



**MIDLETON AND ENVIRONS AGGLOMERATION  
ANNUAL ENVIRONMENTAL REPORT**

**1<sup>st</sup> JANUARY 2012 – 31<sup>st</sup> DECEMBER 2012**

**CORK COUNTY COUNCIL – WATER SERVICES ZONE 3**

**ISSUE 1**

**Environmental Protection Agency**

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**Licence  
Reg. No.**

**D0056-01**

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## 1.0 Executive Summary and Introduction

Cork County Council (Water Services Zone 3) holds a Waste Water Discharge Licence (Register No. D0056-01) for the agglomeration called "Midleton and Environs". This licence was granted on 6<sup>st</sup> January 2011. The aim of this Annual Environmental Report (AER) is to provide a review of activities relevant to the discharge from the 1st January 2012 to the 31st December 2012.

The required scope of the report is outlined in Schedule D (Annual Environmental Report Content) of the Waste Water Discharge Licence.

### 1.1 Summary of Operation

Midleton is a medium sized town located on the Owennacurra River in the North East of Cork Harbour, approximately 13 miles to the East of Cork City.

The Midleton Waste Water Treatment Plant (WWTP) serves the agglomeration of Midleton and Environs and is located in the townland of Garryduff to the South West side of Midleton. The WWTP is under the administrative control of Cork County Council and is operated by Electrical & Pump Services Ltd. (EPS Ltd). The operational contract with EPS Ltd is valid until 2016.

Midleton WWTP provides secondary treatment by way of extended aeration followed by clarification. Screening and grit removal are provided in advance of this treatment. A further tertiary treatment process is provided by way of UV disinfection of the final effluent. Nitrification and denitrification are achieved by the inclusion of an anoxic zone in the aeration process.

The original plant (Stream 1+2) was designed for a population equivalent of 10,000 P.E. with a BOD loading of 600kgs/day. The maximum hydraulic capacity of the plant was 90l/s or 7,776 m<sup>3</sup>/day. This was equivalent to 3 Dry Weather Flows (DWF). The plant is hydraulically protected by the controlled pumping capacity of the three terminal pumping stations. These are Bailick 1, Bailick 2 and Dwyers Road. The influent flows typically range from 2 DWF to 3 DWF.

In early 2012 a third treatment stream (Stream 3) was constructed as part of improvement works to the Midleton WWTP. This was designed to increase the hydraulic capacity to 120l/s. However, as a result of problems with the commissioning of the new UV system the flow through the plant was limited to 103l/s i.e. 90l/s through the original plant and 13l/s through the new stream. These issues have now been resolved and a new commissioning phase is underway for the UV equipment.

Treated effluent from the Midleton WWTP discharges after UV treatment to the Ballinacurra 1 Pumphouse.

Treated effluent from Irish Distillers Ltd is discharged separately to the Bailick 1 Pumphouse from where it is pumped to a gravity sewer discharging to the Ballinacurra 1 Pumphouse.

The combined treated effluents at the Ballinacurra 1 Pumphouse are pumped to the top of Rose Hill from where they gravitate under pressure to a 2,000 m<sup>3</sup> holding tank at Rathcoursey. This final effluent is discharged on an ebb tide to the North Channel Great Island via a diffuser pipe. This is the Primary Discharge Point for the Midleton Agglomeration ref; SW01.

The Emission Limit Values (ELV) for the Primary Discharge at Rathcoursey are as follows:

- 5 Day Biochemical Oxygen Demand (BOD<sub>5</sub>) 25 mg/l
- Chemical Oxygen Demand (COD) 125 mg/l
- Suspended Solids (SS) 35 mg/l
- Total Nitrogen 15 mg/l
- Orthophosphate ( as P) 2 mg/l
- Ph 6.5-9.0
- Faecal Coliforms Geometric mean of < 250fc/100mls of sample and 95%ile<1000fc/100mls

The Midleton WWTP consistently produces a good quality final effluent which continues to satisfy the effluent quality standards required by the Discharge Licence. The average yearly results for 2012 are as follows

- BOD 3.54 mg/l
- COD 24.72 mg/l
- SS 12.7 mg/l
- Total N 4.72 mg/l
- Orthophosphate as P 0.27 mg/l
- Ph 7.78 mg/l

The construction of a Third Stream to the Midleton WWTP was completed in early 2012. This was designed to increase the capacity of the existing WWTP by 50%. However, there were issues with the faecal coliform results arising from difficulties with the newly installed UV system on the Third Stream. Flows going through the Third Stream were restricted to 1 DWF (13l/s) while these problems were being resolved. These issues have now been addressed by increasing the capacity of the installed UV treatment, which is being re-commissioned.

During 2012 a project to reduce infiltration flows to the existing sewerage system was started. This comprised a relining/repairing programme of works to existing sewers as well as investigative works to identify other potential problem areas in the network. This work is now complete and the sewerage system is being monitored to determine the nett effect of these works on baseline flows.

A stormwater overflow monitoring project was also undertaken in late 2012 on the principal pumphouses within the Midleton Sewerage Scheme Catchment. These comprised Bailick 1, Bailick 2, Bailick 3, Ballinacurra 1, Ballinacurra 2 and Dwyers Road. This project has recently been completed and is currently being commissioned.

## **2.0 Summary of Monitoring Reports**

### **2.1 Summary report on monthly influent monitoring**

Condition 4.15 states that *"The licensee shall carry out monthly monitoring of the influent stream to the waste water treatment plant for cBOD, COD and Total Nitrogen in order to measure the mass loadings and removal efficiencies within the treatment plant"*.

#### **2.1.1 Influent Monitoring**

In 2012, influent monitoring was carried out by Exova Ltd and City Analysts Ltd, acting for EPS Ltd. Testing was carried out weekly for BOD, COD and Nitrogen. These weekly monitoring results have been presented as average monthly values to facilitate calculation of mass loading measurements. Exova Ltd and City Analysts Ltd are accredited to the Irish National Accreditation Board (INAB).

The results of the influent monitoring, taken at the beginning of each month, is detailed in Attachment 1.

The average results of the weekly influent monitoring carried out by Exova Ltd and City Analysts Ltd are detailed in Table 1 below.

**Table 1**

Date	Average Flow m <sup>3</sup> /d	Average BOD mg/l	Average COD mg/l	Average Total N mg/l
Jan 2012	6767	134	263	19
Feb 2012	6609	132	273	20
March 2012	5189	188	255	26
April 2012	5304	157	295	24
May 2012	5072	142	273	26
June 2012	5735	110	353	21
July 2012	5999	133	320	22.5
Aug 2012	6648	71	223	16.5
Sept 2012	5416	95	244	18.3
Oct 2012	5907	92	567	21
Nov 2012	6190	93	357	25
Dec 2012	6458	179	351	21.5

### **2.1.2 Mass Loading Measurement**

- The Average Daily Flow into the WWTP was 5941 m<sup>3</sup>/day.
- The Average Daily Strength of the Influent in terms of BOD was 127.2 mg/l.
- The UWWT Regulations define 1 Population Equivalent (P.E.) as the load resulting from 60g of BOD.
- Assume 225l per person per day.

### **2.1.3 BOD Loading**

$$\text{P.E.} = (5941 \times 1000 \times 127.2) / (60 \times 1000)$$
$$\text{P.E.} = 12,595$$

### **2.1.4 Hydraulic Loading**

$$\text{P.E.} = (5941 \times 1000) / 225$$
$$\text{P.E.} = 26,404$$

- **The Mass Loading on the WWTP in terms of BOD is 12,595 P.E.**
- **The Mass Loading on the WWTP in hydraulic terms is 26,404 P.E.**

### **2.1.5 Removal Efficiencies**

The Second Schedule of the Urban Waste Water Treatment Regulations 2001 (amended 2004) specifies the percentage reductions required. These are detailed in Table 2.1.5a, together with the percentage reductions achieved. To be deemed efficient, the WWTP should meet or exceed the required percentage reductions.

**Table 2.1.5a: Removal Efficiencies**

<b>Parameter</b>	<b>Influent (Average)</b>	<b>Effluent (Average)</b>	<b>Required UWWT Percentage Reduction</b>	<b>Actual Percentage Reduction</b>
BOD	127.2	2.1	70-90%	98.3%
COD	314.5	15	75%	95.2%
TN	21.7	4	70-80%	81.6%

As can be seen the removal efficiencies of the Middleton WWTP are well in excess of the Urban Waste Water Regulations.

## **2.2 Discharges from the agglomeration**

### **2.2.1 Effluent Monitoring**

In 2012, influent monitoring was carried out by Exova Ltd and City Analysts Ltd, acting for EPS Ltd. Testing was carried out weekly for BOD, COD and Total N and was based on composite samples. In 2012, independent effluent monitoring was carried out by Cork County Council's Wastewater Laboratory at Inniscarra, an accredited laboratory. This testing was carried out on a fortnightly basis and was based on composite samples.

The results of the influent monitoring carried out by Exova Ltd and City Analysts Ltd, in the first week of every month, are detailed in Attachment 1.

The results of the effluent monitoring carried out by the Cork County Council Wastewater Laboratory are detailed in Attachment 2. These results relate to

1. Composite samples taken at the outlet from the Midleton WWTP Stream 1+2 ref; Midleton WWTP Outlet – Stream 1+2 D0056-1 SW004
2. Composite samples taken at the outlet from the Midleton WWTP Stream 3 ref; Midleton WWTP New WW Stream – Stream 3 D0056-1 SW004
3. Composite and grab samples taken at the Ballinacurra 1 Pumphouse or the Rathcoursey Holding Tank ref; Midleton Outfall WWDL D0056-01 ( Combined effluents of WWTP and IPPC site ) – SW001

There is also a requirement to monitor the treated effluent from the Midleton WWTP and the Primary Discharge at Rathcoursey for faecal coliforms on a weekly basis. Composite samples are taken at the outlet to the Midleton WWTP (Stream 1+2 Post UV in Attachment 5). Composite or grab samples were taken at either the Ballinacurra 1 Pumphouse or the Rathcoursey Holding Tank. A composite sampler was installed in the Ballinacurra 1 Pumphouse in early 2012 and from April on all samples were taken at this location and are composite samples. This sampling is carried out on behalf of Cork County Council by DixonBrosnan, a firm of Environmental Consultants. All samples are tested at Lancaster Laboratories, accredited to ISO 17025. The results of the coliform monitoring are detailed in Attachment 5.

The results of the Priority Substances testing, carried out by Fitz Scientific, are detailed in Attachment 4. Please note that the samples were taken at the Ballinacurra 1 Pumphouse and are representative of the Outfall Discharge.

### **2.2.2 General**

Midleton is a medium sized town located on the Owennacurra River in the North East of Cork Harbour, approximately 13 miles to the East of Cork City.

The Midleton Waste Water Treatment Plant (WWTP) serves the agglomeration of Midleton and Environs and is located in the townland of Garryduff to the South West side of Midleton. The WWTP is under the administrative control of Cork County Council and is operated by Electrical & Pump Services Ltd. (EPS Ltd). The operational contract with EPS Ltd is valid until 2016.

The original Midleton WWTP, which was opened in the year 2000, comprises two identical separate treatment streams referred to as Stream 1 and Stream 2. These streams provide

secondary treatment by way of extended aeration followed by clarification. Screening and grit removal are provided in advance of this treatment. A further tertiary treatment process is provided by way of UV disinfection of the final effluent. Nitrification and denitrification are achieved by the inclusion of an anoxic zone in the aeration process.

In early 2012 a third treatment stream was constructed called Stream 3. This stream is similar in many ways to the other two streams, however, in addition to an anoxic zone there is also an anaerobic zone. These two zones are designed to provide biological removal of N and P as part of the treatment process. A separate UV disinfection process was also provided, however, the operation of the newly installed UV equipment proved problematical and necessitated the installation of additional UV equipment in recent months. This issue has impacted on the allowable flows through the new stream and has delayed the final commissioning of Stream 3. This process has re-started recently and is due for completion in April 2013.

The original plant i.e Stream 1 + 2, was designed for a population equivalent of 10,000 P.E. with a BOD loading of 600kgs/day. The current maximum hydraulic capacity of this plant is 90l/s, which is 7,776 m<sup>3</sup>/day. This is equivalent to 3 Dry Weather Flows (DWF). The new stream i.e. Stream 3 is designed for a population equivalent of 5,000 P.E. with a BOD loading of 300 kg/d. The design hydraulic capacity of Stream 3 is 39 l/s, which is again equivalent to 3 DWF.

The plant is hydraulically protected against overload by the controlled pumping capacity of the three terminal pumping stations. These are Bailick 1, Bailick 2 and Dwyers Road. Theoretically it should be possible to pump 129 l/s onto the Midleton WWTP, however, because of the problems with Stream 3 it has only been possible to pump a maximum flow of 110 l/s through the plant. This has been made up as follows; Bailick 1 @ 70l/s, Bailick 2 @ 30l/s and Dwyers Road @ 10l/s. The influent flows typically range from 2 DWF to 3 DWF. Treated effluent from the Midleton WWTP discharges after UV treatment to the Ballinacurra 1 Pumphouse.

Treated effluent from Irish Distillers Ltd is discharged separately to the Bailick 1 Pumphouse from where it is pumped directly to a gravity sewer discharging to the Ballinacurra 1 Pumphouse.

The combined treated effluents at the Ballinacurra 1 Pumphouse are pumped to the top of Rose Hill from where they gravitate under pressure to a 2,000 m<sup>3</sup> holding tank at Rathcoursey. This final effluent is discharged on an ebb tide to the North Channel Great Island via a diffuser pipe. This is the Primary Discharge Point for the Midleton Agglomeration ref; SW001.

The Emission Limit Values (ELV) for the Primary Discharge at Rathcoursey are as follows:

- 5 Day Biochemical Oxygen Demand (BOD<sub>5</sub>) 25 mg/l
- Chemical Oxygen Demand (COD) 125 mg/l
- Suspended Solids (SS) 35 mg/l
- Total Nitrogen 15 mg/l
- Orthophosphate ( as P) 2 mg/l
- Ph 6.5-9.0
- Faecal Coliforms Geometric mean of < 250fc/100mls of sample and 95%ile<1000fc/100mls



### **2.2.3 Waste Water Treatment Plant**

The original Midleton WWTP was designed to treat a flow of 7776m<sup>3</sup>/day for a population equivalent of 10,000 P.E. and the plant has been operational since 2001. The original plant comprised two identical streams and these have been augmented by the addition of a third stream in 2012.

The inlet works comprise a pair of automatic screens followed by grit removal. As outlined previously, the total flow to the Midleton WWTP is pumped from three separate pumphouses, namely; Bailick 1, Bailick 2 and Dwyers Road. Bailick 1 and Bailick 2 have storm water storage tanks where excess flow is stored temporarily and passed through the plant subsequently for full treatment. Emergency overflow facilities are available in the event of power outage, pump breakdown, etc.

The original Midleton WWTP is an extended aeration process with denitrification and UV disinfection. This comprises two separate modules of 5,000 P.E., referred to as Stream 1 and Stream 2. After clarification these flows combine for UV disinfection. The treatment process also includes nitrification and denitrification. A third treatment module was constructed in early 2012 and is referred to as Stream 3. This is broadly similar to the other two streams, however, it does allow for biological removal of N and P by the provision of an anaerobic and anoxic zone within the aeration process. Following clarification, a separate UV disinfection process has been provided.

A splitter chamber divides the flow evenly to the three treatment modules. Each separate module comprises an anoxic tank followed by a series of aeration tanks before settlement in the final clarifier. For Stream 3, an anaerobic tank precedes the anoxic tank in the aeration process. Diffused air is supplied to the aeration tanks by means of air blowers and a proprietary diffused air system. Activated sludge is returned to the anoxic tank on a continuous basis with excess sludge being discharged to a picket fence thickener tank on a daily basis, having regard to the levels of activated sludge in the extended aeration process streams.

Excess sludge is stored in the picket fence thickener tank where it is allowed to settle and thicken before it is dewatered on site using a centrifuge dewatering unit. This typically produces a dewatered sludge with a dry solids content of between 16% and 18%. The dewatered sludge is removed off site to a permitted waste facility for final disposal. The current arrangements in place relate to the waste disposal facilities in Youghal and Portlaw operated by Ormonde Organics Ltd. Ultimately the dewatered sludge from the Midleton WWTP is composted at the permitted facility in Portlaw.

### **2.2.4 Quality of Effluent**

The Midleton Waste Water Discharge Licence states in Clause 4.16 " that the Midleton WWTP is operated to meet the emission standards specified in the Urban Waste Water Treatment Regulations, 2001 in relation to BOD, SS, COD and Total Nitrogen. These standards are as follows:

- BOD 25mg/l
- SS 35mg/l
- COD 125mg/l
- Total Nitrogen 15mg/l

As can be seen from the final effluent results for Stream 1+2, ref Attachment No. 2, there are no compliance issues in meeting these standards.

### **2.2.5 Sources of Emissions from the Waste Water Works**

The pollution load for the Midleton Agglomeration arises mainly from the local domestic population. There is also a very viable and sizeable retail and commercial centre in Midleton, which is regarded as the market town of East Cork. There is a significant amount of light industrial development operating within the catchment area of the Midleton Agglomeration.

The pollutant load from these sources can vary on a daily, weekly and seasonal basis having regard to the needs of the primary producers of the effluent. The waste water from all users is collected via a public sewerage system and discharged to the Midleton WWTP by means of three pumphouses i.e. Bailick 1, Bailick 2 and Dwyers Road, where it is then treated.

The Population Equivalent for the Midleton WWTP, based on the 2012 incoming BOD results is 12,595. This is consistent with the operation of the plant having regard to its increased design capacity of 15,000 P.E. and the quality of the final effluent results.

Treated effluent from Irish Distillers Ltd, which is subject to a separate IPPC Licence, is discharged via a dedicated sewer to the Bailick 1 Pumphouse, from where it is pumped locally to a dedicated final effluent sewer to gravitate to the Ballinacurra 1 Pumphouse. The treated final effluent from the Midleton WWTP also discharges to this same dedicated final effluent sewer. From the Ballinacurra 1 Pumphouse, the combined effluent is pumped to the Primary Discharge Point at Rathcoursey.

### **2.2.6 Present Capacities of the Plant**

- The biological capacity of the Midleton WWTP for cBOD removal is 900kg/d. This is equivalent to a 15,000 P.E. plant based on an allowance of 60g/h/d.
- The hydraulic capacity of the WWTP is given as 10,368m<sup>3</sup>/day, which is 3 DWF. This is equivalent to an 15,360 P.E. plant based on an allowance of 225l/h/d.

## **2.3 Ambient monitoring summary**

The Primary Discharge for the Midleton Waste Water Discharge Licence is the outlet from the Rathcoursey Holding Tank. This outlet pipe discharges to the North Channel of Cork Harbour at the North East corner of Great Island. Currently, the water quality status of the North Channel is moderate, while that of the Lower Harbour is good.

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

The effluent monitoring carried out by Cork County Council's Wastewater Laboratory included the Data Collection and Reporting Requirements under the UWWT Directive. The Data collected by the Wastewater Laboratory under the UWWT Directive will be submitted online as required by the EPA as soon as the EDEN coding system has been amended to accommodate a Primary Discharge comprising a municipal discharge as well as an IPPC discharge. The current EDEN coding structure does not accommodate this arrangement. Cork County Council's internal Laboratory Test results for these discharges have been included as Attachment 2. Full compliance for all of the test parameters has been achieved in the tests required under the UWWT Directive.

## **2.5 Pollutant Release and Transfer Register (PRTR) – report for previous year**

The PRTR Report was submitted online and a copy has been included with this report as Attachment 6.

## **2.6 Pollutant Release and Transfer Register – proposal for current year**

The proposals for 2013 are the same as for 2012.

## **3.0 Complaints and Incident Reports**

### **3.1 Complaints Summary**

Condition 6.5 states that *"The licensee shall record all complaints of an environmental nature related to the discharge(s) to waters from the waste water works in accordance with the national environmental complaints procedure. Each such record shall give details of the date and time of the complaint, the name of the complainant (if provided), and the nature of the complaint. A record shall also be kept of the response made in the case of each complaint"*.

No complaints were received in 2012 relating to discharge(s) to water from the wastewater works.

### **3.2 Reported Incidents Summary**

Condition 6.1 states that *"The licensee, shall notify the Agency by both telephone and facsimile, to the Agency's headquarters in Wexford, or to such other Agency office as may be specified by the Agency, as soon as is practicable after the occurrence of any incident (as defined in this licence). The licensee shall include as part of the notification, date and time of the incident, summary details of the occurrence, and where available, the steps taken to minimise any discharges"*.

Condition 6.3 states that *"The licensee shall make a record of any incident. This record shall include details of the nature, extent, and impact of, and circumstances giving rise to the incident. The record shall include all corrective actions taken to manage the incident, to minimise the effect on the environment, and to avoid recurrence. The licensee shall as soon as practicable following incident notification, submit to the Agency the incident record including clean up and recurrence prevention measures"*.

There was one reportable incident relating to the Waste Water Discharge Licence for the Midleton Agglomeration during 2012. The details of this are as follows:

1. There was a non compliance incident regarding the 50 rolling sample for the faecal coliforms at the Midleton WWTP and also at the Primary Discharge. The 95<sup>th</sup>ile of faecal coliforms from the Midleton WWTP was 1147, which is > 1000fc/100ml. The geometric mean of faecal coliforms for the Primary Discharge was 298, which is > 250fc/100ml and the 95<sup>th</sup>ile was 10553, which is > 1000fc/100ml. Because the final discharge at Rathcoursey is a combination of the final effluents of the Midleton WWTP and the IDL Discharge, it will be difficult to determine the exact cause of this exceedance. It seems likely that the difficulties experienced with the new UV system installed to treat Stream 3 is a contributory factor. The installation of a second bank of UV lamps in early January 2013 will address this matter and the commissioning process for this UV system is currently underway. Further investigations will be carried out to see if there are any other contributory factors to the non-compliance.

## ***4.0 Infrastructural Assessments and Programme of Improvements***

### ***4.1 Treatment Capacity***

In accordance with Condition 5.4, Cork County Council increased the capacity of the Midleton WWTP to 15,000 p.e. by early 2013. This necessitated the construction of a third treatment module, referred to as Stream 3 in this report. This work is complete and includes an anaerobic as well as an anoxic phase in the extended aeration process stream. However, there was a problem with the commissioning of the UV equipment which was only resolved in January 2013 by the installation of an additional UV bank. This issue delayed the commissioning of the treatment plant extension and resulted in the flow through the new extension being restricted to 1 DWF. The commissioning of the upgraded UV equipment has recommenced and should be complete by the end of April. Currently, the Stream 3 extension is fully operational.

Schedule C also required Cork County Council to implement an Infiltration Programme. This Programme has been on-going since October 2011 to the end of February 2013. The original scope of the works was extended to include for additional works which were identified as part of the CCTV survey. The impact of these works is currently being monitored to quantify the effect of these remedial works on the base flow in the sewerage system.

### ***4.2 Storm water overflows***

As part of the Waste Water Discharge Licence Cork County Council is required to carry out an assessment of the storm water overflows from the waste water works and sewerage system and to prepare a Programme of Infrastructural Improvements to comply with the requirements of the licence.

A firm of consulting engineers, White, Young and Green Ltd, produced a Report on an Assessment of Storm Water Overflows in October 2011. This report proposed an incremental approach to the storm water overflow issue. The initial approach has been to install overflow monitoring equipment at the main pumping stations within the Midleton Sewerage System.

This monitoring equipment has currently been installed at Bailick 1, Bailick 2, Bailick 3, Ballinacurra 1, Ballinacurra 2 and Dwyers Road. This equipment is in the process of being commissioned and on completion it should be possible to get an accurate account of the current storm water overflow regime. Up to now, it has been necessary to rely on the curator taking daily readings and applying these figures to the nominal capacity of the storm overflow pumps. This does not provide reliable information and can be distorted by pumps running continuously as a result of problems with faulty probes, etc.

It is also proposed to install a pump management system to maximise the throughput to the Midleton WWTP during and after storm events. At present all the pump stations operate in isolation without reference to the other pumping stations. The pump management system will ensure that spare capacity in any pumping station will transfer to another pump station if this need arises. This will ensure that storm storage capacities are drawn down at the earliest possible time and made available for the next storm event.

With the commissioning of the Midleton WWTP and the completion of the Infiltration Works, a new storm water regime will operate within the Midleton sewerage network. Following a suitable period of time, it should be possible to make a revised assessment of the Storm Water Overflows. As part of this assessment, it will be possible to examine the spill frequency and discharge volumes for the storm water overflows outlined in the Waste Water Discharge Licence and look at possible alternatives, having regard to the receiving water quality objectives.

Monthly storm water flows are provided in this Report as Attachment No. 3.

## **5.0 Environmental Liability and Financial Provisions**

### ***5.1 Annual statement on prevention of environmental damage***

Condition 7.2.1 states that *"The licensee shall as part of the AER provide an annual statement as to the measures taken or adopted in relation to the prevention of environmental damage and the financial provisions in place in relation to the underwriting of costs for remedial actions following anticipated events (including closure ) or accidents/incidents, as may be associated with discharges or overflows from the waste water works"*.

Cork County Council operates the plant in accordance with best practice. The Council is in the process of assembling and collating data on all of its relevant sites in order that it can present its proposal to Irish Public Bodies Mutual Insurances Ltd. The Council at this stage has no indication of the cost of this type of cover for all of the relevant facilities in the county and is not in a position to indicate when it expects to have the matter resolved.

## **6.0 Licence Specific Reports**

### **6.1 Predicted Impacts Reports**

Not applicable as there is no condition or requirement in the licence to carry this out.

### **6.2 Assessment of predicted impact on habitats**

Not applicable as there is no condition or requirement in the licence to carry this out.

### **6.3 Development/Infrastructural works summary (completed in previous year or prepared for current year)**

The following improvement works were carried out in 2012 as part of the Midleton Sewerage Scheme

1. Increase in treatment capacity at the Midleton WWTP from 10,000 p.e. to 15,000 p.e.
2. The new extension incorporates an anaerobic as well as an anoxic phase in the extended aeration process
3. Implementation of the Infiltration Improvements Programme
4. Installation of storm overflow monitoring equipment at 6 no. pumping stations
5. Continued up-grading of existing pumping capacity
6. Installation of composite samplers on the storm water overflows at Bailick 1 and 2.

The following improvement works are planned for 2013

1. Complete commissioning of new UV equipment on extension to treatment works
2. Examine and quantify storm water overflow reduction measures
3. Continued improvement in pumping infrastructure
4. Install pump management system

### **6.4 Toxicity Report**

Not applicable as there is no condition or requirement in the licence to carry this out.

### **6.5 Environmental Liabilities Risk Assessment (ELRA)**

Condition 7.2.2 states that *"The licensee shall arrange for the completion, by an independent and appropriately qualified consultant, of a comprehensive and fully costed Environmental Liabilities Risk Assessment (ELRA) to address the liabilities from present or planned discharges. A report on this assessment shall be submitted to the Agency for agreement as part of the second AER (required under Condition 6.11 )"*

*There is no requirement for an ELRA Report at this time.*

# Attachment No 1

## Results of Influent Monitoring

### Exova Ltd and City Analysts Ltd

Sample Date	Sample	BOD mg/L	COD mg/L	pH	SS mg/L	TN mg/L	Total P mg/L	Inlet Flow m3/Day
06/01/2012	Influent	225	360	7.4	319	24	4.48	6459
03/02/2012	Influent	131	389	7.8	92	29	4.0	6122
09/03/2012	Influent	170	209	7.6	66	25	6.3	6097
04/04/2012	Influent	215	221	7.4	110	26	5.0	2845
04/05/2012	Influent	168	97	7.5	237	26	6.63	4709
08/06/2012	Influent	69	189	7.4	122	16.4	2.76	5524
06/07/2012	Influent	126	337	7.4	252	27.7	5.38	5190
10/08/2012	Influent	72	186	7.5	104	10.6	4.2	5576
07/09/2012	Influent	96	270	7.5	182	21.5	4.0	5753
05/10/2012	Influent	125	418	7.4	280	11.9	5.0	5251
09/11/2012	Influent	106	218	7.5	144	23	4.1	5225
07/12/2012	Influent	132	289	7.7	170	13.3	4.1	7035



## **Attachment No 2**

### **Results of Effluent Monitoring**

**Cork County Council Laboratory Inniscarra**

### **UWW Directive Monitoring**

**Primary Discharge Monitoring – SW01**

## Attachment No 3

### Storm Water Flows

<b>Month</b>	<b>Bailick 1 P.H.</b> Total Storm Flow (m3)	<b>Bailick 2 P.H.</b> Total Storm Flow (m3)	<b>Ballinacurra 2 P.H.</b> Total Storm Flow (m3)	<b>Total Volume of Storm Flow</b>	<b>Storm Discharge as % of Total Volume</b>
Jan 2012	13919	5436	0	19355	9
Feb2012	18275	3189	0	21464	11
Mar2012	6890	1339	0	8229	5
Apr2012	7286	24552	0	31838	20
May2012	1465	88819	0	90284	61
Jun2012	37006	36194	0	73200	37
Jul2012	8910	6739	0	15649	9
Aug2012	36570	19432	0	56003	25
Sep2012	6316	15235	0	21551	12
Oct2012	2772	2217	3024	8013	5
Nov2012	7464	252	113	7830	4
Dec2012	32907	1778	10609	45295	21

## **Attachment No 4**

### **Priority Substances Testing**

## Attachment 5

### 2012 Faecal Coliform Sampling Data

Date	Stream 1+2 Post UV Total	Stream 1+2 PostUV Faecal	Retest Stream 1+2 PostUV Total	Retest Stream 1+2 PostUV Faecal	Stream 3 PostUV Total	Stream 3 PostUV Faecal	Retest Stream 3 Faecal	Rath Coursey Total	Rath Coursey Faecal	Ballina Curra 1 A Total	Ballina Curra 1 A Faecal	Ballina Curra 1 B Total	Ballina Curra 1 B Faecal
04/01	91	73								5500	4400		
13/01	72	49						3600	1440				
20/01	45	36								520	420		
27/01	50	10								760	456		
01/02	280	110						270	160				
10/02	2400	1								340	200		
17/02	224	168								480	160		
24/02	320	210								520	260		
29/02	1200	960						1100	880				
09/03	170	170								100	60		
16/03	74	37						42	11				
23/03	26	5								190	76		
28/03	300	180								620	620		
05/04	800	10								1100	660		
13/04	38	1								1000	1	1700	
20/04	11	2								1300	780	1100	
27/04	120	1								880	660	2000	
04/05	39	16								4200	1700	5200	
11/05	42	17								310	1	230	
18/05	10	2								1030	210	1010	
23/05	25	10								5200	100	4600	
01/06	26	26								430	430	200	
08/06	3	1								10000	1000	13000	
15/06	13000	10400	1	1						23	23	13000	
20/06	2	1								4100	2460	5800	
29/06	20	13			740	560				21000	15800	18000	18000
06/07	130	26			570	110				1300	520	790	
13/07	180	10			6100	4880	72			4400	880	5900	
18/07	29	1			59	1				700	10	2400	
27/07	880	880			26800	26800	320			2300	2300	4300	
03/08	100	10			110	10				2100	100	2600	
10/08	1300	1300			216	162				1600	100	176	
15/08	120	96			540	324				20	10	660	
24/08	72	72			4300	2580	43			470	470	500	
31/08	36	36			740	592				53000	42400	99999	99999
07/09	33	33			28	6				310	310	470	

12/09	360	216			3900	100				3300	1320	2300	
21/09	14	3			120	24				240	192	260	
28/09	15	12			27	27				3700	2960	3200	
05/10	2400	960	120	40	8000	8000				1200	960	900	
10/10	140	28			340	68				1800	1	1900	
19/10	2700	1620	20	20	7900	4740	41			56000	33600	47000	20
26/10	190	38			2100	100				3400	100	8000	
02/11	42	34			430	86				190	114	200	
07/11	23	9			54	10				280	210	330	
16/11	12	2			400	320				4900	3920	6200	4
23/11	20	16			350	210				480	288	500	
30/11	26	16			820	820				1500	1200	1200	
05/12	14	6			1400	840				1000	400	560	
14/12	2	1			180	72				6900	4140	8100	4
18/12	35	14			20	8				2200	440	3300	
28/12	20	4			120	96				420	420	90	

- Stream 1+2 Post UV samples are composite samples from the original Midleton WWTP
- Stream 3 Post UV samples are composite samples from the new extension to the Midleton WWTP
- Rathcoursey samples are grab samples
- Ballinacurra 1 A samples are composite samples from the discharge line to Rathcoursey Holding Tank
- Ballinacurra 1 B are taken from the same composite sample as Ballinacurra 1 A
- All coliform samples are analysed in the Lancaster Laboratory, Dungarvan
- Some coliform samples are split (Stream 1+2 Post UV), with one portion frozen and retained for retest if required
- A composite sampler has been installed in the Ballinacurra 1 Pumphouse and has been operational since March 2012
- An additional bank of UV Lamps was installed in Stream 3 in early January 2012. This is now fully operational and the commissioning process is currently underway

### **Midleton WWTP - Post UV Faecal Coliforms**

50 rolling sample programme – composite samples  
 Geometric Mean = 22.6  
 95%ile = 1147

### **Primary Discharge Faecal Coliforms**

( combination of Rathcoursey and Ballinacurra 1 )

50 rolling sample programme – grab samples  
 Geometric Mean = 298  
 95%ile = 10553

## **Attachment 6**

### **PRTR Report**





Environmental Protection Agency

| PRTR# : D0056 | Facility Name : Midleton Waste Water Treatment Plant | Filename : D0056\_2012 prtr workbook.xls | Return Year : 2012 |

[Guidance to completing the PRTR workbook](#)

# AER Returns Workbook

Version 1.1.16

<b>REFERENCE YEAR</b>	2012
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## 1. FACILITY IDENTIFICATION

Parent Company Name	Cork County Council Southern Division
Facility Name	Midleton Waste Water Treatment Plant
PRTR Identification Number	D0056
Licence Number	D0056-01

Waste or IPPC Classes of Activity

No.	class_name
30.4	General

Address 1	County Hall
Address 2	Cork
Address 3	
Address 4	
	Cork
Country	Ireland
Coordinates of Location	-8.18157 51.9073
River Basin District	IESW
NACE Code	3700
Main Economic Activity	Sewerage
<b>AER Returns Contact Name</b>	Jack Mc Carthy
<b>AER Returns Contact Email Address</b>	cccwastewater@corkcoco.ie
<b>AER Returns Contact Position</b>	Senior Executive Engineer
<b>AER Returns Contact Telephone Number</b>	0214285115
<b>AER Returns Contact Mobile Phone Number</b>	none
<b>AER Returns Contact Fax Number</b>	0214346254
<b>Production Volume</b>	0.0
<b>Production Volume Units</b>	
<b>Number of Installations</b>	0
<b>Number of Operating Hours in Year</b>	0
<b>Number of Employees</b>	2
<b>User Feedback/Comments</b>	
<b>Web Address</b>	

## 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)?	
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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

POLLUTANT		METHOD			Please enter all quantities in this section in KGs			
No. Annex II	Name	M/C/E	Method Used		Emission Point 1	QUANTITY		
			Method Code	Designation or Description		T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
01	Methane (CH4)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
02	Carbon monoxide (CO)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
03	Carbon dioxide (CO2)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	226145.0	0.0	226145.0
05	Nitrous oxide (N2O)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	1.0	0.0	1.0
07	Non-methane volatile organic compounds (NMVOC)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
08	Nitrogen oxides (NOx/NO2)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
11	Sulphur oxides (SOx/SO2)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
					0.0	0.0	0.0	0.0
					0.0	0.0	0.0	0.0
					0.0	0.0	0.0	0.0
					0.0	0.0	0.0	0.0
					0.0	0.0	0.0	0.0
					0.0	0.0	0.0	0.0
					0.0	0.0	0.0	0.0

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

SECTION B : REMAINING PRTR POLLUTANTS

POLLUTANT		METHOD			Please enter all quantities in this section in KGs			
No. Annex II	Name	M/C/E	Method Used		Emission Point 1	QUANTITY		
			Method Code	Designation or Description		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)

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

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

Additional Data Requested from Landfill operators

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

Landfill: Please enter summary data on the quantities of methane flared and / or utilised	Midleton Waste Water Treatment Plant				Facility Total Capacity m3 per hour
	T (Total) kg/Year	M/C/E	Method Code	Designation or Description	
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#: D0056 | Facility Name: Middleton Waste Water Treatment Plant | Filename: D0056\_2012 prtr workbook.xls | Return Year: 2012 |

28/03/2013 11:47

## 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 c

RELEASES TO WATERS				Please enter all quantities in this section in KGs				
No. Annex II	POLLUTANT Name	M/C/E	Method Code	Method Used Designation or Description	QUANTITY			
					Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
34	1,2-dichloroethane (EDC)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
25	Alachlor	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
26	Aldrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
61	Anthracene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.006	0.006	0.0	0.0
17	Arsenic and compounds (as As)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.759	1.015	0.0	0.256
27	Atrazine	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.023	0.025	0.0	0.002
62	Benzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.036	0.072	0.0	0.036
91	Benzo(g,h,i)perylene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.004	0.004	0.0	0.0
63	Brominated diphenylethers (PBDE)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
18	Cadmium and compounds (as Cd)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.108	0.168	0.0	0.06
28	Chlordane	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
29	Chlordecone	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
30	Chlorfenvinphos	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
79	Chlorides (as Cl)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	184071.137	198122.79	0.0	14051.653
31	Chloro-alkanes, C10-C13	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.455	0.501	0.0	0.046
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	0.632	0.654	0.0	0.022
20	Copper and compounds (as Cu)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	6.686	7.911	0.0	1.225
82	Cyanides (as total CN)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	6.358	6.965	0.0	0.607
33	DDT	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
70	Di-(2-ethyl hexyl) phthalate (DEHP)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	1.989	2.631	0.0	0.642
35	Dichloromethane (DCM)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.099	0.125	0.0	0.026
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	0.057	0.057	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	0.036	0.061	0.0	0.025
88	Fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.005	0.008	0.0	0.003
83	Fluorides (as total F)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	524.497	572.513	0.0	48.016

40	Halogenated organic compounds (as AOX)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	5.176	5.694	0.0	0.518
41	Heptachlor	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
90	Hexabromobiphenyl	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
42	Hexachlorobenzene (HCB)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
43	Hexachlorobutadiene (HCBD)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
89	Isodrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
67	Isoproturon	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.016	0.019	0.0	0.003
23	Lead and compounds (as Pb)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	6.591	8.933	0.0	2.342
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	0.022	0.0	0.022
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	0.009	0.04	0.0	0.031
22	Nickel and compounds (as Ni)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	9.232	10.013	0.0	0.781
64	Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.18	0.416	0.0	0.236
87	Octylphenols and Octylphenol ethoxylates	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
69	Organotin compounds (as total Sn)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
48	Pentachlorobenzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
49	Pentachlorophenol (PCP)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
71	Phenols (as total C)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	1.973	19.509	0.0	17.536
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	0.019	0.066	0.0	0.047
51	Simazine	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.031	0.034	0.0	0.003
52	Tetrachloroethylene (PER)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.128	0.128	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	1.07	4.089	0.0	3.019
12	Total nitrogen	M	ALT	chemiluminescence	8673.86	13765.416	0.0	5091.556
76	Total organic carbon (TOC) (as total C or COD/3)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	19992.754	22833.877	0.0	2841.123
13	Total phosphorus	E	ESTIMATE	EPA UWWTP Tool Version 5.0	2104.224	3035.58	0.0	931.356
59	Toxaphene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
74	Tributyltin and compounds	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
54	Trichlorobenzenes (TCBs)(all isomers)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
57	Trichloroethylene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
77	Trifluralin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0

75	Triphenyltin and compounds	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
60	Vinyl chloride	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
78	Xylenes	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.251	0.595	0.0	0.344
24	Zinc and compounds (as Zn)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	107.043	133.477	0.0	26.434

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

**SECTION B : REMAINING PRTR POLLUTANTS**

POLLUTANT		RELEASES TO WATERS			Please enter all quantities in this section in KGs			
No. Annex II	Name	M/C/E	Method Used		QUANTITY			
			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)**

POLLUTANT		RELEASES TO WATERS			Please enter all quantities in this section in KGs			
Pollutant No.	Name	M/C/E	Method Used		QUANTITY			
			Method Code	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	466022.842	529125.174	0.0	63102.332
370	Selenium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.949	0.949	0.0	0.0
205	Antimony (as Sb)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.335	0.439	0.0	0.104
368	Molybdenum	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.304	0.0	0.304
358	Tin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.235	0.235	0.0	0.0
373	Barium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	40.135	47.952	0.0	7.817
374	Boron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	136.342	155.641	0.0	19.299
356	Cobalt	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.381	0.45	0.0	0.069
386	Vanadium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	5.914	7.042	0.0	1.128
388	Dichlobenil	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.009	0.01	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	0.232	0.258	0.0	0.026
380	2,4 Dichlorophenol (2,4 D)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.111	0.119	0.0	0.008
384	MCPA	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.192	0.194	0.0	0.002
382	Glyphosate	E	ESTIMATE	EPA UWWTP Tool Version 5.0	3.324	3.409	0.0	0.085
389	Benzo[a]pyrene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.004	0.004	0.0	0.0
390	Benzo[b]fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.004	0.004	0.0	0.0
391	Benzo[k]fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.004	0.004	0.0	0.0
392	Indeno[1,2,3-c,d]pyrene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.005	0.005	0.0	0.0
393	Carbon tetrachloride	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
394	2,6-Dichlorobenzamide	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.174	0.187	0.0	0.013

395	Dicofol	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
396	Hexabromocyclodecane (HBCD)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
397	PFOS	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.001	0.001	0.0	0.0
238	Ammonia (as N)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
303	BOD	M	ALT	electrochemical	4553.777	4553.777	0.0	0.0
306	COD	M	ALT	digestion and colorimetric	32526.975	32526.975	0.0	0.0
362	Kjeldahl Nitrogen	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
327	Nitrate (as N)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
372	Nitrite (as N)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
332	Ortho-phosphate (as PO4)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
240	<b>Suspended Solids</b>	M	ALT	Gravimetric	6505.395	6505.395	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](#)

| PRTR# : D0056 | Facility Name : Midleton Waste Water Treatment Plant | Filename : D0056\_2012

28/03/2013 11:47

**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		M/C/E	METHOD		QUANTITY			
No. Annex II	Name		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		M/C/E	METHOD		QUANTITY			
Pollutant No.	Name		Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

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

4.4 RELEASES TO LAND

[Link to previous years emissions data](#)

| PRTR# : D0056 | Facility Name : Middleton Waste Water Treatment Plant | Filename : D0056\_2012 prtr workbook.xls | Return Year : 2012 |

28/03/2013 11:47

**SECTION A : PRTR POLLUTANTS**

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

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

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

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

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

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

| PRTR#: D0058 | Facility Name: Midleton Waste Water Treatment Plant | Filename: D0058\_2012 prtr workbook.xls | Return Year: 2012 |

28/03/2013 11:47

Please enter all quantities on this sheet in Tonnes

5

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	Haz Waste: Address of Next Destination Facility	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		Non	Non Haz Waste: Address of Recover/Disposer		
Within the Country	19 08 05	No	236.0	sludges from treatment of urban waste water	R3	M	Weighed	Offsite in Ireland	Ormonde Organics,WFP-WD-10-0003-01	Killowen,Portlaw,Co Waterford,,Ireland		
Within the Country	19 08 01	No	22.6	screenings	D1	M	Weighed	Offsite in Ireland	Midleton Skip Hire,WFP-CK-10-0052-01-A1,Knockgriffin,Midleton ,Co Cork,none,Ireland	Gortadroma Landfill Site,Ballyhahill,Co Limerick,,"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](#)



### 2012 Midleton WWTP Outlet- Stream 1 +2 D0056-01 SW004

Sample	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent
Sample Code	GW001	GW004	GW047	GW084	GW117	GW148	GW160	GW240	GW311	GW324	GW386	GW429	GW471	GW554
Sample Date	04/01/2012	18/01/2012	01/02/2012	16/02/2012	29/02/2012	15/03/2012	28/03/2012	12/04/2012	27/04/2012	09/05/2012	23/05/2012	07/06/2012	20/06/2012	05/07/2012
Sample Type	Composite	Grab	Grab	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite
Flow M <sup>3</sup> /Day	6387	4727.72	5075.26	4246.78	4094.11	4634.7	3505.82	3191.13	3900	*	2886	2709	4778.2	4343.5
pH	7.5	7.3	7.3	7.8	7.5	7.2	7.2	7.2	7.2	7.2	7.5	7.2	7.7	7.4
BOD mg/L	2.8	2.6	2.6	2.4	3.0	3.8	4.7	3.5	1.2	2.3	1.7	1.5	0.5	1.5
COD mg/L	10.5	10.5	10.5	10.5	10.5	10.5	31	40	10.5	10.5	23	10.5	10.5	10.5
Suspended Solids mg/L	5	4	3	1.25	1.25	10	8	8	3	1.25	1.25	1.25	1.25	1.25
TN-N mg/l	3.51	4.54	5.01	4.62	5.18	2.87	3.41	2.08	1.9	2.4	NFR*	0.97	2.1	2.83

NFR\* due to error in preservation

     exceeds Urban Wastewater Regulations Limits

     half of LOD for statistical purposes

### 2012 Midleton WWTP NEW WW STREAM- Stream 3 D0056-01 SW004 (Note Commenced Discharging During 2012)

Sample												Eff Stream 3	Eff Stream 3
Sample Code												GW430	GW 555
Sample Date												07/06/2012	05/07/2012
Sample Type												Grab	Composite
Flow M <sup>3</sup> /Day												2073	1563
pH												7.3	7.4
BOD mg/L												0.5	1.8
COD mg/L												<21	<21
Suspended Solids mg/L												3	1.25
TN-N mg/l												6.34	6.1
TP-P mg/l												0.16	

     exceeds Urban Wastewater Regulations Limits

     half of LOD for statistical purposes



Effluent GW576	Effluent GW660	Effluent GW690	Effluent GW762	Effluent GW831	Effluent GW 887	Effluent GW918	Effluent GW988	Effluent GW1092	Effluent GW1163	Effluent GW1219	Effluent GW1270
18/07/2012	02/08/2012	15/08/2012	29/08/2012	12/09/2012	27/09/2012	10/10/2012	24/10/2012	07/11/2012	20/11/2012	05/12/2012	12/12/2012
Grab	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite
	2799.1		4847.9	*	3110	*	3620.9		5467.4		4147
7.4	7.2	7.4	7.6	7.6	7.6	7.5	7.2	7.2	7.4	7.1	7
0.5	1.3	1.3	1.7	1.9	2.3	1.1	1.7	2.1	2.8	1.7	2.4
10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	56	10.5	10.5
1.25	1.25	1.25	1.25	1.25	1.25	1.25	3.0	4.0	5.0	12.5	3.0
2.52	7.04	3.97	4.24	5.8	5.17	4.63	4.52		5.31	10.42	5.45

Eff Stream 3 GW577	Eff Stream 3 GW661	Eff Stream 3 GW691	Eff Stream 3 GW763	Eff Stream 3 GW832	Eff Stream 3 GW888	Eff Stream 3 GW919	Eff Stream 3 GW989	Eff Stream 3 GW1093	Eff Stream 3 GW1164	Eff Stream 3 GW1220	Eff Stream 3 GW1271
18/07/2012	02/08/2012	15/08/2012	29/08/2012	12/09/2012	27/09/2012	10/10/2012	24/10/2012	07/11/2012	20/11/2012	05/12/2012	12/12/2012
Grab	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite
	2521		1043	*	*	*	366		1139		1121
7.5	7.5	7.1	7.4	7.8	7.5	7.5	7.2	7.3	7.4	7.1	7
1.6	1.7	0.5	1.3	1.6	2	1.5	1.2	1.1	1.1	1.5	2.5
<21	<21	10.5	10.5	10.5	26	10.5	10.5	10.5	10.5	10.5	10.5
1.25	1.25	1.25	1.25	1.25	1.5	1.25	1.25	1.25	1.25	1.25	3
4.98	1.2	7.02	6.31	4.03	5.29	5.16	4.81		3.66	8.94	7.95



	UWW Reg Limits	% Compliance with ELV Limits in Condition 4.16	% Compliance with Schedule Monitoring Frequency
<b>Mean value</b>			
4130.1			
7.4	n/a	n/a	n/a
2.1	25	100	100
15	125	100	100
3	35	100	100
4	15	100	100

	UWW Reg Limits	% Compliance with ELV Limits in Condition 4.16	% Compliance with Schedule Monitoring Frequency
<b>Mean value</b>			
1800.00		n/a	n/a
7.35714286	n/a	n/a	100
1.42142857	25	100	100
13.6	125	100	100
1.47222222	35	100	100
5.1240	15	100	100
0.16	n/a	n/a	n/a

2012 Midleton Outfall WWDL D056-01 (Final Discharge SW001combined effluents of WWTP & IPPC site)															
Sample	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent
Sample Code	GW002	GW005	GW048	GW085	GW118	GW149	GW161	GW239	water services	GW310	GW323	GW387	GW428	GW472	GW553
Sample Location (Ballinacurra/Rathcoursey)	Ballinacurra	Ballinacurra	Rathcoursey	Ballinacurra	Rathcoursey	Rathcoursey	Ballinacurra	Ballinacurra	Ballinacurra	Ballinacurra	Ballinacurra	Ballinacurra	Ballinacurra	Ballinacurra	Ballinacurra
Sample Date	04/01/2012	18/01/2012	01/02/2012	16/02/2012	29/02/2012	15/03/2012	28/03/2012	12/04/2012	19/04/2012	27/04/2012	09/05/2012	23/05/2012	07/06/2012	20/06/2012	05/07/2012
Sample Type	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite
Flow M <sup>3</sup> /Day	*	*	*	*	*	*	*	8748	*	8381	*	7842	9023	8724	9525
pH	7.7	7.6	7.5	7.7	7.4	7.5	7.6	7.8	*	7.9	7.8	8.0	8.0	7.8	7.8
BOD mg/l	11	2.4	1.6	4.6	2.6	6.8	7.8	2.3	*	4.8	0.5	15	1.8	1.9	2.1
COD mg/l	78	23	22	10.5	10.5	45	55	36	*	32	26	95	10.5	10.5	10.5
Suspended Solids mg/L	51	5	3	4	5	14.0	20	4.0	*	37.0	5	81	6	5	1.25
O-PO4-P mg/l	0.81	0.42	0.47	0.2	0.08	1.10	0.11	0.33	*	0.24	*	0.52	0.3	0.025	0.13
Ammonia-N mg/l	0.05	0.5	2.1	2.6	1.2	6.7	1	0.2	*	0.2	*	0.1	0.05	0.05	0.05
TN-N mg/l	4.07	2.56	4.91	5.14	5.23	9.36	4.21	3.60	*	3.34	3.27	NFR*	2.61	3.48	3.75
TON-N mg/l	2.6	1.08	1.64	0.93	2.58	1.51	0.25	0.25	*	1.66	1.36	1.89	1.34	2.1	2.61
Polychlorinated Biphenyls (PCB)	*	*	*	*	*	*	*	*	<0.05	*	*	*	*	*	*
Dissolved Metals	Arsenic ug/l	*	*	*	*	*	*	*	<0.96	*	*	*	*	*	*
	Cadmium ug/l	*	*	*	*	*	*	*	<0.09	*	*	*	*	*	*
	Chromium ug/l	*	*	*	*	*	*	*	<0.93	*	*	*	*	*	*
	Copper ug/l	*	*	*	*	*	*	*	14.58	*	*	*	*	*	*
	Lead ug/l	*	*	*	*	*	*	*	5.592	*	*	*	*	*	*
	Mercury ug/l	*	*	*	*	*	*	*	<0.2	*	*	*	*	*	*
	Nickel ug/l	*	*	*	*	*	*	*	0.235	*	*	*	*	*	*
	Silver ug/l	*	*	*	*	*	*	*	<0.33	*	*	*	*	*	*
	Zinc ug/l	*	*	*	*	*	*	*	2.3	*	*	*	*	*	*

NFR\* due to error in preservation

- Immediate Non-Compliance Notification to EPA required
- Immediate Notification to EPA **NOT** required
- collected by water services for licence analysis for specific parameters
- Half of LOD value for statistical purposes

Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent		Mean Value	Emission Limit Value	% Compliance with ELV Limits Schedule A.1	% Compliance with Condition 2.1 & B3	% Compliance with Schedule B1 Monitoring Frequency
GW578	GW662	GW692	GW761	GW830	GW892	water services	GW926	GW990	GW1094	GW1162	GW1221						
Ballinacurra 18/07/2012	Ballinacurra 02/08/2012	Ballinacurra 15/08/2012	Ballinacurra 29/08/2012	Ballinacurra 12/09/2012	Ballinacurra 28/09/2012	Ballinacurra 10/10/2012	Ballinacurra 11/10/2012	Ballinacurra 24/10/2012	Ballinacurra 07/11/2012	Ballinacurra 20/11/2012	Ballinacurra 05/12/2012						
Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Grab	Composite	Composite						
6425	9657	11125	10383	7724		*		6796		11449	*		8907.846	no value	n/a	n/a	n/a
7.9	7.8	7.6	8	7.9	7.9	*	7.8	7.8	7.9	8.0	7.7		7.776	6.5-9.0	100	100	100
2	1.7	1.6	1.1	1.8	5.4	*	1.3	1.8	1.6	2.1	2.9		3.54	25	100	100	100
10.5	10.5	10.5	10.5	10.5	37	*	10.5	10.5	10.5	22	10.5		24.72	125	100	100	100
5	1.25	8.0	1.25	1.25	41	*	1.25	3.0	4.0	1.25	9		12.7	35	89	100	100
0.22	0.21	0.18	0.025	0.16	0.14	*	0.12	0.24	0.07	0.3	0.07		0.269583	2	100	100	100
0.05	0.05	0.05	2.2	0.05	0.127	*	<0.10*	0.2	0.5	1.7	0.3		0.870739	no value	n/a	n/a	100
4.22	3.8	4.15	4.59	5.57	6.56	*	4.99	4.35			9.98		4.715455	15	100	100	100
3.13	2.47	3.26	3.77	4.59	3.4	*	3.38	1.68	1.9	1.08			2.1025		n/a	n/a	100
*	*	*	*	*	*	<0.05	*	*	*	*	*		<0.05				
*	*	*	*	*	*	<0.96	*	*	*	*	*		<0.96				
*	*	*	*	*	*	<0.09	*	*	*	*	*		<0.09				
*	*	*	*	*	*	<0.93	*	*	*	*	*		<0.93				
*	*	*	*	*	*	15.7	*	*	*	*	*		15.14				
*	*	*	*	*	*	0.19	*	*	*	*	*		2.891				
*	*	*	*	*	*	<0.2	*	*	*	*	*		<0.2				
*	*	*	*	*	*	1.086	*	*	*	*	*		0.6605				
*	*	*	*	*	*	<0.33	*	*	*	*	*		<0.33				
*	*	*	*	*	*	28.37	*	*	*	*	*		15.335				

\*guideline result