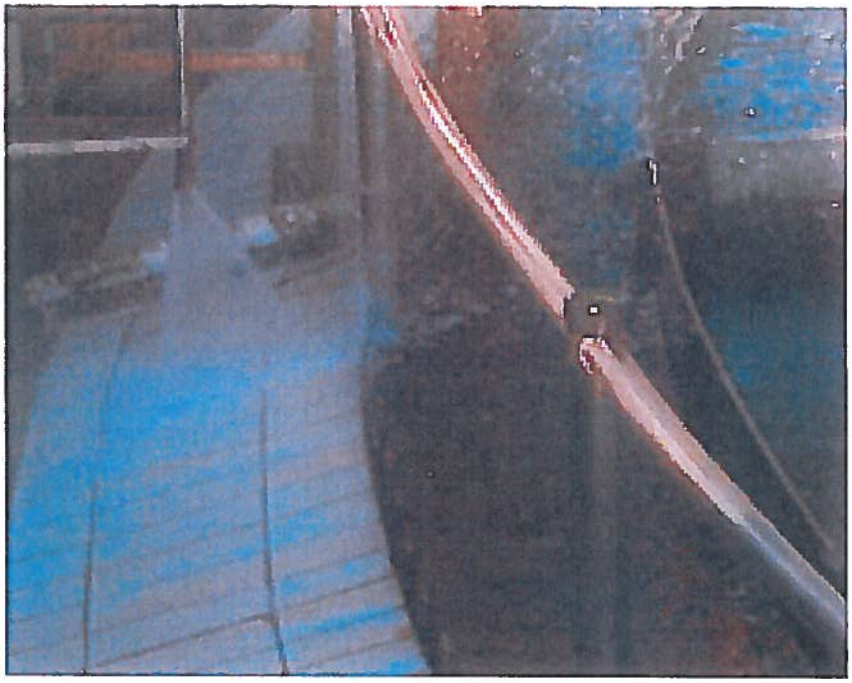
Comhairle Chontae Luimnigh
Limerick County Council

Castletroy Agglomeration
WWDL: D0019-01



Submitted to
ENVIRONMENTAL PROTECTION AGENCY
An Ghníomhaireacht um Chaomhnú Comhshaoil
PO Box 3000,
Johnstown Castle Estate,
Co Wexford

Annual Environmental Report 2012

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Section 1 Executive Summary and Introduction to the 2012 AER

1.1 Abstract

Limerick County Council is required to submit to the Environmental Protection Agency by 28th February an annual environmental report (AER) covering the previous calendar year. This report includes the information specified in **Schedule D**: Annual Environmental Report of this License and is prepared in accordance with Guidance on the Preparation & Submission of the Annual Environmental Report (AER) for Waste Water Discharge Licenses for 2012.

The format of the AER is considered under the following eight categories: -

1. Introduction and background to 2012 AER
2. Monitoring reports summary.
3. Operational reports summary.
4. Infrastructural Assessment and Program of Improvements.
5. Environmental Liability and Financial Provision.
6. License specific reports.
7. Certification and Sign Off
8. Appendix

1.1 Summary Report on 2012

The agglomeration of Castletroy is located in the southern environs of Limerick City. The existing foul sewerage network serves the Castletroy, Monaleen, Ballysimon, Annacotty, Mountshannon, Lisnagry and Castleconnell areas. The existing sewerage treatment plant is located adjacent to the L1117 Plassey Park Road and the University of Limerick. The plant is a Secondary Extended Aeration Activated Sludge Plant. The existing plant was constructed in the early 1990's with a design population equivalent of approximately 19,000. With the addition of a third clarifier in 2011, the plant is capable of dealing with a hydraulic load of 200 litres per second and a biological load in excess in 44500 population equivalent. Following a higher than expected population growth over the last number of years, the agglomeration has a population equivalent of approximately 27,987. The sources of this loading are from the residential population, University of Limerick, commercial and industrial sectors, imported sludges and leachate and pumped loads from Castleconnell and Annacotty. Discharge from the plant is to the River Shannon. The river Shannon adjacent to the primary discharge is designated both a Special Area of Conservation (Lower River Shannon)) and a Special Protected Area (River Shannon and River Fergus estuaries).

In 2012, Limerick County Council commenced a tender process to procure a Consulting Engineer to prepare a Preliminary Report for the agglomeration. The objectives include a recommendation on future PE requirements, future use of the plant, examination of the collection system and a recommendation on areas for improvement.

There were no exceedences or incidents recorded in 2012. There were one hundred and fifty one complaints in relation to blocked sewers in the network. Based on the Ambient Monitoring Summary, the Castletroy Wastewater Treatment Plant is having a minimal impact on the water quality in the River Shannon.

Section 2 Monitoring Reports Summary

2.1. Summary report on monthly influent monitoring

Influent Monitoring Summary Table

	NH3-N (mg/l)	CBOD (mg/l)	COD (mg/l)	NO3-N (mg/l)	PO4-P (mg/l)	SS (mg/l)	Total N (mg/l)	Total P (mg/l)
No of Samples	14	13	14	7	12	14	12	10
Max Result	49.00	366.00	1,126.00	1.90	5.30	648.00	57.00	9.00
Min Result	10.00	13.00	14.00	0.01	0.98	14.00	12.00	2.10
Annual Mean	23.89	180.65	480.57	0.70	2.86	181.21	29.99	5.30

Summary report on Hydraulic and Organic Loading

	Date	BOD mg/l	Hydraulic Loading (M^3/d)	Organic Loadinq kg/d	Organic Loadinq P.E. 60g/hd/day
Samples		13	14		
Max.	25/04/2012	366	7547.84	2762.51	46042
Min	04/09/2012	91.2	6603.64	602.25	10038
Annual Mean		180.65 (216.78)*	7745.97	1399.34 (1679.21)*	23322 -- (27987)*

See Appendix 8.1 Castletroy AER Influent Monitoring 2012.
*Sampling after Salsnes unit – add 20% to estimate actual load coming into plant

2.2 Discharges from the agglomeration

Effluent Monitoring Summary Table

	NH3-N (mg/l)	CBOD (mg/l)	COD (mg/l)	NO3-N (mg/l)	PO4-P (mg/l)	SS (mg/l)	Total N (mg/l)	Total P (mg/l)
No of Samples	14	13	13	12	13	14	10	10
Maximum Result	0.81	6.12	42	13.3	1.403	14	14.5	1.6
Minimum Result	0.027	2.1	9	1.2	0.17	1	1.4	0.37
Annual Mean	0.189	3.86	23	4.893	0.748	7	5.587	0.898
WWDL ELV (Schedule A)	5	25	125		1	35		2
ELV with Condition 2 Interpretation included	6 (Comp) 15 (Grab)	50 (Comp) 75 (Grab)	250 (Comp) 375 (Grab)		1.2 (Comp) 3 (Grab)	87.5 (Comp) 105 (Grab)		2.4 (Comp) 6 (Grab)
Number of sample results above WWDL ELV	0	0	0		0	0		0
Number of sample results above ELV with Condition 2 Interpretation included	0	0	0		0	0		0
Overall Compliance (Pass/Fail)	Pass	Pass	Pass		Pass	Pass		Pass

See Appendix 8.2 Castletroy AER Effluent Monitoring 2012.

2.3 Treatment Efficiency Report

Mass loading, emission and removal efficiency tables

Influent Loading Summary Table								
	NH3-N	**CBOD**	**COD**	**PO4-P**	**SS**	**Total N**	**Total P**	**Annual flow M^3**
Annual Mean mg/l	23.89	180.65	480.57	2.86	181.21	29.99	5.30	2835025
Mass loading Kg	67727	512158	1362432	8115	513747	85027	15026	
Effluent Emissions Summary Table								
	NH3-N	**CBOD**	**COD**	**PO4-P**	**SS**	**Total N**	**Total P**	**Annual flow M^3**
Annual Mean mg/l	0.19	3.86	23	0.75	7	5.59	0.90	2835025
Mass Emission Kg	536	10934	66296	2121	19845	15839	2546	
% Removal Efficiency (% reduction of influent load)								
%	99	98	95	74	96	81	83	

2.4 Treatment Capacity Report

Treatment Capacity Report Summary Table

Hydraulic Capacity - Design / As Constructed (m3/day)	17,280
Hydraulic Capacity - Current loading (m3/day)	7,746
Hydraulic Capacity - Remaining (m3/day)	9,534
Organic Capacity - Design / As Constructed (PE)	44,500
Organic Capacity - Current Loading (PE)	28,951
Organic Capacity - Remaining (PE)	16,513
Will the capacity be exceeded in the next three years? (Yes / No)	No, however there are a number of potential investment opportunities in the Industrial Park in Plassey on the horizon which will have an impact on PE loading.

2.5 Ambient Monitoring Summary

Summary report on upstream and downstream ambient monitoring: Influent and Pumped main discharge SW1

Upstream Monitoring Summary Table										
	BOD	SS	pH	NO3-N	Total P	PO4-P	NH3-N	Coliform Bacteria	E-Coli	Entero cocci
	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	No./100mls	No./100mls	No./100m
No. of Samples	9	9	8.0	2.00	1.00	9.00	9.00	5	5	3
Max	7	141	8.2	6.40	0.15	0.81	0.70	34500	4350	2000
Min	1	2	7.7	2.10	0.15	0.06	0.04	880	40	10
Mean	2	30	7.9	4.25	0.15	0.20	0.13	10958	1394	673
Downstream Monitoring Summary Table										
No. of Samples	9	9	8.0	1.00	1	9	9	4	4	2
Max	7	128	8.3	2.10	0.15	0.30	0.45	24190	2755	5600
Min	1	1	7.6	2.10	0.15	0.06	0.03	530	20	0
Mean	2	28	7.9	2.10	0.15	0.13	0.10	13043	1451	2800
Assessment of Impact	0	1	0.0	2.15	0	0.07	0.03	-2085	-57	-2127

Negligible impact on river quality noted as tested.
Q Value for upstream is Q3 - 4. Q Value downstream is Q3 - 4.
See Appendix 8.3 & 8.4 Castletroy AER Ambient Monitoring 2012.

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

Monitoring Data is being submitted through EDEN as requested by the EPA.

2.7. Pollutant Release and Transfer Register (PRTR) – report for previous year

See Appendix. 8.7 Castletroy AER / PRTR 2012.

Section 3 Operational Reports Summary

3.1. Complaints Summary

There were 151 complaints. All complaints were related to block sewers on the network. See appendix 8.5

3.2. Reported Incidents Summary

Number of Incidents in 2012	0
Number of Incidents reported to the EPA in 2012	0
Explanation of any discrepancies between the two numbers above	N/A

Section 4 Infrastructural Assessments and Programme of Improvements

4.1 Storm water overflow identification and inspection report

SWO identification and inspection report Table A

WWDL Name /Code for SWO	Irish Grid Reference	Included in Schedule A of the WWDL	Compliance with DoEHLG Criteria	No of times activated in 2012 (No of events)	Estimated/Measured Data	Total Volume Discharged	Estimated / Measured data
SW4	160587E 158561N	YES		0	Estimate	Probably 0	
SW5	160587E 158561N	YES		Numerous	Estimate	40653	Measured
SW2	164264 E 157914 N	Yes	Yes	Several	Not available	unknown	-
SW3	166095 E 162870 N	Yes	Yes	Several	Not available	unknown	

DoE Procedures and Criteria in relation to SWO's: 4.0 Assessment Criteria for Existing SWO's Table A2			
Item	**Issue**	**Comment**	**Yes/No**
4.1	Causes aesthetic/visual impact or public complaints		No
4.2	Causes deterioration in water quality in the receiving water		No
4.3	Gives rise to failures in water quality on foot of bathing water regs. Etc.		No
4.4	Operates in dry weather		No

SWO identification and inspection report Table B

Is each SWO identified as non-compliant with DoEHLG Guidance included in the Programme of Improvements?	See Note 4.2PR
The SWO assessment includes the requirements of Schedule A3 & C3	See Note 4.2 PR
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	N/A

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

Schedule A3 and C Improvement Programme summary report
See Note 4.2PR

Improvements works carried out in Castletroy WWTP since license granted include:-

- New Clarifier
- Auxiliary FBDA retrofitted to existing aeration tanks
- Sludge return/waste line capacity increased
- New composite samplers installed
- Automatic loading conveyor to centrifuge installed
- Alarm system for Castleconnell PH overflow telemetry set up with operators of Clareville Water Treatment Plant (Further works planned in Castleconnell to fine tune the system in Feb/March 2013)

Other/ Surface Water Overflow Improvement Works
See Note 4.2PR

Note 4.2PR
LCC advertised for the provision of Engineering Consultancy Services (Technical) for the Castletroy Sewerage Scheme in 2012. Thirteen submissions were received and assessed by a shortlisting board. Stage 2 of the tender process has commenced with all shortlisted consultants being invited to tender. These tenders are due back in March 2013. and it is expected that the successful consultant will be appointed before the end of quarter 2 2013. Once appointed the successful consultant will be required to complete the Preliminary report within 8 months.

Preliminary Report objectives include the following:-

- Examine and recommend improvements to the existing pipe collection network and identify new areas for extension of the collection network.
- Assess the existing treatment plant capacity and recommend improvements required to accommodate current and future loadings, energy efficiency, energy recovery, sludge handling.
- Examine the possibility of a future connection of the Castletroy sewerage scheme to the Limerick City Main Drainage Network.
- Identify improvements necessary to accommodate growth in the National Technology Park.
- Take cognisance of the requirements including program of improvements as described in the WWDL.

Improvement Programme (WWTP) summary table

Does the Improvement Programme provide an assessment of the existing waste water treatment plant performance for the following:	Licensee self- assessment check to determine whether all relevant information is included in the Programme of Improvements	Reference to relevant section of AER (e.g. Appendix 2 Section 4.
Existing Capacity	Yes	Section 2.4
ELVs	Yes	Section 2.2
Receiving water body designation	Receiving water is designated an SAC and SPA	
Downstream abstraction and uses of water	Yes	
Water quality objectives for the water body	Yes	
S.16 Water Pollution Act licensed discharges to the works	There are licensed discharges in the agglomeration	
Comment	See Note 4.2PR	

The River Shannon adjacent to the primary discharge is designated both a Special Area of Conservation (Lower River Shannon)) and a Special Protected Area (River Shannon and River Fergus estuaries).

Sewer Integrity Risk Assessment Tool Improvement Programme (Works) summary Table A:

The Improvement Programme should include an assessment of the integrity of the existing wastewater works for the following:	Risk Assessment Rating (High, Medium, Low)	Risk Assessment Score	Reference to relevant section of AER (e.g. Appendix 2 Section4
Hydraulic Risk Assessment Score	150	High Risk	Appendix 8.6
Environmental Risk Assessment Score	175	Low Risk	Appendix 8.6
Structural Risk Assessment Score	150	High Risk	Appendix 8.6
Operation & Maintenance RiskAssessment Score	60	Low Risk	Appendix 8.6
Total RAS Score for Network	535	High Risk	Appendix 8.6

Sewer Integrity Risk Assessment Tool Improvement Programme (Works) Summary Table B

Are the findings of the Sewer Integrity Risk Assessment included in the Improvement Programme?	See Item 4.2PR		
Include a line entry for each improvement identified	**Yes / No**	**% Completed**	**Reference to relevant section of the Improvement Programme**
What % of leakage is reported / estimated?	Unknown		
What % of misconnections is reported / estimated?	Unknown		
Comment	The Sewer Integrity Risk Assessment Tool was published in late 2012 as an aid to l.a.'s. See Item 4.2PR for improvement plan		

Improvement Programme (Works) Summary Table

The Improvement Programme should include an assessment of the integrity of the existing wastewater works for the following:	**Licensee self- assessment check to determine whether all relevant information is included in the Programme of Improvements**	**Reference to relevant section of the Improvement Programme**
Capacity of the works	Yes	Section 2.4
Leaks from the works	Yes	N/A
What % of leakage is reported?	0%	
Misconnections between foul sewer to surface water drainage	No	
What % of misconnections is reported?	No	
Surface water infiltration	No	
Groundwater infiltration	No	
Comment	See Item 4.2PR	

Improvement Programme (Storm Water Overflow) Summary Table

The findings of the SWO Identification and Inspection Report should be included in the Improvement Programme (upgrades to meet license requirements)	Licensee self- assessment check to determine whether all relevant information is included in the Programme of Improvements	Reference to relevant section of the Improvement Programme
SW2-SW5	Yes	Section 4.2
Comment	See Item 4.2PR	

4. Environmental Liability and Financial Provisions

5.1. Statement of Measures

Limerick County Council operates the plant to the best of its ability given the resources available and will make every effort to implement any improvement works required subject to the availability of funding.

5.2. Environmental Liabilities Risk Assessment

Not required in 2012.

Section 6 Licence Specific Reports

Licence Specific Reports Summary Table

Licence Specific Report	Required in 2012 AER or outstanding from previous AER	Included in 2012 AER	Reference to relevant section of AER (e.g. Appendix 2 Section4
Priority Substances Assessment	No	N/A	Included in 2011 AER
Drinking Water Abstraction Point Risk Assessment	No	N/A	
Habitats Impact Assessment	No	N/A	
Shellfish Impact Assessment	No	N/A	
Pearl Mussel Report	No	N/A	
Toxicity/Leachate Management	No	N/A	
Toxicity of Final Effluent Report	No	N/A	

6.1 Priority Substances Assessment

N/A - Included in 2011 AER

Priority Substance Assessment summary table:

	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	No
Does the assessment include a review of Trade inputs to the works?	No
Does the assessment include a review of other inputs to the works?	No
Does the report include an assessment of the significance of the results where a listed material is present in the discharge? (e.g. impact on the relevant EQS standard for the receiving water)	No
Does the assessment identify that priority substances may be impacting the receiving water?	No

6.2 Drinking Water Abstraction Point Risk Assessment

Drinking Water Abstraction Point Risk Assessment summary table

Is a Drinking Water Abstraction Risk Assessment required in the 2012 AER (or outstanding from a previous AER)	N/A
Does the Drinking Water Abstraction Risk Assessment identify whether any of the discharges in Schedule A of the licence pose a risk to a drinking water abstraction	N/A
Does the assessment identify if any other discharge(s) from the works pose a risk to a drinking water abstraction (includes emergency overflows)	N/A
What is the overall risk ranking applied by the licensee	N/A
Does the risk assessment consider the impacts of normal operation	N/A
Does the risk assessment consider the impacts of abnormal operation (e.g. incidents /overflows)	N/A
Does the risk assessment include control measures for each risk identified	N/A
Does the risk assessment include operational control measures e.g? incident notification to DW source	N/A
Does the risk assessment include infrastructural control measures	N/A

6.3 Shellfish Impact Assessment Report.

Not required as the discharge is not into a designated shellfish water.

6.4 Toxicity / Leachate Management

Toxicity / Leachate Management Report summary table:

Is a Toxicity / Leachate Management Report required in the 2012 AER (or outstanding from previous AER)	No
What % of the total influent is leachate?	0%
Does the study identify any constituents of the leachate that present an environmental risk?	N/A
List leachate constituent identified and impact *(insert a row for each constituent)*	N/A
Has the WWTP suitability to treat the leachate been assessed?	N/A
What are the results of the assessment (Suitable / Not Suitable / Suitable subject to improvement programme works completion)	N/A
Has the study identified the max and operational loadings (mass, volume and rate of addition) for leachate to the WWTP?	N/A
Is there a monitoring programme for the priority substances identified above?	N/A
Have trigger and action levels for the concentration of identified leachate constituents been established to prevent impact on the receiving water?	N/A

6.5 Toxicity of the Final Effluent Report

Sample Description Castletroy WWTP

Date 09.05.11

Tox. Ref. No 11T052-1

96 h LC50 to *Oncorhynchus mykiss*: >100% vol./vol. (<1 Toxic unit)

72 h IC50 to *Pseudokirchneriella subcapitata*: >90% vol./vol. (<1.1 Toxic unit)

48 h EC50 to *Daphnia magna*: >100% vol./vol. (<1 Toxic unit)

30 min EC50 to *Vibrio fischeri*: >45% vol./vol. (<2.2 Toxic units)

Toxicity of the final effluent assessment summary table:

Is a Toxicity report required? (Condition 4)	Yes
Has the study been carried out against 4 species in 3 trophic levels?	Yes
Does the report identify that the discharge is toxic to any of the species in the study?	No
List species impacted	None
Are measures to reduce the toxicity of the final effluent being implemented by the WSA?	N/A
Provide details (e.g. further investigation to identify and eliminate sources)	N/A

6.6 Pearl Mussel Measures Report

Not required as the discharge is not into a designated shellfish water.

6.7 Habitats Impact Assessment Report

Not required as the discharges from the agglomeration do not impact on a sensitive species or habitats.

7. Certification and Sign Off

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?	No
List reason (e.g. additional SWO identified)	N/A
Is there a need to request/advise the EPA of any modifications to the existing WWDL? (see 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 the dates specified in the licence, changes to monitoring requirements)	N/A
Have these processes commenced? (i.e. Request for Technical Amendment / Licence Review / Change Request)	N/A
Are all outstanding reports and assessments from the previous AERs included as an appendix to this AER?	Yes
List outstanding reports (insert lines as required)	N/A

I certify that the information given by this report is accurate and representative.

Signed: _____ Date: 27th February 2013

Josephine Cotter Coughlan
Director of Water and Emergency Services

8.0 Appendix

8.1 Castletroy AER Influent Monitoring Data 2012
8.2 Castletroy AER Effluent Monitoring Data 2012
8.3 Castletroy AER Ambient Upstream Monitoring Data 2012
8.4 Castletroy AER Ambient Downstream Monitoring Data 2012
8.5 Castletroy Network Complaints 2012
8.6 Castletroy Sewer Integrity Tool 2012
8.7 Castletroy AER / PRTR 2012
8.8 Castletroy AER PRTR UWWTP Emission Calculation Toolset V5
8.9 Castletroy AER Outstanding Items AER

8.1 Castletroy AER Influent Monitoring Data 2012

Castletroy AER Influent Monitoring 2012

Sample Code	Sample Date	Flow	(NH3-N)	BOD	COD	(N03-N)	(PO4-P)	S S	Total N	Total P
		m3/day	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
1237CTroy INF1	05/01/2012	17767.00	9.5	65.7	117	1.4	1.1	56	10.6	2.15
1237CTroy INF2	27/01/2012	9886.69	10.2	137	334		3.4	105	12.4	4.5
1237CTroy INF4	16/02/2012	8121.85	49	206	780	0.8	4.9	334	47.2	8
1237CTroy INF3	23/02/2012	7896.61	30	253	488		5.1	138	37.2	6.3
1237CTroy INF5	16/03/2012	8531.32	20.7	136	380	0.2	5.3	147	31.3	7.8
1237CTroy INF6	25/04/2012	7547.84	40.2	366	1126	0.2	4.2	648	57	9
1237CTroy INF7	31/05/2012	6298.99	18	175	505	1.9	3.3	230		
1237CTroy INF8	13/06/2012	8591.19	27.75	234.6	623			422		
1237CTroy INF9	28/06/2012	15654.52	10		162		1.4	68	17.7	4.35
12373093	17/07/2012	9745.68	18.5	148	336	0.01	1.388	86	25.9	2.26
12373376	14/08/2012	6968.94	21	194	429	< 0.14	1.71	105	24.7	
12373742	04/09/2012	6603.64	15.2	91.2	539	< 0.14	0.98	55	17.4	
12374235	09/10/2012	7344.48	44.5	236	603	< 0.14		25	54.1	6.54
12374556	12/11/2012	11926.40	19.9	106	306	0.42	1.57	118	24.4	2.1

8.2 Castletroy AER Effluent Monitoring Data 2012

Castletroy AER Effluent Monitoring 2012

Flow M^3/Day	Sample Date	Flow	(NH3-N)	BOD	COD	(N03-N)	(PO4-P)	S S	Total N	Total P
		m3/day	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
17767	05/01/2012	17767.00	0.027	3.75	15	1.2	0.42	9	1.4	0.64
9886.69	27/01/2012	9886.69	0.034	3.82	23	2.4	0.98	8	1.6	1.2
8121.85	16/02/2012	8121.85	0.643	3.23	42	2	0.98	5		1.6
7896.61	23/02/2012	7896.61	0.329	5.34	24	1.9	0.98	1	2	1.3
8531.32	16/03/2012	8531.32	0.153	4.2	30	1.4	0.93	11	1.8	1.02
7547.84	25/04/2012	7547.84	0.065	2.72	22	1.7	0.17	12	2	0.37
6298.99	31/05/2012	6298.99	0.087	3.36	14	6.4	0.81	7		
8591.19	13/06/2012	8591.19	0.09	5.14	9		0.5	3		
15654.52	28/06/2012	15654.52	0.09				0.31	14		0.61
9745.68	17/07/2012	9745.68	0.04	2.1	25	5.2	0.374	3	6.13	0.461
6968.94	14/08/2012	6968.94	0.06	2.17	14	9.43	1.031	5	10.2	
6603.64	04/09/2012	6603.64	0.81	6.12	37	6.38	1.403	5	8.03	
7344.48	09/10/2012	7344.48	0.11	3.85	23	13.3		7	14.5	0.797
11926.4	12/11/2012	11926.40	0.11	4.34	26	7.4	0.84	8	8.21	0.982

8.3 Castletroy AER Ambient Upstream Monitoring Data 2012

Castletroy AER Upstream Ambient Monitoring 2012

Upstream Discharge Point				Station Easting			Station Northing			Sample Method
				160751.3			158634.7			Grab
Sample Date	BOD	SS	pH	NO3-N	Total P	PO4-P	NH3-N	Coliform Bacteria	E.Coli	Enterococci
	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	No./100mls	No./100mls	No./100mls
05-Jan-12	2.09	66	7.68		0.15	0.1	0.085			
27-Jan-12	2.3	2	7.65			0.07	0.054			
16-Feb-12	1.22	3	8.24	2.1		0.06	0.042			
23-Feb-12	3.04	12	7.93			0.08	0.112			
16-Mar-12	0.84	7	7.94			0.06	0.036			
25-Apr-12	1.77	24	7.86			0.25	0.043			
22-May-12								880	40	10
29-May-12								1270	60	10
31-May-12	1.46	4	7.85	6.4		0.81	0.087			
13-Jun-12	3.09	8	7.84			0.06	0.04			
26-Jun-12								2610	240	2000
28-Jun-12	6.61	141				0.3	0.7			
03-Jul-12								34500	4350	
14-Aug-12								15530	2280	

8.4 Castletroy AER Ambient Downstream Monitoring Data 2012

Castletroy AER Downstream Ambient Monitoring 2012

Downstream Discharge Point				Station Easting			Station Northing			Sample Method
				160491.5			158453.1			Grab
Sample Date	BOD	SS	pH	NO3-N	Total P	PO4-P	NH3-N	Coliform Bacteria	E.Coli	Enterococci
	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	No./100mls	No./100mls	No./100mls
05-Jan-12	2.31	80	7.79		0.15	0.09	0.091			
27-Jan-12	2.11	2	7.64			0.08	0.05			
16-Feb-12	1.07	4	8.3	2.1		0.06	0.042			
23-Feb-12	3.11	16	7.92			0.06	0.109			
16-Mar-12	0.87	3	7.92			0.06	0.073			
25-Apr-12	1.6	9	7.96			0.3	0.035			
22-May-12										
29-May-12								530	20	0
31-May-12	1.18	1	7.83			0.27	0.045			
13-Jun-12	3.23	13	7.91			0.12	0.03			
26-Jun-12								3260	430	5600
28-Jun-12	6.84	128				0.12	0.45			
03-Jul-12								24190	2600	
14-Aug-12								24190	2755	

8.5 Castletroy Network Complaints 2012

Appendix 8.5 Castletroy Network Complaints 2012				
Number	**Date & Time**	**Nature of complaint**	**Actions taken to resolve issue**	**Closed (Y/N)**
1	03/01/2012	BLOCKED SEWER	Freed	Y
2	04/01/2012	SEWER BACKED UP	Freed	Y
3	04/01/2012	SEWER BACKED UP	Freed	Y
4	12/01/2012	BLOCKED SEWER	Freed	Y
5	12/01/2012	DRAINS BLOCKED	Freed	Y
6	12/01/2012	BLOCKED SEWER	Freed	Y
7	13/01/2012	BLOCKED SEWER	Freed	Y
8	18/01/2012	BLOCKED SEWER	Freed	Y
9	25/01/2012	BLOCKED SEWER	Freed	Y
10	02/02/2012	BLOCKED SEWER	Freed	Y
11	06/02/2012	SEWER ALL OVER YARD	Checked out	Y
12	09/02/2012	SEWERAGE PROBLEM	Freed	Y
13	09/02/2012	BLOCKED SEWER	Freed	Y
14	14/02/2012	BLOCKED SEWER	Freed	Y
15	16/02/2012	BLOCKED SEWER	Checked out no blockage	Y
16	21/02/2012	BLOCKED SEWER	Freed	Y
17	24/02/2012	BLOCKED SEWER	Freed	Y
18	01/03/2012	BLOCKED SEWER	Freed	Y
19	05/03/2012	BLOCKED SEWER	Freed	Y
20	05/03/2012	SEWER BLOCKED	Freed	Y
21	05/03/2012	BLOCKED SEWER	Freed	Y
22	09/03/2012	BLOCKED SEWER	Freed	Y
23	09/03/2012	SEWER BLOCKED	Freed	Y
24	09/03/2012	BLOCKED SEWER	Freed	Y
25	09/03/2012	SWERAGE PROPLEM	Freed	Y
26	09/03/2012	DRAINS BLOCKED	Freed	Y
27	12/03/2012	SEWERAGE BLOCKED	Freed	Y
28	12/03/2012	BLOCKED SEWER	Freed	Y
29	12/03/2012	BLOCKED SEWER	Freed	Y
30	12/03/2012	BLOCKED SEWER	Freed	Y

Appendix 8.5 Castletroy Network Complaints 2012				
Number	Date & Time	Nature of complaint	Actions taken to resolve issue	Closed (Y/N)
31	12/03/2012	BLOCKED SEWER	Freed	Y
32	13/03/2012	BLOCKED SEWER	Freed	Y
33	13/03/2012	BLOCKED SEWER	Freed	Y
34	13/03/2012	BLOCKED SEWER	Freed	Y
35	13/03/2012	BLOCKED SEWER	Freed	Y
36	13/03/2012	BLOCKED SEWER	Freed	Y
37	16/03/2012	SEWER BACKED UP	Freed	Y
38	16/03/2012	BLOCKED SEWER	Freed	Y
39	20/03/2012	BLOCKED SEWER	Freed	Y
40	21/03/2012	BLOCKED SEWER	Freed	Y
41	26/03/2012	BLOCKED SEWER	Freed	Y
42	27/03/2012	BLOCKED SEWER	Freed	Y
43	27/03/2012	BLOCKED SEWER	Freed	Y
44	30/03/2012	BLOCKED SEWER	Freed	Y
45	02/04/2012	BLOCKED SEWER	Freed	Y
46	02/04/2012	BLOCKED SEWER	Freed	Y
47	02/04/2012	TOILET BLOCKED	Freed	Y
48	02/04/2012	BLOCKED SEWER	Freed	Y
49	05/04/2012	BLOCKED SEWER	Freed	Y
50	11/04/2012	BLOCKED SEWER	Freed	Y
51	12/04/2012	BLOCKED SEWER	Freed	Y
52	13/04/2012	BLOCKED SEWER	Freed	Y
53	16/04/2012	BLOCKED SEWER	Freed	Y
54	20/04/2012	SEWER RODS LOST IN PIPE - SEWER BACKING UP	Freed	Y
55	23/04/2012	BLOCKED SEWER	Freed	Y
56	23/04/2012	BLOCKED SEWER	Freed	Y
57	24/04/2012	BLOCKED SEWER	Freed	Y
58	25/04/2012	BLOCKED SEWER	Freed	Y
59	27/04/2012	BLOCKED SEWER	Freed	Y
60	01/05/2012	BLOCKED SEWER	Freed	Y

Appendix 8.5 Castletroy Network Complaints 2012				
Number	Date & Time	Nature of complaint	Actions taken to resolve issue	Closed (Y/N)
61	01/05/2012	BLOCKED SEWER	Freed	Y
62	02/05/2012	BLOCKED SEWER	Freed	Y
63	02/05/2012	BLOCKED SEWER	Freed	Y
64	08/05/2012	BLOCKED SEWER	Checked out	Y
65	11/05/2012	BLOCKED SEWER	Freed	Y
66	14/05/2012	BLOCKED SEWER	Freed	Y
67	15/05/2012	BLOCKED SEWER	Freed	Y
68	17/05/2012	BLOCKED SEWER	Freed	Y
69	18/05/2012	BLOCKED SEWER	Freed	Y
70	18/05/2012	BLOCKED SEWER	Freed	Y
71	21/05/2012	BLOCKED SEWER	Freed	Y
72	23/05/2012	BLOCKED SEWER	Freed	Y
73	25/05/2012	ODOUR PROBLEM	Freed	Y
74	28/05/2012	SEWERAGE PROBLEM	Freed	Y
75	29/05/2012	BLOCKED SEWER	Freed	Y
76	01/06/2012	BLOCKED SEWER	Freed	Y
77	05/06/2012	BLOCKED SEWER	Freed	Y
78	06/06/2012	BLOCKED SEWER	Freed	Y
79	06/06/2012	ODOUR PROBLEM	Freed	Y
80	06/06/2012	BLOCKED SEWER	Repaired	Y
81	06/06/2012	BLOCKED SEWER	Repaired	Y
82	06/06/2012	BLOCKED SEWER	Repaired	Y
83	06/06/2012	BLOCKED SEWER	Repaired	Y
84	06/06/2012	SEWER BLOCKED	Repaired	Y
85	07/06/2012	SEWER BLOCKED	Freed	Y
86	08/06/2012	BLOCKED SEWER	Freed	Y
87	11/06/2012	BLOCKED SEWER	Freed	Y
88	14/06/2012	BLOCKED SEWER	Freed	Y
89	18/06/2012	BLOCKED SEWER	Freed	Y
90	18/06/2012	BLOCKED SEWER	Freed	Y

Appendix 8.5 Castletroy Network Complaints 2012				
Number	Date & Time	Nature of complaint	Actions taken to resolve issue	Closed (Y/N)
91	21/06/2012	BLOCKED SEWER	Freed	Y
92	26/06/2012	BLOCKED SEWER	Freed	Y
93	26/06/2012	ODOUR PROBLEM	Freed	Y
94	02/07/2012	SEWERAGE PROBLEM	Freed	Y
95	02/07/2012	BLOCKED SEWER	Repaired	Y
96	03/07/2012	SEWERAGE PROBLEM.	Freed	Y
97	04/07/2012	BLOCKED SEWER	Freed	Y
98	16/07/2012	BLOCKED SEWER	Freed	Y
99	18/07/2012	BLOCKED SEWER	Freed	Y
100	24/07/2012	BLOCKED SEWER	Freed	Y
101	31/07/2012	BLOCKED SEWER	Freed	Y
102	16/08/2012	BLOCKED SEWER	Freed	Y
103	20/08/2012	SEWER BLOCKED	Freed	Y
104	20/08/2012	SEWER BLOCKED	Freed	Y
105	20/08/2012	SEWER BLOCKED	Freed	Y
106	27/08/2012	SEWERAGE SMELL	Repaired	Y
107	28/08/2012	BLOCKED SEWER	Repaired	Y
108	29/08/2012	BLOCKED SEWER	Repaired	Y
109	31/08/2012	ODOUR PROBLEM	Repaired	Y
110	31/08/2012	BLOCKED SEWER	Repaired	Y
111	31/08/2012	ODOUR PROBLEM	Repaired	Y
112	06/09/2012	BLOCKED SEWER	Freed	Y
113	10/09/2012	BLOCKED SEWER	Freed	Y
114	10/09/2012	BLOCKED SEWER	Freed	Y
115	17/09/2012	BLOCKED SEWER	Freed	Y
116	21/09/2012	BLOCKED SEWER	Freed	Y
117	05/10/2012	ODOUR PROBLEM	No smell detected	Y
118	15/10/2012	BLOCKED SEWER	Freed	Y
119	17/10/2012	BLOCKED SEWER	Freed	Y
120	23/10/2012	ODOUR PROBLEM	Freed	Y

Appendix 8.5 Castletroy Network Complaints 2012				
Number	Date & Time	Nature of complaint	Actions taken to resolve issue	Closed (Y/N)
121	24/10/2012	BLOCKED SEWER	Freed	Y
122	30/10/2012	BLOCKED SEWER	Freed	Y
123	31/10/2012	BLOCKED SEWER	Freed	Y
124	31/10/2012	BLOCKED SEWER	Freed	Y
125	31/10/2012	BLOCKED SEWER	Freed	Y
126	31/10/2012	BLOCKED SEWER	Freed	Y
127	05/11/2012	BLOCKED SEWER	Freed	Y
128	06/11/2012	BLOCKED SEWER	Freed	Y
129	08/11/2012	BLOCKED SEWER	Freed	Y
130	12/11/2012	BLOCKED SEWER		Y
131	14/11/2012	BLOCKED SEWER	Freed	Y
132	14/11/2012	BLOCKED SEWER	Freed	Y
133	14/11/2012	BLOCKED SEWER	Freed	Y
134	15/11/2012	BLOCKED SEWER		Y
135	16/11/2012	BLOCKED SEWER	Freed	Y
136	21/11/2012	BLOCKED SEWER	Freed	Y
137	28/11/2012	BLOCKED SEWER	Freed	Y
138	29/11/2012	BLOCKED SEWER	Freed	Y
139	30/11/2012	SEWERAGE PROBLEM	Freed	Y
140	03/12/2012	BLOCKED SEWER	Freed	Y
141	04/12/2012	BLOCKED SEWER	Freed	Y
142	11/12/2012	BLOCKED SEWER	Freed	Y
143	17/12/2012	BLOCKED SEWER	Freed	Y
144	17/12/2012	BLOCKED SEWER	Freed	Y
145	17/12/2012	BLOCKED SEWER	Freed	Y
146	17/12/2012	BLOCKED SEWER	Freed	Y
147	18/12/2012	BLOCKED SEWER	Freed	Y
148	20/12/2012	BLOCKED SEWER	Freed	Y
149	31/12/2012	BLOCKED SEWER	Freed	Y
150	31/12/2012	ODOUR PROBLEM	Freed	Y

Appendix 8.5 Castletroy Network Complaints 2012				
Number	**Date & Time**	**Nature of complaint**	**Actions taken to resolve issue**	**Closed (Y/N)**
151	09/011/12	SEWER PROBLEM	Freed	Y

8.6 Castletroy Sewer Integrity Tool 2012

	Section 1.1 Agglomeration Details					
	Name	**Castletroy**				
	Licence Number	**D0019-01**				
	Insert Name of Catchment if the Risk Assessment is for part of an agglomeration (only divide agglomeration where p.e. >5,000p.e. and where such division is warranted)	**Insert Catchment Name (e.g., Downtown Pumping Station network). Refer to Guidance Notes for rules on division of large agglomerations.**				
	Date Licence Issued	**22/04/2009**				
	Current Date	**18/02/2013**				
			Year	Year	Year	Year
	Waste Water Works - Wastewater Treatment Plant Details	**Unit**	**2013**	**2015**	**2018**	**2021**
1.1	Is there an existing WWTP in operation?		**Yes**	**Yes**	**Yes**	**Yes**
	Section 1.2 BOD Loading & Population Equivalent					
1.2	Average Daily Influent Flow or Average Total Flow in system (If no measured data exists, insert estimated figure)	l/day, measured	7745970			
1.3	Average Daily Influent BOD or Average BOD Load from area served (If no measured data exists, insert estimated figure)	mg/l, measured	216.78			
1.4	Total BOD Load	kg/day	1679.171377			
1.5	Average Population Equivalent (@0.06kg/person/day)	p.e.	27986			
1.6	Estimated (existing) Non-Domestic Load	p.e.	13993			
1.7	Estimated Domestic Load	p.e.	13993			
1.8	Occupancy Rate for the Agglomeration	pop/house	2.7			
1.9	Estimated Number of Connected Properties	houses	5183			
1.10	Number of properties within the agglomeration when compared with CSO Data or An Post Geodirectory	houses	5249			
	Section 1.3 Hydraulic Details					
1.11	Average Dry Weather Flow arriving at WWTP OR Total Average DWF in system (If no measured data exists insert estimated figure)	l/s, measured	66.667			
1.12	Estimated 3DWF	l/sec	200.00			
1.13	Annual Average Peak Flow to WWTP or discharging from whole system if there is no existing WWTP	l/s, measured	181			
1.14	This Annual Average Peak as Multiples of Dry Weather Flow (Peaking	Nr	3.00			
1.15	Highest Peak Flow Recorded (Insert UNKNOWN if no records exist)	l/s	250-300			
1.16	Does this Peak Flow (multiple of DWF) cause hydraulic capacity problems within the network ?	---	Yes	Yes	Yes	Yes
1.17	Total Rainfall for Previous Year	mm	1047			
1.18	Comparison - Mean Annual Rainfall for the agglomeration	mm	1047			
1.18.1	Define the Weather Station Used		Shannon			
1.19	If Storm Water Storage is available at the Wastewater Treatment plant, what is the volume of the storm tank ?	m^3	210			
1.20	Is the capacity of the storm tank sufficient to capture and retain all overflows to the tank ?	---	No	No	No	No
1.21	Total monthly average volume of Storm Water Stored or Returned for Treatment within the Waste Water Treatment Plant	m^3 per month	unknown			
1.22	If the answer to 1.20 above is No, What is the estimated frequency of Overflows from the Storm Tank ? (N/A if no overflow)		1 to 2 times per month	< 1 per month	1 to 2 times per month	< 1 per month
	Waste Water Works - Sewer Network Details	**Unit**	**2013**	**2015**	**2018**	**2021**
	Section 1.4 Waste Water Works - Gravity Sewer Details					
1.23	What database is used to maintain records of the sewer network		Mapdrain	SUS 2001	SUS 2002	SUS 2003
1.23.1	If other or combination of the above please describe	Describe	S2000 & AutoCad			
1.24	Total length of sewers (use drop down menus to define whether these figures are estimated or measured)	km Estimated	50940.00	0.00	0.00	0.00
1.24.1	Total length of sewers > 450mm Diameter	km Estimated	6937.00			
1.24.2	Total length of sewers > 300mm but ≤ 450mm in Diameter	km Estimated	7125.00			
1.24.3	Total length of sewers > 225mm but ≤ 300mm in Diameter	km Measured	3832.00			
1.24.4	Total length of sewers ≤ 225mm in Diameter	km Estimated	33046.00			
1.24.5	Other	km Estimated				
1.25	Pipeline Material					
1.25.1	What portion of the sewer network consists of Concrete Pipes	% Estimated	unknown			
1.25.2	What portion of the sewer network consists of Plastic Pipes	% Estimated	unknown			
1.25.3	What portion of the sewer network consists of Clay materials	% Estimated	unknown			
1.25.4	What portion of the sewer network consists of Brick Type Sewers	% Estimated	unknown			
1.25.5	What portion of the sewer network consists of Other Materials	% Estimated	unknown			
1.26	Total number of Storm Water Overflows (Enter '1' if none and state under Item 1.27 that there are no SWOs in the network; do not leave blank)	Nr	1			
1.27	What Screening or other mechanical devices are employed at the storm water overflows					
1.27.1	SW4 - Inlet Works	Describe	[illegible] medium mesh screen (never in use)			

	Section 1.1 Agglomeration Details					
	Name	**Castletroy**				
	Licence Number	**D0019-01**				
	Insert Name of Catchment if the Risk Assessment is for part of an agglomeration (only divide agglomeration where p.e. >5,000p.e. and where such division is warranted)	**Insert Catchment Name (e.g., Downtown Pumping Station network). Refer to Guidance Notes for rules on division of large agglomerations.**				
	Date Licence Issued	**22/04/2009**				
	Current Date	**18/02/2013**				
			Year	Year	Year	Year
	Waste Water Works - Wastewater Treatment Plant Details	**Unit**	2013	2015	2018	2021
	SW5 - Prelimary Treatment		Primary Settlement Tank and			
1.28	Water Quality at the receiving waters					
1.28.1	Where the receiving water is a river - Indicate the EPA Biological Rating of the Receiving Water for each SWO below (Particularly if there is more than one receiving water within the agglomeration)					
	SW4 *Primary Discharge Point*	Describe	Q3-Q4			
	SW5 *Primary Discharge Point*		Q3-Q4			
1.28.2	Where the receiving water is a coastal water indicate the Status of the Receiving Water for each SWO below (Particularly if there is more than one receiving water within the agglomeration)					
	N/A					
1.28.3	With reference to the SWO's detailed above define if the receiving waters are sensitive in accordance with the Urban Wastewater Treatment Regulations as amended.					
	n/a	Describe	Not Listed			
1.28.4	With reference to the SWO's detailed above define are the receiving waters Protected Areas (designated or awaiting designation) .					
	SW4 & 5	Designation	SAC/SPA			
1.28.5	With reference to the SWO's detailed above define do the receiving waters have any other designations.					
	None	Designation				
	Section 1.5 Waste Water Works - Pumping Stations					
1.29	Number of Pumping Stations (operated by the Local Authority)	Nr	3			
1.30	Total Length of Rising Mains (operated by the Local Authority)	km	20			
1.31	Rising Main Material					
1.31.1	What portion of the rising mains consists of ductile iron pipes	% Measured	0.00			
1.31.2	What portion of the rising mains consists of plastic pipes	% Measured	0.00			
1.31.3	What portion of the rising mains consists of other materials	% Estimated	0.00			
1.32	Discharge Capacity of the Pump Set (s) at normal duty point					
		l/sec				
1.33	What percentage of the pumping stations have recorded flow data (i.e. if all pumping stations have flow meters on the rising mains then this would read 100%)	%	100.00%			
1.34	Available Storage Capacity at Pump Stations					
	n/a	m^3	1000			
1.35	Total Number of ***"Licenced Secondary Discharge Points and Stormwater Overflows"*** at pumping stations	Nr	2			
1.36	Total Number of ***"Emergency Overflow Points"*** at pumping stations	Nr	1			
1.37	What Screening or other mechanical devices are employed at the secondary discharge points or emergency overflows ?					
	SW3 Castleconnell	Describe	s has RBI and macerator			
	SW4 Mountshannon		None			
1.38	Water Quality at the receiving waters at each pumping station location					
1.38.1	Where the receiving water is a river - indicate the EPA Biological Rating of the Receiving Water for each secondary discharge point or emergency overflow at each pumping station (Particularly if there is more than one receiving water within the agglomeration)					
	Q value not specific to these points	Describe	Q3-Q4			
1.38.2	Where the receiving water is a coastal water indicate the Status of the Receiving Water for each secondary discharge point or emergency overflow at each pumping station (Particularly if there is more than one receiving water within the agglomeration)					
	N/A	Describe				

	Section 1.1 Agglomeration Details					
	Name	**Castletroy**				
	Licence Number	**D0019-01**				
	Insert Name of Catchment if the Risk Assessment is for part of an agglomeration (only divide agglomeration where p.e. >5,000p.e. and where such division is warranted)	**Insert Catchment Name (e.g., Downtown Pumping Station network). Refer to Guidance Notes for rules on division of large agglomerations.**				
	Date Licence Issued	**22/04/2009**				
	Current Date	**18/02/2013**				
			Year	Year	Year	Year
	Waste Water Works - Wastewater Treatment Plant Details	**Unit**	2013	2015	2018	2021
1.38.3	With reference to the pumping stations, for each secondary discharge point or emergency overflow detailed above, define if the receiving waters are sensitive in accordance with the Urban Wastewater Treatment Regulations as amended.					
	n/a					
1.38.4	With reference to the pumping stations, for each secondary discharge point or emergency overflow detailed above, are the receiving waters Protected Areas (designated or awaiting designation) .					
	n/a	Designation	SPA/SAC			
1.38.5	With reference to the pumping stations, for each secondary discharge point or emergency overflow detailed above, do the receiving waters have any other designations					
	N/A	Designation				
1.39	Estimated Number of Private Pumping Stations within the agglomeration (not operated by the Local Authority)	Nr	0			
	Section 1.6 Reporting					
	Section 1.6.1 Reported Number of Sewer Related Complaints					
1.40	Number of Reported Complaints	Nr	151			
1.41	Number of Reported Complaints which have been rectified	Nr	151			
	Section 1.6.2 Reported/Recorded/Estimated Number of Secondary Discharges					
1.42	Number of Reported Secondary Discharges	Nr	0			
1.43	Number of Recorded Secondary Discharges	Nr	0			
1.44	Estimated Total Number of Secondary Discharges	Nr	0			
	Section 1.6.3 Reported/Recorded/Estimated Number of Emergency Overflow Discharges from Pumping Stations					
1.45	Number of Reported Emergency Overflow Discharges	Nr				
1.46	Number of Recorded Emergency Overflow Discharges	Nr	3			
1.47	Estimated Total Number of Emergency Overflow Discharges	Nr	3			
	Section 1.7 Operational Staff					
1.48	In the four boxes below, describe the extent of operation staff employed by the Local Authority to maintain and operate the sewer network and pumping stations					
1.48.1	1 no. part time plant Foreman and 1 no. part time caretaker. M& E crew covering whole county.					
1.48.2						
1.48.3						
1.48.4						
	Waste Water Works - Investment Details	**Unit**	2013	2015	2018	2021
	Section 1.8 Capital Investment works carried out since most recent report (including works not included on WSIP Programme or not WSIP funded)					
1.49	Sewers Upgraded or Replaced	m	0			
1.50	Sewers Rehabilitated	m	0			
1.51	Manholes Rehabilitated	Nr	0			
1.52	Local Repairs	Nr	0			
1.53	Total Length of sewers Upgraded, Replaced or Rehabilitated	m	0			
1.54	Pumping Stations Operated by Local Authority Upgraded or Repaired	Nr	0			
1.55	WWTW operated by Local Authority Upgraded or Replaced	Nr	0			
1.56	In the following two cells describe the actual Capital Investment undertaken in the reporting period.					
1.56.1	*For example : Sewer Rehabilitation Contract Works being undertaken under the WSIP*		0			
1.56.2						
	Section 1.9 Licence Specified Improvements Works					

	Section 1.1 Agglomeration Details					
	Name	**Castletroy**				
	Licence Number	**D0019-01**				
	Insert Name of Catchment if the Risk Assessment is for part of an agglomeration (only divide agglomeration where p.e. >5,000p.e. and where such division is warranted)	**Insert Catchment Name (e.g., Downtown Pumping Station network). Refer to Guidance Notes for rules on division of large agglomerations.**				
	Date Licence Issued	**22/04/2009**				
	Current Date	**18/02/2013**				
			Year	Year	Year	Year
	Waste Water Works - Wastewater Treatment Plant Details	**Unit**	**2013**	**2015**	**2018**	**2021**
1.57	*The Local Authority is required to report on the extent of Improvement Works which have been specifed under the Licence as issued by the EPA. Reference which AER contains this information*		See Item 4.2			
	Section 1.10 Other Updates Since Last Report					
1.58	*For example : 50% of the sewer network is currently being upgraded under the WSIP with an investment of €1.5m in 2010.*		None			
1.59	*For example : 2% of the sewer network is currently being replaced under the Local Authorities Annual Maintenance Fund*		None			
1.60						
1.61						
1.62						
1.63						

Section 2.1 Hydraulic Risk Assessment

Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
2.1	Has a Hydraulic Performance Assessment been undertaken for the Sewer Network (e.g., Computer Model or other Engineering Design or Design Review) ?	No	40		If the answer is **No** assess the need and cost benefit of developing a computer model or engineering design assessment of the Sewer Network and complete Query 2.12. If the answer is **Yes** proceed to Queries 2.1.1 to 2.1.4 inclusive
2.1.1	If Answer to Query 2.1 is Yes what % of the Network is covered by the hydraulic assessment ?	N/A	0		The % coverage of the Network by the Hydraulic Assessment can be estimated by the area assessed against the area served by the Network. ENTER "N/A" IF COMPUTER MODEL or DESIGN DOES NOT EXIST. DO NOT LEAVE BLANK OR ENTER "0".
2.1.2	How many years has it been since the completion of the hydraulic assessment ?	N/A	0		Select N/A response if no design assessment or design exists.
2.1.3	Are the outcomes of the Hydraulic Assessment being implemented ?	N/A	0		Select N/A response if no design assessment or design exists.
2.1.4	How many years has it been since the outcomes of the hydraulic assessment have been implemented ?	N/A	0		Select N/A response if no hydraulic performance assessment or design exists. For onging works select "less than 5".
2.2	Has a Dynamic Computer Model been used to Assess the Hydraulic Performance of the Sewer Network ?	No	10		Computer Model means a Hydroworks/Infoworks Model, Micro-Drainage Model or equivalent.
2.3	Has a Manhole Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Manhole Location Surveys and the Production of Record Maps" ?	No	10		If the answer is **No** assess the need and cost benefit of undertaking a Manhole Survey and complete Query 2.12. If the answer is **Yes** proceed to Query 2.2.1
2.3.1	If yes, how many years has it been since the survey was undertaken or updated?	N/A	0		Select N/A if no Manhole Survey has been undertaken. Enter N/A value for Confidence Grade if Prompt Box is "N/A"
2.4	Has a Flow Survey been undertaken in accordance with WRc Documentation "A Guide to Short Term Flow Surveys of Sewer Systems" and "Contract Documents for Short Term Sewer Flows" ?	No	20		If the answer is **No** assess the need and cost benefit of undertaking a Flow Monitoring Survey and complete Query 2.12. . If answer is **Yes** Proceed to Query 2.5
2.5	What was this Flow Survey Information Used for ?				
2.5.1	To Determine the extent of Problematic Sewer Catchments	N/A	0		Select N/A if no Flow Survey has been undertaken.
2.5.2	To Verify a Computer or Mathematical Model of the Network	N/A	0		Select N/A if no Flow Survey has been undertaken.
2.6	Have Performance Criteria been developed to determine the short, medium or long term capacity of the sewer network ?	No	10		If the answer is **No** assess the Future Needs of the Sewer Network and complete Query 2.12. If the answer is **Yes** proceed to Query 2.8
2.7	How many flood events resulting from surcharge in the network have occurred in the past 3 years?	more than 6	10	Estimate	Flood events in this context means water/sewage backing up from the Network causing flooding of properties or causing disruption of traffic
2.8	Are there deficiencies in performance criteria within the sewer network ?	Yes	20		If the answer is **No**, Proceed to Query 2.10 and complete Query 2.12. If the answer is **Yes** proceed to Query 2.9
2.9	Have the causes of these deficiencies in the Performance Criteria been identified and rectified ?	No	10		If the answer is **No**, consider further examination of the hydraulic model (If available) and complete Query 2.12. If the answer is **Yes** proceed to Query 2.10
2.10	Can the Hydraulic Assessment (defined in Query 2.1 above) be used to determine the benefit of reducing the contributory Impermeable Areas or extent of surface water contributions	No	10		If the answer is **No**, consider further development of the Hydraulic Assessment (or model if available) and complete Query 2.12. If the answer is **Yes** proceed to Query 2.11
2.11	Has an Impermeable Area Survey been carried out for the agglomeration or parts of the agglomeration ?	No	10		If the answer is **No**, consider the need and cost benefit of undertaking an Impermeable Survey for parts of the agglomeration which are under hydraulic pressure and complete Query 2.12. .
	Total Risk Assessment Score (RAS)		**150**		
2.12	Prepare Assessment of Needs & Sewer Upgrade Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
2.13	In the AER provide Summary of Proposed Works or Direction to be taken to improve hydraulic efficiency				

Section 3.1 Environmental Risk Assessment					
Query	**Description**	**Prompt**	**Risk Score**	**Short Commentary by the Local Authority**	**Comment or Action to be Taken**
3.1	What Environmental or Discharge Quality Data is available with regard to the sewer network ?	largely anecdotal	20		Select N/A if no discharges, secondary discharges or overflows from network; if discharges do exist complete Query 3.12
3.1.1	Do trade effluents discharge to the sewer network?	Yes	20		If the answer is **No**, proceed to Query 3.1.2. If the answer is **Yes**, Proceed to Query 3.2
3.1.2	Are there Storm Water Overflows within the network ?	Yes	20		If the answer is **No**, proceed to Query 3.1.3. If the answer is **Yes**, Proceed to Query 3.3
3.1.3	Are there Secondary Discharges within the network (excluding Emergency Overflows at Pump Stations)?	No	0		If the answer is **No**, proceed to Query 3.1.4.
3.1.4	Is there any evidence that exfiltration is occurring from the network ?	Unknown	20		If the answer is **No**, does all wastewater enter a wastewater treatment plant (insert summary details in the AER)? If **Yes**, Proceed to Query 3.6
3.2	If Answer to Query 3.1.1 is "Yes", what % of trade effluents have a licence to Discharge to the Public Sewer ?	0 - 10%	40		Select N/A if answer to Query 3.1.1 is **No**. If not all trade effleunts are licenced, Local Authority should consider issuing and controlling such discharges under the appropriate Legislation.
3.2.1	Are all licenced trade Discharges compliant with their relevant licence and associated conditions	No	10	No, unknown	Answer N/A if none of the trade effluents are licenced. Answer No if this information is unknown. If the answer is **Unknown** or **No**, consider issuing a direction to the relevant Licencee. If the answer is **Yes**, no further action is needed.
3.2.2	If Answer to Query 3.2.1 is "No", state what % of Trade Discharges are NOT compliant with their relevant licence and associated conditions (where that non-compliance led to enforcement action)	0 - 10%	5		Select N/A if answer to Query 3.2.1 is Yes. If N/A is selected as answer to Query 3.2.2
3.3	In accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows", what % of storm water overflows in the system have been classified for their significance?	100%	0		If the answer is **No**, consider a review of each discharge within the sewer network complete and Query 3.11. If the answer is **Yes**, proceed to Query 3. 6
3.4	Have samples from any Secondary Discharges within the system been analysed ?	N/A	0		Select N/A if no secondary discharges in system. If the answer to Query 3.4 is **No**, consider examining the quality of each secondary discharge within the sewer network complete Query 3.11. If the answer is **Yes**, proceed to Query
3.5	What percentage of discharges from the system are known to cause environmental pollution of the receiving waters ?	< 10%	10		If the answer is greater than 50% then detail, in the AER, the Improvement Programme necessary to reduce this percentage.
3.6	In relation to possible exfiltration has a risk analysis of ground water contamination or pollution been undertaken ?	No	20		Select N/A if answer to Query 3.1.4 is NO. If the answer is **No**, consider undertaking ground water risk analysis and complete Query 3.12
3.6.1	If Answer to Query 3.6 is "Yes", have any groundwater aquifers been identified in the area of the Network and/or Discharge Points?	N/A	0		Select N/A if no risk analysis of groundwater contamination has been undertaken.
3.6.2	If Answer to Query 3.6.1 is "Yes", state the classification of groundwater aquifer identified in the area?	N/A	0		Select N/A if no risk analysis of groundwater contamination has been undertaken.
3.6.3	In relation to Query 3.6.1 is the aquifer used as a source for Public, Private or Group Water Supply Schemes?	N/A	0		Select N/A if no risk analysis of groundwater contamination has been undertaken.
3.7	Has an Impact Assessment of each Storm Water Overflow been undertaken in accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows" including setting performance criteria?	Yes	0		If the answer is **No**, consider assessing the risk category of the receiving waters. If the answer is **Yes**, proceed to Query 3.8 and provide summary details of the assessment in the AER.
3.8	What percentage of storm water overflows comply with the performance criteria referred to in Query 3.7?	> 80%	10		Select N/A if answer to Query 3.7 is **No** or if there are no SWOs in system. **(Risk Score is locked at 0 if no SWOs in system is stated in Agglomeration Details)**
3.9	Have the causes of these Capacity Deficiencies (storm water overflows & Secondary Discharges) been identified ?	N/A	0		Select N/A if answer to Query 3.7 is NO or if there are no SWOs in system. If the answer to Query 3.9 is **No**, consider further examination of the environmental
	Total Risk Assessment Score (RAS)		175		
3.10	Prepare Assessment of Needs & Sewer Upgrade Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
3.11	Provide Summary Details (in the AER) of records upstream and downstream of licenced discharges with regard to Environmental Performance of the network. These details can be included as part of the AER submitted for the agglomeration.				

Section 4.1 Structural Risk Assessment

Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
4.1	Has a CCTV Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Sewer Condition Inspections" and "Manual of Sewer Condition Classification" ?	No	10		If the answer is **No** assess the need and benefit of undertaking CCTV Survey. If **Yes** Proceed to Query 4.2
4.1.1	How many years has it been since the completion of the CCTV Survey?	N/A	0		If no CCTV has been undertaken, select "N/A" response
4.2	What was this CCTV Survey Information Used for?	N/A	10		Select N/A if answer to Query 4.1 is NO
4.3	Has the CCTV Survey been used to Assess the Structural Condition of the Sewer Network or targeted sections of the Sewer Network?	No	5		If no CCTV has been undertaken, select "No" response. If the answer is **No** assess the need and benefit of undertaking an assessment of the Structural Condition of the Sewer Network. If the answer is **Yes** proceed to Q
4.4	Have Performance Criteria been developed to determine the short, medium or long term structural condition of the sewer network ?	No	5		If the answer is **No**, enter "unknown" in response to Queries 4.4.1 to 4.4.5; consider assessing the Future Needs of the Sewer Network. If the answer is **Yes** proceed to Queries 4
4.4.1	What % of the Total Sewer Length contains Collapsed or Imminent Collapse of Sewers (Grade 5)	unknown	30		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 5 collapse, include the total length of that sewer in calcuating the **%**. If information is not available type "Unknown" into Prompt Box
4.4.2	What % of Total Sewer Length contains Sewers Likely to Collapse (Grade 4)	unknown	25		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 4 condition, include the total length of that sewer in calcuating the **%**. If information is not available type "Unknown" into Prompt Box
4.4.3	What % of Total Sewer Length contains sewers with Further Possible Deterioration (Grade 3)	unknown	10		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 3 deterioration, include the total length of that sewer in calcuating the **%**. If information is not available type "Unknown" into Prompt Box
4.4.4	What % of Total Sewer Length contains sewers with Minimal Collapse (Grade 2)	unknown	5		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 2 feature, include the total length of that sewer in calcuating the **%**. If information is not available type "Unknown" into Prompt Box
4.4.5	What % of Total Sewer Length contains sewers of Acceptable Structural Condition (Grade 1)	unknown	5		Insert Percentage of Overall Network Length. If information is not available type "Unknown" into Prompt Box
If all % lengths are known, Check Total Length = 100%			75		If answers to Queries 4.4.1, 4.4.2 or 4.4.3 are above a set level, the RAS for Query 4 is automitically set at the maximum of 140.
4.5	What % of the deficiencies, as detailed in Items 4.4.1, 4.4.2 and 4.4.3, have been rectified ?	N/A	35		Select N/A if answer to Query 4.4 is **No**. If the answer is **No**, Proceed to Query 4.6 If the answer is **Yes**, what monitoring is in place to ensure continued acceptance of structural condition? Proceed to Query 4.7
4.6	Have the causes of the Structural Deficiencies (Grades 3, 4 and 5) been identified or is there a Preventative Maintenance Programme in place?	No	10		If the answer is **No**, consider further examination of the sewer network, the structural loading conditions, gradients and possible H_2S Formation. If **Yes** completed Query 4.7
		Total Risk Assessment Score (RAS)	150		

4.7	Prepare Assessment of Needs & Sewer Rehabilitation Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents

Section 5.1 O&M Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
5.1	Are complaints of an environmental nature recorded and held in a central database?	Yes	0		Consider setting up Central Database for Complaints
5.2	Is there an emergency response procedure in place?	No	20		Consider setting up target response times for dealing with Complaints
5.3	What has been the highest frequency of flooding in the network due to hydraulic inadequacy, over the past 5 years?	Once/yr	4		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.4	What has been the highest frequency of flooding in the network due to operational causes over the past 5 years?	Once/yr	4	unknown	Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.5	What has been the highest frequency of surcharging of critical sewers in the network, over the past 5 years?	Once/yr	2	unknown	Select the highest number of events in any 12 month period.
5.6	What has been the highest frequency of reportable incidents in the network, over the past 5 years?	Once/yr	2	unknown	Select the highest number of events in any 12 month period.
5.7	What has been the highest frequency of reportable incidents due to discharges, for whatever reason, from Pumping Station Emergency Overflows in the network, over the past 5 years?	None	0	n/a	Select the highest number of events at any given Pumping Station in any 12 month period.
5.8	What has been the highest frequency of blockages in sewers in the network over the past 5 years?	>0.25/km/yr	20		Select the highest number of events per km of sewer network in any 12 month period.
5.9	What has been the highest frequency of collapses in sewers in the network over the past 5 years?	Once/yr	4		Select the highest number of events in any 12 month period.
5.10	What has been the highest frequency of bursts in rising mains in the network over the past 5 years?	Once/yr	4		Select the highest number of events in any 12 month period.
		Total Risk Assessment Score (RAS)	60		
5.11	Prepare Up Dated Operational and Maintenance Plan				

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	150	High Risk	100%	150
Section 3.1 Environmental Risk Assessment	175	Low Risk	35%	500
Section 4.1 Structural Risk Assessment	150	High Risk	100%	150
Section 5.1 O&M Risk Assessment	60	Low Risk	30%	200
Total RAS for Network	535	High Risk	54%	1000

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

8.7 Castletroy AER / PRTR 2012

Environmental Protection Agency

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.15

REFERENCE YEAR	2012

1. FACILITY IDENTIFICATION

Parent Company Name	Limerick County Council
Facility Name	Castletroy Waste Water Treatment Plant
PRTR Identification Number	D0019
Licence Number	D0019-01

Waste or IPPC Classes of Activity

No.	class_name
30.4	General

Address 1	County Hall
Address 2	Dooradoyle
Address 3	County Limerick
Address 4	
	Limerick
Country	Ireland
Coordinates of Location	-8.58033 52.6758
River Basin District	IEGBNISH
NACE Code	3700
Main Economic Activity	Sewerage
AER Returns Contact Name	Kieran O'Gorman
AER Returns Contact Email Address	kogorman@limerickcoco.ie
AER Returns Contact Position	Senior Executive Engineer
AER Returns Contact Telephone Number	061496560
AER Returns Contact Mobile Phone Number	0872713840
AER Returns Contact Fax Number	061496010
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	2
User Feedback/Comments	
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	3.0	0.0	3.0
03	Carbon dioxide (CO2)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	640875.0	0.0	640875.0
05	Nitrous oxide (N2O)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	3.0	0.0	3.0
07	Non-methane volatile organic compounds (NMVOC)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	1.0	0.0	1.0
08	Nitrogen oxides (NOx/NO2)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	8.0	0.0	8.0
11	Sulphur oxides (SOx/SO2)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	1.0	0.0	1.0

* 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: Castletroy 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 | PRTR# : D0019 | Facility Name : Castlebroy Waste Water Treatment Plant | Filename : Castlebroy PRTR D0019 2012.xls | Return Year : 2012 | 10/05/2013 09:48

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 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
51	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	0.008	0.009	0.0	0.001
17	Arsenic and compounds (as As)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.992	1.326	0.0	0.334
27	Atrazine	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.03	0.033	0.0	0.003
62	Benzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.048	0.095	0.0	0.047
91	Benzo(g,h,i)perylene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.006	0.007	0.0	0.001
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	0.142	0.22	0.0	0.078
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
70	Chlorides (as Cl)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	240652.386	259023.316	0.0	18370.93
31	Chloro-alkanes, C10-C13	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.595	0.655	0.0	0.06
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	0.827	0.855	0.0	0.028
20	Copper and compounds (as Cu)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	8.741	10.343	0.0	1.602
82	Cyanides (as total CN)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	8.312	9.106	0.0	0.794
33	DDT	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
79	Di-(2-ethyl hexyl) phthalate (DEHP)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	2.6	3.439	0.0	0.839
35	Dichloromethane (DCM)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.129	0.163	0.0	0.034
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	0.075	0.075	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	0.047	0.079	0.0	0.032
66	Fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.007	0.011	0.0	0.004
81	Fluorides (as total F)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	685.722	748.497	0.0	62.775

40	Halogenated organic compounds (as AOX)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	6.767	7.444	0.0	0.677
41	Heptachlor	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
66	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
60	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	0.021	0.025	0.0	0.004
23	Lead and compounds (as Pb)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	8.617	11.679	0.0	3.062
45	Lindane	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.001	0.001	0.0	0.0
21	Mercury and compounds (as Hg)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.028	0.0	0.028
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	0.011	0.052	0.0	0.041
22	Nickel and compounds (as Ni)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	12.07	13.091	0.0	1.021
64	Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.235	0.544	0.0	0.309
67	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	2.579	25.505	0.0	22.926
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	0.025	0.086	0.0	0.061
51	Simazine	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.04	0.044	0.0	0.004
52	Tetrachloroethylene (PER)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.168	0.168	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	1.398	5.345	0.0	3.947
12	Total nitrogen	M	OTH	Standard Methods	15839.285	22495.912	0.0	6656.627
76	Total organic carbon (TOC) (as total C or COD/3)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	26138.286	29852.729	0.0	3714.443
13	Total phosphorus	M	OTH	Standard Methods	2545.852	3763.493	0.0	1217.641
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

80	Vinyl chloride	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
79	Xylenes	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.329	0.779	0.0	0.45
21	Zinc and compounds (as Zn)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	139.947	174.506	0.0	34.559

* 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					QUANTITY			
No. Annex II	Name	M/C/E	Method Used: Method Code	Method Used: 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					QUANTITY			
Pollutant No	Name	M/C/E	Method Used: Method Code	Method Used: Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
398	Total Hardness (mg/l CaCO3)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	609272.645	691771.727	0.0	82499.082
370	Selenium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	1.24	1.24	0.0	0.0
205	Antimony (as Sb)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.438	0.574	0.0	0.136
368	Molybdenum	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.397	0.0	0.397
358	Tin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.307	0.307	0.0	0.0
373	Barium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	52.472	62.692	0.0	10.22
374	Boron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	178.252	203.484	0.0	25.232
356	Cobalt	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.498	0.589	0.0	0.091
380	Vanadium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	7.732	9.206	0.0	1.474
388	Dichlobenil	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.012	0.013	0.0	0.001
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	0.303	0.337	0.0	0.034
390	2,4 Dichlorophenol (2,4 D)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.145	0.155	0.0	0.01
384	MCPA	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.251	0.254	0.0	0.003
382	Glyphosate	E	ESTIMATE	EPA UWWTP Tool Version 5.0	4.345	4.457	0.0	0.112
389	Benzo(a)pyrene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.006	0.007	0.0	0.001
390	Benzo(b)fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.006	0.007	0.0	0.001
391	Benzo(k)fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.006	0.007	0.0	0.001
392	Indeno(1,2,3-c,d)pyrene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.006	0.007	0.0	0.001
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	0.228	0.245	0.0	0.017
395	Diclofol	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0

390	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	0.001	0.001	0.0	0.0
238	Ammonia (as N)	M	OTH	Standard Methods	535.82	535.82	0.0	0.0
303	BOD	M	OTH	Standard Methods	10943.197	10943.197	0.0	0.0
305	COD	M	OTH	Standard Methods	65205.575	65205.575	0.0	0.0
302	Kjeldahl Nitrogen	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
327	Nitrate (as N)	M	OTH	Standard Methods	13871.777	13871.777	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	Standard Methods	2120.599	2120.599	0.0	0.0

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

4.3 RELEASES TO WASTEWATER OR SEWER

Link to previous years emissions data

SECTION A : PRTR POLLUTANTS

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

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

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

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

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

SECTION A : PRTR POLLUTANTS

RELEASES TO LAND			Please enter all quantities in this section in KGs		
POLLUTANT			QUANTITY		
No. Annex II	Name	Pathway Code	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			QUANTITY		
Pollutant No.	Name	Pathway Code	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

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

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	12.0	screenings	D5	M	Weighed	Offsite in Ireland	Greenstar Ltd,WCP-DC-08-1120-01	Unit 6,Ballyorgan Business Park Ballyorgan Road,Sandyford ,Dublin 8,Ireland		
Within the Country	19 08 05	No	0.0	sludges from treatment of urban waste water	R10	M	Weighed	Offsite in Ireland	Martin Ryan Haulage,WCP-LK-0596-01	Dromcolliher,Cappamore,County Limerick,,,Ireland		
Within the Country	19 08 05	No	518.0	sludges from treatment of urban waste water	R10	M	Weighed	Offsite in Ireland	Limerick Main Drainage,D0013-10	Bunlicky,Dock Road,Limerick,,,Ireland		
Within the Country	19 08 05	No	0.0	sludges from treatment of urban waste water	R10	M	Weighed	Offsite in Ireland	McGill Environmental,WFP-CK/09/0011/02	Glenville,County Cork,,,,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

8.8 Castletroy AER PRTR UWWTP Emission Calculation Toolset V5

Air Emission - Inputs

CELL COLOUR KEY

INPUT - type in your facility value in cell

OUTPUT - automatically generated cell value

RELEASES TO AIR

Air; Emissions from WWTP Works

Data Entry Table: Characteristics of the WWTP

For use where no data from on-site monitoring of air emissions from the plant are available.
Nitrous Oxide (N2O) calculated directly for actual p.e. data

1 Loadings and Works

A Facility Loadings Data for Reporting Year	Value	
Total p.e. served	28 651	*Enter Actual Population Equivalent of catchment*
Design p.e.	44 500	*Enter Design Population Equivalent of facility*
Total Influent BOD kg/annum (measured)	512 158	*Enter total annual quantity; NB note units: kg/annum*
Total Sludge removed off site kg Dry Matter / annum	518	*Enter total annual quantity; NB note units: kg/annum*
Total Sludge digested on-site kg Dry Matter / annum	0	*Enter total annual quantity; NB note units: kg/annum*

For information only; Calculated Values (see Calculations Worksheet)

TOW kg BOD / annum	*TOW = "Total Organically biodegradable material in domestic (municipal) Wastewater"*
634,461	Total p.e. served TOW equivalent
975 218	Design p.e. TOW equivalent
23,370	Quality check; p.e. of Influent BOD kg/annum
207	*BOD content of sludge removed kg/annum*
0	*BOD content of sludge digested kg/annum*
511,951	Residual BOD net of sludge removed/digested kg/annum

B Characteristics of the Works	Status	
B1 Aerobic plant		
Does the aerobic section of the plant contain dissolved oxygen?	Y	*Y / N (default is "Y")* Methane Conversion factor for the aerobic plant will be determined by this answer
All tanks covered and extracted to on-site flare?	N	*Y / N (default is "N")* Releases will be reported as "Fugitive"
% of Headspace biogas utilised on site (0 - 100)		*Only required if Headspace extraction on site. Calculate by % operation of engine. Default assuption is Zero utilisation*
% of Headspace biogas flared (0 - 100)		*Only required if Headspace extraction on site. Calculate by % operation of flare. Default assuption is Zero flaring*
Total % biogas utilised orflared onsite		

B2 Onsite Anaerobic Digestion forsludge treatment	Status	
Anaerobic digestion on site?	N	*Y / N (default is "N")* Releases will be reported as "Emission Point 1"
% of Digester biogas utilised on site (0 - 100)		*Only required if Anaerobic digestion on site. Calculate by % operation of engine. Default assuption is Zero utilisation*
% of Digester biogas flared (0 - 100)		*Only required if Anaerobic digestion on site. Calculate by % operation of flare. Default assuption is Zero flaring*
Total % biogas utilised orflared onsite		

B3 Estimated Fuel use at the UWWTP	Diesel Usage Tonnes/annum	
Total Diesel Use on site in the year	0.25	*Tonne / annum* Releases will be reported as "Fugitive"

The output data is presented on this worksheet in the precise format for transfer directly into the "Releases to Air" Worksheet of your AER/PRTR Emissions Reporting Workbook	PRTR No. Annex II	Name	ESTIMATED QUANTITIES: Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
	1	Methane (CH4)	0	0	0	0
	2	Carbon Monoxide (CO)	0	3	0	3
	3	Carbon Dioxide (CO2)	0	640 875	0	640 875
	5	Nitrous oxide (N2O)		3	0	3
	7	Non-methane volatile organic compounds (NMVOC)		1	0	1
	8	Nitrogen oxides (NOx/NO2)	0	8	0	8
	11	Sulphur oxides (SOx/SO2)		1	0	1

Wastewater Treatment Data Input

CELL COLOUR KEY:

Colour	Meaning
Yellow	INPUT - Select value from drop down list
Pink	INPUT - type in your facility value in cell
Grey	OUTPUT - automaticaly generated cell value

Facility Name	Castletroy WwTP	*Enter Facility Details*
Address	Castletroy Co. Limerick	
Reporting Year	2012	
Licence Reg. No.	D0019	

P.E. (Actual Treated)	10000 - 50000 p.e	*These parameters are required to generate estimated PRTR mass emission values.*
Saline intrusion	No saline intrusion	*Click on the cell and select from the drop down menu*
Type of Treatment	Secondary Treatment - Activated Sludge	*Refer to the Definitions below for further information*
Nutrient Removal	Phosphorus Removal Only - Biological/Chemical/Wetland	

Please enter Total Annual Flow (m^3/annum):

Treated (Predominant/Main Emission):	2835025 m3/annum	*Final effluent volume released via the main emission point*
Fugitive Emissions:	283502 m3/annum	*Additional estimated volume released in storm bypasses*
TOTAL:	3118527 m3/annum	

Definition of Input Requirements

P.E. (Actual Treated): P.E. (population equivalent) is a measurement of the average organic biodegradable load received daily at the treatment plant. A population equivalent of 1 (1 p.e.) means the organic biodegradable load having a five-day biochemical oxygen demand (BOD5) of 60g of oxygen per day. Select a P.E. band (<10,000 p.e., 10,000 - 50,000 p.e., >50,000 p.e.) into which the actual operating P.E. of the treatment plant falls. (Please note: the operating P.E. is based on the existing population served and not the design population size of the UWWTP).

Saline Intrusion: Identify whether saline intrusion is known to occur within the sewage network serving the treatment plant. This will be the case for some coastally located UWWTPs.

Type of Treatment: Identify the type of treatment provided at the plant. Treatment options are "No Treatment", "Primary Treatment Only", "Secondary Treatment - Activated Sludge", "Secondary Treatment - Attached Growth", "Tertiary Treatment - Filtration", and "Tertiary Treatment - Disinfection".

Nutrient Removal: Identify whether nutrient removal is employed at the treatment plant. Nutrient removal options are "Phosphorus Removal Only - Biological/Chemical/Wetland", "Nitrogen Removal Only", "Phosphorous and Nitrogen Removal", and "No Nutrient Removal".

Measured Values

CELL COLOUR
INPUT - type in your facility value in cell
OUTPUT - automaticaly generated cell value

Enter all measured values in this sheet

Note: If you do not have measured values then LEAVE THE CELL BLANK

Measured values reported in this worksheet should be the average concentration of the pollutant measured over the previous reporting year. Measured values should be used when they are available rather than estimated values from the Toolset. Measured values relate to parameters that are analysed in a laboratory. Please enter the measured values to the orange cells in mg/l for the year.

Note: the unit of measurement must be in mg/l for all parameters entered on this sheet.

Where measured values are reported, the Method Code must be indicated in the "Method of Measurement" column. The method code used shall be in accordance with the internationally approved measurement methods - please refer to the UWW PRTR Electronic Toolset Guidance Document on the EPA website. The method description should also be provided as indicated below.

Note: Wastewater licensed pollutants such as BOD and COD, Ortho- P are included at the bottom of this sheet - please enter annual measured data in mg/l for these.

Method Codes

ISO/CEN Standard - If the laboratory is working to an ISO/CEN standard that is on the approved list of standards, you should use this as the method code. Example for Total Nitrogen is EN ISO 11905-1:1998. Leave the Description Field Blank in the PRTR Workbook.	**Example for Total Nitrogen**	**EN ISO 11905-1:1998**	**Method Description: Blank**
OTH - If the method you are using is not an ISO/CEN standard or does not fall under any of the other method codes then use OTH. This method code would apply when using methods from the Standard Methods for the Analysis of Water and Wastewater series or when using a Hach Spectrophotometric Method for Total Nitrogen, for example. Use the method code OTH and please put a description of the method in the method description field in the PRTR Emissions Reporting Workbook.	**Example for Total Phosphorus**	**OTH**	**Method Description: Standard Methods for the Analysis of Water and Wastewater - Total P Analysis**

UWWT Facility Details:	10000 - 50000 p.e., No saline intrusion, Secondary Treatment - Activated Sludge, Phosphorus Removal Only - Biological/Chemical/Wetland

Enter your measured values in these two columns

Double-click the cells below to select the method code

Enter your method description in this column

PRTR Substances:

PRTR Nr.	CAS No.	Parameter	Treated Effluent Concentration (mg/l)	Fugitive Emission Concentration (mg/l)	Treated Effluent Mass emission (kg/annum)	Fugitive Emission Mass emission (kg/annum)	Method of Measurement (Method Code)	Method Description (Analytical Method)
12		Total nitrogen (as N)	5.587		15839.285	0.000	OTH	Standard Methods
13		Total phosphorus (as P)	0.898		2545.852	0.000	OTH	Standard Methods
76		Total organic carbon			0.000	0.000		
79		Chlorides (as total Cl)			0.000	0.000		
82		Cyanides (as total CN)			0.000	0.000		
83		Fluorides (as total F)			0.000	0.000		
17		Arsenic and compounds (as As)			0.000	0.000		
18		Cadmium and compounds (as Cd)			0.000	0.000		
19		Chromium and compounds (as Cr)			0.000	0.000		
20		Copper and compounds (as Cu)			0.000	0.000		
21		Mercury and compounds (as Hg)			0.000	0.000		
22		Nickel and compounds (as Ni)			0.000	0.000		
23		Lead and compounds (as Pb)			0.000	0.000		
24		Zinc and compounds (as Zn)			0.000	0.000		
31	85535-84-8	Chloroalkanes (C10-C13)			0.000	0.000		
25	15972-60-8	Alachlor			0.000	0.000		
26	309-00-2	Aldrin			0.000	0.000		
36	60-57-1	Dieldrin			0.000	0.000		
39	72-20-8	Endrin			0.000	0.000		
41	76-44-8	Heptachlor			0.000	0.000		
28	57-74-9	Chlordane			0.000	0.000		
29	143-50-0	Chlordecone			0.000	0.000		
46	2385-85-5	Mirex			0.000	0.000		
38	115-29-7	Endosulphan			0.000	0.000		
45	58-89-9	Lindane (1,2,3,4,5, 6 -hexachlorocyclohexane)			0.000	0.000		
89	465-73-6	Isodrin			0.000	0.000		
33	50-29-3	DDT - sum of all isomers			0.000	0.000		
77	1582-09-8	Trifluralin			0.000	0.000		
42	118-74-1	Hexachlorobenzene (HCB)			0.000	0.000		
43	87-68-3	Hexachlorobutadiene (HCBD)			0.000	0.000		
30	470-90-6	Chlorfenvinphos			0.000	0.000		
32	2921-88-2	Chlorpyrifos			0.000	0.000		

27	1912-24-9	Atrazine			0.000	0.000		
51	122-34-9	Simazine			0.000	0.000		
37	330-54-1	Diuron			0.000	0.000		
67	34123-59-6	Isoproturon			0.000	0.000		
75		Triphenyltin			0.000	0.000		
69		Organotin			0.000	0.000		
74		Tributyltin			0.000	0.000		
72		PAH, Total			0.000	0.000		
91	191-24-2	Benzo[ghi]perylene			0.000	0.000		
61	120-12-7	Anthracene			0.000	0.000		
68	91-20-3	Naphthalene			0.000	0.000		
88	206-44-0	Flouranthene			0.000	0.000		
50	1336-36-3	Polychlorinated biphenyls (PCBs) - sum of 11 congenors			0.000	0.000		
40		Halogenated organic compounds (as AOX)			0.000	0.000		
52	127-18-4	Tetrachloroethylene (PER)			0.000	0.000		
53	56-23-5	Tetrachloromethane (TCM)			0.000	0.000		
57	79-01-6	Trichloroethylene			0.000	0.000		
60	75-01-4	Vinyl chloride			0.000	0.000		
34	107-06-2	1,2-dichloroethane (EDC)			0.000	0.000		
35	75-09-2	Dichloromethane (DCM)			0.000	0.000		
71	108-95-2	Phenols (as total C)			0.000	0.000		
87	1806-26-4	Octylphenols and Octylphenol Ethoxylates			0.000	0.000		
64		Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)			0.000	0.000		
54	12002-48-1	Trichlorobenzenes (TCBs) (all isomers)			0.000	0.000		
49	87-86-5	Pentachlorophenol (PCP)			0.000	0.000		
48	608-93-5	Pentachlorobenzene			0.000	0.000		
62	71-43-2	Benzene as BTEX			0.000	0.000		
73	108-88-3	Toluene as BTEX			0.000	0.000		
78	1330-20-7	Xylenes (total mass of ortho, para and meta-xylene)BTEX			0.000	0.000		
65	100-41-4	Ethyl benzene (BTEX)			0.000	0.000		
70	117-81-7	Di(2-ethylhexyl)phthalate			0.000	0.000		
59	8001-35-2	Toxaphene			0.000	0.000		
90	36355-1-8	Hexabromobiphenyl			0.000	0.000		
63		Brominated diphenylethers (PBDE)			0.000	0.000		

Non-PRTR Substances:

PRTR Nr.	CAS No.	Parameter	Treated Effluent Concentration (mg/l)	Fugitive Emission Concentration (mg/l)	Treated Effluent Mass emission (kg/annum)	Fugitive Emission Mass emission (kg/annum)	Method of Measurement (Method Code)	Method Description (Analytical Method)
398		Total Hardness (mg/l CaCO3)			0.000	0.000		
370		Selenium			0.000	0.000		
205		Antimony (as Sb)			0.000	0.000		

368		Molybdenum			0.000	0.000		
358		Tin			0.000	0.000		
373		Barium			0.000	0.000		
374		Boron			0.000	0.000		
356		Cobalt			0.000	0.000		
386		Vanadium			0.000	0.000		
388		Dichlobenil			0.000	0.000		
383		Linuron			0.000	0.000		
385		Mecoprop Total			0.000	0.000		
380		2,4 Dichlorophenol (2,4 D)			0.000	0.000		
384		MCPA			0.000	0.000		
382		Glyphosate			0.000	0.000		
389		Benzo[a]pyrene			0.000	0.000		
390		Benzo[b]fluoranthene			0.000	0.000		
391		Benzo[k]fluoranthene			0.000	0.000		
392		Indeno[1,2,3-c,d]pyrene			0.000	0.000		
393		Carbon tetrachloride			0.000	0.000		
394		2,6-Dichlorobenzamide			0.000	0.000		
395		Dicofol			0.000	0.000		
396		Hexabromocyclododecane (HBCD)			0.000	0.000		
397		PFOS			0.000	0.000		
238		**Ammonia (as N)**	0.189		535.820	0.000	OTH	Standard Methods
303		**BOD**	3.860		10943.197	0.000	OTH	Standard Methods
306		**COD**	23.000		65205.575	0.000	OTH	Standard Methods
362		**Kjeldahl Nitrogen**			0.000	0.000		
327		**Nitrate (as N)**	4.893		13871.777	0.000	OTH	Standard Methods
372		**Nitrite (as N)**			0.000	0.000		
332		**Ortho-phosphate (as PO4)**	0.748		2120.599	0.000	OTH	Standard Methods
240		**Suspended Solids**	7.000		19845.175	0.000	OTH	Standard Methods
		Licensed Pollutants listed above						

Note: There are no user input requirements in this worksheet

These values are generated in the Toolset based on the data filled in on the Waste Water Treatment Data Input Sheet (i.e. Generated by the Estimation Toolset)

UWWT Facility Details:	10000 - 50000 p.e., No saline intrusion, Secondary Treatment - Activated Sludge, Phosphorus Removal Only - Biological/Chemical/Wetland

PRTR substances estimated by tool:

PRTR Nr.	CAS No.	Parameter	Treated Effluent Concentration (mg/l)	Fugitive Emission Concentration (mg/l)	Treated Effluent Mass emission (kg/annum)	Fugitive Emission Mass emission (kg/annum)	Total Mass Emission (kg/annum)
12		Total nitrogen (as N)	14.455	23.480	40980.286	6656.627	47636.913
13		Total phosphorus (as P)	0.878	4.295	2488.679	1217.641	3706.321
76		Total organic carbon	9.220	13.102	26138.286	3714.443	29852.729
79		Chlorides (as total Cl)	84.885	64.800	240652.386	18370.930	259023.315
82		Cyanides (as total CN)	0.003	0.003	8.312	0.794	9.106
83		Fluorides (as total F)	0.242	0.221	685.722	62.775	748.497
17		Arsenic and compounds (as As)	0.000	0.001	0.992	0.334	1.326
18		Cadmium and compounds (as Cd)	0.000	0.000	0.142	0.078	0.220
19		Chromium and compounds (as Cr)	0.000	0.000	0.827	0.028	0.855
20		Copper and compounds (as Cu)	0.003	0.006	8.741	1.602	10.343
21		Mercury and compounds (as Hg)	0.000	0.000	0.000	0.028	0.028
22		Nickel and compounds (as Ni)	0.004	0.004	12.070	1.021	13.091
23		Lead and compounds (as Pb)	0.003	0.011	8.617	3.062	11.679
24		Zinc and compounds (as Zn)	0.049	0.122	139.947	34.559	174.506
31	85535-84-8	Chloroalkanes (C10-C13)	0.000	0.000	0.595	0.060	0.655
25	15972-60-8	Alachlor	0.000	0.000	0.000	0.000	0.000
26	309-00-2	Aldrin	0.000	0.000	0.000	0.000	0.000
36	60-57-1	Dieldrin	0.000	0.000	0.000	0.000	0.000

PRTR substances estimated by tool:							
PRTR Nr.	CAS No.	Parameter	Treated Effluent Concentration (mg/l)	Fugitive Emission Concentration (mg/l)	Treated Effluent Mass emission (kg/annum)	Fugitive Emission Mass emission (kg/annum)	Total Mass Emission (kg/annum)
39	72-20-8	Endrin	0.000	0.000	0.000	0.000	0.000
41	76-44-8	Heptachlor	0.000	0.000	0.000	0.000	0.000
28	57-74-9	Chlordane	0.000	0.000	0.000	0.000	0.000
29	143-50-0	Chlordecone	0.000	0.000	0.000	0.000	0.000
46	2385-85-5	Mirex	0.000	0.000	0.000	0.000	0.000
38	115-29-7	Endosulphan	0.000	0.000	0.000	0.000	0.000
45	58-89-9	Lindane (1,2,3,4,5, 6 -hexachlorocyclohexane)	0.000	0.000	0.001	0.000	0.002
89	465-73-6	Isodrin	0.000	0.000	0.000	0.000	0.000
33	50-29-3	DDT - sum of all isomers	0.000	0.000	0.000	0.000	0.000
77	1582-09-8	Trifluralin	0.000	0.000	0.000	0.000	0.000
42	118-74-1	Hexachlorobenzene (HCB)	0.000	0.000	0.000	0.000	0.000
43	87-68-3	Hexachlorobutadiene (HCBD)	0.000	0.000	0.000	0.000	0.000
30	470-90-6	Chlorfenvinphos	0.000	0.000	0.000	0.000	0.000
32	2921-88-2	Chlorpyrifos	0.000	0.000	0.000	0.000	0.000
27	1912-24-9	Atrazine	0.000	0.000	0.030	0.003	0.033
51	122-34-9	Simazine	0.000	0.000	0.040	0.004	0.044
37	330-54-1	Diuron	0.000	0.000	0.075	0.000	0.075
67	34123-59-6	Isoproturon	0.000	0.000	0.021	0.004	0.026
75		Triphenyltin	0.000	0.000	0.000	0.000	0.000
69		Organotin	0.000	0.000	0.000	0.000	0.000
74		Tributyltin	0.000	0.000	0.000	0.000	0.000
72		PAH, Total	0.000	0.000	0.025	0.061	0.086
91	191-24-2	Benzo[ghi]perylene	0.000	0.000	0.006	0.001	0.006
61	120-12-7	Anthracene	0.000	0.000	0.008	0.001	0.008
68	91-20-3	Naphthalene	0.000	0.000	0.011	0.041	0.052
88	206-44-0	Flouranthene	0.000	0.000	0.007	0.004	0.010
50	1336-36-3	Polychlorinated biphenyls (PCBs) - sum of 11 congenors	0.000	0.000	0.000	0.000	0.000

PRTR substances estimated by tool:							
PRTR Nr.	CAS No.	Parameter	Treated Effluent Concentration (mg/l)	Fugitive Emission Concentration (mg/l)	Treated Effluent Mass emission (kg/annum)	Fugitive Emission Mass emission (kg/annum)	Total Mass Emission (kg/annum)
40		Halogenated organic compounds (as AOX)	0.002	0.002	6.767	0.677	7.443
52	127-18-4	Tetrachloroethylene (PER)	0.000	0.000	0.168	0.000	0.168
53	56-23-5	Tetrachloromethane (TCM)	0.000	0.000	0.000	0.000	0.000
57	79-01-6	Trichloroethylene	0.000	0.000	0.000	0.000	0.000
60	75-01-4	Vinyl chloride	0.000	0.000	0.000	0.000	0.000
34	107-06-2	1,2-dichloroethane (EDC)	0.000	0.000	0.000	0.000	0.000
35	75-09-2	Dichloromethane (DCM)	0.000	0.000	0.129	0.034	0.163
71	108-95-2	Phenols (as total C)	0.001	0.081	2.579	22.926	25.505
87	1806-26-4	Octylphenols and Octylphenol Ethoxylates	0.000	0.000	0.000	0.000	0.000
64		Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)	0.000	0.001	0.235	0.309	0.544
54	12002-48-1	Trichlorobenzenes (TCBs) (all isomers)	0.000	0.000	0.000	0.000	0.000
49	87-86-5	Pentachlorophenol (PCP)	0.000	0.000	0.000	0.000	0.000
48	608-93-5	Pentachlorobenzene	0.000	0.000	0.000	0.000	0.000
62	71-43-2	Benzene as BTEX	0.000	0.000	0.048	0.047	0.095
73	108-88-3	Toluene as BTEX	0.000	0.014	1.398	3.947	5.346
78	1330-20-7	Xylenes (total mass of ortho, para and meta-xylene)BTEX	0.000	0.002	0.329	0.450	0.779
65	100-41-4	Ethyl benzene (BTEX)	0.000	0.000	0.047	0.032	0.079
70	117-81-7	Di(2-ethylhexyl)phthalate	0.001	0.003	2.600	0.839	3.440
59	8001-35-2	Toxaphene	0.000	0.000	0.000	0.000	0.000
90	36355-1-8	Hexabromobiphenyl	0.000	0.000	0.000	0.000	0.000
63		Brominated diphenylethers (PBDE)	0.000	0.000	0.000	0.000	0.000
non PRTR substances estimated by tool:							
PRTR Nr.	CAS No.	Parameter	Treated Effluent Concentration (mg/l)	Fugitive Emission Concentration (mg/l)	Treated Effluent Mass emission (kg/annum)	Fugitive Emission Mass emission (kg/annum)	Total Mass Emission (kg/annum)
N/A		Total Hardness (mg/l CaCO3)	214.909	291.000	609272.645	82499.082	691771.727
N/A		Selenium	0.000	0.000	1.240	0.000	1.240
N/A		Antimony	0.000	0.000	0.438	0.136	0.574

PRTR substances estimated by tool:							
PRTR Nr.	CAS No.	Parameter	Treated Effluent Concentration (mg/l)	Fugitive Emission Concentration (mg/l)	Treated Effluent Mass emission (kg/annum)	Fugitive Emission Mass emission (kg/annum)	Total Mass Emission (kg/annum)
N/A		Molybdenum	0.000	0.001	0.000	0.397	0.397
N/A		Tin	0.000	0.000	0.307	0.000	0.307
N/A		Barium	0.019	0.036	52.472	10.220	62.692
N/A		Boron	0.063	0.089	178.252	25.232	203.484
N/A		Cobalt	0.000	0.000	0.498	0.091	0.589
N/A		Vanadium	0.003	0.005	7.732	1.474	9.206
N/A		Dichlobenil	0.000	0.000	0.012	0.001	0.013
N/A		Linuron	0.000	0.000	0.000	0.000	0.000
N/A		Mecoprop	0.000	0.000	0.303	0.034	0.337
N/A		2,4-D	0.000	0.000	0.145	0.010	0.155
N/A		MCPA	0.000	0.000	0.251	0.003	0.254
N/A		Glyphosate	0.002	0.000	4.345	0.112	4.457
N/A		Benzo[a]pyrene	0.000	0.000	0.006	0.001	0.006
N/A		Benzo[b]fluoranthene	0.000	0.000	0.006	0.001	0.006
N/A		Benzo[k]fluoranthene	0.000	0.000	0.006	0.001	0.006
N/A		Indeno[1,2,3-c,d]pyrene	0.000	0.000	0.006	0.001	0.007
N/A		Carbon tetrachloride	0.000	0.000	0.000	0.000	0.000
N/A		2,6-Dichlorobenzamide	0.000	0.000	0.228	0.017	0.245
N/A		Dicofol	-	-	#VALUE!	#VALUE!	#VALUE!
N/A		Hexabromocyclododecane (HBCD)	0.000	0.000	0.000	0.000	0.000
N/A		PFOS	0.000	0.000	0.001	0.000	0.001

Releases to Water Output Table

NEXT

CELL COLOUR KEY:
INPUT - Type in your facility value in cell
OUTPUT - automatically generated cell value

Export Data to PRTR Workbook

*CIick the **Red Arrow** to transfer all the measured and estimated data to the PRTR Emissions Reporting Workbook for this specfic UWWTP. Please ensure the PRTR Workbook is closed prior to the transfer and select the correct PRTR Workbook from your dedicated folder for this UWWTP.*

Please ensure that all the Inputs for Air and Water are completed prior to transfer. Please update the PRTR Workbook with method descriptions and waste transfers prior to upload.

Facility Name:	Castletroy WwTP
Address:	Castletroy Co. Limerick
Reporting year:	2012

Treated: Final effluent volume released via main emission point	2,835,025
Fugitive: Estimated additional volume released in storm bypasses	283,502
Total Annual Flow (m³/annum):	*3118527*

SECTION A : WWTP SPECIFIC PRTR POLLUTANTS

Note '#VALUE!' error messages will disappear when flow data are entered above

POLLUTANT			Method Used		QUANTITY				E-PRTR reporting threshold kg/annum
No. Annex II	Name	M/E	Method of Measurement	Designation or Description	Emission Point 1	F (Fugitive) kg/year	A (Accidental) kg/year *(Enter site specific data)*	T (Total) kg/year	
12	Total nitrogen	M	OTH	Standard Methods	15,839.285	6,656.627		22,495.912	50,000
13	Total phosphorus	M	OTH	Standard Methods	2,545.852	1,217.641		3,763.494	5,000
76	Total organic carbon (TOC) (as total C or COD/3)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	26,138.286	3,714.443		29,852.729	50,000
79	Chlorides (as total Cl)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	240,652.386	18,370.930		259,023.315	2,000,000
82	Cyanides (as total CN)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	8.312	0.794		9.106	50
83	Fluorides (as total F)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	685.722	62.775		748.497	2,000
17	Arsenic and compounds (as As)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.992	0.334		1.326	5
18	Cadmium and compounds (as Cd)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.142	0.078		0.220	5
19	Chromium and compounds (as Cr)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.827	0.028		0.855	50
20	Copper and compounds (as Cu)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	8.741	1.602		10.343	50

SECTION A : WWTP SPECIFIC PRTR POLLUTANTS

Note '#VALUE!' error messages will disappear when flow data are entered above

POLLUTANT			Method Used		QUANTITY				E-PRTR reporting threshold kg/annum
No. Annex II	Name	M/E	Method of Measurement	Designation or Description	Emission Point 1	F (Fugitive) kg/year	A (Accidental) kg/year *(Enter site specific data)*	T (Total) kg/year	
21	Mercury and compounds (as Hg)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.028		0.028	1
22	Nickel and compounds (as Ni)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	12.070	1.021		13.091	20
23	Lead and compounds (as Pb)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	8.617	3.062		11.679	20
24	Zinc and compounds (as Zn)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	139.947	34.559		174.506	100
31	Chloroalkanes (C10-C13)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.595	0.060		0.655	1
25	Alachlor	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
26	Aldrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
36	Dieldrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
39	Endrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
41	Heptachlor	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
28	Chlordane	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
29	Chlordecone	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
46	Mirex	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
38	Endosulphan	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
45	Lindane	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.001	0.000		0.002	1
89	Isodrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
33	DDT	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
77	Trifluralin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
42	Hexachlorobenzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
43	Hexachlorobutadiene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
30	Chlorfenvinphos	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
32	Chlorpyrifos	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
27	Atrazine	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.030	0.003		0.033	1
51	Simazine	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.040	0.004		0.044	1
37	Diuron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.075	0.000		0.075	1
67	Isoproturon	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.021	0.004		0.026	1
75	Triphenyltin and compounds	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
69	Organotin compounds(as total Sn)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	50
74	Tributyltin and compounds	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
72	Polycyclic aromatic hydrocarbons (PAHs)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.025	0.061		0.086	5
91	Benzo(g,h,i)perylene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.006	0.001		0.006	1
61	Anthracene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.008	0.001		0.008	1
68	Naphthalene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.011	0.041		0.052	10
88	Fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.007	0.004		0.010	1
50	Polychlorinated biphenyls (PCBs)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	0,1
40	Halogenated organic compounds (as AOX)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	6.767	0.677		7.443	1,000
52	Tetrachloroethylene (PER)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.168	0.000		0.168	10
53	Tetrachloromethane (TCM)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
57	Trichloroethylene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	10
60	Vinyl chloride	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	10
34	1,2-dichloroethane (EDC)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	10
35	Dichloromethane (DCM)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.129	0.034		0.163	10

SECTION A : WWTP SPECIFIC PRTR POLLUTANTS

Note '#VALUE!' error messages will disappear when flow data are entered above

POLLUTANT			Method Used		QUANTITY				E-PRTR reporting threshold kg/annum
No. Annex II	Name	M/E	Method of Measurement	Designation or Description	Emission Point 1	F (Fugitive) kg/year	A (Accidental) kg/year *(Enter site specific data)*	T (Total) kg/year	
71	Phenols (as total C)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	2.579	22.926		25.505	20
87	Octylphenols and Octylphenol ethoxylates	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
64	Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.235	0.309		0.544	1
54	Trichlorobenzenes (TCBs) (all isomers)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
49	Pentachlorophenol (PCP)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
48	Pentachlorobenzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
62	Benzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.048	0.047		0.095	200
73	Toluene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	1.398	3.947		5.346	200
78	Xylenes	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.329	0.450		0.779	200
65	Ethyl benzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.047	0.032		0.079	200
70	Di-(2-ethyl hexyl) phthalate (DEHP)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	2.600	0.839		3.440	1
59	Toxaphene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1
90	Hexabromobiphenyl	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	0,1
63	Brominated diphenylethers (PBDE)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	1

SECTION C : REMAINING NON-PRTR SUBSTANCES AND POLLUTANT EMISSIONS AS REQUIRED IN YOUR LICENCE

POLLUTANT			Method Used		QUANTITY			
No. Annex II	Name	M/E	Method Code	Designation or Description *(Note: replace with site-specific data if applicable)*	Emission Point 1	F (Fugitive) kg/year	A (Accidental) kg/year *(Enter site specific data)*	T (Total) kg/year
398	Total Hardness (mg/l CaCO3)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	609,272.645	82,499.082		691,771.727
370	Selenium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	1.240	0.000		1.240
205	Antimony (as Sb)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.438	0.136		0.574
368	Molybdenum	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.397		0.397
358	Tin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.307	0.000		0.307
373	Barium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	52.472	10.220		62.692
374	Boron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	178.252	25.232		203.484
356	Cobalt	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.498	0.091		0.589
386	Vanadium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	7.732	1.474		9.206
388	Dichlobenil	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.012	0.001		0.013
383	Linuron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000
385	Mecoprop Total	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.303	0.034		0.337
380	2,4 Dichlorophenol (2,4 D)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.145	0.010		0.155
384	MCPA	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.251	0.003		0.254
382	Glyphosate	E	ESTIMATE	EPA UWWTP Tool Version 5.0	4.345	0.112		4.457
389	Benzo[a]pyrene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.006	0.001		0.006
390	Benzo[b]fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.006	0.001		0.006

SECTION A : WWTP SPECIFIC PRTR POLLUTANTS

Note '#VALUE!' error messages will disappear when flow data are entered above

POLLUTANT			Method Used		QUANTITY				E-PRTR reporting threshold kg/annum
No. Annex II	Name	M/E	Method of Measurement	Designation or Description	Emission Point 1	F (Fugitive) kg/year	A (Accidental) kg/year *(Enter site specific data)*	T (Total) kg/year	
391	Benzo[k]fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.006	0.001		0.006	
392	Indeno[1,2,3-c,d]pyrene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.006	0.001		0.007	
393	Carbon tetrachloride	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	
394	2,6-Dichlorobenzamide	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.228	0.017		0.245	
395	Dicofol	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	
396	Hexabromocyclodecane (HBCD)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	
397	PFOS	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.001	0.000		0.001	
238	Ammonia (as N)	M	OTH	Standard Methods	535.820	0.000		535.820	
303	BOD	M	OTH	Standard Methods	10,943.197	0.000		10,943.197	
306	COD	M	OTH	Standard Methods	65,205.575	0.000		65,205.575	
362	Kjeldahl Nitrogen	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	
327	Nitrate (as N)	M	OTH	Standard Methods	13,871.777	0.000		13,871.777	
372	Nitrite (as N)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.000	0.000		0.000	
332	Ortho-phosphate (as PO4)	M	OTH	Standard Methods	2,120.599	0.000		2,120.599	
240	Suspended Solids	M	OTH	Standard Methods	19,845.175	0.000		19,845.175	

8.9 Castletroy AER Outstanding Items AER

Outstanding Items from AER 2011 Castletroy Agglomeration

Summary of Discharge Monitoring for 2011
Not Reported - Flow, Toxicity, Faecal Coliforms, Enterococci, E-Coli, Visual Inspection

Flow readings for 2011

Sample Date 2011	Flow m^3
21-Jan	7785.22
26-Jan	7709.20
10-Feb	13856.13
9-Mar	7502.10
26-Mar	6034.84
7-Apr	7096.71
14-Apr	7068.11
4-May	6234.52
24-May	6374.77
24-Jun	10282.59
21-Jul	5213.43
11-Aug	5568.32
8-Sep	7271.66
21-Sep	6060.93
5-Oct	6745.03
27-Oct	7174.09
24-Nov	8647.72

Toxicity — See Section 6.1 Priority Substances Assessment of 2011 AER, page 11

Faecal Coliforms, Enterococci, E-Coli, — See results attached

Visual Inspection — There are no records of visual inspection for 2011.

Removal Efficiency

State Removal efficiency for N as %	63.3 %
State Removal efficiency for P as %	78.3 %

Ambient Monitoring Data Summary

Not Reported - Faecal Coliforms, E-Coli, Enterococci, Visual inspection
There are no results for 2011.

Storm Water Overflow Identification and Inspection report

The SWO identification and Inspection report is to be developed in 2013

Improvement Programme (WWTP)

The Improvement programme is to be developed in 2013.

Screen for all substances noted in Appendix 1 of EPA Guidance on the Screening of Priority Substances for WWDL and provide Priority Substances Assessment of Results

The Priority Substances for metals and organics were carried out in 2011 are included in Appendix 8.4 of 2011 AER. Only background levels were detected and no exceedances were identified for Priority Substances in 2011.

Castletroy Effluent 2011 Bacteroligical Results

					Parameter	Coliform Bacteria	Escherichia Coli (E Coli)	Enterococci
					Max.	–	–	–
					Target	–	–	–
					Min.	–	–	–
Category	Entity	Entity Refe	Station	Sample Da	Analyst Co	no./100mls	no./100mls	no./100mls
Discharge	Castletroy	'TP1900D0	Effluent	26-Jan-11	-	397200	73000	
Discharge	Castletroy	'TP1900D0	Effluent	4-May-11	-	79000	25000	1220
Discharge	Castletroy	'TP1900D0	Effluent	15-Jun-11	-	43000	9000	1203
Discharge	Castletroy	'TP1900D0	Effluent	26-Sep-11	-	1454000	198000	> 24192