

## SECTION D – DISCHARGES TO THE AQUATIC ENVIRONMENT

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### Attachment D1: Discharges to Surface Waters

- Table D.1(i)(a): Emissions to Surface/Ground Waters (Primary Discharge Point)
- Table D.1(i)(b): Emissions to Surface/Ground Waters – Characteristics of the Emission (Primary Discharge Point)
- Table D.1(i)(c): Dangerous Substance Emissions to Surface/Ground Waters – Characteristics of the Emission (Primary Discharge Point)
- Monitoring Information for the 'Influent' to the WWTP
- Statement on Annex X of the Water Framework Directive (2000/60/EC) & Annex VIII of the Water Framework Directive (2000/60/EC)

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Table D.1(i)(a): EMISSIONS TO SURFACE/GROUND WATERS (Primary Discharge Point)

Discharge Point Code: SW-1

Local Authority Ref No:	Crossakeel SW-1
Source of Emission:	Waste Water Treatment Plant - Treated Effluent
Location:	Crossakeel Waste Water Treatment Plant
Grid Ref (12 digits, 6E, 6N)	263902 / 274483
Name of Receiving waters:	Stream Tributary of Athboy River
Water Body:	River Water Body
River Basin District	Eastern RBD
Designation of Receiving Waters:	Stream Tributary - No Designation / Athboy River -
Flow Rate in Receiving Waters:	0 m <sup>3</sup> .sec <sup>-1</sup> Dry Weather Flow 0 m <sup>3</sup> .sec <sup>-1</sup> 95% Weather Flow
Additional Comments (e.g. commentary on zero flow or other information deemed of value)	Stream Tributary of Athboy River Nil m <sup>3</sup> /d DWF and Nil m <sup>3</sup> /s 95 percentile flow estimates based on ESB/EPA Hydrometric Model. 50 percentile flow estimated (based on ESB/EPA model) at 0.01m <sup>3</sup> /s.

## Emission Details:

(i) Volume emitted			
Normal/day	33.4 m <sup>3</sup>	Maximum/day	43.8 m <sup>3</sup>
Maximum rate/hour	6.9 m <sup>3</sup>	Period of emission (avg)	60 min/hr 24 hr/day 365 day/yr
Dry Weather Flow	0.00035 m <sup>3</sup> /sec		



Table D.1(i)(b): EMISSIONS TO SURFACE/GROUND WATERS - Characteristics of The Emission (Primary Discharge Point)

Discharge Point Code: SW-1

Substance	As discharged			
	Unit of Measurement	Sampling Method	Max Daily Avg.	kg/day
pH	pH	Grab	= 7.62	
Temperature	°C	Grab	= 0	
Electrical Conductivity (@ 25°C)	µS/cm	Grab	= 492	
Suspended Solids	mg/l	Grab	= 13	0.394
Ammonia (as N)	mg/l	Grab	< 0.2	0.006
Biochemical Oxygen Demand	mg/l	Grab	< 2	0.061
Chemical Oxygen Demand	mg/l	Grab	= 28	0.848
Total Nitrogen (as N)	mg/l	Grab	= 14	0.424
Nitrite (as N)	mg/l	Grab	= 0.1	0.003
Nitrate (as N)	mg/l	Grab	= 11.51	0.349
Total Phosphorous (as P)	mg/l	Grab	= 2.174	0.066
OrthoPhosphate (as P)	mg/l	Grab	= 2.49	0.075
Sulphate (SO <sub>4</sub> )	mg/l	Grab	= 27	0.818
Phenols (Sum)	µg/l	Grab	< 10	0.000303

For Orthophosphate: this monitoring should be undertaken on a sample filtered on 0.45µm filter paper

For Phenols: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

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Table D.1(i)(c): DANGEROUS SUBSTANCE EMISSIONS TO SURFACE/GROUND WATERS -  
Characteristics of The Emission (Primary Discharge Point)

Discharge Point Code: SW-1

Substance	As discharged			
	Unit of Measurement	Sampling Method	Max Daily Avg.	kg/day
Alrazine	µg/l	Grab	< 1	0.00003
Dichloromethane	µg/l	Grab	< 1	0.00003
Simazine	µg/l	Grab	< 1	0.00003
Toluene	µg/l	Grab	< 1	0.00003
Tributyltin	µg/l	Grab	< 0.02	0.000001
Xylenes	µg/l	Grab	< 1	0.00003
Arsenic	µg/l	Grab	< 1	0.00003
Chromium	µg/l	Grab	= 4	0.000121
Copper	µg/l	Grab	= 5	0.000152
Cyanide	µg/l	Grab	< 50	0.001515
Flouride	µg/l	Grab	= 400	0.01212
Lead	µg/l	Grab	< 1	0.00003
Nickel	µg/l	Grab	= 1	0.00003
Zinc	µg/l	Grab	= 30	0.000909
Boron	µg/l	Grab	< 3	0.000091
Cadmium	µg/l	Grab	< 0.4	0.000012
Mercury	µg/l	Grab	< 0.05	0.000002
Selenium	µg/l	Grab	= 1	0.00003
Barium	µg/l	Grab	= 11	0.000333

For Orthophosphate: this monitoring should be undertaken on a sample filtered on 0.45µm filter paper

For Phenols: USEPA Method 604, AWWA Standard Method 6240, or equivalent.

## MONITORING INFORMATION FOR THE 'INFLUENT' TO THE WWTP

Monitoring data on the 'Influent' accepted at the Waste Water Treatment Plant for 2007 and 2008 are attached overleaf.

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CROSSAKEEL 'INFLUENT' MONITORING 2007										
Plant Name	Sample	Date of Sampling	Sample Type	BOD mg/l	COD mg/l	TSS mg/l	Total P mg/l P	Ortho P mg/l P	Total N mg/l N	NH3-N mg/l N
Crossakeel	Influent	25/05/2007	G	-	-	-	-	-	-	-
	Influent	11/07/2007	G	-	-	-	-	-	-	-
	Influent	08/11/2007	G	407	922	387	16	-	159	-
	Influent	13/11/2007	G	277	677	76	6.43	-	46.8	-

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CROSSAKEEL 'INFLUENT' MONITORING 2008							
	04-Mar-08	02-May-08	02-Jul-08	06-Aug-08	10-Sep-08	25-Nov-08	11-Dec-08
Parameter	Inf			Inf	Inf	Inf	Inf
BOD mg/l	644	330	293	158	154.5	147	344.5
COD mg/l	1445	694	511	425	313	352	664
TSS mg/l	365	74	662	31			285
Tot P mg/l	11.4	9.93	8.89	2.52	4.07	7.07	8.57
Tot N mg/l	107	88.8	97.3	19.9	25.3	61.5	

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**STATEMENT ON:**  
**ANNEX X OF THE WATER FRAMEWORK DIRECTIVE (2000/60/EC)**  
**&**  
**ANNEX VIII OF THE WATER FRAMEWORK DIRECTIVE (2000/60/EC)**

Based on Effluent (Primary Discharge Point) Analysis presented on Tables D.1(i)(c) and on the analysis of water upstream and downstream of the Primary Discharge Point (Tables F.1(i)(a) & F.1(i)(b)), it is concluded that none of the substances listed in Annex X of the Water Framework Directive (2000/60/EC) or any of the Relevant Pollutants listed in Annex VIII of the Water Framework Directive (2000/60/EC) are being discharged from the waste water works or are seen to be present in the receiving water environment downstream of a discharge from the works, at concentrations above the standards set in the Water Quality (Dangerous Substances) Regulations, 2001 (S.I. 12 of 2001).

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## SECTION D – DISCHARGES TO THE AQUATIC ENVIRONMENT

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### Attachment D2: Tabular Data on Discharge Points

- Table D.2: Tabular Data on Discharge Points
- Drawing No. 5270-2754

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