Annual Environmental Report 2014

Agglomeration Name:	**Castleblayney**
Licence Register No.	**D0205-01**

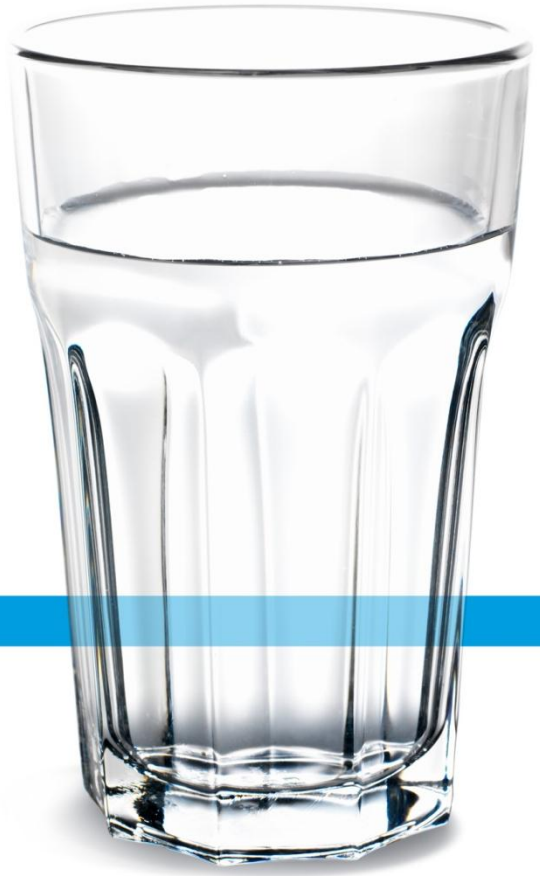

Table of Contents

Section 1. Executive Summary and Introduction to the 2014 AER

1.1 Summary report on 2014

This Annual Environmental Report has been prepared for D0205-01 Castleblayney, in County Monaghan in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified assessments are included as an appendix to the AER as follows:

- Drinking water risk assessment

The agglomeration is served by a wastewater treatment plant with a Design PE of 12,960. The treatment process includes the following:-

- preliminary treatment
- primary treatment
- secondary treatment
- chemical dosing for phosphorus removal

The final effluent from the Primary Discharge Point was non-compliant with the Emission Limit Values for Total Phosphorous in 2014.

The following parameters exceeded the emission limit values in 2014:-

- Total phosphorous

1,132 kgs sludge (total weight sludge) were removed from the wastewater treatment plant in 2014 as dewatered sludge cake. Sludge was transferred to Ballivor, Co Meath, where it is mixed with hydrated lime (5% by weight), before being stored in approved facility, prior to being ploughed into agricultural land spread during the open season as defined by the Regulations.

The following operational improvement works were undertaken during 2014:-

- Clean out of grit and other material from aeration tank 2 which had built up over a number of years (December 2014)
- Add another bed aeration device to enhance aeration at full depth to assist the existing surface aeration. (December 2014)

This follows the dramatic improvements seen by implementing the same measures in aeration tank 1 during August 2013.

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

Section 2. Monitoring Reports Summary

2.1 Summary report on monthly influent monitoring

Table 2.1 - Influent Monitoring Summary

	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	13	13	13	13	13		
Annual Max.	585	1960	663	9.8	69.3	7304	71214
Annual Mean	322	835.23	301.69	4.68	40.69	2127	11414

Significance of results
The annual mean hydraulic loading is less than the Treatment Plant Capacity as detailed further in Section 3.2.

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

2.2 Discharges from the agglomeration

Table 2.2 - Effluent Monitoring Summary

	BOD (mg/l)	COD (mg/l)	SS (mg/l)	Ammonia (mg/l)	Total P (mg/l)	Ortho P (mg/l)	Total N (mg/l)	Comment
WWDL ELV (Schedule A)	25	125	35	N/A	2	N/A	N/A	
ELV with Condition 2 Interpretation included	No result >100% ELV = 50mg/l	No result >100% ELV = 250mg/l	No result >150% ELV = 87.5mg/l	N/A	8 out of 10 consecutive samples shall not exceed ELV, no result shall exceed ELV by >20% = 2.4mg/l	N/A	N/A	13 samples taken, therefore 2 'allowable' failures
Number of sample results	13	13	13	13	13	11	12	
Number of sample results above WWDL ELV	0	0	1	N/A	2	N/A	N/A	
Number of sample results above ELV with Condition 2 Interpretation included	0	0	0	N/A	2	N/A	N/A	composite samples taken
Annual Mean (for parameters where a mean ELV applies)	N/A	N/A	N/A	N/A	0.614	N/A	N/A	
Overall Compliance (Pass/Fail)	Pass	Pass	Pass	N/A	FAIL	N/A	N/A	

Significance of results

The WWTP was non-compliant with the ELV for Total Phosphorous set in the wastewater discharge licence. There were 2 samples non-compliant with the ELVs in relation to Total Phosphrous. The cause of the non-compliance is unknown. The impact on receiving waters is assessed further in Section 2.3.

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	282870E 320196N	LS0060009400 2800080	Bad	n/a
Downstream monitoring point	283132E 319880N	LS0600094028 00070	Bad	No

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

Significance of results

The WWTP was non-compliant with the ELV for Total Phosphorous set in the wastewater discharge licence as detailed in Section 2.2.

The discharge from the wastewater treatment plant does not have an observable impact on the water quality status.

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

The electronic submission of data was completed on: a monthly basis, by the middle of succeeding month, to the EPA via MDS (formally EDEN) in XML format, BY MONAGHAN COUNTY COUNCIL.

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

The PRTR report for 2014 is included 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)	264844	707757	267586	3640	30235	
Effluent mass emission (kg/year)	2906	25065	9502	692	9500	
% Efficiency (% reduction of influent load)	99	96	96	81	69	

3.2 Treatment Capacity Report

Table 3.2 - Treatment Capacity Report Summary

Hydraulic Capacity – Design / As Constructed (dry weather flow) (m3/year)	383250
Hydraulic Capacity – Design / As Constructed (peak flow) (m3/year)	1064340
Hydraulic Capacity – Current loading (m3/year)	950000
Hydraulic Capacity – Remaining (m3/year)	114340
Organic Capacity - Design / As Constructed (PE)	12960
Organic Capacity - Current loading (PE)	11164
Organic Capacity – Remaining (PE)	1836
Will the capacity be exceeded in the next three years?	No

3.3 Extent of Agglomeration Summary Report

In this section Irish Water is required to report on the amount of urban waste water generated within the agglomeration. It does not include any waste water collected and 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	100%
Load collected in the sewer network but discharged without treatment	0%

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 on influent monitoring as detailed in Section 2.1 above.

3.4 Complaints Summary

There were a number of complaints of an environmental nature related to the discharge to waters from the Castleblayney WWTP in 2014.

Table 3.4 - Complaints Summary Table:

Number	Date & Time	Nature of Complaint	Cause of Complaint	Actions taken to resolve issue	Closed (Y/N)
20736700	06/05/2014	Sewage flooding: manhole overflowing. LA repair crew attended 5th May.	Blocked sewer with solids from domestic waste water	Rodded sewer to relieve blockage	Y
20748247	7/05/2014	Sewage Flooding: leak from the sewage pipe by a community garden	Blocked sewer with solids from domestic waste water	Rodded sewer to relieve blockage	Y
22030914	22/10/14	Sewage Flooding strong smell of sewage and blocked manhole.	Blocked sewer with solids from domestic waste water	Rodded sewer to relieve blockage	Y
22123716	4/11/2014	Sewage Flooding sewage leak	Blocked sewer with solids from domestic waste water	Rodded sewer to relieve blockage	Y
22233815	17/11/2014	Sewage Flooding; sewage	Blocked sewer with solids from	Rodded & jetting of sewer to relieve	Y

		issue/blocked sewer in the area.	domestic waste water	blockage	
22412556	11/12/2014	Blocked sewer and flooding	Blocked sewer with solids from domestic waste water	Rodded & jetting of sewer to relieve blockage	Y
22413795	11/12/2014	Odour complaint	Sewer gases: Hydrogen sulphide	Dosing with chemical to reduce hydrogen sulphide	Y

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)**
ELV exceedances	Total Phosphorus exceedance	Normal operations, no identified cause.	2	None required as following results under ELV	No	Yes	Yes

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

Table 3.5.2 - Summary of Overall Incidents

Number of Incidents in 2014	2
Number of Incidents reported to the EPA via EDEN in 2014	2
Explanation of any discrepancies between the two numbers above	N/A

Irish Water are in continuous communication with Local Authorities reiterating the requirement to report incidents to the EPA as per Waste Water Discharge Licence Requirements. Discussions in relation to this matter are also progressing at senior management level between Irish Water and the Local Authorities. In addition to this Incident Management training will also be provided to Local Authorities in 2015 to address concerns associated with incident classification, reporting requirements and incident notification.

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	0	0	0	N	N
Industrial / Commercial Sludge	0	0	0	N	N
Landfill Leachate (delivered by tanker)	0	0	0	N	N
Landfill Leachate (delivered by sewer network)	0	0	0	N	N
Other (specify)	0	0	0	N	N

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

The Storm Water Overflow Identification & Inspection report was included in the 2012 AER. 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
SW2	282879E, 320154N	Yes	HIGH	Non-Compliant	Estimated 12 No.	unknown	unknown	E
SW3	282942E; 319957N	Yes	HIGH	Non-Compliant	Estimated 2 No.	unknown	unknown	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?	Yes

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

The Improvement Programme is included in Appendix 7.5.

The Improvement Programme report included in Appendix 7.5 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
WWTP and ancillary works	C.1	31st Dec. 2015	No	Not started	0%	Unknown	
Upgrading of SWO to comply with criteria outlined in DoEHLG 'procedures and criteria in relation to SWO's, 1995'	C.3	31st Dec. 2015	No	Deemed not to comply with document as assessed under parts 4,5 & 7 of the document	Unknown	Unknown	The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis

A summary of the status of any improvements identified by under Condition 5.2 is included in Appendix 7.5.

Table 4.2.2 - Improvement Programme Summary

Improvement Identifier	Improvement Description	Improvement Source	Progress (% completed)	Expected Completion Date	Comments
	Installation of new ferric dosing system and submerged aerator	*WWTP assessment (Condition 5.2).*	*0*	*2015*	
	Remedial works	*Sewer Integrity Tool (Condition 5.2).*	*0*	*Unknown*	
	N/A	*Secondary discharges assessment (Condition 5.2).*	*N/A*	*N/A*	
	Upgrade of SWO to comply with	*SWO assessment (Condition 4 & 5.2).*	*0*	*Unknown*	

	DoEHLG criteria				
	None	*Drinking Water Abstraction Risk Assessment (Condition 4)*	*N/A*	*Complete*	See Appendix 7.7.
	N/A	*Shellfish Impact Risk Assessment (Condition 5)*	*N/A*	*N/A*	
	N/A	*Pearl Mussel Impact Assessment (Condition 4)*	*N/A*	*N/A*	
		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	*HIGH*	*UNKNOWN*	*Sirat NOT USED IN 2014*
Environmental Risk Assessment Score	*HIGH*	*UNKNOWN*	*Sirat NOT USED IN 2014*
Structural Risk Assessment Score	*MEDIUM*	*UNKNOWN*	*Sirat NOT USED IN 2014*
Operation & Maintenance Risk Assessment Score	*HIGH*	*UNKNOWN*	*Sirat NOT USED IN 2014*
Overall Risk Score for the agglomeration	*HIGH*	*UNKNOWN*	*Sirat NOT USED IN 2014*

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	Yes	Yes	See Appendix 7.7.
Habitats Impact Assessment	No	No	N/A
Shellfish Impact Assessment	No	No	N/A
Pearl Mussel Report	No	No	N/A
Toxicity/Leachate Management	No	No	N/A
Toxicity of Final Effluent Report	No	No	N/A

Licence Specific Reports Summary of Findings

Licence Specific Report	Recommendations in Report	Summary of Recommendations in Report
Priority Substances Assessment	N/A	N/A
Drinking Water Abstraction Point Risk Assessment	Yes	The impact of the discharge from the Castleblayney WWTP on the receiving Lough Muckno appears to be minimal (comparing upstream/downstream results) and discharges are generally meeting ELVs with two reportable incidents in 2014.
Habitats Impact Assessment	N/A	N/A
Shellfish Impact Assessment	N/A	N/A
Pearl Mussel Report	N/A	N/A
Toxicity/Leachate Management	N/A	N/A
Toxicity of Final Effluent Report	N/A	N/A

5.1 Priority Substances Assessment

This report was submitted with the 2011 AER as required under condition 4.11 of the discharge licence.

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	Desk Top Study
Does the assessment include a review of Trade inputs to the works?	Yes
Does the assessment include a review of other inputs to the works?	Yes
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)	Yes
Does the assessment identify that priority substances may be impacting the receiving water?	Yes
Does the Improvement Programme for the agglomeration include the elimination / reduction of all priority substances identified as having an impact on receiving water quality?	Yes

5.2 Drinking Water Abstraction Point Risk Assessment.

The Drinking Water Abstraction Point Risk Assessment report is included in Appendix 7.7. 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)	Yes
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	Yes

Does the assessment identify if any other discharge(s) from the works pose a risk to a drinking water abstraction (includes emergency overflows)	No
What is the overall risk ranking applied by the licensee	Low to Medium
Does the risk assessment consider the impacts of normal operation	Yes
Does the risk assessment consider the impacts of abnormal operation (e.g. incidents /overflows)	Yes
Does the risk assessment include control measures for each risk identified	Yes
Does the risk assessment consider operational control measures e.g? waste water incident notification to drinking water abstraction operator	Yes
Does the risk assessment include infrastructural control measures	No
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?	No

5.3 Shellfish Impact Assessment Report.

The Shellfish Impact Assessment Report is not required for Castleblayney.

5.4 Toxicity / Leachate Management

The Toxicity / Leachate Management Assessment Report is not required for Castleblayney.

5.5 Toxicity of the Final Effluent Report

The Toxicity of the Final Effluent Report is not required for Castleblayney.

5.6 Pearl Mussel Measures Report

A sub-basin management plan in relation to Pearl Mussels is not required for Castleblayney.

5.7 Habitats Impact Assessment Report

The Habitats Impact Assessment Report is not required for Castleblayney.

Section 6. Certification and Sign Off

Table 6.1 - Summary of AER Contents

Does the AER include an executive summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for consideration of a technical amendment / review of the licence?	Yes
List reason e.g. additional SWO identified *(insert lines as required)*	Additional CSO's identified, additional storm tank capacity identified.
Is there a need to request/advise the EPA of any modifications to the existing WWDL? Refer to Condition 1.7 (changes to works/discharges) & Condition 4 (changes to monitoring location, frequency etc.)	No
List reason e.g. failure to complete specified works within dates specified in the licence, changes to monitoring requirements *(insert lines as required)*	N/A
Have these processes commenced? (i.e. Request for Technical Amendment / Licence Review / Change Request)	No
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER?	No
List outstanding reports *(insert lines as required)*	Assessment to investigate options to relocate primary discharge point; Sewer Integrity Risk Assessment

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: 08/04/2015

Gerry Galvin
Chief Technical Advisor

Section 7. Appendix

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 7.5 – Specified Improvement Programme

a) Specified Improvement Programme
b) Programme of Improvements

Appendix 7.7 - Drinking water Abstraction point risk assessment

Annual Statement of Measures

Risk / Description of issue	Risk Score	Mitigation Measure to be taken	Outcome	Action	Date for Completion	Owner/ Contact Person
Meet lower Phosphorus ELV from 1st Jan 2016		Commissioning of ferric dosing unit on site			The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis	C McCrossan
Meet new Ammonia ELV from 1st Jan 2016		Installation of an anoxic tank			The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis	C McCrossan
No record of SWO activating or measurement or flows.		Install SWO measurement/recorder device to measure flows/record no. times it activates			The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis	C McCrossan

Appendix 7.2 - Ambient monitoring summary

Table 2. 3 Upstream monitoring results

Location		Location	Date of Sampling	Sample Type (C or G)	Temp	pH	cBOD mg/l	COD mg/l	Suspended Solids mg/l	Ortho P mg/l (as P)	Total Phosphorus mg/l (as P)	Ammonia (as N)	Total Nitrogen mg/l (as N)	Dissolved Oxygen (DO) mg/l
Castleblayney		Up Stream Of Works	08/01/2014	G	6.2		1			0.016	0.05	0.023	2.5	10.55
Castleblayney		Up Stream Of Works	04/02/2014	G	5.6	7	2			0.022	0.06	0.166	2.6	10.44
Castleblayney		Up Stream Of Works	04/03/2014	G	7.2	7	1			0.021	0.05	0.053	1.6	10.81
Castleblayney		Up Stream Of Works	01/04/2014	G	11.7	7.6	2			0.013	0.05	0.058	1.4	11.14
Castleblayney		Up Stream Of Works	07/05/2014	G		7.2				0.107	0.43	0.993	1.9	
Castleblayney		Up Stream Of Works	03/06/2014	G	18.4	7.6	2			0.011	0.04	0.13	1.2	7.79
Castleblayney		Up Stream Of Works	08/07/2014	G	17.8	7.7	2			0.009	0.04	0.083	1	9.16
Castleblayney		Up Stream Of Works	06/08/2014	G	19.8	7.8	2			0.009	0.08	0.041	1	7.8
Castleblayney		Up Stream Of Works	07/10/2014	G	16.7	7.7	4			0.02	0.08	0.261	1.7	9.92
Castleblayney		Up Stream Of	14/10/2014	G	12.5	7.6	1			0.011	0.06	0.099	2.8	8.52

		Works												
Castleblayney		Up Stream Of Works	05/11/2014	G	8.8	7.4	1.00			0.123	0.170	0.098	2.40	7.58
Castleblayney		Up Stream Of Works	03/12/2014	G	6.2	7.9	1.00			0.258		0.130	1.30	7.75
Average							**1.73**			**0.052**	0.101	**0.178**	**1.78**	

Table 2.4

Downstream monitoring results

Location		Location	Date of Sampling	Sample Type (C or G)	Temp	pH	cBOD mg/l	COD mg/l	Suspended Solids mg/l	Ortho P mg/l (as P)	Total Phosphorus mg/l (as P)	Ammonia (as N)	Total Nitrogen mg/l (as N)	Dissolved Oxygen (DO) mg/l
Castleblayney		Down Stream of Works	08/01/2014	G	6.3		1			0.018	0.06	0.033	2.7	10.2
Castleblayney		Down Stream of Works	04/02/2014	G	5.5	7	1			0.024	0.06	0.044	2.3	10.98
Castleblayney		Down Stream of Works	04/03/2014	G	8	7	1			0.021	0.05	0.061	1.8	10.42
Castleblayney		Down Stream of Works	01/04/2014	G	11.2	7.5	2			0.02	0.06	0.047	1.9	11.39
Castleblayney		Down Stream of Works	07/05/2014	G		7.4	5			0.041	0.13	0.424	1.4	
Castleblayney		Down Stream of Works	03/06/2014	G	18.1	7.7	2			0.011	0.03	0.106	1.2	8.79
Castleblayney		Down Stream of Works	08/07/2014	G	17.3	7.7	1			0.009	0.04	0.193	1	7.93

Castleblayney		Down Stream of Works	06/08/2014	G	20.5	7.6	3			0.009	0.1	0.123	1	7.6
Castleblayney		Down Stream of Works	07/10/2014	G	15.9	7.8	3			0.022	0.08	0.238	1.7	9.31
Castleblayney		Down Stream of Works	14/10/2014	G	12.6	7.5	2			0.018	0.07	0.122	2.9	8.11
Castleblayney		Down Stream of Works	05/11/2014	G	8.8	7.3	4			0.066	0.09	0.07	2.3	7.52
Castleblayney		Down Stream of Works	03/12/2014	G	6.2	7.9	3.00			0.043		0.220	1.40	7.63
Average							**2.33**			**0.025**	**0.070**	**0.140**	**1.80**	

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

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	Castleblayney Waste Water Treatment Plant
PRTR Identification Number	D0205
Licence Number	D0205-01

Classes of Activity

No.	**class_name**
-	Refer to PRTR class activities below

Address 1	
Address 2	
Address 3	
Address 4	
	Monaghan
Country	Ireland
Coordinates of Location	-6.73173 54.1218
River Basin District	GBNIIENB
NACE Code	3700
Main Economic Activity	Sewerage
AER Returns Contact Name	John Paul Mc Entee
AER Returns Contact Email Address	jpmcentee@monaghancoco.ie
AER Returns Contact Position	Technician
AER Returns Contact Telephone Number	047 30592
AER Returns Contact Mobile Phone Number	
AER Returns Contact Fax Number	
Production Volume	759252.0
Production Volume Units	m3/year
Number of Installations	1
Number of Operating Hours in Year	8736
Number of Employees	1
User Feedback/Comments	Organic loading has increased by 1427 PE compared to 2013
Web Address	

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?	
Have you been granted an exemption ?	
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) ?	

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	229436.0	0.0	229436.0
05	Nitrous oxide (N2O)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	1.0	0.0	1.0
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(otal) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill: Castleblayney Waste Water Treatment Plant

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

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	0.002	0.002	0.0	0.0
17	Arsenic and compounds (as As)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.266	0.267	0.0	0.001
27	Atrazine	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.008	0.008	0.0	0.0
62	Benzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.013	0.013	0.0	0.0
91	Benzo(g,h,i)perylene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.002	0.002	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	0.038	0.038	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	64449.451	64516.713	0.0	67.262
31	Chloro-alkanes, C10-C13	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.159	0.159	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	0.221	0.221	0.0	0.0
20	Copper and compounds (as Cu)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	2.341	2.347	0.0	0.006
82	Cyanides (as total CN)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	2.226	2.229	0.0	0.003
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	0.696	0.699	0.0	0.003
35	Dichloromethane (DCM)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.035	0.035	0.0	0.0
36	Dieldrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
37	Diuron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.02	0.02	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	0.013	0.013	0.0	0.0
88	Fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.002	0.002	0.0	0.0
83	Fluorides (as total F)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	183.644	183.874	0.0	0.23
40	Halogenated organic compounds (as AOX)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	1.812	1.814	0.0	0.002
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	0.006	0.006	0.0	0.0
23	Lead and compounds (as Pb)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	2.308	2.319	0.0	0.011
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	0.0	0.0	0.0	0.0
46	Mirex	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
68	Naphthalene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.003	0.003	0.0	0.0
22	Nickel and compounds (as Ni)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	3.233	3.237	0.0	0.004
64	Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.063	0.064	0.0	0.001
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	0.691	0.775	0.0	0.084
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	0.007	0.007	0.0	0.0
51	Simazine	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.011	0.011	0.0	0.0
52	Tetrachloroethylene (PER)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.045	0.045	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	0.375	0.389	0.0	0.014
12	Total nitrogen	M	OTH	SOP 151 by automated discrete analyser	7881.036	7905.408	0.0	24.372
76	Total organic carbon (TOC) (as total C or COD/3)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	7000.131	7013.731	0.0	13.6
13	Total phosphorus	M	OTH	SOP 166 by automated discrete analyser	730.4	734.858	0.0	4.458
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	0.088	0.09	0.0	0.002
24	Zinc and compounds (as Zn)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	37.479	37.606	0.0	0.127

* 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	0.332	0.332	0.0	0.0
205	Antimony (as Sb)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.117	0.117	0.0	0.0
368	Molybdenum	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.001	0.0	0.001
358	Tin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.082	0.082	0.0	0.0
373	Barium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	14.052	14.089	0.0	0.037
374	Boron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	47.738	47.83	0.0	0.092
356	Cobalt	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.133	0.133	0.0	0.0
386	Vanadium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	2.071	2.076	0.0	0.005
388	Dichlobenil	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.003	0.003	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	0.081	0.081	0.0	0.0
380	2,4 Dichlorophenol (2,4 D)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.039	0.039	0.0	0.0
384	MCPA	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.067	0.067	0.0	0.0
382	Glyphosate	E	ESTIMATE	EPA UWWTP Tool Version 5.0	1.164	1.164	0.0	0.0
389	Benzo[a]pyrene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.002	0.002	0.0	0.0
390	Benzo[b]fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.002	0.002	0.0	0.0
391	Benzo[k]fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.002	0.002	0.0	0.0
392	Indeno[1,2,3-c,d]pyrene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.002	0.002	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	0.061	0.061	0.0	0.0
395	Dicofol	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
396	Hexabromocyclodecane (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)	M	OTH	SOP 114 by automated discrete analyser	2994.49	2994.49	0.0	0.0
303	BOD	M	OTH	SOP 113	2748.492	2748.492	0.0	0.0
306	COD	M	OTH	SOP 107	22428.304	22428.304	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)	M	OTH	SOP 117 by automated discrete analyser	628.661	628.661	0.0	0.0
240	Suspended Solids	M	OTH	SOP 106 by gravimetry	6362.532	6362.532	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

4.4 RELEASES TO LAND

Link to previous years emissions data

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					
Within the Country	19 08 01	No	6.6	screenings	D5	M	Weighed	Offsite in Ireland	Euromex Ltd. T/A McElvaney's Waste & Recycling.,WCP/MH/2005/89B	Corcaghan ,,.,Co. Monaghan,Ireland		
Within the Country	19 08 05	No	1132.6	sludges from treatment of urban waste water	R10	M	Weighed	Offsite in Ireland	Biocore Environmental Ltd.,WCP/DC/11/1342/01	Clarity House,Belgard Road ,Tallaght ,Dublin 24 ,Ireland		

* 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 7.5 – Specified Improvement Programme

a) Specified Improvement Programme

As per condition 5 of the licence, '*a programme of infrastructural improvements to maximise the efficiency and effectiveness of the licence is required as part of the second AER'.*

This report was submitted with the second 2012 AER for Castleblayney. An update on this report is provided as follows:

Under Schedule C.1 of the licence, '*Specified Improvement Programme', '*waste water treatment plant and ancillary works' are specified with completion date specified of 31st December 2015. In the initial discharge licence application in 2008, a large expansion of the Castleblayney WWTP was outlined to upgrade the design of the plant to 28,000 P.E. including major infrastructural works. However, since then, An Bord Pleanala have declared an upper limit of this expansion to the WWTP of 14,000 P.E. and only approved Stage 1 of the proposed works outlined as follows:

Inlet pumping station
1 no. storm tank, 1,314m3 in volume
Tertiary treatment units
Picket fence thickener and
New sludge dewatering building

An Bord Pleanala decided that Stage 2 of the proposed development is to be omitted entirely, Stage 2 involved upgrade of the WWTP capacity to 28,000 P.E., with land acquisition, additional secondary treatment, additional storm tank, inlet works, additional tertiary treatment units and a three stage odour control unit and building.
Stage 1 proposed upgrading works for Castleblayney WWTP will depend upon Irish Water approval and funding, estimated cost €3,927,000.

Under schedule C.3 of the licence, upgrading of the Storm Water Overflows to comply with the criteria outlined in the DOEHLG '*Procedures and Criteria in relation to Storm Water Overflows, 1995'* with completion date of 31st December 2015 specified. A detailed storm water and emergency overflow report is included in section 4.2/appendix 2 of this report. Details of decommissioning and upgrading works carried out to date are included in this report.

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

(i) The existing level of treatment, capacity of treatment plant and associated equipment:
The existing level of treatment at the plant is secondary with dosing facilities on site for phosphorus reduction, currently, there is no operative dosing at the plant, the phosphorus levels are within ELV's specified in the licence with the exception of two exceedances in 2014. Installation of a new ferric dosing system will take place in 2015 as a lower ELV limit for total phosphorus of 0.3mg/l will apply from 1st January 2016. A new ammonia ELV limit of 0.5mg/l will apply from this date also, for the effluent. A submerged aerator has been added to both aeration basins at the plant in January 2015. The capacity of the treatment plant is currently adequate as outlined in section 2.1 of this report.

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

The WWTP is effectively treating the effluent to the ELV's specified in Schedule A of the licence. There were two exceedances in 2014 for total phosphorus as outlined in section 3.4 of this report. There are new lower ELV's specified under Schedule A for the primary discharge point from 1st January 2016 for the parameters BOD, Total P and Ammonia. The ferric dosing system will be upgraded in 2015 and the new submerged aerators installed recently will help to reduce ammonia and BOD levels further.

(iii) The designations of the receiving water body:

The outfall from the Castleblayney Waste Water Plant discharges to the Lough Muckno Lake via a small stream at National Grid Reference 283041E 319961N in the Town land of Drumillard Little, Castleblayney, Co Monaghan.

Lough Muckno is identified as 'sensitive' water in terms of the Urban Waste Water Treatment Regulations 2001. It is not designated Salmonid water (under the European Communities (Quality of Salmonid Waters) Regulations, 1988) nor designated as an SPA, SAC. It is a proposed Natural Heritage Area (pNHA).

Lough Muckno is in the Neagh Bann river basin district with overall status classified as 'Bad 'and at risk of not meeting good status by 2015, with overall objective to restore its status by 2021. The 'point risk source' and potential for impact from the Castleblayney WWTP discharge on the lake is categorised as '2b – not at risk' and the combined storm overflows (CSOs) categorised as '2b – not at risk', however the overall objectives relating to this water body is to upgrade WWTP discharges by 2021 (ref: WFD Ireland maps/website & reports.) The new lower ELV limits specified for the parameters BOD, ammonia and Total Phosphorus from January 2016 in the discharge licence concur with this objective. As stated in section 2.3 of this report, the ambient monitoring results for 2014 indicate that the BOD Environmental Quality Standards (Surface Water Reg's 2009) ('mean' EQS 1.5mg/l) are exceeded both upstream and downstream of the WWTP. Ortho Phosphorus average results are under the 'mean' EQS (0.035mg/l) for downstream but exceed it downstream. Total ammonia average figures exceed the 'mean' EQS (0.065mg/l) both upstream and downstream of the WWTP. There is currently no ELV for ammonia in the discharge licence, however, a new limit of 0.5mg/l is specified from 1st January 2016.

(iv) Downstream abstractions and uses of water:

Lough Muckno is a large lake in Castleblayney that is used for fishing and recreational activities. There are three drinking water abstraction points further downstream of Lough Muckno. The first drinking water abstraction point is by Northern Ireland Water, from Lough Ross some 3km downstream of Lough Muckno, at Carran hill water supply scheme, which supplies approximately 3600m3/day for the South Armagh area.

The second drinking water abstraction point is by Monaghan County Council, from the River Fane some 16km downstream of Lough Muckno, at Inniskeen Public Water Supply (PWS) water supply scheme, which supplies approximately 186m3/day for the Inniskeen area.

The third drinking water abstraction is located at Stephenstown in County Louth (Cavan Hill water supply scheme) approximately 26km downstream of Lough Muckno, supplying Dundalk town and parts of County Louth. From the ambient monitoring assessment (refer point (iii) above), the impact of the discharge from the Castleblayney WWTP on the receiving Lough Muckno appears to be minimal (comparing upstream/downstream results) and discharges are generally meeting ELV's with two reportable incidents in 2014.

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

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

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

Castleblayney WWTP can effectively treat section 16 discharge licences companies effluents that are licensed to discharge to the WWTP.

Under condition 5.2 (b) of the licence, the programme of infrastructural improvements shall include an assessment of the integrity of the waste water works having regard to:

(i) Capacity of the waste water works:

The capacity of the treatment plant is currently adequate as outlined in section 2.1 of this report.

(ii) Leaks from the waste water works:

There are no known leaks from the waste water works.

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

Monaghan County Council's Environment section monitor surface waters and investigate any misconnections highlighted. The more recent housing developments would have separate foul and surface water systems. Any misconnections brought to Monaghan County Council's attention are investigated.

(iv) Infiltration by surface water/ground water:

A detailed survey was carried out of the Castleblayney network and treatment plant in 2008 by Consultants for Monaghan County Council. This survey highlighted deficiencies within the sewer network. Remedial works will depend on Irish Water approval and funding.

b) Programme of Improvements

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

This item is addressed in the SWO/CSO detailed report included under appendix 2 of this report.

Condition 5.3 (a) and (b) of the licence, the programme of infrastructural improvements shall include a plan for implantation for each individual improvement identified:
This item is addressed in section 4.2 of this report and will be dependent on Irish Water funding.

Specified Improvement Programmes	**Licence Schedule**	**Licence Completion date**	**Date Expired**	**Status of works**	**% Construction work completed**	**Licensee timeframe for completing work**	**Comments**
WWTP and ancillary works	C.1	31st Dec. 2015	No	Not started	0%	The improvement programme	

						will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis.	
Upgrading of SWO to comply with criteria outlined in DoEHLG 'procedures and criteria in relation to SWO's, 1995'	C.3	31st Dec. 2015	No	Deemed not to comply with document as assessed under parts 4,5 & 7 of the document	N/A	The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis.	

Under condition 4.17 of the licence '*a risk assessment for the protection of the downstream drinking water abstraction points'* is required. This risk assessment is assessing the impact of the Castleblayney waste water treatment plant and its discharges on the receiving water, Lough Muckno. Lough Muckno flows via a short river namely the Clarebane River (approx. 3km long), into Lough Ross and out into the river Fane, there are three drinking water abstraction points further downstream of Lough Muckno. The first drinking water abstraction point is by Northern Ireland Water, from Lough Ross some 3km downstream of Lough Muckno, at Carran hill water supply scheme which supplies approximately 3600m3/day for the South Armagh area. Carran hill Water treatment works is situated on the outskirts of Crossmaglen in County Armagh. Northern Ireland Water commissioned a new £10 million modern treatment works in August 2006 at Carran hill.

The second drinking water abstraction point is by Monaghan County Council, from the River Fane some 16km downstream of Lough Muckno, at Inniskeen Public Water Supply (PWS) water supply scheme which supplies approximately 186m3/day for the Inniskeen area. Inniskeen Water treatment works is situated on the outskirts of the village of Inniskeen in County Monaghan. Inniskeen PWS is part of a Design, Build and Operate bundle in County Monaghan, whereby a private contractor operates the treatment plant for the Council. The water treatment plant is a modern treatment plant using coagulation and dissolved air flotation that was commissioned in 2004.

The third drinking water abstraction is located at Stephenstown in County Louth (Cavan Hill water supply scheme) approximately 26km downstream of Lough Muckno supplying Dundalk town and parts of County Louth.

Cavan Hill water supply scheme abstracts water from the River Fane at Stephenstown in County Louth and treats the water at a treatment plant located approximately 2km from the intake at 'Cavan Hill'. Cavan Hill water treatment plant is a large modern treatment plant using rapid gravity filtration. Dundalk Town Council have a Water Order for abstraction of 36,400m3/day from the River Fane, they are presently abstracting half of this amount producing an average of 18,000m3/day treated water for their consumers.

Castleblayney WWTP discharge has the potential to impact on the downstream water abstraction points in relation to pollutant loading into Lough Muckno and hence Lough Ross and the River Fane. The risk from the Castleblayney WWTP will be assessed under four separate headings with an overall risk ranking applied in a conclusion:

(1) Level of treatment and capacity of WWTP.
(2) Discharge compliance.
(3) Lough Muckno and the River Fane quality and monitoring data.
(4) Discharges impact during periods of normal and abnormal operation and control measures.

(1) Level of treatment and capacity of WWTP:
Castleblayney WWTP provides secondary treatment with nutrient removal (phosphorus reduction) facilities that are not currently operational due to phosphorus levels being within required ELV's. The plant is operated and maintained to a good standard with a caretaker 8 hours per day Monday to Friday and 2 hours Saturdays and Sundays. The design P.E. of the plant is 12,960 with it currently operating under the design capacity. An assessment of the remaining capacities at the plant is outlined in section 2.1 of this report. The conclusion of this is that there is adequate remaining available capacity at the WWTP. The level of treatment and capacity of

the treatment works is adequate to cater for the loading into the plant and to produce effluent compliant with licence requirements, thus the risk ranking for this element of the WWTP is applied as ***low risk***.

(2) Discharge Compliance:
Under Schedule B and condition 2 of the licence (ref. table 2.1, appendix 1 and section 2.2 of this AER report) the Castleblayney WWTP discharge two exceedences which were reportable in 2014. The remaining results are compliant for 2014. A regular monitoring and sampling program is in place for analyses of the discharge at the Castleblayney WWTP thus minimising the risk of pollution to Lough Muckno and the river Fane.

The risk ranking for this element of the discharge from the WWTP is therefore applied as '***low risk'***.

(3) Lough Muckno lake and downstream River Fane quality and monitoring data.
Lough Muckno lake existing status has been discussed under item (2) above with existing status designated as 'bad' (WFD website and reports), Lough Muckno flows into the Clarebane river which is approximately 3.6km long flowing into Lough Ross and then out into the River Fane which flows to County Louth via Inniskeen village. Clarebane river has a 'Q3' quality rating in 2006 by the EPA thus it is 'moderate' status, however, the groundwater status for the catchment area is classified as 'good' in 2011 from monitoring by the EPA at the Clarebane bridge monitoring station no. 300 (EPA website and reports). There is no surface water quality data available for Lough Ross as the majority of the Lough is in Northern Ireland, however, the groundwater status for the catchment area is classified as 'good' in 2011 from monitoring by the EPA. The river Fane downstream of this Lough has a'Q3' quality rating in 2009 thus it is moderate status, by the EPA, but it is classified as being 'poor' overall status (WFD website and reports) under the river basin district assessment 2009-2015, with overall objective to restore 'good status' by 2021. This 'poor status' applies for the length of the Fane River to the border with Louth. Given the fact that the local and downstream receiving waters are already 'poor status', it is concluded that any discharge will impact the receiving waters, however, the Castleblayney WWTP discharges for 2014 are compliant with the exception of two reportable exceedances for total phosphorus. Improvement and upgrading works were completed on some CSOs on the network in 2013, to reduce the impact from them on the receiving water. Lower ELV limits will apply for BOD, ammonia and total phosphorus for the discharge from the WWTP from 1st January 2016, which will reduce the impact of the WWTP discharge on the receiving waters. Other contributors to the upstream pollution could be attributed to farming practices such as slurry spreading, fertiliser runoff, poor storage facilities and also from other sources such as septic tanks. Due to the existing status of the receiving waters.

The risk ranking for this element of the discharges from the WWTP is applied as '***medium risk'***.

(4) Discharges impact during periods of normal and abnormal operation and control measures.
The impact of the Castleblayney discharge on the drinking water abstraction points downstream is considered low -medium risk as discussed in points 1 to 3 above. Periods of abnormal operation at the plant would be considered to occur due to extreme storm conditions, equipment malfunction or breakdown, power cut, or dumping of toxic waste e.g. diesel wash into the network. The impact to the treatment plant and discharge to Lough Muckno and the receiving waters from these events occurring is minimised by having a plant operator on site every day, therefore identifying any abnormal events that occur and implementing control measures as necessary to alleviate them. There are storm tanks on site, with storage capacities of 1300m3, which have a storm overflow that will only activate during periods of heavy prolonged rainfall. There are 2 remaining CSOs on the network that could activate during storms, thus impacting on the quality of the receiving waters, however, discharges would be heavily diluted due to storm flows coinciding with high receiving water levels,

thus, the impact is concluded to be minimal. All pumping stations on the network have a dial out facility to the caretakers phone to alert him of pump malfunction or breakdown, thus enabling immediate response. The controls and

monitors at the treatment works are continually monitored by the plant operator, which would highlight any problem with the treatment plant equipment or treatment process. The risk of a chemical spill or overdose into the treatment system at the plant is minimised as the storage tanks for all chemicals are bunded. Regular monitoring of the effluent also ensures that any deviations in the effluent parameters resulting from problems with the treatment process are addressed. In the event of a power cut, the electricity supply company will be contacted and a standby generator brought in. There has been no incidents of illegal waste being dumped into the sewer network in Castleblayney, however given the proximity of the plant to the border of Northern Ireland and that the dumping of illegal diesel wash is prevalent in the Monaghan/Northern Ireland border area, consideration is given to this event occurring. If this event occurred, it may lead to a worst case scenario of the Castleblayney WWTP being effectively 'shut down' while a cleanup of the treatment plant is undertaken and removal of the toxic material and effected plant media to a licensed disposal facility in Germany. While the WWTP is unable to operate and treat the influent from the agglomeration, consideration would be given to tanker the influent by a licensed haulier to a WWTP elsewhere in Monaghan with available capacity to treat it, until the WWTP is up and running again.

If there is an event at the plant that leads to a pollution incident in Lough Muckno, Monaghan County Council will immediately notify the downstream drinking water sources, Carran Hill Water supply scheme – Northern Ireland Water, Inniskeen PWS –Monaghan County Council and Louth County Council who are responsible for the Cavan Hill downstream water abstraction water supply scheme, the EPA and the Inland Fisheries Board and implement any control measures and necessary works to address the incident.

From the occurrence of these periods of abnormal operation and the control measures in place to deal with them should they occur, the risk ranking for this element of the discharge from the WWTP is applied as '***medium risk'***.

Conclusion: From the risk ranking applied to the impacts of the Castleblayney WWTP discharge on the downstream drinking water abstraction points in the four situations addressed previously in this section, it is concluded that the **overall risk is 'low to medium'**.