Comhairle Contae Chorcaí Cork County Council

Annabella, Mallow,

Co. Cork.

Tel: (022) 21123 • Fax: (022)21983 Email: northcork@corkcoco.ie

Web: www.corkcoco.ie

Annabella, Mala,

Co. Chorcaí.

Fón: (022) 21123 • Faics: (022) 21983 R-phost: northcork@corkcoco.ie Suíomh Gréasáin: www.corkcoco.ie



To: Environmental Protection Agency, Johnstown Castle.

19th September, 2008

Re: Waste Water Discharge Licence Application for the Agglomeration of **Mitchelstown.**

Dear Sir/Madam,

Signed:

Please find enclosed Cork Co Council's Waster Water Discharge Licence Application for the Agglomeration of **Mitchelstown**.

The following documentation is enclosed:

- 1 No. signed original in hardcopy
- 1 No. copy in hardcopy
- 2 No. CD-ROM with all documentation in electronic searchable PDF (OCR'd format)
- 2 No. CD-ROM with Autocad, Excel Data, Table D.2 and Table E.3.

The content of the electronic files is a true copy of the original hardcopy.

Thomas G. Stritch,

DIRECTOR OF SERVICES (Northern Division)

Environmental Protection Agency Received Licensing Cork

6 0 OCT 2008

Initials ____

This is a draft document and is subject to revision.



Waste Water Discharge Licence Application Form

EPA Ref. Nº:
(Office use only)

Environmental Protection Agency

PO Box 3000, Johnstown Castle Estate, Co. Wexford Lo Call: 1890 335599 Telephone: 053-9160600 Fax: 053-9160699

Web: www.epa.ie Email: info@epa.ie

SECTION A

NON-TECHNICAL SUMMARY



SECTION A: NON-TECHNICAL SUMMARY

The wastewater in Mitchelstown is collected in a partially combined/ separated foul sewage collection system which discharges to a municipal wastewater treatment plant. The various elements of the collection system are outlined below;

- The main part of the foul/ combined sewage collection network for the town collects foul sewage flows from the area of Mitchelstown west of the N7 National Primary Route. The flows are then discharged via a 450mm pipeline to the inlet works at Mitchelstown Wastewater Treatment Plant (WWTP). In general foul sewage flows east of the N7 national primary route are pumped to this network from foul sewage pumping stations at Clonmel Road and Ballynamona (see below)
- Foul sewage flows from the Kings Square area of Mitchelstown are collected in a combined system that drains via a 300mm diameter to a pumping station located within Mitchelstown WWTP. The flows are then pumped to the inlet works at Mitchelstown WWTP.
- The Clonmel Road Pumping Station collects foul sewage flows from the Clonmel Road and Mulberry Road (part) area of Mitchelstown and pumps them via 150mm rising main to the main collection system at the N7 Bridge over the Gradoge River.
- Ballynamona Pumping Station collects fouls sewage flows from the Brigown Road and Mulberry Road (part) areas of Mitchellstown and pumps them via a 150mm diameter rising main to the main collection system at Brigown Road.

Mitchelstown also has a surface water collection network which collects some of the surface water flows from the catchment and discharges them to the Gradogue River. Emergency overflow structures incorporated within the combined/ foul network allow excess flows to discharge to the surface water networks during storm events.

Mitchelstown Wastewater Treatment Plant (WWTP)

Mitchelstown Wastewater Treatment Plant (WWTP) which is located west of Mitchelstown on the banks of the Gradoge River was built in the late 1950's / early 1960's and refurbished in the 1990's. It has been designed to cater for a domestic population equivalent (P.E.) of 6,000 persons based on a hydraulic loading of 270 litres/P.E. /day. The full flow to treatment (FFT) of the Mitchelstown WWTP is 200m³/hour which is 3 * Dry Weather Flow (3DWF). The maximum hydraulic capacity of Mitchelstown WWTP is 400m³/hour (6DWF). Mitchelstown WWTP can accommodate the maximum hydraulic capacity for a period of two hours before the stormwater settlement tanks reach their capacity and then overflow to the adjacent Gradoge River. Mitchelstown WWTP treats all flows that arrive at the plant to secondary standard in accordance with the Urban Wastewater Treatment Regulations, 2001 (S.I. Number 254 of 2001) as shown in the following table;

Parameter	Concentration
Biochemical Oxygen Demand (BOD₅	25mg/l O ₂
at 20° C) without nitrification.	
Chemical Oxygen Demand	125mg/l O ₂
Total Suspended Solids	35mg/l

<u>ഉ</u>

WASTE Application Form

In addition a nutrient (phosphorus) removal plant was installed at the Wastewater Treatment Plant in 2005 to reduce the total phosphorus discharge in the final effluent to 2mg/l (max).

The treated effluent from Mitchelstown WWTP is discharged to the Funshion River, below its confluence with the Gradoge River, via a 300mm diameter outfall pipe along the banks of the Gradoge River.

Mitchelstown Wastewater Treatment Plant is currently operated by Cork County Council and consists of inlet works, primary, secondary and sludge treatment. An indicative layout of the treatment plant is detailed on Attachment A1-Drawing Number 2. The plant is manned during the working week 8.00am to 5.00pm by a plant manager. A brief description of the works is outlined below;

Untreated flow enters the WWTP via an inlet works which includes screening, grit removal and flow measuring equipment. From the inlet works the untreated flow discharges by gravity to 3 number primary settlement tanks. During storm events excess flows are diverted to 2 number stormwater settlement tanks from the inlet works. These tanks would normally be kept empty and following storm event liquor in the tanks is pumped back to the inlet works by a pump set located in the main pumping station. There is an overflow incorporated within the storm water tanks that allows the tanks to overflow to the Gradoge River once they have reached their capacity.

The wastewater flow from the primary settlement tanks discharges by gravity to the main pumping station from where it is pumped to the 4 number rotating biological filters. The flow is divided equally between the four filters. The discharge from the biological filters gravitates to the humus tanks from where it in turn discharges by gravity following settlement to the outfall pipeline to the Funshion River.

Mitchelstown WWTP includes an site sludge treatment facility. The sludge treatment facility consists of a sludge pumping station, a picket fence thickener, a thermophilic aerobic sludge digestion plant, sludge dewatering plant and sludge holding tanks.

The Dairygold Creamery in Mitchelstown has its own Wastewater Treatment Plant which treats wastewater arising from its production facilities in Mitchelstown and this is operated and monitored under a separate IPC licence. The outlet from this Wastewater Treatment Plant connects into the main outlet from the municipal Wastewater Treatment Plant which in turn discharges to the River Funshion. The pollution loads from the Mitchelstown agglomeration arises from both the domestic population and the Dairygold Creamery.

Attachment A.1

Drawing Number MITCHELSTOWN_A1_ 01 Drawing Number MITCHESLTOWN_A1_02 Drawing Number MITCHELSTOWN_A1_03 Drawing Number MITCHELSTOWN A1_04

Drawing Number MITCHELSTOWN_A1_01
Drawing Number MITCHELSTOWN_A1_02
Drawing Number MITCHELSTOWN_A1_03
Drawing Number MITCHELSTOWN_A1_04

SECTION B

GENERAL

SECTION B: GENERAL

Advice on completing this section is provided in the accompanying Guidance Note.

B.1 Agglomeration Details

Name of Agglomeration:	Mitchelstown	
------------------------	--------------	--

Applicant's Details

Name and Address for Correspondence

Only application documentation submitted by the applicant and by the nominated person will be deemed to have come from the applicant.

Provide a drawing detailing the agglomeration to which the licence application relates. It should have the boundary of the agglomeration to which the licence application relates <u>clearly marked in red ink</u>.

Name*:	Cork County Council
Address:	Northern Division
	Annabella
	Mallow 83' and
	County Cork
Tel:	022 21123 RO HEE
Fax:	022 21983 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
e-mail:	frank.cronin@corkcocore

^{*}This should be the name of the water services authority in whose ownership or control the waste water works is vested.

^{*}Where an application is being submitted on behalf of more than one water services authority the details provided in Section B.1 shall be that of the lead water services authority.

Name*:	Frank Cronin
Address:	Northern Division- Cork County Council
	Annabella
	Mallow
	County Cork
Tel:	022 21123
Fax:	022 21983
e-mail:	frank.cronin@corkcoco.ie

^{*}This should be the name of person nominated by the water services authority for the purposes of the application.

Co-Applicant's Details

Name*:	Not Applicable
Address:	
Tel:	
Tel: Fax: e-mail:	
e-mail:	

^{*}This should be the name of a water services authority, other than the lead authority, where multiple authorities are the subject of a waste water discharge (authorisation) licence application.

Design, Build & Operate Contractor Details

Name*:	Not Applicable
Address:	
Tel:	
Fax:	
e-mail:	

^{*}Where a design, build & operate contract is in place for the waste water works, or any part thereof, the details of the contractor should be provided.

Attachment included	Yes	No
	X	

Attachment B.1

Drawing Number MITCHESLTOWN_B1_ 05

Ig Number MITCHESLTOWN_B1_ 05 Location of Associated Waste Water Treatment Plant(s) B.2

Give the location of the waste water treatment plant associated with the waste water works, if such a plant or plants exists.

Name*:	Brendan O'Gorman- Area Engineer
Address:	Mitchelstown Wastewater Treatment Plant
	Mitchelstown
	County Cork
Grid ref	E:181000 N: 113,400
(6E, 6N)	
Level of	Primary Settlement, Secondary Treatment (Rotating Biological
Treatment	Filters), Final settlement (Humus Tanks), phosphorus treatment and
	sludge removal.
Primary	(025) 84319
Telephone:	, ,
Fax:	None
e-mail:	None

^{*}This should be the name of the person responsible for the supervision of the waste water treatment plant.

Attachment included	Yes	No
	Х	

Attachment B.2

Drawing Number MITCHELSTOW_B2_06

B.3 Location of Primary Discharge Point

Give the location of the primary discharge point, as defined in the Waste Water Discharge (Authorisation) Regulation, associated with the waste water works.

Type of	Piped discharge (300mm diameter outfall pipe from Mitchelstown WWTP)
Discharge	
Unique	SW1- MITC
Point Code	
Location	River Funshion at Mitchelstown
Grid ref	E:179642 N: 113684
(6E, 6N)	

Attachment included	Yes	No
	X	

Attachment B.3

Drawing Number MITCHELSTOWN_B3_ 07

B.4 Location of Secondary Discharge Point(s)

Give the location of **all** secondary discharge point(s) associated with the waste water works. Please refer to Guidance Note of information on Secondary discharge points.

Type of	SECONDARY (Storm overflow from stormwater settlement tanks at
Discharge	Mitchelstown WWTP & Street Str
Unique	SW2- MITC
Point Code	**************************************
Location	Gradoge River at Mitchelstown
Grid ref	E: 181000 N: 113318
(6E, 6N)	Cor

Type of	SECONDARY (Emergency overflow from Clonmel Road Pumping Station)
Discharge	
Unique	SW3-MITC
Point Code	
Location	Gradoge River at Mitchelstown
Grid ref	E: 181857 N: 113075
(6E, 6N)	

Type of	SECONDARY (Emergency overflow from Ballynamona Pumping Station)
Discharge	
Unique	SW4- MITC
Point Code	
Location	Gradoge River at Mitchelstown
Grid ref	E:182454 N: 111778
(6E, 6N)	

Attachment included	Yes	No
	X	

Attachment B.4

Drawing Number MITCHELSTOWN B4 08 Drawing Number MITCHELSTOWN_B4_09 Drawing Number MITCHELSTOWN B4 10 Drawing Number MITCHELSTOWN_B4_11

B.5 Location of Storm Water Overflow Point(s)

Give the location of all storm water overflow point(s) associated with the waste water works.

Type of	STORM WATER (Combined Sewer outfalls discharge to	
Discharge	Mitchelstown Storm water collection system which ultimately discharges	
	to the River Gradogue via a 1200mm culvert. at this location.	
Unique	SW5- MITC	
Point Code		
Location	Gradoge River at Mitchelstown	
Grid ref	E: 181638 N: 113133	
(6E, 6N)		

Attachment included	Yes	No
	any any or X	

Drawing Number MITCHELSTOWN_B5 12 Property of the Planning Authority

Give the name of the planning authority, or authorities, in whose functional area the discharge or discharges take place or are proposed to take place.

Name:	Cork County Council
Address:	Planning Department
	County Hall
	Carrigrohane Road
	Cork
Tel:	021 4276891
Fax:	021 4867007
e-mail:	płanning@corkcoco.ie

Planning Permission relating to the waste water works which is the subject of this application: - (tick as appropriate)

has been obtained	is being processed	
is not yet applied for	is not required	X

Local Authority Planning File Reference №:	not applicable

Attachment B.6

Attachment included	Yes	No
		Х

B.7 Other Authorities

B.7 (i) Shannon Free Airport Development Company (SFADCo.) area

Attachment B.7(i)

Within the SFADCo Area	Yes	No
		х

B.7 (ii) Health Services Executive Region

The applicant should indicate the **Health Services Executive Region** where the discharge or discharges are or will be located.

	<u></u>
Name:	Health Services Executive
Address:	North Cork Area Headquarters
	Gouldshill House, Mallow, 📆 💞
	County Cork
Tel:	022 30200 gull gull
Fax:	022 30211 Kan at 1
e-mail:	None see out

B.7 (iii) Other Relevant Water Services Authorities

Regulation 13 of the Waste water Discharge (Authorisation) Regulations, 2007 requires all applicants, not being the water services authority in whose functional area the relevant waste water discharge or discharges, to which the relevant application relates, takes place or is to take place, to notify the relevant water services authority of the said application.

Name:	NONE	
Address:		
Tel:		
Fax:		
e-mail:		

Relevant Authority Notified	Yes	No
		Х

Attachment B.7(iii)

Attachment included	Yes	No
		X

B.8 Notices and Advertisements

Attachment included	Yes	No
	Х	

Attachment 8

Newspaper Notice

B.9 (i) Population Equivalent of Agglomeration

TABLE B.9.1 POPULATION EQUIVALENT OF AGGLOMERATION

The population equivalent (p.e.) of the agglomeration to be, or being, served by the waste water works should be provided and the period in which the population equivalent data was compiled should be indicated.

Population Equivalent	5 54100
Data Compiled (Year)	nt 2004
Method	Flow
	measurement survey
	for Preliminary Report
	on Nutrient Removal

B.9 (ii) Pending Development

Some small housing developments consisting of a total of 120 houses have been granted planning permission in Mitchelstown. The total p.e. of these houses is 360. Planning permission has also been granted for a distribution warehouse which will have a total p.e. of approximately 25. Adding these to the current operating p.e. of the plant of 4,100 this gives a total of 4,485p.e. This is still well below the plant capacity of 6,000p.e. and should therefore have minimal impact on the current plant performance.

B.9 (iii) FEES

State the relevant Class of waste water discharge as per Column 1 of the Second Schedule, and the appropriate fee as per Columns 2 or 3 of the Third Schedule of the Waste Water Discharges (Authorisation) Regulations 2007, S.I. No. 684 of 2007.

Class of waste water discharge	Fee (in €)	
Discharges from agglomerations	€25,000	
with a population equivalent of		
2.001 to 10.000		

Appropriate Fee Included	Yes	No
	X	

B.10 Capital Investment Programme

A sum of €221,000 has been included in the Water Services Investment Programme 2007-2009 for a Nutrient Removal Plant and improved screening at Mitchelstown Wastewater Treatment Plant. The nutrient (phosphorus) removal plant has been installed at the Wastewater Treatment Plant. It has been designed to reduce the total phosphorus discharge in the final effluent to 2mg/l (max). Further improvements at the inlet works have been identified. These works include stormwater screening and modifications to the existing inlet works for the removal of oil and greases. These works are currently being designed and the works are programmed to be carried out in late 2008/early 2009.

As part of the Serviced Land Imitative of the Water Services Investment Programme 2007-200 a sum of €3,000,000 has been allocated for the Mitchelstown Sewerage Scheme. These monies will be mainly expended on improvement works to the collection networks. It is anticipated that a Consulting Engineer will be appointed shortly to prepare a preliminary report for these works.

Attachment included	Yes	No
	X	

Water Services Investment Programme 2007 to 2009 B.11 Significant Correspondent

Provide a summary of any correspondence resulting from a Section 63 notice issued by the Agency in relation to the waste water works under the Environmental Protection Agency Acts, 1992 and 2003, as amended by Section 13 of Protection of the Environment Act, 2003.

Attachment B.11.

Attachment included	Yes	No
		X

B.12 Foreshore Act Licences.

Provide a copy of the most recent Foreshore Act licence issued in relation to discharges from the waste water works issued under the Foreshore Act 1933.

Attachment B.12

Attachment included	Yes	No
		X

Drawing Number MITCHELSTOWN_B1_05

Drawing Number MITCHELSTOWN_B2_06

Location of Secondary Discharge Point(s)

Drawing Number MITCHELSTOWN_B4_08

Drawing Number MITCHELSTOWN_B4_09

Drawing Number MITCHELSTOWN_B4_10

Drawing Number MITCHELSTOWN_B4_11

Location of Storm Water Overflow Point(s)

Drawing Number MITCHELSTOWN_B5_12

Notices and Advertisements

Capital Investment Programme

Water Services Investment Programme 2007 to 2009 (Cork County Council)

SECTION C

INFRASTRUCTURE



SECTION C: INFRASTRUCTURE & OPERATION

Advice on completing this section is provided in the accompanying Guidance Note.

C.1 Operational Information Requirements

Untreated flow enters the WWTP via an inlet works which includes screening, grit removal and flow measuring equipment. From the inlet works the untreated flow discharges by gravity to 3 number primary settlement tanks. During storm events excess flow can be diverted from the inlet works to 2 number stormwater settlement tanks. These tanks would normally be kept empty and following storm events liquor in the tanks can be pumped back to the inlet works by a pump set located in the main pumping station. There is an overflow incorporated within the storm water tanks that allows the tanks to overflow to the Gradoge River if they reach their capacity.

Mitchelstown Wastewater Treatment Plant has been designed to cater for a domestic population equivalent (P.E.) of 6,000 persons based on a hydraulic loading of 270 litres/P.E. The capacity (full flow to treatment-FFT) of the Mitchelstown WWTP is 200m³/hour which is 3 * Dry Weather Flow (3DWF). The storm water settlement tanks increase the maximum hydraulic capacity of Mitchelstown Wastewater Treatment Plant to 400m³/hour (6DWF) for a period of two hours before the stormwater settlement tanks reach their capacity and then overflow to the adjacent Gradoge River. A facility exists within the plant whereby liquid in the storm water settlement tanks can be pumped back to the inlet works for full treatment during period of low flow.

Mitchelstown WWTP treats all flows that arrive at the plant to secondary standard in accordance with the Urban Wastewater Treatment Regulations, 2001 (S.I. Number 254 of 2001) as shown in the following table;

Parameter	Concentration
Biochemical Oxygen Demand (BOD ₅	25mg/l O ₂
at 20 ⁰ C) without nitrification.	9900
Chemical Oxygen Demand	125mg/l O ₂
Total Suspended Solids	35mg/l

~ON

In addition the nutrient (phosphorus) removal plant reduces the total phosphorus discharge in the final effluent to 2mg/l (max).

C.1.1 Storm Water Overflows

SW5-MITC

The combined sewer network for Mitchelstown surcharges to the storm water collection system at a number of locations (see Drawing MIT 03- Attachment A1) during storm events. The Mitchelstown surface water collection system ultimately discharges to the River Gradogue via a 1200mm culvert. This location is classified as stormwater discharge location SW5-MITC.



An assessment of this outfall with regard to the Urban Waste Water Treatment Directive (91/271/EEC) - Procedures and Criteria in relation to Storm Water Overflows will be carried out as part of the Mitchelstown Sewerage Scheme for which funds have been allocated under the Water Services Investment Programme 2007-2009. It is anticipated that this existing storm water discharge will either be upgraded or decommissioned.

C.1.2 Pumping Stations

Clonmel Road Pumping Station

The Clonmel Road Pumping Station collects foul sewage flows from the Clonmel Road and Mulberry Road (part) area of Mitchelstown and pumps them via 150mm rising main to the main collection system at the N7 Bridge over the Gradoge River. The Clonmel Road pumping station operates on a duty /standby basis. The following improvements were carried out to Clonmel Road Pumping Station in 2006

- The existing emergency overflow pipeline was replaced
- A storm water holding tank with a capacity of 36m3 was constructed at the site.
- A dial out telemetry system was installed whereby the Caretaker at the Wastewater Treatment Plant is notified once the pumps malfunction
- The existing pumps were replaced.

In the event of a pump failure the alarm system is activated and excess flows will discharge to the holding tank. Once the holding tank reaches its capacity the excess flow will discharge to the River Gradoge via the emergency overflow pipeline. The frequency and duration of emergency overflows to the River Gradoge is unknown. The design and operation of the Clonmel Road Pumping station will be reviewed as part of the Mitchelstown Sewerage Scheme project for which funds have been allocated as part of the Water Services Investment Programme 2007 to 2009.

Ballynamona Pumping Station

Ballynamona Pumping Station collects fouls sewage flows from the Brigown Road and Mulberry Road (part) areas of Mitchelstown and pumps them via a 150mm diameter rising main to the main collection system at Brigown Road. The pumping station operates on a duty/standby basis and a dial out telemetry system notifies the caretakers once if the pumps malfunction.

The frequency and duration of emergency overflows to the River Gradoge is unknown. The design and operation of the Ballynamona Pumping station will be reviewed as part of the Mitchelstown Sewerage Scheme project for which funds have been allocated as part of the Water Services Investment Programme 2007 to 2009.

Attachment included	Yes	No
	Х	

Attachment C.1

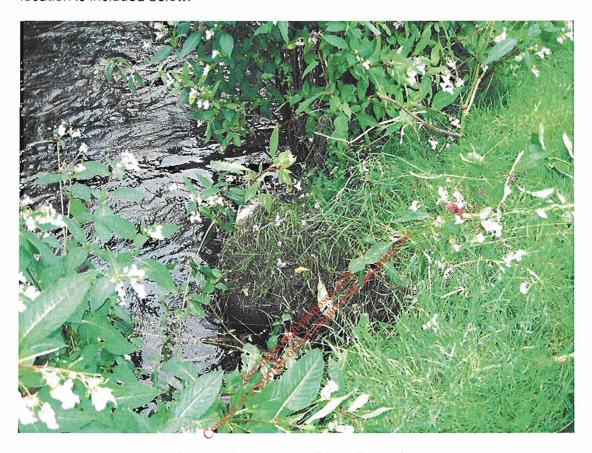
Drawing Number MITCHELSTOWN_C1_13



C.2 Outfall Design and Construction

The location of all primary secondary and storm water discharge points is detailed on Drawing Number MITCHELSTOWN_C2_15.

The primary discharge (SW1-MITC) from Mitchelstown WWTP to the Funshion River is via a 300mm diameter gravity outfall pipeline. A photograph of the outfall location is included below.



Primary Discharge to River Function

A detail of the storm water overflow discharge from Mitchelstown Wastewater Treatment Plant to the River Gradoge (SW2-MITC) is detailed on Drawing Number MITCHELSTOWN_C2_14. The outfall consists of a 300mm gravity pipeline through the earthworks berm surrounding the WWTP site. A non return flap valve is fitted to the end of the pipeline where it discharges to the river.

The detail of the emergency overflow from the Clonmel Road pumping station is unknown (secondary discharge- SW3-MITC). A photograph of the emergency overflow from the Ballynamona pumping station (secondary discharge- SW4-MITC) is included below.

The design and detail of all discharge points will be will be reviewed as part of the Mitchelstown Sewerage Scheme project for which funds have been allocated as part of the Water Services Investment Programme 2007 to 2009.



Emergency Overflow from Ballynamona Pumping Station

Attachment included	on Perfective	Yes	No
	inspectionner	х	

Attachment C.2.

Drawing Number MITCHELSTOWN_C2_14
Drawing Number MITCHELSTOWN_C2_15

Operational Information Requirements

Drawing Number MITCHELSTOWN_C1_13

Outfall Design and Construction

Drawing Number MITCHELSTOWN_C2_14
Drawing Number MITCHELSTOWN_C2_15

SECTION D

DISCHARGES TO THE AQUATIC ENVIRONMENT



SECTION D:

DISCHARGES TO THE AQUATIC ENVIRONMENT

Discharges to Surface Waters

Supporting information should form Attachment D.1

Attachment included	Yes	No
	Х	

Attachment D.1

Water Monitoring Data

D.2 **Tabular Data on Discharge Points**

т	able D.2:		aly appoint use.					
PT_CD	PT_TYPE	LA_NAME	RWB_TYPE	RWB_NAME	DESIGNATION	EASTING	NORTHING	
Point Code Provide label ID's	Point Type (e.g., Primary/ Secondary/ Storm Water Overflow)	Local Authority Name (e.g., Donegal County Council)	Receiving Water Body Type (e.g., River, Lake, Groundwater, Transitional, Coastal)	Receiving Water Body Name (e.g., River Suir)	Protected Area Type (e.g., SAC, candidate SAC, NHA, SPA etc.)	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference	

Attachment D.2

Discharge Points Data

Discharges to Surface Waters



Tabular Data on Discharge Points



SECTION E

MONITORING