[a]pyrene	0.43	0.57				
benzo[b]fluoranthene	1.27	4.03				
benzo[ghi]perylene	0.94	0.93				
benzo[k]fluoranthene	0.54	1.31				
chrysene	0.95	2.17				
dibenz[a h]anthracene	0.22	0.06				
fluoranthene	6.35	10.9				
fluorene	0.83	3.67				
indeno[1 2 3-cd]pyrene	0.51	0.58				
naphthalene	nd (<0.89)	6.63				
phenanthrene	5.03	5.58				
pyrene	5.14	8.67				
Organic Compounds mg kg⁻¹ (ppb)						
cis-chlordane (α-chlordane)	nd (<0.007)	0.02				
DDE (o p')	nd (<0.01)					
DDE (p p')	0.94	2.63				
DDT (o p')	0.05	0.49				
DDT (p p')	<0.08	0.26				
dieldrin	<0.50	0.07				
hexachlorobenzene	0.05	<0.17				
hexachlorobutadiene	nd (<0.006)	<0.14				
cis-heptachlorepoxide (β)	0.008	0.02				
α-HCH	0.03	<0.10				
β-HCH	0.010	0.07				
δ-HCH	nd (<0.01)	<0.05				
γ-HCH	0.03	0.07				
heptachlor	<0.05	nd (<0.004)				
oxychlordane	0.02	0.05				
trans-chlordane (γ-chlordane)	nd (<0.005)	0.02				
TDE (p p')	0.19	1.75				
trans-nonachlor	0.02	0.05				

endrin	0.005	<0.08				
aldrin	nd (<0.01)	nd (<0.01)				

Data from Marine Institute for Water Framework Directive

Sample Area	Lough Mahon	Lough Mahon	North Channel Great Island	North Channel Great Island
MI Reference No.	2550	2554	2551	2555
Date	12/11/12	04/11/13	22/11/12	04/11/13
Latitude	51° 52.47'N	51° 52.65'N	51° 53.00'N	51° 52.84'N
Longitude	08° 20.26'W	08° 20.37'W	08° 12.26'W	08° 11.55'W
Species Sampled	*Mytilus edulis*	*Mytilus edulis*	*Mytilus edulis*	*Mytilus edulis*
Number of Individuals	75	73	75	75
Method of Cultivation	rope		rope	rope
Shellfish				
Shell length range (mm)	40 - 60	41.5 - 59.1	41.1 - 58.7	42.3 - 59.3
Shell mean length (mm)	50.2	49.7	48.2	51.8
Shell length std dev (mm)	6.30	4.10	4.30	4.50
Shell weight (%)	69.1	74.7	61.4	67.7
Meat weight (%)	30.9	25.3	38.6	32.3
Moisture (%)	80.6	77	78.9	73.6
Total Lipids (%)	2.26	3.03	2.15	2.95
Metals mg kg^{-1} (ppm)				
arsenic	1.37		1.51	
cadmium	0.07		0.05	
chromium	0.19		1.24	
copper	1.46		1.41	
lead	0.30		0.31	
mercury	0.02		<0.02	
nickel	0.19		0.21	
silver	0.006		0.006	
zinc	14.3		16.6	
PCB µg kg^{-1} (ppb)				
PCB Congener 18	0.008	0.02	0.02	0.02
PCB Congener 28	0.19	0.03	0.14	0.05
PCB Congener 31	0.20	0.02	0.15	0.02

PCB Congener 44	0.36	0.08	0.27	0.05
PCB Congener 52	0.45	0.05	0.26	0.10
PCB Congener 101	0.64	0.29	0.49	0.40
PCB Congener 105	0.14	0.04	0.11	0.07
PCB Congener 118	1.06	0.27	0.71	0.33
PCB Congener 138	1.08	0.42	0.98	0.56
PCB Congener 149	0.91	0.41	0.58	0.37
PCB Congener 153	1.25	0.73	1.11	1.16
PCB Congener 156	0.09	0.03	0.07	0.04
PCB Congener 170	0.06	0.02	0.04	<0.005
PCB Congener 180	0.32	0.07	0.36	0.14
PCB Congener 194	0.15	0.006	0.06	nd (<0.001)
PCB Congener 209	0.06	0.01	0.06	0.008

Sample Area	**Lough Mahon**	**Lough Mahon**	**North Channel Great Island**	**North Channel Great Island**
MI Reference No.	2550	2554	2551	2555
Date	12/11/12	04/11/13	22/11/12	04/11/13
PBDE µg kg⁻¹ (ppb)				
BDE28	0.07	0.05	0.02	0.03
BDE47	1.36	0.90	0.38	0.38
BDE99	0.51	0.25	0.18	0.07
BDE100	0.29	0.12	0.12	0.07
BDE153	0.23	0.08	<0.03	<0.03
BDE154	0.12	0.11	0.04	0.03
PAH µg kg⁻¹ (ppb)				
acenaphthene	0.53		0.34	
acenaphthylene	0.47		0.42	
anthracene	2.07		1.43	
benzo[a]anthracene	2.43		1.86	

benzo[a]pyrene	0.86		1.13	
benzo[b]fluoranthene	2.81		2.58	
benzo[ghi]perylene	1.44		1.64	
benzo[k]fluoranthene	1.40		1.90	
chrysene	2.19		1.93	
dibenz[a h]anthracene	0.13		0.29	
fluoranthene	7.31		6.63	
fluorene	7.13		6.29	
indeno[1 2 3-cd]pyrene	0.35		1.07	
naphthalene	75.3		56.4	
phenanthrene	8.41		7.51	
pyrene	6.59		5.70	
Organic Compounds mg kg^{-1} (ppb)				
cis-chlordane (α-chlordane)	0.01		0.01	
DDE (p p')	2.35		1.75	
DDT (p p')	0.29		0.22	
dieldrin	nd (<0.02)		nd (<0.02)	
hexachlorobenzene			0.05	
hexachlorobutadiene	<0.03		nd (<0.005)	
α-HCH	0.03		0.02	
β-HCH	0.04		0.02	
δ-HCH	0.02			
γ-HCH	0.03		0.01	
trans-chlordane (γ-chlordane)	0.04		0.02	
TDE (o p')	nd (<0.003)		nd (<0.003)	
TDE (p p')	0.47		0.35	
trans-nonachlor	0.02		0.02	
aldrin	nd (<0.003)		0.04	

Rostellan Data by Marine Institute Monitoring Data

Station	Date	arsenic (ug/l)	cadmium (ug/l)	chromium (ug/l)	coloured dissolved organic mat (mg/l)	copper (ug/l)	lead (ug/l)	mercury (ug/l)	nickel (ug/l)	salinity (PSU)	secci depth (m)	silver (ug/l)	suspended solids (mg/l)	zinc (ug/l)
Rostellan South	06/12/12	1.374	<0.05	0.125	9.6	0.355	<0.1	0.0142	0.206	29.38	2.4	<0.05	<5	<1
	20/06/12	1.149	<0.05	0.124	9.7	0.382	<0.1	<0.01	0.274	28.17	1.53	<0.05	<5	
Mean Value for 2012		**1.262**	**<0.05**	**0.125**	**9.7**	**0.3685**	**<0.1**	**<0.01**	**0.240**	**28.78**	**1.97**	**<0.05**	**<5**	**<1**
Shellfish Mant. Limits		**40**	**5**	**30**	**10**	**10**	**20**	**0.4**	**50**	**<40**		**10**	**30%**	**200**
Compliance for 2012		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**		**Yes**		**Yes**

Station	Date	arsenic (ug/l)	cadmium (ug/l)	chromium (ug/l)	coloured dissolved organic mat (mg/l)	copper (ug/l)	lead (ug/l)	mercury (ug/l)	nickel (ug/l)	salinity (PSU)	secci depth (m)	silver (ug/l)	suspended solids (mg/l)	zinc (ug/l)
Rostellan North	17/06/13	1.314	<0.05	0.099	<4	0.254	<0.1	<0.01	0.185	32.57	2.25	<0.002	<5	<1
	06/12/13	1.183	0.068	0.129	13.5	0.108	<0.1	0.00059	0.152	31.72	0.87	<0.002	8	<1
	10/04/13				<4					29.18	2.6		5	
	14/08/13				<4					33	2.41		<5	
	05/06/14	1.696	<0.05	0.115		0.381	<0.1	0.00051	0.246	32.31	1.29	<0.002		<1
	15/04/14									30.66	1.89			
	19/08/14									33.54	1.5			
Mean Value for 2013		**1.249**	**<0.05**	**0.114**	**<4,9**	**0.181**	**<0.1**	**<0.003**	**0.169**	**31.62**	**2.03**	**<0.002**	**<4.5**	**<1**
Shellfish Mant. Limits		**40**	**5**	**30**	**10**	**10**	**20**	**0.4**	**50**	**<40**		**10**	**30%**	**200**
Compliance for 2013		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**		**Yes**	**Yes**	**Yes**
Mean Value for 2014		**1.696**	**<0.05**	**0.115**	**N/A**	**0.381**	**<0.1**	**0.00051**	**0.246**	**32.17**	**1.56**	**<0.002**	**N/A**	**<1**
Shellfish Mant. Limits		**40**	**5**	**30**	**10**	**10**	**20**	**0.4**	**50**	**<40**		**10**		**200**
Compliance for 2014		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**		**Yes**		**Yes**

Station	Date	arsenic (ug/l)	cadmium (ug/l)	chromium (ug/l)	coloured dissolved organic mat (mg/l)	copper (ug/l)	lead (ug/l)	mercury (ug/l)	nickel (ug/l)	salinity (PSU)	secci depth (m)	silver (ug/l)	suspended solids (mg/l)	zinc (ug/l)
Rostellan West	06/12/13	1.312	0.06	0.14	5.5	0.163	<0.1	<0.5	0.172	31.83	1.81	<0.05	5	<1
	17/06/13	1.328	<0.05	0.113	<4	0.869	<0.1	<0.01	0.184	32.49	2.05	<0.002	<5	
	14/08/13				<4					33.01	2.46		<5	
	10/04/13				4.4					30.15	2.2		<5	
	05/06/14	1.344	<0.05	0.121		0.348	<0.1	0.0005	0.196	32.49	2.3	<0.002		<1
	19/08/14									2.16	2.3			
	15/04/14									30.62	1.89			
Mean Value for 2013		**1.320**	**<0.04**	**0.127**	**<3.5**	**0.516**	**<0.1**	**<0.14**	**0.178**	**31.87**	**2.13**	**<0.013**	**<3.1**	**<1**
Shellfish Mant. Limits		**40**	**5**	**30**	**10**	**10**	**20**	**0.4**	**50**	**<40**		**10**	**30%**	**200**
Compliance for 2013		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**		**Yes**		**Yes**
Mean Value for 2014		**1.344**	**<0.05**	**0.121**	**N/A**	**0.348**	**<0.1**	**0.0005**	**0.196**	**21.76**	**2.16**	**<0.002**	**N/A**	**<1**
Shellfish Mant. Limits		**40**	**5**	**30**	**10**	**10**	**20**	**0.4**	**50**	**<40**		**10**		**200**
Compliance for 2014		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**		**Yes**		**Yes**

Note: All less than values were half of LOD for statistical purposes

This is available data for 2014 but the complete dataset is not available. The end of year reporting to EPA has not taken place yet and thererfore the final data QA that entails has not yet been carried out. Therefore please do not release these data without reference to Marine Institute in advance of the data being reported to the EPA. Probe measurements are indicative as they are prone to spikes in reading.

2013 North Channel Cork Harbour Data by Marine Institute Monitoring Data

Station	Date	1,2,3-trichlorobenzene (ug/l)	1,2,4-trichlorobenzene (ug/l)	1,2-dichloroethane (ug/l)	1,3,5-trichlorobenzene (ug/l)	2,4-dichlorophenoxyacetic acid (ug/l)	4-Nonylphenol (ug/l)	4-Octylphenol (ug/l)	Acetic acid (4-chloro-2-mp) (ug/l)	anthracene (ug/l)	arsenic (ug/l)	atrazine (ug/l)	benzene (ug/l)	benzo[a]pyrene (ug/l)	benzo[b]fluoranthene (ug/l)	benzo[b+k]fluoranthene (ug/l)	benzo[ghi]perylene (ug/l)
Cork Harbour North Channel	10/01/2013	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.229	<0.01	<0.05	<0.002	<0.005	<0.005	<0.005
	06/02/2013	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.067	<0.01	<0.05	0.009	<0.005	<0.005	0.005
	21/03/2013	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.319	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
	10/04/2013	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.786	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
	20/05/2013	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.651	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
	17/06/2013	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.357	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
	03/07/2013	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.41	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
	14/08/2013	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.417	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
	12/09/2013	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.497	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
	01/10/2013	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.432	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
	04/11/2013	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.025	<0.01	<0.05	0.002	<0.005	<0.005	<0.002
	06/12/2013	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.487	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
Mean Value for 2013		**<0.03**	**<0.03**	**<0.05**	**<0.03**	**<0.01**	**<0.01**	**<0.01**	**<0.02**	**<0.005**	**1.390**	**<0.01**	**<0.05**	**<0.002**	**<0.005**	**<0.005**	**<0.001**
Shellfish Mant. Limits											**40**						
Compliance for 2013											**Yes**						

Station	Date	benzo[k]fluoranthene (ug/l)	cadmium (ug/l)	chromium (ug/l)	coloured dissolved organic mat (mg/l)	copper (ug/l)	Dichloromethane (ug/l)	Diuron (ug/l)	fluoranthene (ug/l)	glyphosate (ug/l)	indeno[1,2,3-cd]pyrene (ug/l)	lead (ug/l)	linuron (ug/l)	m- & p-xylene (ug/l)	Mecoprop (ug/l)	mercury (ug/l)	naphthalene (ug/l)
Cork Harbour North Channel	10/01/2013	<0.005	<0.05	0.145	<4	0.192	<0.05	<0.03	<0.005	<0.04	<0.005	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	06/02/2013	<0.005	<0.05	0.174	5.2	0.314	<0.05	<0.03	0.006	<0.04	0.002	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	21/03/2013	<0.005	<0.05	0.158	5.6	0.228	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.01	0.013
	10/04/2013	<0.005	<0.05	0.107	4.6	0.389	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	20/05/2013	<0.005	<0.05	0.093	5.1	0.295	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	17/06/2013	<0.005	<0.05	0.107	<4	0.292	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	03/07/2013	<0.005	<0.05	0.12	<4	0.342	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	14/08/2013	<0.005	<0.05	0.112	4.3	0.286	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	12/09/2013	<0.005	<0.05	0.116	<4	0.307	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	01/10/2013	<0.005	<0.05	0.108	6	0.241	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	04/11/2013	<0.005	0.413	0.1	12.6	0.256	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	06/12/2013	<0.005	<0.05	0.147	14.8	0.252	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.5	<0.005
Mean Value for 2013		**<0.005**	**<0.06**	**0.124**	**<5.5**	**0.283**	**<0.05**	**<0.03**	**<0.003**	**<0.04**	**<0.002**	**<0.1**	**<0.03**	**<0.05**	**<0.02**	**<0.02**	**<0.001**
Shellfish Mant. Limits			**5**	**30**	**10**	**10**						**20**				**0.4**	
Compliance for 2013			**Yes**	**Yes**	**No**	**Yes**						**Yes**				**Yes**	

Station	Date	nickel (ug/l)	nonylphenoldiethoxylates (ug/l)	nonylphenolmonoethoxylates (ug/l)	Nonylphenols (ug/l)	o-xylene (ug/l)	Phthalic acid bis(2-eh)ester (ug/l)	salinity (PSU)	salinity (lab salinometer) (PSU)	secci depth (m)	silver (ug/l)	simazine (ug/l)	sum BGHIP and INDP (ug/l)	suspended solids (mg/l)	toluene (ug/l)	trichlorobenzene mixture (ug/l)	xylene (ug/l)
Cork Harbour North Channel	10/01/2013	0.168	<0.01	<0.01	<0.01	<0.05	<0.05	0.02		1.51	<0.002	<0.01	<0.005	9	<0.05	<0.03	<0.05
	06/02/2013	0.232	<0.01	<0.01	<0.01	<0.05	<0.05	24.16		0.86	<0.002	<0.01	0.007	12	<0.05	<0.03	<0.05
	21/03/2013	0.165	<0.01	<0.01	<0.01	<0.05	<0.05	31.36	31.642	4.65	<0.002	<0.01	<0.002	<5	<0.05	<0.03	<0.05
	10/04/2013	0.267	<0.01	<0.01	<0.01	<0.05	<0.05	0.02	29.991	1.75	<0.002	<0.01	<0.002	<5	<0.05	<0.03	<0.05
	20/05/2013	0.201	<0.01	<0.01	<0.01	<0.05	<0.05	32.07		2.09	<0.002	<0.01	<0.002	<5	<0.05	<0.03	<0.05
	17/06/2013	0.196	<0.01	<0.01	<0.01	<0.05	<0.05	31.37		1.79	<0.002	<0.01	<0.002	<5	<0.05	<0.03	<0.05
	03/07/2013	0.193	<0.01	<0.01	<0.01	<0.05	<0.05	32.06		1.28	<0.002	<0.01	<0.002	<5	<0.05	<0.03	<0.05
	14/08/2013	0.166	<0.01	<0.01	<0.01	<0.05	<0.05	32.79		1.89	<0.002	<0.01	<0.002	<5	<0.05	<0.03	<0.05
	12/09/2013	0.211	<0.01	<0.01	<0.01	<0.05	<0.05	33.48		2.71	<0.002	<0.01	<0.002	6	<0.05	<0.03	<0.05
	01/10/2013	0.171	<0.01	<0.01	<0.01	<0.05	<0.05	33.55		2.21	<0.002	<0.01	<0.002	6	<0.05	<0.03	<0.05
	04/11/2013	0.165	<0.01	<0.01	<0.01	<0.05	<0.05	0.01		1.11	<0.002	<0.01	<0.002	9	<0.05	<0.03	<0.05
	06/12/2013	0.167	<0.01	<0.01	<0.01	<0.05	<0.05	31.5		1.39	<0.002	<0.01	<0.002	7	<0.05	<0.03	<0.05
Mean Value for 2013		**0.192**	**<0.01**	**<0.01**	**<0.01**	**<0.05**	**<0.05**	**23.5325**	**30.82**	**1.93667**	**<0.002**	**<0.01**	**<0.002**	**<5**	**<0..05**	**<0.03**	**<0.05**
Shellfish Mant. Limits		**50**							**<40**		**10**			**30%**			
Compliance for 2013		**Yes**							**Yes**		**Yes**			**Yes**			

Station	Date	zinc (ug/l)
Cork Harbour North Channel	10/01/2013	14.9
	06/02/2013	21.37
	21/03/2013	25.02
	10/04/2013	21.45
	20/05/2013	<0.13
	17/06/2013	<1
	03/07/2013	<1
	14/08/2013	<1
	12/09/2013	<1
	01/10/2013	<1
	04/11/2013	<1
	06/12/2013	<1
Mean Value for 2013		**<4.19**
Shellfish Mant. Limits		**200**
Compliance for 2013		**Yes**

Note: All less than values were half of LOD for statistical purposes

There is no data for 2014. The end of year reporting to EPA has not taken place yet and thererfore the final data QA that entails has not yet been carried out. Therefore please do not release these data without reference to Marine Institute in advance of the data being reported to the EPA. Probe measurements are indicative as they are prone to spikes in reading.

2013 Mahon Point (Data Source Mahon Point by EPA) Transitional Water

Sample ID	Station No	Date Surveyed	Time	Depth Bed	Depth sample	Salinity %	Temp (℃)	pH	Secchi (m)	DO %Sat	BOD mg/L O2	TON as N mg/L	NH3 as N mg/L	PO4 as P µg/L	chlorophyll a mg/m³	DIN as N mg/L	Free NH3 as N mg/L
116638	LE310	16/01/13	11:06:00	9.8	0	10.6	7.9	7.6	1.3	93.4		3.13	0.135	49	0.9	3.265	0.00102
116639	LE310	16/01/13	11:06:00	9.8	9	28.09	8.38	7.9	1.3	92.8		0.32	0.073	29	1.2	0.393	0.00114
116477	LE310	16/05/13	10:48:00	10	0	12.48	11.29	8	1.5	101.4	1	1.24	0.064	12	9.8	1.304	0.00157
116478	LE310	16/05/13	10:48:00	10	9.8	31.6	10.12	8	1.5	98.6	1	0.25	0.117	20	8.9	0.367	0.00262
116489	LE310	26/06/13	10:50:00	9.6	0	25.53	14.14	7.8	1.5	84.4	1	1.35	0.141	39	1.7	1.491	0.00273
116490	LE310	26/06/13	10:50:00	9.6	9.4	30.33	13.29	7.9	1.5	85.4	1	0.26	0.18	36	2.7	0.44	0.0041
116288	LE310	11/09/13	10:29:00	10	0	26.89	15.35	8	2.2	90.5	0.5	0.43	0.171	45	2.5	0.601	0.00568
116289	LE310	11/09/13	10:29:00	10	9.43	31.59	15.03	8	2.2	90.1	0.5	0.15	0.198	39	2.2	0.348	0.00642
116738	LE330	16/01/13	11:19:00	9.4	0	9.73	7.87	7.6	1.3	93.1	1	1.64	0.081	31	1.1	1.721	0.00061
116739	LE330	16/01/13	11:19:00	9.4	9	30.11	8.56	7.9	1.3	93.6		0.5	0.082	37	1.3	0.582	0.0013
118416	LE330	16/01/13	16:18:00	7.8	0	9.99	8.04	7.6	1.5	95.9	1	3.29	0.1	44	1.1	3.39	0.00077
118417	LE330	16/01/13	16:18:00	7.8	7	28.66	8.46	7.9	1.5	92.3	1	0.63	0.124	43	1.6	0.754	0.00195
116592	LE330	16/05/13	11:01:00	10.3	0	21.22	11.06	8	1.9	105.1		1.17	0.049	12	8.9	1.219	0.00118
116593	LE330	16/05/13	11:01:00	10.3	10.1	32.09	10.05	8	1.9	101.8		0.22	0.066	13	10.5	0.286	0.00147
118248	LE330	16/05/13	15:26:00	8.5	0	15.58	11.98	8.1	1.9	110.6		1.06	0.07	15	8.7	1.13	0.00226
118249	LE330	16/05/13	15:26:00	8.5	8.2	31.4	16.16	8	1.9	101.4		0.25	0.147	22	9.8	0.397	0.00518
116610	LE330	26/06/13	11:03:00	9.7	0	28.11	14	7.9	1.4	86		0.79	0.202	45	3.8	0.992	0.00485
116611	LE330	26/06/13	11:03:00	9.7	9.4	30.96	12.93	7.9	1.4	86.6		0.23	0.149	31	3.8	0.379	0.0033
118229	LE330	26/06/13	15:21:00	7.7	7.5	30.01	13.38	7.9	1	84.7		0.67	0.193	42	4.9	0.863	0.00442
118229	LE330	26/06/13	15:21:00	7.7	0	25.15	15.39	7.9	1	91.5		0.67	0.193	42	4.9	0.863	0.00514
116426	LE330	11/09/13	10:43:00	10.5	0	30.73	15.15	8	2.2	92.3		0.2	0.183	41	2.5	0.383	0.00599
116427	LE330	11/09/13	10:43:00	10.5	10.37	32.56	14.95	8	2.2	94		0.11	0.145	29	1.9	0.255	0.00468
118145	LE330	11/09/13	15:05:00	8	0	30.06	15.81	8.1	2	103.3		0.23	0.157	41	6.4	0.387	0.00674
118146	LE330	11/09/13	15:05:00	8	7.82	32.41	14.97	8	2	93.7		0.13	0.175	35	2.7	0.305	0.00565
116881	LE340	16/01/13	11:35:00	10.5	10	27.89	8.34	7.8	1.4	92.9		1.93	0.126	41	1.3	2.056	0.00156
116882	LE340	16/01/13	11:35:00	10.5	10	27.89	8.34	7.9	1.4	92.9		0.65	0.185	44	1.3	0.835	0.00288
116702	LE340	16/05/13	11:14:00	12	0	27.06	10.51	8	2	107.3		1.16	0.054	13	6.9	1.214	0.00125
116703	LE340	16/05/13	11:14:00	12	12	33.02	9.85	8	2	102		0.16	0.03	11	6.2	0.19	0.00066
116704	LE340	26/06/13	11:14:00	10.1	0	23.43	13.15	7.9	1.4	87		0.82	0.193	42	1.3	1.013	0.00435
116705	LE340	26/06/13	11:14:00	10.1	9.9	31.14	12.84	7.9	1.4	86.8		0.23	0.177	36	2.7	0.407	0.00389
116535	LE340	11/09/13	10:55:00	12.2	0	31.6	15.16	8	3.1	93.4		0.17	0.168	37	1.4	0.338	0.0055
116536	LE340	11/09/13	10:55:00	12.2	12.11	33.26	14.88	8	3.1	91.9		0.07	0.11	23	1.3	0.18	0.00353
	Mean Value			9.8	5.03	26.60	12.10	7.9	1.7	94.3	0.9	0.75	0.132	32.5	3.9	0.886	0.00326
	95% Percentile			12.1	11.10	32.77	15.58	8.0	2.6	106.1	1.0	2.47	0.195	45.0	9.8	2.600	0.00618
	EQS Std 95% Percentile									>80<120	≤4.0						
	Median			9.9	7.25	29.34	12.89	8.0	1.5	93.0	1.0	0.47	0.143	36.5	2.6	0.592	0.00309
	EQS Std Median													≤40	10.0		
	90% Percentile			11.9	10.09	32.38	15.33	8.0	2.2	103.2	1.0	1.61	0.193	44.0	8.9	1.698	0.00568
	EQS Std 90% Percentile														20		
	Compliance									Yes	Yes			Yes	Yes		

2013 Mahon Point (Data Source Mahon Point by EPA) Transitional Water

WB_Name	Year	Season		Salinity (%)	Temp℃	pH	Secchi (m)	DO Sat (%)	EQS Std 95% Percentile	Compliance	BOD mg/L O2	EQS Std 95% Percentile	Compliance	TON as N mg/L
Lough Mahon	2013	S	No.Samples	**24**	**24**	**24**	**24**	**24**			**24**			**24**
Lough Mahon	2013	S	Max	33.26	16.16	8.1	3.1	110.6			1.0			1.35
Lough Mahon	2013	S	Median	30.53	13.69	8.0	1.9	92.9			-			0.25
Lough Mahon	2013	S	Min	12.48	9.85	7.8	1.0	84.4			-			0.07
Lough Mahon	2013	S	5%ile	16.43	10.06	7.9	1.06	84.8			-			0.11
Lough Mahon	2013	S	95%ile (90%ile Chlor)	32.95	15.75	8.1	3.0	107.0	>80<120	Yes	1.0	≤4.0	Yes	1.23
Lough Mahon	2013	W	No.Samples	**8**	**8**	**8**	**8**	**8**			**8**			**8**
Lough Mahon	2013	W	Max	30.11	8.56	7.9	1.5	95.9			1.0			3.29
Lough Mahon	2013	W	Median	27.89	8.34	7.9	1.4	93.0			-			1.15
Lough Mahon	2013	W	Min	9.73	7.87	7.6	1.3	92.3			-			0.32
Lough Mahon	2013	W	5%ile	9.82	7.88	7.6	1.30	92.5			-			0.38
Lough Mahon	2013	W	95%ile (90%ile Chlor)	29.60	8.53	7.9	1.5	95.1	>80<120	Yes	1.0	≤4.0	Yes	3.23

WB_Name	Year	Season		PO4 as P µg/L	EQS Std Median	Compliance	chlorophyll a mg/m³	EQS Std Median	EQS Std 90% Percentile	Compliance	DIN as N mg/L	NH3 as N mg/l
Lough Mahon	2013	S	No.Samples	**24**			**24**				**24**	**24**
Lough Mahon	2013	S	Max	45			10.5				1.491	0.202
Lough Mahon	2013	S	Median	36	≤40	Yes	3.8	10.0		Yes	0.402	0.153
Lough Mahon	2013	S	Min	11			1.3				0.180	0.030
Lough Mahon	2013	S	5%ile	12			1.3				0.200	0.050
Lough Mahon	2013	S	95%ile (90%ile Chlor)	45			9.5		20	Yes	1.291	0.197
Lough Mahon	2013	W	No.Samples	**8**			**8**				**8**	**8**
Lough Mahon	2013	W	Max	49			1.6				3.390	0.185
Lough Mahon	2013	W	Median	42	≤40	No	1.3	10.0		Yes	1.278	0.112
Lough Mahon	2013	W	Min	29			0.9				0.393	0.073
Lough Mahon	2013	W	5%ile	30			1.0				0.459	0.076
Lough Mahon	2013	W	95%ile (90%ile Chlor)	47			1.4		20	Yes	3.346	0.168

2013 Lough Mahon Data by Marine Institute Monitoring Data

Station	Date	1,2,3-trichlorobenzene (ug/l)	1,2,4-trichlorobenzene (ug/l)	1,2-dichloroethane (ug/l)	1,3,5-trichlorobenzene (ug/l)	2,4-dichlorophenoxyacetic acid (ug/l)	4-Nonylphenol (ug/l)	4-Octylphenol (ug/l)	Acetic acid (4-chloro-2-mp) (ug/l)	anthracene (ug/l)	arsenic (ug/l)	atrazine (ug/l)	benzene (ug/l)	benzo[a]pyrene (ug/l)	benzo[b]fluoranthene (ug/l)	benzo[b+k]fluoranthene (ug/l)	benzo[ghi]perylene (ug/l)
Lough Mahon	10.01.13	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	0.958	<0.01	<0.05	<0.002	<0.005	<0.005	<0.005
	06.02.13	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	0.972	<0.01	<0.05	0.004	<0.005	<0.005	0.003
	21.03.13	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.163	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
	10.04.13	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.253	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
	20.05.13	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.51	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
	17.06.13	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.346	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
	03.07.13	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.308	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
	14.08.13	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.376	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
	12.09.13	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.503	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
	01.10.13	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.288	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
	04.11.13	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.126	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
	06.12.13	<0.03	<0.03	<0.05	<0.03	<0.01	<0.01	<0.01	<0.02	<0.005	1.227	<0.01	<0.05	<0.002	<0.005	<0.005	<0.002
Mean Value for 2013		**<0.03**	**<0.03**	**<0.05**	**<0.03**	**<0.01**	**<0.01**	**<0.01**	**<0.02**	**<0.005**	**1.2525**	**<0.01**	**<0.05**	**<0.001**	**<0.005**	**<0.005**	**<0.001**
Max Value for 2013		**<0.03**	**<0.03**	**<0.05**	**<0.03**	**<0.01**	**<0.01**	**<0.01**	**<0.02**	**<0.005**	**1.503**	**<0.01**	**<0.05**	**0.004**	**<0.005**	**<0.005**	**0.003**
AA-EQS											**20**						
Compliance											**Yes**						

Station	Date	benzo[k]fluoranthene (ug/l)	cadmium (ug/l)	chromium (ug/l)	coloured dissolved organic mat (mg/l)	copper (ug/l)	Dichloromethane (ug/l)	Diuron (ug/l)	fluoranthene (ug/l)	glyphosate (ug/l)	indeno[1,2,3-cd]pyrene (ug/l)	lead (ug/l)	linuron (ug/l)	m- & p-xylene (ug/l)	Mecoprop (ug/l)	mercury (ug/l)	naphthalene (ug/l)
Lough Mahon	10.01.13	<0.005	<0.05	0.161	15	0.453	<0.05	<0.03	<0.005	<0.04	<0.005	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	06.02.13	<0.005	<0.05	0.202	10	0.489	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	21.03.13	<0.005	<0.05	0.149	10.5	0.383	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	10.04.13	<0.005	<0.05	0.108	20.1	0.725	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	20.05.13	<0.005	<0.05	0.148	4.2	0.754	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	17.06.13	<0.005	<0.05	0.101	9.5	0.434	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	03.07.13	<0.005	<0.05	0.112	<4	0.337	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	14.08.13	<0.005	<0.05	0.111	14.3	0.353	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	12.09.13	<0.005	<0.05	0.11	7.1	0.505	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	0.014	<0.005
	01.10.13	<0.005	<0.05	0.114	5.7	0.373	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	04.11.13	<0.005	0.175	0.115	61.8	0.402	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	<0.01	<0.005
	06.12.13	<0.005	<0.05	0.151	9.6	0.376	<0.05	<0.03	<0.005	<0.04	<0.002	<0.1	<0.03	<0.05	<0.02	0.0007	<0.005
Mean Value for 2013		**<0.005**	**<0.04**	**0.132**	**15.3**	**0.465**	**<0.05**	**<0.03**	**<0.005**	**<0.04**	**<0.001**	**<0.1**	**<0.03**	**<0.05**	**<0.02**	**<0.005**	**<0.005**
Max Value for 2013		**<0.03**	**0.175**	**0.202**	**61.8**	**0.754**	**<0.05**	**<0.03**	**<0.005**	**<0.04**	**<0.002**	**<0.1**	**<0.03**	**<0.05**	**<0.02**	**00/01/00**	**<0.005**
AA-EQS				**0.6**		**5**							**0.7**				
MAC-EQS				**32**									**0.7**				
Compliance				**Yes**		**Yes**							**Yes**				

Station	Date	nickel (ug/l)	nonylphenol diethoxylates (ug/l)	nonylphenol monoethoxylates (ug/l)	Nonylphenols (ug/l)	o-xylene (ug/l)	Phthalic acid bis(2-eh)ester (ug/l)	salinity (PSU)	salinity (lab salinometer) (PSU)	secci depth (m)	silver (ug/l)	simazine (ug/l)	sum BGHIP and INDP (ug/l)	suspended solids (mg/l)	toluene (ug/l)	trichlorobenzene mixture (ug/l)	xylene (ug/l)

Lough Mahon	10.01.13	0.279	<0.01	<0.01	<0.01	<0.05	<0.05	24		1.68	<0.002	<0.01	<0.005	7	<0.05	<0.03	<0.05
	06.02.13	0.293	<0.01	<0.01	<0.01	<0.05	<0.05	22.94		1.06	<0.002	<0.01	0.003	8	<0.05	<0.03	<0.05
	21.03.13	0.192	<0.01	<0.01	<0.01	<0.05	<0.05	26.76	30.138	3.75	<0.002	<0.01	<0.002	7	<0.05	<0.03	<0.05
	10.04.13	0.333	<0.01	<0.01	<0.01	<0.05	<0.05	20.08	21.207	1.79	<0.002	<0.01	<0.002	5	<0.05	<0.03	<0.05
	20.05.13	0.302	<0.01	<0.01	<0.01	<0.05	<0.05	26.95		1.85	<0.002	<0.01	<0.002	<5	<0.05	<0.03	<0.05
	17.06.13	0.24	<0.01	<0.01	<0.01	<0.05	<0.05	24.61		1.47	<0.002	<0.01	<0.002	<5	<0.05	<0.03	<0.05
	03.07.13	0.182	<0.01	<0.01	<0.01	<0.05	<0.05	29.13		1.71	<0.002	<0.01	<0.002	<5	<0.05	<0.03	<0.05
	14.08.13	0.185	<0.01	<0.01	<0.01	<0.05	<0.05	31.63		1.89	<0.002	<0.01	<0.002	<5	<0.05	<0.03	<0.05
	12.09.13	0.203	<0.01	<0.01	<0.01	<0.05	<0.05	32		2.77	<0.002	<0.01	<0.002	<5	<0.05	<0.03	<0.05
	01.10.13	0.226	<0.01	<0.01	<0.01	<0.05	<0.05	31.88		2.25	<0.002	<0.01	<0.002	<5	<0.05	<0.03	<0.05
	04.11.13	0.239	<0.01	<0.01	<0.01	<0.05	<0.05	17.14		1.47	<0.002	<0.01	<0.002	<5	<0.05	<0.03	<0.05
	06.12.13	0.288	<0.01	<0.01	<0.01	<0.05	0.36	25.18		1.79	<0.002	<0.01	<0.002	<5	<0.05	<0.03	<0.05
Mean Value for 2013		**0.247**	**<0.01**	**<0.01**	**<0.01**	**<0.05**	**<0.05**	**26.03**	**25.67**	**1.96**	**<0.002**	**<0.01**	**<0.001**	**<4**	**<0.05**	**<0.03**	**<0.05**
Max Value for 2013		**0.333**	**<0.01**	**<0.01**	**<0.01**	**<0.05**	**<0.05**	**31.88**	**30.14**	**3.75**	**<0.002**	**<0.01**	**<0.003**	**8**	**<0.05**	**<0.03**	**<0.05**
AA-EQS															**10**		**10**
Compliance															**Yes**		**Yes**

Station	Date	zinc (ug/l)
Lou	10.01.13	<1
	06.02.13	17.91
	21.03.13	<1
	10.04.13	27.74

g h M a h o n	20.05.13	<1
	17.06.13	<1
	03.07.13	<1
	14.08.13	<1
	12.09.13	<1
	01.10.13	<1
	04.11.13	<1
	06.12.13	1.063
Mean Value for 2013		**<4.27**
Max Value for 2013		**27.74**
AA-EQS		**40**
Compliance		**Yes**

Note: All less than values were half of LOD for statistical purposes

This is available data for 2014 but the complete dataset is not available. The end of year reporting to EPA has not taken place yet and thererfore the final data QA that entails has not yet been carried out. Therefore please do not release these data without reference to Marine Institute in advance of the data being reported to the EPA. Probe measurements are indicative as they are prone to spikes in reading.

2013 EPA Data							
Lough Mahon	**Salinity**			**27.89**		**30.53**	
Intermediate	0 PSU	35 PSU	PSU	PSU	PSU	PSU	
TSAS Criteria	G/M Threshold	G/M Threshold	Winter Threshold	**Value**	Summer Threshold	**Value**	
Winter DIN - Median	2.6	0	0.703	**1.278**			**Fail**
Winter MRP - Median	60	40	48.10	**42.0**			**PASS**
Summer DIN - Median	2.6	0			0.535	**0.40**	**PASS**
Summer MRP - Median	60	40			44.93	**35.5**	**PASS**
Chloro-Median*	15	10			11.24	**3.80**	**PASS**
Chloro-90 Percentile*	30	20			22.48	**9.53**	**PASS**
Opportunistic Algae							
DO %Sat - 5 Percentile	70	80			77.53	**92.48**	**PASS**
DO %Sat - 95 Percentile	130	120			122.46	**95.10**	**PASS**
BOD 95%ile	4			1.0		1.0	**PASS**

Appendix 7.3

Pollutant Release and Transfer Register (PRTR) Summary Sheets

Environmental Protection Agency

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.18

REFERENCE YEAR	2014

1. FACILITY IDENTIFICATION

Parent Company Name	Irish Water
Facility Name	No Treatment Plant (Passage /Monkstown)
PRTR Identification Number	D0129
Licence Number	D0129-01

Classes of Activity

No.	class_name
-	Refer to PRTR class activities below

Address 1	
Address 2	
Address 3	
Address 4	
	Cork
Country	Ireland
Coordinates of Location	-8.33993 51.8748
River Basin District	IESW
NACE Code	3700
Main Economic Activity	Sewerage
AER Returns Contact Name	Niall Horgan
AER Returns Contact Email Address	nhorgan@water.ie
AER Returns Contact Position	Environmental Compliance Specialist
AER Returns Contact Telephone Number	01 8925396
AER Returns Contact Mobile Phone Number	N/A
AER Returns Contact Fax Number	N/A
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	1
User Feedback/Comments	The flow and load to the treatment plants are estimated values and this may be the cause of variance between annual mass emissions from the previous year.
Web Address	www.water.ie

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5(f)	Urban waste-water treatment plants

3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

Is it applicable?	No
Have you been granted an exemption ?	No
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	

4. WASTE IMPORTED/ACCEPTED ONTO SITE Guidance on waste imported/accepted onto site

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	No

This question is only applicable if you are an IPPC or Quarry site

4.1 RELEASES TO AIR

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
01	Methane (CH4)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
02	Carbon monoxide (CO)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
03	Carbon dioxide (CO2)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	35584.0	0.0	35584.0
05	Nitrous oxide (N2O)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
07	Non-methane volatile organic compounds (NMVOC)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
08	Nitrogen oxides (NOx/NO2)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
11	Sulphur oxides (SOx/SO2)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Additional Data Requested from Landfill operators

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T(total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill: No Treatment Plant (Passage /Monkstown)

Please enter summary data on the quantities of methane flared and / or utilised	T (Total) kg/Year	M/C/E	Method Used: Method Code	Method Used: Designation or Description	Facility Total Capacity m3 per hour	
Total estimated methane generation (as per site model)	0.0				N/A	
Methane flared	0.0				0.0	(Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0	(Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0				N/A	

4.2 RELEASES TO WATERS Link to previous years emissions data | PRTR : D0129 | Facility Name : No Treatment Plant (Passage /Monkstown) | Filename : D0129_2014 Completed - Passage Monkstown.xls | Return Year : 2014 | 05/03/2015 09:52

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as this only concerns Releases from your facility

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT			Method Used			QUANTITY		
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
34	1,2-dichloroethane (EDC)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
25	Alachlor	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
26	Aldrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
61	Anthracene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.001	0.001	0.0	0.0
17	Arsenic and compounds (as As)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	291.832	291.832	0.0	0.0
27	Atrazine	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.013	0.013	0.0	0.0
62	Benzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
91	Benzo(g,h,i)perylene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.027	0.027	0.0	0.0
63	Brominated diphenylethers (PBDE)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
18	Cadmium and compounds (as Cd)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.06	0.06	0.0	0.0
28	Chlordane	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
29	Chlordecone	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
30	Chlorfenvinphos	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
79	Chlorides (as Cl)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	574165.988	574165.988	0.0	0.0
31	Chloro-alkanes, C10-C13	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.131	0.131	0.0	0.0
32	Chlorpyrifos	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
19	Chromium and compounds (as Cr)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	1.779	1.779	0.0	0.0
20	Copper and compounds (as Cu)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	28.43	28.43	0.0	0.0
82	Cyanides (as total CN)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	1.683	1.683	0.0	0.0
33	DDT	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
70	Di-(2-ethyl hexyl) phthalate (DEHP)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	5.596	5.596	0.0	0.0
35	Dichloromethane (DCM)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.448	0.448	0.0	0.0
36	Dieldrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.001	0.001	0.0	0.0
37	Diuron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
38	Endosulphan	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
39	Endrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
65	Ethyl benzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
88	Fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.006	0.006	0.0	0.0
83	Fluorides (as total F)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	187.245	187.245	0.0	0.0
40	Halogenated organic compounds (as AOX)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	1.49	1.49	0.0	0.0
41	Heptachlor	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
90	Hexabromobiphenyl	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
42	Hexachlorobenzene (HCB)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
43	Hexachlorobutadiene (HCBD)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
89	Isodrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
67	Isoproturon	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.009	0.009	0.0	0.0
23	Lead and compounds (as Pb)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	5.274	5.274	0.0	0.0
45	Lindane	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
21	Mercury and compounds (as Hg)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.062	0.062	0.0	0.0
46	Mirex	E	ESTIMATE	EPA UWWTP Tool Version 5.0	10.043	10.043	0.0	0.0
68	Naphthalene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.022	0.022	0.0	0.0
22	Nickel and compounds (as Ni)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	3.693	3.693	0.0	0.0
64	Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
87	Octylphenols and Octylphenol ethoxylates	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
69	Organotin compounds (as total Sn)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
48	Pentachlorobenzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
49	Pentachlorophenol (PCP)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
71	Phenols (as total C)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	25.339	25.339	0.0	0.0
50	Polychlorinated biphenyls (PCBs)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
72	Polycyclic aromatic hydrocarbons (PAHs)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.182	0.182	0.0	0.0
51	Simazine	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.008	0.008	0.0	0.0
52	Tetrachloroethylene (PER)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.082	0.082	0.0	0.0
53	Tetrachloromethane (TCM)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
73	Toluene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	4.558	4.558	0.0	0.0
12	Total nitrogen	E	ESTIMATE	EPA UWWTP Tool Version 5.0	21422.215	21422.215	0.0	0.0
76	Total organic carbon (TOC) (as total C or COD/3)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	34076.51	34076.51	0.0	0.0
13	Total phosphorus	E	ESTIMATE	EPA UWWTP Tool Version 5.0	2996.614	2996.614	0.0	0.0
59	Toxaphene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
74	Tributyltin and compounds	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
54	Trichlorobenzenes (TCBs)(all isomers)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
57	Trichloroethylene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
77	Trifluralin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
75	Triphenyltin and compounds	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
60	Vinyl chloride	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
78	Xylenes	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
24	Zinc and compounds (as Zn)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	91.729	91.729	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT			Method Used			QUANTITY		
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT			Method Used			QUANTITY		
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
370	Selenium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
205	Antimony (as Sb)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.085	0.085	0.0	0.0
368	Molybdenum	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
358	Tin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	1.446	1.446	0.0	0.0
373	Barium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	28.056	28.056	0.0	0.0
374	Boron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	45.563	45.563	0.0	0.0
358	Cobalt	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
386	Vanadium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	1.456	1.456	0.0	0.0
388	Dichlobenil	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.002	0.002	0.0	0.0
383	Linuron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
385	Mecoprop Total	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.028	0.028	0.0	0.0
380	2,4 Dichlorophenol (2,4 D)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.016	0.016	0.0	0.0
384	MCPA	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.032	0.032	0.0	0.0
382	Glyphosate	E	ESTIMATE	EPA UWWTP Tool Version 5.0	6.227	6.227	0.0	0.0
389	Benzo[a]pyrene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.001	0.001	0.0	0.0
390	Benzo[b]fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.001	0.001	0.0	0.0
391	Benzo[k]fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.001	0.001	0.0	0.0
392	Indeno[1,2,3-c,d]pyrene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.019	0.019	0.0	0.0
393	Carbon tetrachloride	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
394	2,6-Dichlorobenzamide	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.037	0.037	0.0	0.0
395	Dicofol	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
396	Hexabromocyclododecane (HBCD)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
397	PFOS	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
238	Ammonia (as N)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
303	BOD	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
306	COD	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
362	Kjeldahl Nitrogen	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
327	Nitrate (as N)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
372	Nitrite (as N)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
332	Ortho-phosphate (as PO4)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
240	Suspended Solids	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.3 RELEASES TO WASTEWATER OR SEWER

Link to previous years emissions data

SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION A : PRTR POLLUTANTS

RELEASES TO LAND					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO LAND					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Please enter all quantities on this sheet in Tonnes

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					

* Select a row by double-clicking the Description of Waste then click the delete button

Link to previous years waste data
Link to previous years waste summary data & percentage change
Link to Waste Guidance

Appendix 7.4

Improvement Programme

APPENDIX 7.4– Specified Improvement Programme

Update on the Cork Lower Harbour Main Drainage Scheme

The Cork Lower Harbour Main Drainage Scheme includes the population/industrial centres of Cobh, Carrigaline, Crosshaven, Passage West, Monkstown, Glenbrook, Ringaskiddy Shanbally and Coolmore.The existing sewer network serving the Lower Cork Harbour area comprises mainly combined sewer systems. Wastewater from Cobh, Carrigaline, Passage West/Monkstown and Ringaskiddy is currently discharged following preliminary screening or untreated into the Harbour.

The Cork Lower Harbour Main Drainage Project was initiated by Cork County Council to address the requirements of the UWWTD for the towns of the Cork Lower Harbour. On the establishment of Irish Water, the project novated to the Utility, partway through detailed design and planning.

On completion, the proposed infrastructure solution will provide wastewater treatment for 80,000 PE. This will be through the development of a new wastewater treatment plant (WwTP) at Shanbally and the construction of several supporting sewer networks. In addition to compliance with the UWWTD, the project will have significant positive impact on the local economy and will greatly improve the amenity value of the Lower Harbour for the surrounding communities.

An Bord Pleanála have recently confirmed that the planning permission they granted in June of 2009, under the Planning and Development Act 2000 (Strategic Infrastructure), applies to the entire project. This permission facilitates the construction of Shanbally WwTP. The majority of the project will be completed by the end of 2016. The loads of the towns of Carrigaline and Crosshaven are in excess of 50% of the total load to be processed and these can be treated in the Shanbally WwTP by the end of 2016, as the associated pipe network is already in place.

It will take up to 24 months to complete all of the outstanding network elements of the project, with a forecast completion by the end of 2017. At the time of original planning grant, the locations of 14 new pumping stations which are to be constructed as part of the Network extension had yet to be finalised. These locations have since been finalised. The location of an estuary crossing has also changed since the time of the original planning approval. These changes will now be submitted to An Bord Pleanála for approval, as alterations to the original development as previously approved.

Prequalification of Applicants to tender for the WWTP Design, Build and Operate Contract commenced in April 2014. Successful Applicants were invited to Tender in July 2014.
Tenders were returned in October 2014.
Tender assessment is currently ongoing. Subject to approvals by Irish Water, Ervia and New Era (National Treasury Management Agency), it is anticipated that the Contract will be signed in May 2015, with treatment of wastewater commencing by end 2016.

Collection Networks
The Collection Network works has been split into 4 no. separate contracts:

- Lot 1 - Cobh Collection Network (24 months)
- Lot 2 - Passage West, Glenbrook, Monkstown Collection Network (18 months)
- Lot 3 - Ringaskiddy, Coolmore and Carrigaline Collection Network (12 months)
- Directional Drill Crossing Cobh/Monkstown (3-4 Months)

Prequalification of Applicants to Tender for the Collection Network Contracts commenced in May 2014.
Successful Applicants were invited to Tender in November 2014.

Tenders are due to be returned in April 2015.

Prequalification of Applicants to Tender for the Directional Drill Crossing Cobh/Monkstown commenced in August 2014.
Assessment of Applicants is ongoing.

Subject to Planning Approval by An Bord Pleanála, and approvals by Irish Water, Ervia and New Era (National Treasury Management Agency), it is anticipated that the Collection Network Contracts will be signed in November 2015.

The current programme for the scheme is shown in the table below.

Feb 2013	-	Appointment of Nicholas O'Dywer and AMEC Consulting Engineers
2013	-	Commencement of initial investigation contracts
2014 & 2015	-	Tendering and award of construction contracts
2015	-	Commencement of WWTP DBO construction contracts
2016	-	Commencement of Network and Drill construction contracts
2016	-	Completion of WWTP and connect networks from Carrigaline and Crosshaven
2017	-	Completion of Monkstown, Passage and Cobh Construction Contracts and completion of Scheme

Appendix 7.5

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

	Section 1.1 Agglomeration Details					
	Name	**Passage Monkstown**				
	Licence Number	**D0129-01**				
	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)	**Insert Catchment Name (e.g., Downtown Pumping Station network). Refer to Guidance Notes for rules on division of large agglomerations.**				
	Date Licence Issued	**20/07/2010**				
	Current Date	**28/01/2015**				
			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?		**No**	**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, estimated	171000			
1.3	Average Daily Influent BOD or Average BOD Load from area served (If no measured data exists, insert estimated figure)	mg/l, estimated	275			
1.4	Total BOD Load	kg/day	47.025			
1.5	Average Population Equivalent (@0.06kg/person/day)	p.e.	784			
1.6	Estimated (existing) Non-Domestic Load	p.e.	7600			
1.7	Estimated Domestic Load	p.e.	-6816			
1.8	Occupancy Rate for the Agglomeration	pop/house	2.7			
1.9	Estimated Number of Connected Properties	houses	-2525			
1.10	Number of properties within the agglomeration when compared with CSO Data or An Post Geodirectory	houses	2815			
	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	19.8			
1.12	Estimated 3DWF	l/sec	59.40			
1.13	Annual Average Peak Flow to WWTP or discharging from whole system if there is no existing WWTP	l/s, measured	120			
1.14	This Annual Average Peak as Multiples of Dry Weather Flow (Peaking Factor)	Nr	6.06			
1.15	Highest Peak Flow Recorded (Insert UNKNOWN if no records exist)	l/s	Unkown			
1.16	Does this Peak Flow (multiple of DWF) cause hydraulic capacity problems within the network ?	---	No	Yes	Yes	Yes
1.17	Total Rainfall for Previous Year	mm	1023			
1.18	Comparison - Mean Annual Rainfall for the agglomeration	mm	1100			
1.18.1	Define the Weather Station Used		Roches Point			
1.19	If Storm Water Storage is available at the Wastewater Treatment plant, what is the volume of the storm tank ?	m^3	0			
1.20	Is the capacity of the storm tank 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	0			
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)		N/A	< 1 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 2000	SUS 2001	SUS 2002	SUS 2003
1.23.1	If other or combination of the above please describe	Describe	S2000 & AutoCad			
1.24	Total length of sewers (use drop down menus to define whether these figures are estimated or measured)	km Estimated	0.00	0.00	0.00	0.00
1.24.1	Total length of sewers > 450mm Diameter	km Estimated	0.00			
1.24.2	Total length of sewers > 300mm but ≤ 450mm in Diameter	km Estimated	0.00			
1.24.3	Total length of sewers > 225mm but ≤ 300mm in Diameter	km Measured	0.00			
1.24.4	Total length of sewers ≤ 225mm in Diameter	km Estimated	0.00			
1.24.5	Other	km Estimated	Unknown			
1.25	Pipeline Material					
1.25.1	What portion of the sewer network consists of Concrete Pipes	% Estimated	45%			
1.25.2	What portion of the sewer network consists of Plastic Pipes	% Estimated	15%			
1.25.3	What portion of the sewer network consists of Clay materials	% Estimated	20%			
1.25.4	What portion of the sewer network consists of Brick Type Sewers	% Estimated	0%			
1.25.5	What portion of the sewer network consists of Other Materials	% Estimated	20%			
1.26	Total number of Storm Water Overflows (Enter '1' if none and state under Item 1.27 that there are no SWOs in the network; **do not leave blank**)	Nr	4			

1.27	What Screening or other mechanical devices are employed at the storm water overflows					
	SWO No. _ located at _____	Describe				
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 Main Street	Describe	Q5			
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. 3 located at the Promenade	Describe	High			
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. 1 located at Main Street	Describe	Sensitive			
	SWO No. _ located at _____					
1.28.4	With reference to the SWO's detailed above define are the receiving waters Protected Areas (designated or awaiting designation)					
	SWO No. 1 located at Main Street	Designation				
1.28.5	With reference to the SWO's detailed above define do the receiving waters have any other designations.					
	SWO No. 1 located at Main Street	Designation				
	Section 1.5 Waste Water Works - Pumping Stations					
1.29	Number of Pumping Stations (operated by the Local Authority)	Nr	5			
1.30	Total Length of Rising Mains (operated by the Local Authority)	km	1.2			
1.31	Rising Main Material					
1.31.1	What portion of the rising mains consists of ductile iron pipes	% Measured	0.00			
1.31.2	What portion of the rising mains consists of plastic pipes	% Measured	100.00			
1.31.3	What portion of the rising mains consists of other materials	% Estimated	N/A			
1.32	Discharge Capacity of the Pump Set (s) at normal duty point	l/s				
	Cork Road PS, Coast Road PS, Bunchoille Rafeen PS, Passage West Central PS, Glenbrook PS		16			
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%			
1.34	Available Storage Capacity at Pump Stations					
	Cork Road PS, Coast Road PS, Bunchoille Rafeen PS, Passage West Central PS, Glenbrook PS	m^3	15			
1.35	Total Number of ***"Licenced Secondary Discharge Points and Stormwater Overflows"*** at pumping stations	Nr	1			
1.36	Total Number of ***"Emergency Overflow Points"*** at pumping stations	Nr	1			
1.37	What Screening or other mechanical devices are employed at the secondary discharge points or emergency overflows ?					

	Cork Road PS, Coast Road PS, Bunchoille Rafeen PS, Passage West Central PS, Glenbrook PS	Describe				
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)					
	Cork Road PS, Coast Road PS, Bunchoille Rafeen PS, Passage West Central PS, Glenbrook PS	Describe	N/A			
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 __ at _____	Describe	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.					
	Cork Road PS, Coast Road PS, Bunchoille Rafeen PS, Passage West Central PS, Glenbrook PS		Not Listed			
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) .					
	Cork Road PS, Coast Road PS, Bunchoille Rafeen PS, Passage West Central PS, Glenbrook PS	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.					
	Cork Road PS, Coast Road PS, Bunchoille Rafeen PS, Passage West Central PS, Glenbrook PS	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					
1.40	Number of Reported Complaints	Nr	0			
1.41	Number of Reported Complaints which have been rectified	Nr	0			
	Section 1.6.2 Reported/Recorded/Estimated Number of Secondary Discharges					
1.42	Number of Reported Secondary Discharges	Nr	0			
1.43	Number of Recorded Secondary Discharges	Nr	0			
1.44	Estimated Total Number of Secondary Discharges	Nr	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					
1.48.1	1 Nr. Fulltime Caretaker employed at General Operative Level (with basis H&S training) to operate & maintain the sewer network. 1 Nr. Part-time Caretaker employed as a Mechanical Fitter (FETAC Level 5) to operate & maintain the pumping stations.					
1.48.2						

1.48.3						
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			
1.50	Sewers Rehabilitated	m	0			
1.51	Manholes Rehabilitated	Nr				
1.52	Local Repairs	Nr				
1.53	Total Length of sewers Upgraded, Replaced or Rehabilitated	m	0			
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.*					
1.59	*For example : 2% of the sewer network is currently being replaced under the Local Authorities Annual Maintenance Fund*					
1.60						
1.61						
1.62						

Section 2.1 Hydraulic Risk Assessment

Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority
2.1	Has a Hydraulic Performance Assessment been undertaken for the Sewer Network (e.g., Computer Model or other Engineering Design or Design Review) ?	Yes	0	
2.1.1	If Answer to Query 2.1 is Yes, what % of the Network is covered by the hydraulic assessment ?	25%	20	
2.1.2	How many years has it been since the **completion** of the hydraulic assessment ?	less than 5	1	
2.1.3	Are the outcomes of the Hydraulic Assessment being implemented ?	Yes	0	
2.1.4	How many years has it been since the **outcomes** of the hydraulic assessment have been implemented ?	Never	5	
2.2	Has a Dynamic Computer Model been used to Assess the Hydraulic Performance of the Sewer Network ?	Yes	0	
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" ?	Yes	0	
2.3.1	If yes, how many years has it been since the survey was undertaken or updated?	less than 5	2	
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" ?	Yes	0	
2.5	What was this Flow Survey Information Used for ?			
2.5.1	To Determine the extent of Problematic Sewer Catchments	No	10	
2.5.2	To Verify a Computer or Mathematical Model of the Network	Yes	0	
2.6	Have Performance Criteria been developed to determine the short, medium or long term capacity of the sewer network ?	Yes	0	
2.7	How many flood events resulting from surcharge in the network have occurred in the past 3 years?	more than 6	10	
2.8	Are there deficiencies in performance criteria within the sewer network ?	Yes	20	
2.9	Have the causes of these deficiencies in the Performance Criteria been identified and rectified ?	No	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	Yes	0	
2.11	Has an Impermeable Area Survey been carried out for the agglomeration or parts of the agglomeration ?	Yes	0	
	Total Risk Assessment Score (RAS)		78	
2.12	Prepare Assessment of Needs & Sewer Upgrade Implementation Plan	In the AER Attach Assessment of Needs and F docur		
2.13	In the AER provide Summary of Proposed Works or Direction to be taken to impro			

Comment or Action to be Taken
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
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".
Select N/A response if no design assessment or design exists.
Select N/A response if no design assessment or design exists.
Select N/A response if no hydraulic performance assessment or design exists. For onging works select "less than 5".
Computer Model means a Hydroworks/Infoworks Model, Micro-Drainage Model or equivalent.
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
Select N/A if no Manhole Survey has been undertaken. Enter N/A value for Confidence Grade if Prompt Box is "N/A"
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
Select N/A if no Flow Survey has been undertaken.
Select N/A if no Flow Survey has been undertaken.
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
Flood events in this context means water/sewage backing up from the Network causing flooding of properties or causing disruption of traffic
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
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
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
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. .
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Section 3.1 Environmental Risk Assessment				
Query	**Description**	**Prompt**	**Risk Score**	**Short Commentary by the Local Authority**
3.1	What Environmental or Discharge Quality Data is available with regard to the sewer network ?	largely anecdotal	20	
3.1.1	Do trade effluents discharge to the sewer network?	Yes	20	
3.1.2	Are there Storm Water Overflows within the network ?	Yes	20	
3.1.3	Are there Secondary Discharges within the network (excluding Emergency Overflows at Pump Stations)?	Yes	20	
3.1.4	Is there any evidence that exfiltration is occurring from the network ?	Yes	20	
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	
3.2.1	Are all licenced trade Discharges compliant with their relevant licence and associated conditions	No	10	
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)	>75%	40	
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?	N/A	0	
3.4	Have samples from any Secondary Discharges within the system been analysed ?	No	30	
3.5	What percentage of discharges from the system are known to cause environmental pollution of the receiving waters ?	>90%	100	
3.6	In relation to possible exfiltration has a risk analysis of ground water contamination or pollution been undertaken ?	No	20	
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	
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	
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?	N/A	0	
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	
3.8	What percentage of storm water overflows comply with the performance criteria referred to in Query 3.7?	0 - 10%	55	
3.9	Have the causes of these Capacity Deficiencies (storm water overflows & Secondary Discharges) been identified ?	Yes	0	
		Total Risk Assessment Score (RAS)	**435**	

3.10	**Prepare Assessment of Needs & Sewer Upgrade Implementation Plan**	In the AER Attach Assessment of Needs and Reh
3.11	Provide Summary Details (in the AER) of records upstream and downstream of licenced discharges with rega details can be included as part of the AER submitted for the aggl	

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Comment or Action to be Taken
Select N/A if no discharges, secondary discharges or overflows from network; if discharges do exist complete Query 3.12
If the answer is **No**, proceed to Query 3.1.2. If the answer is **Yes**, Proceed to Query 3.2
If the answer is **No**, proceed to Query 3.1.3. If the answer is **Yes,** Proceed to Query 3.3
If the answer is **No**, proceed to Query 3.1.4.
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
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.
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.
Select **N/A** if answer to Query 3.2.1 is Yes. If N/A is selected as answer to Query 3.2.2
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
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
If the answer is greater than 50% then detail, in the AER, the Improvement Programme necessary to reduce this percentage.
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
Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
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.
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)**
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

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omeration.

Section 4.1 Structural Risk Assessment

Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority
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" ?	Yes	0	
4.1.1	How many years has it been since the **completion** of the CCTV Survey?	less than 5	0	
4.2	What was this CCTV Survey Information Used for?	Determine full extent of Sewer Rehab Works to be undertaken within Network	0	
4.3	Has the CCTV Survey been used to Assess the Structural Condition of the Sewer Network or targeted sections of the Sewer Network?	Yes	0	
4.4	Have Performance Criteria been developed to determine the short, medium or long term structural condition of the sewer network ?	No	5	
4.4.1	What % of the Total Sewer Length contains Collapsed or Imminent Collapse of Sewers (Grade 5)	unknown	30	
4.4.2	What % of Total Sewer Length contains Sewers Likely to Collapse (Grade 4)	unknown	25	
4.4.3	What % of Total Sewer Length contains sewers with Further Possible Deterioration (Grade 3)	unknown	10	
4.4.4	What % of Total Sewer Length contains sewers with Minimal Collapse (Grade 2)	unknown	5	
4.4.5	What % of Total Sewer Length contains sewers of Acceptable Structural Condition (Grade 1)	unknown	5	
If all % lengths are known, Check Total Length = 100%			**75**	
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	
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	
		Total Risk Assessment Score (RAS)	**125**	

4.7	Prepare Assessment of Needs & Sewer Rehabilitation Implementation Plan	In the AER Attach Assessment of Needs and Rehabili

Comment or Action to be Taken
If the answer is **No** assess the need and benefit of undertaking CCTV Survey. If **Yes** Proceed to Query 4.2
If no CCTV has been undertaken, select "N/A" response
Select N/A if answer to Query 4.1 is NO.
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
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
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
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
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" into Prompt Box
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
Insert Percentage of Overall Network Length. If information is not available type "Unknown" into Prompt Box
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.
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
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

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Section 5.1 O&M Risk Assessment

Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority
5.1	Are complaints of an environmental nature recorded and held in a central database?	No	20	
5.2	Is there an emergency response procedure in place?	Yes	0	
5.3	What has been the highest frequency of flooding in the network due to hydraulic inadequacy, over the past 5 years?	More than 5 times/yr	20	
5.4	What has been the highest frequency of flooding in the network due to operational causes over the past 5 years?	More than 5 times/yr	20	
5.5	What has been the highest frequency of surcharging of critical sewers in the network, over the past 5 years?	More than 5 times/yr	20	
5.6	What has been the highest frequency of reportable incidents in the network, over the past 5 years?	More than 5 times/yr	20	
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?	More than 5 times/yr	20	
5.8	What has been the highest frequency of blockages in sewers in the network over the past 5 years?	>0.25/km/yr	20	
5.9	What has been the highest frequency of collapses in sewers in the network over the past 5 years?	None	0	
5.10	What has been the highest frequency of bursts in rising mains in the network over the past 5 years?	None	0	
		Total Risk Assessment Score (RAS)	140	

5.11	Prepare Up Dated Operational and Maintenance Plan	

Comment or Action to be Taken
Consider setting up Central Database for Complaints
Consider setting up target response times for dealing with Complaints
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.
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.
Select the highest number of events in any 12 month period.
Select the highest number of events in any 12 month period.
Select the highest number of events at any given Pumping Station in any 12 month period.
Select the highest number of events per km of sewer network in any 12 month period.
Select the highest number of events in any 12 month period.
Select the highest number of events in any 12 month period.

Section 6.1 Summary of Risk Assessment Scores

Element	Risk Assessment Score	Risk Category	% Risk Score
Section 2.1 Hydraulic Risk Assessment	78	Medium Risk	52%
Section 3.1 Environmental Risk Assessment	435	High Risk	87%
Section 4.1 Structural Risk Assessment	125	High Risk	83%
Section 5.1 O&M Risk Assessment	140	Medium Risk	70%
Total RAS for Network	778	High Risk	78%

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"

Maximum Risk Score
150
500
150
200
1000