



comhairle chontae na mí  
meath county council

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## Carlanstown

### Waste Water Works



### Annual Environmental Report

For

EPA Waste Water Discharge Licence D0488-01

17/05/2013 to 31/12/2013

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## Section 1:

### Introduction & Background

## **Section 1.1: Executive Summary.**

### **Introduction:**

Carlanstown Waste Water Treatment Plant (WWTP) is located to the south of Carlanstown and was commissioned in 2002, treating municipal waste water from Carlanstown village. The facility is licensed for a population equivalent (PE) of 820.

The following Annual Environmental Report (AER) has been prepared as per Condition 6.10 of Meath County Council's Discharge Licence D0488-01 and includes all information requested under schedule D of this licence. Waste water discharge licence D0488-01 was issued to Carlanstown WwTP on the 17<sup>th</sup> of May 2013.

### **Plant Details:**

The Carlanstown Wastewater Treatment Plant consists of preliminary treatment and secondary biological treatment with nutrient removal and is designed to cater for a population equivalent of 820.

The treatment process at Carlanstown WwTP includes screening, aerobic treatment and, phosphorus removal. The primary discharge from the WwTP is to the Moynalty River.

Preliminary treatment entails the removal of plastics and ragging from the waste stream. Screening facilities are provided for solids removal of inorganic materials. Secondary treatment comprises a conventional extended aeration activated sludge process.

### **Compliance Issues:**

Meath County Council's Environmental Services Section carried out the compliance monitoring testing of the Waste Water Treatment Plant in accordance with the schedules of the Waste Water Discharge Licence.

In 2013, Meath County Council recorded 6 non compliances with allowable licence emission limit values namely;

1 No. Breach of the Biochemical Oxygen Demand (BOD) ELV

1 No. Breach of the Suspended Solids (SS) ELV

1 No. Breach of the Ammonia (NH<sub>4</sub>) ELV

3 No. Breaches of the Ortho Phosphate (OP) ELV

All incidents as detailed above were reported to the EPA via the Edenireland website using the Licence Management Application System. Incident reports are also available for inspection at the Environment & Water Services Offices in Navan, Co. Meath.

**Complaints Received:**

There were no complaints received during the reporting period 17/05/13 to 31/12/13.

**Projects Completed:**

There were no significant improvements works or projects carried out at the Carlanstown Wastewater Treatment Works during the reporting period 17/05/13 to 31/12/13.

## Section 2:

### Monitoring Reports Summary



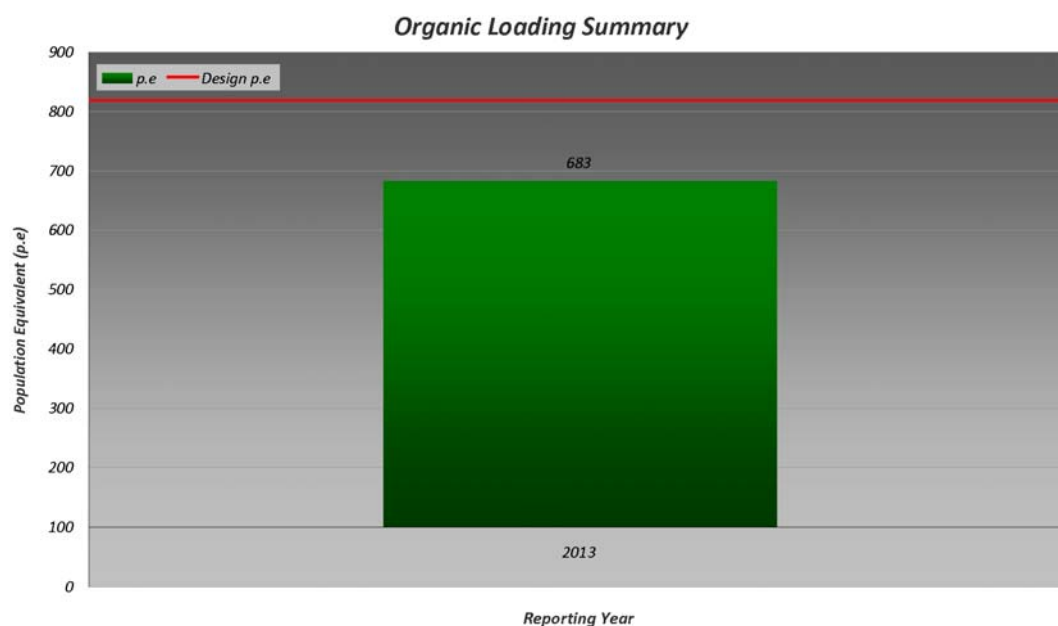
## Section 2.1: Summary report on monthly influent monitoring

**Influent Results Table:**

	Influent Results (mg/l)					Hydraulic Loading (m <sup>3</sup> /d)	Organic Loading (p.e/d)
	BOD	COD	TSS	TP	TN		
<b>No. Samples</b>	5	5	5	5	5		
<b>Max. Result</b>	382	706	172	11	79	585.3	
<b>Avg. Result</b>	343	574	138	8.5	59	119.5	682

### Summary of Results:

Licence D0488-01 was issued in 17<sup>th</sup> of May 2013. The 'Influent Results Table' and the 'Organic Loading Summary' chart below show that Carlanstown WwTP is operating within its design capacity of 820 PE. There is currently a spare capacity of 138 PE.



## Section 2.2: Discharges from the agglomeration

Parameter:	Flow	BOD	COD	SS	Total P	Ortho P	Total N	NH4	Nitrite	Nitrate	Total Organic Nitrogen
Units:	m3/d	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	kg/d
Average Results for 2013	119.47	36.638	97.700	50.900	7.404	7.283	45.700	3.730	N/A	N/A	N/A
WWDL ELV	N/A	25	125	35	N/A	2	N/A	5	N/A	N/A	N/A
ELV (Condition 2)	N/A	50	250	87.5	N/A	2.4		6	N/A	N/A	N/A
Annual Mean ELV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
No. of Results	N/A	5	5	5	N/A	5	N/A	5	N/A	N/A	N/A
WWDL ELV Exceedances	N/A	1	0	1	N/A	3	N/A	1	N/A	N/A	N/A
Annual Mean Exceedances	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Allowable Exceedances	N/A	1	1	1	N/A	1	N/A	1	N/A	N/A	N/A
Overall Compliance	N/A	Pass	Pass	Pass	N/A	Fail	N/A	Pass	N/A	N/A	N/A

### Section 2.3: Ambient monitoring summary

In 2013 Meath County Council carried out ambient river sampling on the receiving waters namely the Moynalty River.

In 2013, the receiving waters were sampled by Meath County Council on three different dates.

The results of the 2013 ambient river sampling are as follows;

Date	Ammonia (NH <sub>4</sub> ) mg/l		Ortho P mg/l		DO % Sat	
	u/s	d/s	u/s	d/s	u/s	d/s
12/06/2013	0.016	0.012	0.009	0.008	110	99.5
12/08/2013	0.014	0.046	0.066	0.088	114.6	91.1
25/11/2013	0.032	0.033	0.035	0.036	93.9	91.5
Mean	0.021	0.030	0.037	0.044	106.167	94.033
95% ile	0.030	0.044	0.063	0.083	114.140	98.700

Date	BOD (mg/L)	
	u/s	d/s
12/06/2013	0.99	1.27
12/08/2013	1.8	4.39
25/11/2013	1.94	1.54
Mean	1.577	2.400
95% ile	1.926	4.105

Due to the low number of samples taken in 2013 it is difficult to determine the impact, if any, that the Carlanstown WwTP is having on the receiving waters.

In terms of the sampling parameter ammonia, mean ammonia background concentrations increased slightly from 21µg/l to 30µg/l.

Background Ortho Phosphorus concentrations also increased slightly from 37µg/l to 44µg/l however this increase in Ortho P is not considered to be significant.

In 2014 Meath County Council will sample the receiving waters quarterly.

<b>Ambient Monitoring Point from WWDL (or as agreed with EPA)</b>	<b>Irish Grid Reference</b>	<b>EPA Feature Coding Tool code</b>	<b>Does assessment of the ambient monitoring results indicate that the discharge is impacting on water quality?</b>
Downstream Monitoring Point	277097, 279109	aSW-1d	Yes
Upstream Monitoring Point	276474, 279249	aSW-1u	No

## **Section 2.4: Data collection and reporting requirements under the Urban Waste Water Treatment Directive**

The Environmental Section of Meath County Council is responsible for all the data collection and reporting requirement under the Urban Waste Water Treatment Directive. All results have been submitted via EDEN and the Online Urban Waste Water System.

## **Section 2.5: Pollutant Release and Transfer Register (PRTR)**

This agglomeration serves a pe of 682 with a design pe of 820. The Guidance on the Preparation & Submission of the Annual Environmental Report (AER) for Waste Water Discharge Licences for 2013 states;

*“The requirement to submit a PRTR only applies to Waste Water Discharge Licences granted to agglomerations greater than 2000pe.”*

## Section 3:

### Operational Reports Summary

### Section 3.1: Treatment Efficiency Report

Results:	Units	cBOD	COD	TSS	Total P	Total N	Comment
Average Influent Mass Loading	kg/day	40.9	68.5	16.4	1.01	7.05	No Comment
Average Effluent Mass Emission	kg/day	4.15	11.09	5.77	0.83	5.19	No Comment
Average Treatment % Efficiency	% reduction on Influent Load	89.85%	83.8%	64.8%	17.8%	26.4%	Note 1
Target Treatment % Efficiency	Minimum % reduction on Influent Load	70-90%	75%	90%	80%	70-80%	Targets taken from the Second Schedule (Part 1 and Part 2) of the Urban Waste Water Treatment Regulations, 2001.



### Section 3.2: Treatment Capacity Report

Treatment Capacity		
Hydraulic Capacity (m <sup>3</sup> /day):	Design	330
	Current	119.47
	Remaining	210.53
Organic Capacity (PE):	Design	820
	Current	682
	Remaining	138
Will the capacity be exceeded in the next three years? (Yes / No)		No

### **Section 3.3:        Extent of Agglomeration Summary Report**

	<b>% of total load generated in the agglomeration</b>
<b>Load generated in the agglomeration that is collected in the sewer network</b>	100%
<b>Load collected in the agglomerations that enters treatment plant</b>	100%
<b>Load generated in the agglomeration going to individual and appropriate treatment systems</b>	0%
<b>Load generated in the agglomeration that is not collected and not individually treated.</b>	0%

### **Section 3.4: Complaints Summary**

<b>Number</b>	<b>Date &amp;Time</b>	<b>Nature of Complaint</b>	<b>Cause of Complaint</b>	<b>Actions Taken</b>	<b>Closed (Y/N)</b>

There were no complaints recorded in during the reporting period 17/05/13 to 31/12/13

### Section 3.5: Reported Incidents Summary

Incident Type	Incident Description	Cause	No. of incidents	Corrective Action	Authorities Contacted	Reported to EPA (Yes/No)	Closed (Y/N)
ELV Exceedance	The exceedances relate to Ammonia (NH <sub>4</sub> ) which has an ELV reportable incident limit of 5 mg/l	Poor aeration and RAS protocols.	1	WAS and RAS schedule has been adjusted as well as the DO limits. Significant improvements have been noted.	Inland Fisheries Ireland	Yes	N
ELV Exceedance	The exceedances relate to Orthophosphate which has an ELV reportable incident limit of 2 mg/l	Ferric dosing issues	3	The final effluent will be closely monitored by the caretaker using a newly supplied test kit in order to adjust ferric dosing appropriately.	Inland Fisheries Ireland	Yes	N
ELV Exceedance	The exceedances relate to BOD which has an ELV reportable incident limit of 50mg/l.	Under investigation	1	Investigations ongoing	Inland Fisheries Ireland	Yes	N
ELV Exceedance	The exceedances relate to SS which has an ELV reportable incident limit of 35mg/l.	Under investigation	1	Investigations ongoing	Inland Fisheries Ireland	Yes	N

<b>Number of Incidents in 2013</b>	5
<b>Number of Incidents reported to the EPA via EDEN in 2013</b>	5
<b>Explanation of any discrepancies between the two numbers above</b>	N/A

**Section 3.6:            Sludge / Other inputs to the WWTP**

<b>Input type</b>	<b>m3/year</b>	<b>PE/year</b>	<b>% of load</b>
<b>Domestic /Septic Tank Sludge</b>	N/A	N/A	N/A
<b>Industrial / Commercial Sludge</b>	N/A	N/A	N/A
<b>Landfill Leachate (delivered by tanker)</b>	N/A	N/A	N/A
<b>Landfill Leachate (delivered by sewer network)</b>	N/A	N/A	N/A
<b>Other (specify)</b>	N/A	N/A	N/A

## Section 4:

### Infrastructural Assessments and Programme of Improvements

#### **Section 4.1: Storm water overflow identification and inspection report**

**SWO Identification and Inspection Summary Report Table A:**

<b>WWDL Name / Code for Storm Water Overflow</b>	<b>Irish Grid Reference</b>	<b>Included in Schedule A4 of the WWDL</b>	<b>Compliance with DoEHLG Criteria</b>	<b>No. of times activated in 2013</b>	<b>Total volume discharged in 2013 (m3)</b>	<b>Total volume discharged in 2013 (P.E.)</b>	<b>Estimated /Measured data</b>
SW2	276742, 279164	Yes					

As per condition 4.11 of the wastewater discharge licence “A report on the storm water overflows shall be submitted to the Agency as part of the second AER.”



**SWO Identification and Inspection Summary Report Table B:**

<b>How much sewage was discharged via SWOs in the agglomeration in the year (m3/yr)?</b>	
<b>How much sewage was discharged via SWOs in the agglomeration in the year (pe)?</b>	
<b>What % of the total volume of sewage generated in the agglomeration was discharged via SWOs in the agglomeration in 2013?</b>	
<b>Is each SWO identified as non-compliant with <a href="#">DoEHLG Guidance</a> included in the Programme of Improvements?</b>	
<b>The SWO assessment includes the requirements of Schedule A3 &amp; C3</b>	
<b>Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?</b>	

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

**Licence Condition 5.1: Programme of Infrastructural Improvements.**

There is no planned programme for infrastructure improvements at Carlanstown WwTP.

**Licence Condition 5.2: Assessing the Programme of Infrastructural Improvements.**

There is no planned programme for infrastructure improvements at Carlanstown WwTP.

**Licence Condition 5.3: Plan for Implementation of Infrastructural Improvements.**

There is no planned programme for infrastructure improvements at CarlanstownWwTP.

**Licence Condition 5.4: Programme of Measures for Gathering, Recording, and Retention of Information**

There are existing drawings available for the Carlanstown Wastewater Treatment Plant but these drawings may not be accurate and may require a review and update.

**Sewer Integrity Risk Assessment Tool Improvement Programme (Works)**  
**summary table:**

	<b>Risk Assessment Rating (High, Medium, Low)</b>	<b>Risk Assessment Score</b>	<b>Reference to relevant section of AER</b>
<b>Hydraulic Risk Assessment Score</b>	High	107	Appendix 1 - Sewer Integrity Risk Assessment
<b>Environmental Risk Assessment Score</b>	Low	255	
<b>Structural Risk Assessment Score</b>	Medium	80	
<b>Operation &amp; Maintenance Risk Assessment Score</b>	Low	18	
<b>Overall Risk Score for the agglomeration</b>	High	460	

## Section 5:

### Licence Specific Reports

**Licence Specific Reports Summary Table:**

<b>Licence Specific Report</b>	<b>Required in 2013 AER or outstanding from previous AER</b>	<b>Included in 2013 AER</b>	<b>Reference to relevant section of AER (e.g. Appendix 2 Section4.</b>
<b>Priority Substances Assessment</b>	No	No	N/A
<b>Drinking Water Abstraction Point Risk Assessment</b>	No	No	N/A
<b>Habitats Impact Assessment</b>	No	No	N/A
<b>Shellfish Impact Assessment</b>	No	No	N/A
<b>Pearl Mussel Report</b>	No	No	N/A
<b>Toxicity/Leachate Management</b>	No	No	N/A
<b>Toxicity of Final Effluent Report</b>	No	No	N/A
<b>Stormwater Overflow Assessment</b>	No	No	N/A

## **Section 5.1: Priority Substances Assessment**

**Preferred format for Priority Substance Assessment summary table:**

	<b>Licensee self-assessment checks to determine whether all relevant information is included in the Assessment.</b>
<b>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</b>	N/A
<b>Does the assessment include a review of Trade inputs to the works?</b>	N/A
<b>Does the assessment include a review of other inputs to the works?</b>	N/A
<b>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)</b>	N/A
<b>Does the assessment identify that priority substances may be impacting the receiving water?</b>	N/A
<b>Does the Improvement Programme for the agglomeration include the elimination / reduction of all priority substances identified as having an impact on receiving water quality?</b>	N/A

No priority substance screening took place for Carlanstown in 2013. Priority substance screening of the final effluent from Carlanstown WwTP will be carried out in 2014.

**Section 5.2:        Drinking Water Abstraction Point Risk  
Assessment.**

**Drinking Water Abstraction Point Risk Assessment summary table:**

	<b>Licensee self- assessment checks to determine whether all relevant information is included in the Assessment.</b>
<b>Is a Drinking Water Abstraction Risk Assessment required in the 2013 AER (or outstanding from a previous AER)</b>	No
<b>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</b>	
<b>Does the assessment identify if any other discharge(s) from the works pose a risk to a drinking water abstraction (includes emergency overflows)</b>	
<b>What is the overall risk ranking applied by the licensee</b>	
<b>Does the risk assessment consider the impacts of normal operation</b>	
<b>Does the risk assessment consider the impacts of abnormal operation (e.g. incidents /overflows)</b>	
<b>Does the risk assessment include control measures for each risk identified</b>	
<b>Does the risk assessment include operational control measures? E.g. incident notification to DW source</b>	
<b>Does the risk assessment include infrastructural control measures</b>	
<b>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?</b>	

### **Section 5.3: Shellfish Impact Assessment Report.**

**Shellfish Impact Assessment summary table:**

<b>Is a Shellfish Impact assessment required in the 2013 AER (or outstanding from a previous AER)?</b>	No
<b>List prescribed organisations consulted when preparing the assessment (BIM, SFPA, MI)</b>	
<b>Does the assessment identify that any of the discharges from the works are impacting on the microbiological quality of the shellfish?</b>	
<b>Does the assessment recommend that there is a requirement to install UV/other disinfection equipment on any of the discharges?</b>	
<b>Provide details on disinfection system to be employed</b>	
<b>Has this been completed?</b>	
<b>If not yet complete what is the expected date for completion?</b>	
<b>Where disinfection is required, is there a programme in place to demonstrate the efficiency of any disinfection system in place?</b>	
<b>What is the demonstrated efficiency of the disinfection system?</b>	
<b>Is there a shellfish monitoring programme in place?</b>	
<b>Does the shellfish or shellfish water monitoring programme include results generated by other organisations</b>	
<b>List organisations contributing data to the assessment</b>	
<b>Does the Improvement Programme for the agglomeration include the findings and recommendations of the shellfish impact risk assessment?</b>	



## Section 5.4: Toxicity / Leachate Management

**Toxicity / Leachate Management Report summary table:**

<b>Is a Toxicity / Leachate Management Report required in the 2013 AER (or outstanding from previous AER)</b>	No
<b>What % of the total influent is leachate?</b>	
<b>Does the study identify any constituents of the leachate that present an environmental risk?</b>	
<b>List leachate constituent identified and impact (insert a row for each constituent)</b>	
<b>Has the WWTP suitability to treat the leachate been assessed?</b>	
<b>What are the results of the assessment (Suitable / Not Suitable / Suitable subject to improvement programme works completion)</b>	
<b>Has the study identified the max and operational loadings (mass, volume and rate of addition) for leachate to the WWTP?</b>	
<b>Is there a monitoring programme for the priority substances identified above?</b>	
<b>Have trigger and action levels for the concentration of identified leachate constituents been established to prevent impact on the receiving water?</b>	
<b>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?</b>	

## **Section 5.5: Toxicity of the Final Effluent Report**

**Toxicity of the final effluent assessment summary table:**

<b>Is a Toxicity report required? (Condition 4)</b>	No
<b>Has the study been carried out against 4 species in 3 trophic levels?</b>	
<b>Does the report identify that the discharge is toxic to any of the species in the study?</b>	
<b>List species impacted</b>	
<b>Does the Improvement Programme for the agglomeration include any procedural and/or infrastructural works to reduce the toxicity of the final discharge?</b>	

## **Section 5.6: Pearl Mussel Measures Report**

**Pearl Mussel Measure Report summary table**

<b>Is a progress report on implementation of the findings of Pearl Mussel Protection Measures report required in the 2013 AER (or outstanding from previous AER)</b>	No
<b>Is there a Pearl Mussel Protection Measures Report for the receiving water body?</b>	
<b>Include hyperlink to internet location of report</b>	
<b>Does this report identify measures relevant to discharges from the works as having a potential impact on the Pearl Mussel water?</b>	
<b>Does the Improvement Programme for the agglomeration include any procedural and/or infrastructural works to reduce the impacts of discharge on pearl mussel populations?</b>	

## Section 5.7: Habitats Impact Assessment Report

### Habitats Impact Assessment summary table:

	<b>Licensee self-assessment checks to determine whether all relevant information is included in the Assessment.</b>
<b>Is a Habitats Assessment required in the 2013 AER (includes outstanding assessments from previous years)?</b>	No
<b>Was the scope of the study agreed in advance with NPWS</b>	
<b>Does the report include a Stage 1 screening assessment?</b>	
<b>Does the screening identify that discharges are causing an impact on listed sites?</b>	
<b>Does the report require a Stage 2 Appropriate assessment?</b>	
<b>Does the report identify any European Sites (e.g. SPA, SAC, NHA) that discharges from the works could have an impact on?</b>	
<b>List European sites identified (insert a line for each site identified)</b>	
<b>Does the report include mitigation measures for each identified impact?</b>	
<b>Does each measure explain how the adverse impact will be avoided/reduced?</b>	
<b>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)?</b>	

## Section 6:



### Certification and Sign Off

**SECTION 6.1:****REPORT CHECK LIST**

<b>Does the AER include an executive summary?</b>	Yes
<b>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)?</b>	Yes
<b>Is there a need to advise the EPA for consideration of a technical amendment / review of the licence?</b>	No
<b>List reason e.g. additional SWO identified (insert lines as required)</b>	N/A
<b>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) &amp; Condition 4 (changes to monitoring location, frequency etc.)</b>	No
<b>List reason e.g. failure to complete specified works within dates specified in the licence, changes to monitoring requirements (insert lines as required)</b>	N/A
<b>Have these processes commenced? (i.e. Request for Technical Amendment / Licence Review / Change Request)</b>	N/A
<b>Are all outstanding reports and assessments from previous AERs included as an appendix to this AER?</b>	Yes
<b>List outstanding reports (insert lines as required)</b>	

**Section 6.2: Certification and sign off**

**As required under EPA Waste Water Discharge Licensing, I certify that the above report is true and accurate.**

Prepared By:	Kealan McMoreland Waste Water Services Unit Environment and Water Services Dept. Meath County Council	Signed: 
		Date: 8 <sup>th</sup> February 2014
Reviewed By:	David Byrne Waste Water Services Unit Environment and Water Services Dept. Meath County Council	Signed: 
		Date: 24 <sup>th</sup> of March 2014
Approved By:	Gerry Boyle Senior Engineer Environment and Water Services Dept. Meath County Council	 Gerry Boyle Senior Engineer Environment and Water Services Section Meath County Council

Section 7:

Appendices



## Appendix 1

### Sewer Integrity Risk Assessment

Section 2.1 Hydraulic Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
2.1	<u>Has a Hydraulic Performance Assessment been undertaken for the Sewer Network (e.g., Computer Model or other Engineering Design or Design Review) ?</u>	No	40		If the answer is <b>No</b> 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 <b>Yes</b> proceed to Queries 2.1.1 to 2.1.4 inclusive
2.1.1	If Answer to Query 2.1 is Yes, what % of the Network is covered by the hydraulic assessment ?	N/A	0		The % coverage of the Network by the Hydraulic Assessment can be estimated by the area assessed against the area served by the Network. ENTER "N/A" IF COMPUTER MODEL or DESIGN DOES NOT EXIST. DO NOT LEAVE BLANK OR ENTER "0".
2.1.2	How many years has it been since the completion of the hydraulic assessment ?	N/A	0		Select N/A response if no design assessment or design exists.
2.1.3	Are the outcomes of the Hydraulic Assessment being implemented ?	N/A	0		Select N/A response if no design assessment or design exists.
2.1.4	How many years has it been since the outcomes of the hydraulic assessment have been implemented ?	N/A	0		Select N/A response if no hydraulic performance assessment or design exists. For onging works select "less than 5".
2.2	<u>Has a Dynamic Computer Model been used to Assess the Hydraulic Performance of the Sewer Network ?</u>	No	10		Computer Model means a Hydroworks/Infoworks Model, Micro-Drainage Model or equivalent.
2.3	<u>Has a Manhole Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Manhole Location Surveys and the Production of Record Maps" ?</u>	No	10		If the answer is <b>No</b> assess the need and cost benefit of undertaking a Manhole Survey and complete Query 2.12. If the answer is <b>Yes</b> proceed to Query 2.2.1
2.3.1	If yes, how many years has it been since the survey was undertaken or updated?	more than 10	0		Select N/A if no Manhole Survey has been undertaken. Enter N/A value for Confidence Grade if Prompt Box is "N/A"
2.4	<u>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" ?</u>	No	20		If the answer is <b>No</b> assess the need and cost benefit of undertaking a Flow Monitoring Survey and complete Query 2.12. If answer is <b>Yes</b> Proceed to Query 2.5
2.5	<u>What was this Flow Survey Information Used for ?</u>				
2.5.1	To Determine the extent of Problematic Sewer Catchments	N/A	0		Select N/A if no Flow Survey has been undertaken.
2.5.2	To Verify a Computer or Mathematical Model of the Network	N/A	0		Select N/A if no Flow Survey has been undertaken.
2.6	<u>Have Performance Criteria been developed to determine the short, medium or long term capacity of the sewer network ?</u>	No	10		If the answer is <b>No</b> assess the Future Needs of the Sewer Network and complete Query 2.12. If the answer is <b>Yes</b> proceed to Query 2.8
2.7	<u>How many flood events resulting from surcharge in the network have occurred in the past 3 years?</u>	3 to 6	7		Flood events in this context means water/sewage backing up from the Network causing flooding of properties or causing disruption of traffic
2.8	<u>Are there deficiencies in performance criteria within the sewer network ?</u>	No	0		If the answer is <b>No</b> , Proceed to Query 2.10 and complete Query 2.12. If the answer is <b>Yes</b> proceed to Query 2.9
2.9	<u>Have the causes of these deficiencies in the Performance Criteria been identified and rectified ?</u>	N/A	0		If the answer is <b>No</b> , consider further examination of the hydraulic model (if available) and complete Query 2.12. If the answer is <b>Yes</b> proceed to Query 2.10
2.10	<u>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</u>	N/A	0		If the answer is <b>No</b> , consider further development of the Hydraulic Assessment (or model if available) and complete Query 2.12. If the answer is <b>Yes</b> proceed to Query 2.11
2.11	<u>Has an Impermeable Area Survey been carried out for the agglomeration or parts of the agglomeration ?</u>	No	10		If the answer is <b>No</b> , consider the need and cost benefit of undertaking an Impermeable Survey for parts of the agglomeration which are under hydraulic pressure and complete Query 2.12. .
Total Risk Assessment Score (RAS)			107		
2.12	<u>Prepare Assessment of Needs &amp; Sewer Upgrade Implementation Plan</u>	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
2.13	In the AER provide Summary of Proposed Works or Direction to be taken to improve hydraulic efficiency				

Section 3.1 Environmental Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
3.1	<u>What Environmental or Discharge Quality Data is available with regard to the sewer network ?</u>	up-to-date electronic or paper database exists	0		Select N/A if no discharges, secondary discharges or overflows from network; if discharges do exist complete Query 3.12
3.1.1	<u>Do trade effluents discharge to the sewer network?</u>	No	0		If the answer is <b>No</b> , proceed to Query 3.1.2. If the answer is <b>Yes</b> , Proceed to Query 3.2
3.1.2	<u>Are there Storm Water Overflows within the network ?</u>	Yes	20		If the answer is <b>No</b> , proceed to Query 3.1.3. If the answer is <b>Yes</b> , Proceed to Query 3.3
3.1.3	<u>Are there Secondary Discharges within the network (excluding Emergency Overflows at Pump Stations)?</u>	No	0		If the answer is <b>No</b> , proceed to Query 3.1.4.
3.1.4	<u>Is there any evidence that exfiltration is occurring from the network ?</u>	No	0		If the answer is <b>No</b> , does all wastewater enter a wastewater treatment plant (insert summary details in the AER)? If <b>Yes</b> , Proceed to Query 3.6
3.2	<u>If Answer to Query 3.1.1 is "Yes", what % of trade effluents have a licence to Discharge to the Public Sewer ?</u>	N/A	40		Select N/A if answer to Query 3.1.1 is <b>No</b> . If not all trade effluents are licenced, Local Authority should consider issuing and controlling such discharges under the appropriate Legislation.
3.2.1	<u>Are all licenced trade Discharges compliant with their relevant licence and associated conditions</u>	N/A	0		Answer N/A if none of the trade effluents are licenced. Answer No if this information is unknown. If the answer is <b>Unknown</b> or <b>No</b> , consider issuing a direction to the relevant Licencee. If the answer is <b>Yes</b> , no further action is needed.
3.2.2	<u>If Answer to Query 3.2.1 is "No", state what % of Trade Discharges are NOT compliant with their relevant licence and associated conditions (where that non-compliance led to enforcement action)</u>	0 - 10%	5		Select <b>N/A</b> if answer to Query 3.2.1 is Yes. If N/A is selected as answer to Query 3.2.2
3.3	<u>In accordance with the DoEHLG paper "Procedures &amp; Criteria in relation to Storm Water Overflows", what % of storm water overflows in the system have been classified for their significance?</u>	N/A	0		If the answer is <b>No</b> , consider a review of each discharge within the sewer network complete and Query 3.11. If the answer is <b>Yes</b> , proceed to Query 3. 6
3.4	<u>Have samples from any Secondary Discharges within the system been analysed ?</u>	Yes	0		Select N/A if no secondary discharges in system. If the answer to Query 3.4 is <b>No</b> , consider examining the quality of each secondary discharge within the sewer network complete Query 3.11. If the answer is <b>Yes</b> , proceed to Query
3.5	<u>What percentage of discharges from the system are known to cause environmental pollution of the receiving waters ?</u>	>90%	100		If the answer is greater than 50% then detail, in the AER, the Improvement Programme necessary to reduce this percentage.
3.6	<u>In relation to possible exfiltration has a risk analysis of ground water contamination or pollution been undertaken ?</u>	No	20		Select N/A if answer to Query 3.1.4 is <b>No</b> . If the answer is <b>No</b> , consider undertaking ground water risk analysis and complete Query 3.12 If the answer is <b>Yes</b> , proceed to Query 3.6
3.6.1	<u>If Answer to Query 3.6 is "Yes", have any groundwater aquifers been identified in the area of the Network and/or Discharge Points?</u>	N/A	0		Select <b>N/A</b> if no risk analysis of groundwater contamination has been undertaken.
3.6.2	<u>If Answer to Query 3.6.1 is "Yes", state the classification of groundwater aquifer identified in the area?</u>	N/A	0		Select <b>N/A</b> if no risk analysis of groundwater contamination has been undertaken.
3.6.3	<u>In relation to Query 3.6.1, is the aquifer used as a source for Public, Private or Group Water Supply Schemes?</u>	Yes	0		Select <b>N/A</b> if no risk analysis of groundwater contamination has been undertaken.
3.7	<u>Has an Impact Assessment of each Storm Water Overflow been undertaken in accordance with the DoEHLG paper "Procedures &amp; Criteria in relation to Storm Water Overflows" including setting performance criteria?</u>	No	40		If the answer is <b>No</b> , consider assessing the risk category of the receiving waters. If the answer is <b>Yes</b> , proceed to Query 3.8 and provide summary details of the assessment in the AER.
3.8	<u>What percentage of storm water overflows comply with the performance criteria referred to in Query 3.7?</u>	N/A	30		Select N/A if answer to Query 3.7 is <b>No</b> or if there are no SWOs in system. ( <b>Risk Score is locked at 0 if no SWOs in system is stated in Agglomeration Details</b> )
3.9	<u>Have the causes of these Capacity Deficiencies (storm water overflows &amp; Secondary Discharges) been identified ?</u>	Yes	0		Select N/A if answer to Query 3.7 is <b>No</b> or if there are no SWOs in system. If the answer to Query 3.9 is <b>No</b> , consider further examination of the environmental model as a qualitative model.
Total Risk Assessment Score (RAS)			255		
3.10	<u>Prepare Assessment of Needs &amp; Sewer Upgrade Implementation Plan</u>	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
3.11	Provide Summary Details (in the AER) of records upstream and downstream of licenced discharges with regard to Environmental Performance of the network. These details can be included as part of the AER submitted for the agglomeration.				

Section 4.1 Structural Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
4.1	<a href="#">Has a CCTV Survey been undertaken in accordance with WRC Documentation "Model Contract Document for Sewer Condition Inspections" and "Manual of Sewer Condition Classification" ?</a>	No	10		If the answer is <b>No</b> assess the need and benefit of undertaking CCTV Survey. If <b>Yes</b> Proceed to Query 4.2
4.1.1	How many years has it been since the completion of the CCTV Survey?	less than 5	0		If no CCTV has been undertaken, select "N/A" response
4.2	<a href="#">What was this CCTV Survey Information Used for?</a>	N/A	10		Select N/A if answer to Query 4.1 is NO.
4.3	<a href="#">Has the CCTV Survey been used to Assess the Structural Condition of the Sewer Network or targeted sections of the Sewer Network?</a>	No	5		If no CCTV has been undertaken, select "No" response. If the answer is <b>No</b> assess the need and benefit of undertaking an assessment of the Structural Condition of the Sewer Network. If the answer is <b>Yes</b> proceed to Q
4.4	<a href="#">Have Performance Criteria been developed to determine the short, medium or long term structural condition of the sewer network ?</a>	No	5		If the answer is <b>No</b> , 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 <b>Yes</b> proceed to Queries 4
4.4.1	What % of the Total Sewer Length contains Collapsed or Imminent Collapse of Sewers (Grade 5)	0%	0		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 5 collapse, include the total length of that sewer in calculating the %. If information is not available type "Unknown" into Prompt Box
4.4.2	What % of Total Sewer Length contains Sewers Likely to Collapse (Grade 4)	0%	0		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 4 condition, include the total length of that sewer in calculating the %. If information is not available type "Unknown" into Prompt Box
4.4.3	What % of Total Sewer Length contains sewers with Further Possible Deterioration (Grade 3)	0%	0		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 3 deterioration, include the total length of that sewer in calculating the %. If information is not available type "Unknown" into Prompt Box
4.4.4	What % of Total Sewer Length contains sewers with Minimal Collapse (Grade 2)	0%	5		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 2 feature, include the total length of that sewer in calculating the %. If information is not available type "Unknown" into Prompt Box
4.4.5	What % of Total Sewer Length contains sewers of Acceptable Structural Condition (Grade 1)	100%	0		Insert Percentage of Overall Network Length. If information is not available type "Unknown" into Prompt Box
If all % lengths are known, Check Total Length = 100%		100%	5		If answers to Queries 4.4.1, 4.4.2 or 4.4.3 are above a set level, the RAS for Query 4 is automatically set at the maximum of 140.
4.5	<a href="#">What % of the deficiencies, as detailed in Items 4.4.1, 4.4.2 and 4.4.3, have been rectified ?</a>	N/A	35		Select N/A if answer to Query 4.4 is <b>No</b> . If the answer is <b>No</b> , Proceed to Query 4.6 If the answer is <b>Yes</b> , what monitoring is in place to ensure continued acceptance of structural condition? Proceed to Query 4.7
4.6	<a href="#">Have the causes of the Structural Deficiencies (Grades 3, 4 and 5) been identified or is there a Preventative Maintenance Programme in place?</a>	No	10		If the answer is <b>No</b> , consider further examination of the sewer network, the structural loading conditions, gradients and possible H <sub>2</sub> S Formation. If Yes completed Query 4.7
Total Risk Assessment Score (RAS)			80		
4.7	<a href="#">Prepare Assessment of Needs &amp; Sewer Rehabilitation Implementation Plan</a>	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			

Section 5.1 O&M Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
5.1	<u>Are complaints of an environmental nature recorded and held in a central database?</u>	Yes	0		Consider setting up Central Database for Complaints
5.2	<u>Is there an emergency response procedure in place?</u>	Yes	0		Consider setting up target response times for dealing with Complaints
5.3	<u>What has been the highest frequency of flooding in the network due to hydraulic inadequacy, over the past 5 years?</u>	None	0		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.4	<u>What has been the highest frequency of flooding in the network due to operational causes over the past 5 years?</u>	Once/yr	4		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.5	<u>What has been the highest frequency of surcharging of critical sewers in the network, over the past 5 years?</u>	Once/yr	2		Select the highest number of events in any 12 month period.
5.6	<u>What has been the highest frequency of reportable incidents in the network, over the past 5 years?</u>	None	0		Select the highest number of events in any 12 month period.
5.7	<u>What has been the highest frequency of reportable incidents due to discharges, for whatever reason, from Pumping Station Emergency Overflows in the network, over the past 5 years?</u>	None	0		Select the highest number of events at any given Pumping Station in any 12 month period.
5.8	<u>What has been the highest frequency of blockages in sewers in the network over the past 5 years?</u>	0.05 - 0.1/km/yr	12		Select the highest number of events per km of sewer network in any 12 month period.
5.9	<u>What has been the highest frequency of collapses in sewers in the network over the past 5 years?</u>	None	0		Select the highest number of events in any 12 month period.
5.10	<u>What has been the highest frequency of bursts in rising mains in the network over the past 5 years?</u>	None	0		Select the highest number of events in any 12 month period.
Total Risk Assessment Score (RAS)			18		
5.11	<u>Prepare Up Dated Operational and Maintenance Plan</u>				

## Section 6.1 Summary of Risk Assessment Scores

Element	Risk Assessment Score	Risk Category	% Risk Score	Maximum Risk Score
Section 2.1 Hydraulic Risk Assessment	107	High Risk	71%	150
Section 3.1 Environmental Risk Assessment	255	Low Risk	51%	500
Section 4.1 Structural Risk Assessment	80	Medium Risk	53%	150
Section 5.1 O&M Risk Assessment	18	Low Risk	9%	200
<b>Total RAS for Network</b>	<b>460</b>	<b>High Risk</b>	<b>46%</b>	<b>1000</b>

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"