Comhairle Contae Thiobraid Árann Thuaidh
North Tipperary County Council

Mr. Jim McGuire, B.E.,
North Tipperary County Council,
Civic Offices,
Limerick Road,
Nenagh,
Co. Tipperary.

Mr. John Breen,
Inspector,
Administration,
Environmental Licensing Programme,
Office of Climate, Licensing and Resource Use,
Environmental Protection Agency,
Headquarters,
PO Box 3000,
Johnstown Castle Estate,
Co. Wexford.

14 January 2010. D0189-01

RE: Ballina/Killaloe – Notice in accordance with Regulation 18 (3)(b) of the Waste Water Discharge (Authorisation) Regulations, 2007.

Dear Mr. Breen,

I am corresponding with you in reply to your recent letter dated 15 December 2009. Please find below a reply to each of the points raised in the aforementioned letter.

Regulation 16 Compliance Requirements

1. In relation to Section B.9(i), this figure of 3540 P.E. does not include the maximum average weekly loading for the agglomeration. Ballina WWTP is monitored in relation to BOD loading on a monthly basis, not a weekly basis (12 times annually, spread evenly over the year). This is due to the limited resources available to North Tipperary County Council's Water Laboratory. The monthly monitoring of Ballina WWTP is carried out on a random basis and is not targeted at specific events such as the peak holiday season.
   Due to the design of Ballina WWTP, the WWTP is capable of dealing with large variations of BOD, such as a Bank Holiday Weekend. The critical loading on Ballina WWTP is not BOD loading as such, but rather hydraulic loading.

There is generally an inverse proportional relationship between hydraulic and BOD loading in peak holiday season, as wet weather deters many holiday makers, especially day trippers and boating enthusiasts from visiting Ballina/Killaloe.

2. Ballina/Killaloe discharges to The Grange River, which then flows into Lough Derg. Lough Derg is part of the River Shannon Waterway, which ultimately flows into the sea at the Shannon Estuary.
   Limerick City Council abstracts water for public consumption for the River Shannon at Clareville, Castleconnell, Co. Limerick, at approximately 12km downstream of Ballina Wastewater Treatment Plant. This facility has no issues with the raw water it abstracts and treats to supply Limerick City with safe potable water. It treats water to EU Drinking Water Regulations using advanced water treatment technologies.
   It is extremely unlikely that Ballina/Killaloe Agglomeration has or will have a significant effect on faecal coliform, salmonella or cryptosporidium in the receiving water environment due to the dilution factors of The Grange River and The River Shannon, and also as a result of the excellent quality effluent produced by Ballina WWTP.
   Ballina WWTP also does not discharge significant amounts of Dangerous Substances as defined in the Regulations.
   At present Ballina WWTP does not have facilities such as chlorination or membrane filtration of the final effluent to reduce or kill coliforms, salmonella or protozoan pathogens.
   No private group water scheme abstracts water from the River Shannon downstream of Ballina WWTP.

3. The existing plant is approaching full capacity (WWTP at 85% capacity at present) and there are plans to extend the P.E. of the plant by 3,000-4,000 P.E. to cater for future needs. This should easily accommodate any future expansion both hydraulically and organically. The existing plant is designed in a modular format so that any future extension or modifications can be incorporated without undue disturbance to the operation or maintenance of the existing plant.

   It is estimated that approximately 690 P.E. could be contributed to the wastewater works as a result of planning permissions granted, but where development has not been completed or commenced to date. The majority of this development is residential housing. Due to the current economic climate, it is believed that much of this development will not take place in the foreseeable future.

4. The Canal Bank Pumping Station is equipped with 2 No. Submersible Pumps which operate on a duty/standby basis. They are not equipped with a back-up power generator in the event of a power black-out.

5. A preliminary report has not been completed for Ballina. The brief in relation to the appointment of consultants Ballina has to be updated and is awaiting approval from the Department of the Environment, Heritage and Local Government. Ballina WWTP is on North Tipperary County Council's Water Services Investment Programme for 2007-2009. The 2010-2012 Investment Programme is currently being prepared by the Department of the Environment, Heritage and Local Government.

6. The sections of the Application on http://78.137.160.73/epa_wwd_licensing/ have been completed and an updated printed version is included as part of this reply.

   Using the flow diagram in Circular L8/08, it appears an appropriate assessment is required. This appropriate assessment will be provided to the EPA once completed. It is expected that this process may take up to 3 months to complete. Please find below details of answers to each section of this flow diagram.

   Question 1. Is the development in a nature conservation area? Answer: No.
   Question 2a. Is the surface water discharge in the surface water catchment of a nature conservation site? Answer: Yes. The surface water discharge is located in WFD Catchment SH-253904, which includes the River Shannon/Lough Derg SAC.
   Question 3. Are the qualifying habitats and species of the site water dependent? Answer: Yes.
   Question 5. Is there a WFD sub-basin plan for the site or its protected habitats/species? Answer: No.
   Final Result Assess Impacts/Appropriate Assessment.

7. The Assimilative Capacity calculations for the River Shannon at Ballina are based on the 95 percentile flow of 20.53m^3/sec (based on 1986 data at Ardnacrusha power station which controls the water levels in Lough Derg), and the difference between the actual and permissible concentrations of B.O.D., Phosphate and Ammonia for the relevant Q status of the River Shannon at Ballina.
   The Assimilative Capacity (kg/day) of the River Shannon at Ballina is estimated as 1774kg/day as B.O.D., 35kg/day as Phosphate and 1738kg/day as Ammonia. These Assimilative Capacity calculations were extracted from the "National Urban Waste Water Study – North Tipperary County Report" published by Babtie et al in February 2004.
   The maximum daily average emissions for Ballina WWTP in kg/day was calculated at 5.99kg/day as B.O.D., 1.88kg/day as Total Phosphate and 0.28kg/day as Ammonia. By comparing these figures with the available assimilative capacity, it is clear that there is more than sufficient assimilative capacity for Ballina WWTP's emissions in the Lower River Shannon.

8. North Tipperary County Council complies with the above Council Directives. The main directive which applies to Ballina/Killaloe Agglomeration is the Urban Waste

Water Treatment Directive 91/271/EEC. The final effluent discharged from Ballina Waste water Treatment Plant is fully compliant with the Urban Waste Water Treatment Regulations, as can be seen from sampling data.
North Tipperary County Council's Capital Investment Programme, is taking account of future needs by making plans to add up to between 3,000 – 4,000 P.E. to the existing plants capacity so as to cater for population expansion in the coming 20 years. In this way, Ballina WWTP will not be overloaded in the medium to long term.
At present the upgrade of Ballina WWTP and the sewer network on the Ballina side of the Agglomeration has been prioritised under North Tipperary County Council's Water Services Capital Investment Programme. It is currently at Preliminary Report Stage, with a preliminary estimate of €6.63M. The current position is that the Brief is to be updated and consultants appointed pending approval from the DoEHLG. Funding is expected to split between the Local Authority/Developers and the DEHLG at 25% and 75% respectively.

Yours sincerely,

_____

Mr. Jim McGuire,
Senior Engineer.

Agglomeration details

Leading Local Authority	North Tipperary County Council
Co-Applicants	
Agglomeration	Ballina/Killaloe
Population Equivalent	3540
Level of Treatment	Secondary with Phosphate Removal
Treatment plant address	Ballina WWTP, Birdhill Road, Ballina, Co. Tipperary.
Grid Ref (12 digits, 6E, 6N)	170717 / 172454 (Verifed using GPS)
EPA Reference No:	

Contact details

Contact Name:	Mr. Jim McGuire, B.E.
Contact Address:	North Tipperary Co. Council, Civic Offices, Limerick Road, Nenagh, Co. Tipperary.
Contact Number:	067 44500
Contact Fax:	067 31773
Contact Email:	jmcguire@northtippcoco.ie

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

Discharge Point Code: SW-1

Local Authority Ref No:	BAPDP1	
Source of Emission:	Ballina WWTP	
Location:	Adjacent to WWTP	
Grid Ref (12 digits, 6E, 6N)	170689 / 172508 (Verifed using GPS)	
Name of Receiving waters:	Grange River	
Water Body:	River Water Body	
River Basin District	Shannon IRBD	
Designation of Receiving Waters:	None	
Flow Rate in Receiving Waters:	20.53	$m^3.sec^{-1}$ Dry Weather Flow
	20.53	$m^3.sec^{-1}$ 95% Weather Flow
Additional Comments (e.g. commentary on zero flow or other information deemed of value)	DWF and 95 percentile flow controlled by Ardnacrusha Dam.	

Emission Details:

(i) Volume emitted			
Normal/day	1693 m^3	Maximum/day	4320 m^3
Maximum rate/hour	180 m^3	Period of emission (avg)	60 min/hr 24 hr/day 365 day/yr
Dry Weather Flow	800 m^3/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	24 hr composite	= 7.26	
Temperature	°C	24 hr composite	= 17.4	
Electrical Conductivity (@ 25°C)	µS/cm	24 hr composite	= 540	
Suspended Solids	mg/l	24 hr composite	= 10.8	21.57
Ammonia (as N)	mg/l	24 hr composite	= 0.14	0.28
Biochemical Oxygen Demand	mg/l	24 hr composite	= 3	47.93
Chemical Oxygen Demand	mg/l	24 hr composite	= 24	47.93
Total Nitrogen (as N)	mg/l	24 hr composite	< 1	1.997
Nitrite (as N)	mg/l	24 hr composite	= 0.25	0.5
Nitrate (as N)	mg/l	24 hr composite	= 10.34	20.65
Total Phosphorous (as P)	mg/l	24 hr composite	= 0.94	1.88
OrthoPhosphate (as P)	mg/l	24 hr composite	= 0.77	1.54
Sulphate (SO_4)	mg/l	24 hr composite	= 44.62	89.11
Phenols (Sum)	µg/l	24 hr composite	< 5	0.01

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.

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
Atrazine	µg/l	24 hr composite	< 0.01	0.00002
Dichloromethane	µg/l	24 hr composite	< 5	0.01
Simazine	µg/l	24 hr composite	< 0.01	0.00002
Toluene	µg/l	24 hr composite	< 0.01	0.00002
Tributyltin	µg/l	24 hr composite	< 0.02	0.00004
Xylenes	µg/l	24 hr composite	< 0.1	0.0002
Arsenic	µg/l	24 hr composite	< 20	0.04
Chromium	µg/l	24 hr composite	< 10	0.02
Copper	µg/l	24 hr composite	= 44.06	0.088
Cyanide	µg/l	24 hr composite	< 5	0.01
Flouride	µg/l	24 hr composite	< 0.1	0.002
Lead	µg/l	24 hr composite	< 3	0.006
Nickel	µg/l	24 hr composite	= 13.6	0.027
Zinc	µg/l	24 hr composite	= 265.8	0.531
Boron	µg/l	24 hr composite	= 200	0.399
Cadmium	µg/l	24 hr composite	< 1	0.002
Mercury	µg/l	24 hr composite	< 0.2	0.004
Selenium	µg/l	24 hr composite	< 2	0.004
Barium	µg/l	24 hr composite	= 54.9	0.1096

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.

Table D.1(iii)(a): EMISSIONS TO SURFACE/GROUND WATERS (Storm Overflow)

Discharge Point Code: SW-2

Local Authority Ref No:	RPSWO1	
Source of Emission:	Riverside Park Pumping Station	
Location:	Adjacent to Pumping Station	
Grid Ref (12 digits, 6E, 6N)	170648 / 172874 (Verifed using GPS)	
Name of Receiving waters:	River Shannon/Lough Derg	
Water Body:	River Water Body	
River Basin District	Shannon IRBD	
Designation of Receiving Waters:	Nutrient Sensitive	
Flow Rate in Receiving Waters:		$m^3.sec^{-1}$ Dry Weather Flow
		$m^3.sec^{-1}$ 95% Weather Flow
Additional Comments (e.g. commentary on zero flow or other information deemed of value)	This is an emergency overflow from the Riverside Park pumping station. This overflow is not equipped with a flowmeter. It only operates in emergency or stormwater events.	

Emission Details:

(i) Volume emitted			
Normal/day	0 m^3	Maximum/day	m^3
Maximum rate/hour	m^3	Period of emission (avg)	min/hr hr/day day/yr
Dry Weather Flow	m^3/sec		

Table D.1(iii)(a): EMISSIONS TO SURFACE/GROUND WATERS (Storm Overflow)

Discharge Point Code: SW-3

Local Authority Ref No:	CLSWO1	
Source of Emission:	Clarisford Pumping Station	
Location:	Clarisford, Killaloe	
Grid Ref (12 digits, 6E, 6N)	170507 / 172641 (Verifed using GPS)	
Name of Receiving waters:	River Shannon/Lough Derg	
Water Body:	River Water Body	
River Basin District	Shannon IRBD	
Designation of Receiving Waters:	Nutrient Sensitive	
Flow Rate in Receiving Waters:		$m^3.sec^{-1}$ Dry Weather Flow
		$m^3.sec^{-1}$ 95% Weather Flow
Additional Comments (e.g. commentary on zero flow or other information deemed of value)	This is an emergency overflow from Clarisford Pumping Station. This overflow only operates in emergency or stormwater events. This overflow is not equipped with a flowmeter.	

Emission Details:

(i) Volume emitted			
Normal/day	0 m^3	Maximum/day	m^3
Maximum rate/hour	m^3	Period of emission (avg)	min/hr hr/day day/yr
Dry Weather Flow	m^3/sec		

Table D.1(iii)(a): EMISSIONS TO SURFACE/GROUND WATERS (Storm Overflow)

Discharge Point Code: SW-4

Local Authority Ref No:	HVSWO1	
Source of Emission:	Harbour Village Pumping Station	
Location:	Harbour Village, Newtown, Killaloe.	
Grid Ref (12 digits, 6E, 6N)	169847 / 173200 (Verifed using GPS)	
Name of Receiving waters:	Lough Derg/River Shannon	
Water Body:	Lake Water Body	
River Basin District	Shannon IRBD	
Designation of Receiving Waters:	Nutrient Sensitive	
Flow Rate in Receiving Waters:		$m^3.sec^{-1}$ Dry Weather Flow
		$m^3.sec^{-1}$ 95% Weather Flow
Additional Comments (e.g. commentary on zero flow or other information deemed of value)	This is an emergency overflow from the Harbour Village Pumping Station. This overflow only operates in emergency conditions. This overflow is not equipped with a flowmeter.	

Emission Details:

(i) Volume emitted			
Normal/day	0 m^3	Maximum/day	m^3
Maximum rate/hour	m^3	Period of emission (avg)	min/hr hr/day day/yr
Dry Weather Flow	m^3/sec		

Table D.1(iii)(a): EMISSIONS TO SURFACE/GROUND WATERS (Storm Overflow)

Discharge Point Code: SW-5

Local Authority Ref No:	CBSWO1	
Source of Emission:	Canal Bank Pumping Station	
Location:	Canal Bank, Killaloe.	
Grid Ref (12 digits, 6E, 6N)	170295 / 173012 (Verifed using GPS)	
Name of Receiving waters:	River Shannon/Lough Derg	
Water Body:	River Water Body	
River Basin District	Shannon IRBD	
Designation of Receiving Waters:	Nutrient Sensitive	
Flow Rate in Receiving Waters:		$m^3.sec^{-1}$ Dry Weather Flow
		$m^3.sec^{-1}$ 95% Weather Flow
Additional Comments (e.g. commentary on zero flow or other information deemed of value)	This is an emergency overflow from the Canal Bank Pumping Station. This overflow is not equipped with a flowmeter. It operates only in emergency conditions.	

Emission Details:

(i) Volume emitted			
Normal/day	0 m^3	Maximum/day	m^3
Maximum rate/hour	m^3	Period of emission (avg)	min/hr hr/day day/yr
Dry Weather Flow	m^3/sec		

TABLE E.1(i): WASTE WATER FREQUENCY AND QUANTITY OF DISCHARGE – Primary and Secondary Discharge Points

Identification Code for Discharge point	Frequency of discharge (days/annum)	Quantity of Waste Water Discharged (m^3/annum)
SW-1	365	617945

TABLE E.1(ii): WASTE WATER FREQUENCY AND QUANTITY OF DISCHARGE – Storm Water Overflows

Identification Code for Discharge point	Frequency of discharge (days/annum)	Quantity of Waste Water Discharged (m^3/annum)	Complies with Definition of Storm Water Overflow
SW-2			No
SW-3			No
SW-4			No
SW-5			No

TABLE F.1(i)(a): SURFACE/GROUND WATER MONITORING

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1d
Grid Ref (12 digits, 6E, 6N)	170661 / 172546 (Verifed using GPS)

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	25/09/07	08/01/08	15/05/08	17/07/08			
pH	= 8.4	= 7.6	= 7.69	= 7.78	Grab		pH Probe
Temperature	= 16	= 8.5	= 12.9	= 15.8	Grab		Temperature Probe
Electrical Conductivity (@ 25°C)	= 348	= 190	= 293	= 160	Grab	14	Conductivity Meter
Suspended Solids	= 0.4	= 2.4	= 0.8	= 6.4	Grab		Filtration-Standard methods
Ammonia (as N)	= 0.03	= 0.072	= 0.044	= 0.017	Grab	0.0019	Auto Analyser-Colorimetry
Biochemical Oxygen Demand	= 1	= 1	= 2	= 1	Grab		Standard Methods (BOD5)
Chemical Oxygen Demand	= 25	= 1	= 20	= 27	Grab		Digestion
Dissolved Oxygen			= 7.71		Grab		D.O. Probe
Hardness (as $CaCO_3$)					Grab		NT
Total Nitrogen (as N)				< 1	Grab	0.035	Auto Analyser-Colorimetry
Nitrite (as N)	= 0.02	= 0	= 0.02	= 0	Grab	0.013	Auto Analyser-Colorimetry
Nitrate (as N)	= 0.8	= 2.38	= 2.29	= 1.75	Grab		Auto Analyser-Colorimetry
Total Phosphorous (as P)	= 0.17	= 0.09	= 0.21	= 0.06	Grab		Digestion
OrthoPhosphate (as P)	= 0.16	= 0.11	= 0.21	= 0.03	Grab	0.009	Auto Analyser-Colorimetry
Sulphate (SO_4)	= 20.42	= 7.09	= 14.67	= 5.08	Grab	0.932	Auto Analyser-Colorimetry
Phenols (Sum)			< 0.5	< 0.005	Grab	0.005	GCMS

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.

Additional Comments:	

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	07/08/08						
pH					Grab		pH Probe
Temperature					Grab		Temperature Probe
Electrical Conductivity (@ 25°C)					Grab	14	Conductivity Meter
Suspended Solids					Grab		Filtration-Standard methods
Ammonia (as N)					Grab	0.0019	Auto Analyser-Colorimetry
Biochemical Oxygen Demand					Grab		Standard Methods (BOD5)
Chemical Oxygen Demand					Grab		Digestion
Dissolved Oxygen					Grab		D.O. Probe
Hardness (as $CaCO_3$)	= 119				Grab		NT
Total Nitrogen (as N)					Grab	0.035	Auto Analyser-Colorimetry
Nitrite (as N)					Grab	0.013	Auto Analyser-Colorimetry
Nitrate (as N)					Grab		Auto Analyser-Colorimetry
Total Phosphorous (as P)					Grab		Digestion
OrthoPhosphate (as P)					Grab	0.009	Auto Analyser-Colorimetry
Sulphate (SO_4)					Grab	0.932	Auto Analyser-Colorimetry
Phenols (Sum)					Grab	0.005	GCMS

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.

Additional Comments:	

TABLE F.1(i)(b): SURFACE/GROUND WATER MONITORING (Dangerous Substances)

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1d
Grid Ref (12 digits, 6E, 6N)	170661 / 172546 (Verifed using GPS)

Parameter	Results (µg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	15/05/08	17/07/08					
Atrazine	< 0.01	< 0.01			Grab	0.01	GCMS
Dichloromethane	< 5	< 5			Grab	5	GCMS
Simazine	< 0.1	< 0.01			Grab	0.01	GCMS
Toluene	< 0.1	< 0.1			Grab	0.1	GCMS
Tributyltin	< 0.2	< 0.02			Grab	0.02	GEO24
Xylenes	< 0.1	< 0.1			Grab	0.1	GCMS
Arsenic	= 0.3	< 2			Grab	0.2	ICPMS
Chromium	< 1	< 10			Grab	1	ICPMS
Copper	< 3	< 30			Grab	3	ICPMS
Cyanide	< 5	< 5			Grab	5	AQ2
Flouride	< 100	< 0.1			Grab	10	Colorimetry
Lead	< 0.3	< 3			Grab	0.3	ICPMS
Nickel	= 0.6	< 5			Grab	0.5	ICPMS
Zinc	= 2.8	< 10			Grab	1.0	ICPMS
Boron	= 30000	< 200			Grab	20	ICPMS
Cadmium	< 0.1	< 1			Grab	0.1	ICPMS
Mercury	< 0.02	= 0.34			Grab	0.02	ICPMS
Selenium	< 0.2	< 2			Grab	0.2	ICPMS
Barium	= 33.3	= 73.4			Grab	1	ICPMS

Additional Comments:	

TABLE F.1(i)(a): SURFACE/GROUND WATER MONITORING

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1u
Grid Ref (12 digits, 6E, 6N)	170707 / 172504 (Verifed using GPS)

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	25/09/07	08/01/08	15/05/08	17/07/08			
pH	= 8.43	= 7.57	= 7.96	= 7.86	Grab		pH Probe
Temperature	= 15.8	= 8.3	= 12.8	= 15.2	Grab		Temperature Probe
Electrical Conductivity (@ 25°C)	= 353	= 175	= 239	= 155	Grab	14	Conductivity Meter
Suspended Solids	= 0.4	= 2.4	= 0.8	= 6.8	Grab		Filtration-Standard Methods
Ammonia (as N)	= 0.012	= 0.002	= 0.032	= 0.04	Grab	0.00019	Auto Analyser-Colorimetry
Biochemical Oxygen Demand	= 1	= 1	= 2	= 1	Grab		Standard Methods(BOD 5)
Chemical Oxygen Demand	= 19	< 1	= 29	= 23	Grab		Digestion
Dissolved Oxygen			= 8.35		Grab		D.O. Probe
Hardness (as $CaCO_3$)					Grab		NT
Total Nitrogen (as N)			= 2	< 1	Grab	0.035	Auto Analyser-Colorimetry
Nitrite (as N)	= 0.02	= 0	= 0	= 0	Grab	0.013	Auto Analyser-Colorimetry
Nitrate (as N)	= 0.69	= 1.89	= 1.59	= 0.68	Grab		Auto Analyser-Colorimetry
Total Phosphorous (as P)	= 0.12	= 0.06	= 0.03	= 0.05	Grab		Digestion
OrthoPhosphate (as P)	= 0.11	= 0.06	= 0.02	= 0.02	Grab	0.009	Auto Analyser-Colorimetry
Sulphate (SO_4)	= 24.7	= 5.4	= 6.33	= 4.6	Grab	0.932	Auto Analyser-Colorimetry
Phenols (Sum)			< 0.5	< 0.005	Grab	0.005	GCMS

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.

Additional Comments:	

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	07/08/08						
pH					Grab		pH Probe
Temperature					Grab		Temperature Probe
Electrical Conductivity (@ 25°C)					Grab	14	Conductivity Meter
Suspended Solids					Grab		Filtration-Standard Methods
Ammonia (as N)					Grab	0.00019	Auto Analyser-Colorimetry
Biochemical Oxygen Demand					Grab		Standard Methods(BOD 5)
Chemical Oxygen Demand					Grab		Digestion
Dissolved Oxygen					Grab		D.O. Probe
Hardness (as $CaCO_3$)	= 110				Grab		NT
Total Nitrogen (as N)					Grab	0.035	Auto Analyser-Colorimetry
Nitrite (as N)					Grab	0.013	Auto Analyser-Colorimetry
Nitrate (as N)					Grab		Auto Analyser-Colorimetry
Total Phosphorous (as P)					Grab		Digestion
OrthoPhosphate (as P)					Grab	0.009	Auto Analyser-Colorimetry
Sulphate (SO_4)					Grab	0.932	Auto Analyser-Colorimetry
Phenols (Sum)					Grab	0.005	GCMS

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.

Additional Comments:	

TABLE F.1(i)(b): SURFACE/GROUND WATER MONITORING (Dangerous Substances)

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1u
Grid Ref (12 digits, 6E, 6N)	170707 / 172504 (Verifed using GPS)

Parameter	Results (µg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	15/05/08	17/07/08					
Atrazine	< 0.1	< 0.01			Grab	0.01	GCMS
Dichloromethane	< 5	< 5			Grab	5	GCMS
Simazine	< 0.01	< 0.01			Grab	0.01	GCMS
Toluene	< 0.01	< 0.1			Grab	0.1	GCMS
Tributyltin	< 0.02	< 0.02			Grab	0.02	GEO24
Xylenes	< 0.1	< 0.1			Grab	0.1	GCMS
Arsenic	= 0.5	< 2			Grab	0.2	ICPMS
Chromium	< 1	< 10			Grab	1	ICPMS
Copper	< 3	= 42.63			Grab	3	ICPMS
Cyanide	< 5	< 5			Grab	5	AQ2
Flouride	< 100	< 0.1			Grab	10	Colorimetry
Lead	< 0.3	= 4.6			Grab	0.3	ICPMS
Nickel	< 0.5	= 14.5			Grab	0.5	ICPMS
Zinc	= 10.4	= 351			Grab	1.0	ICPMS
Boron	< 20000	< 0.2			Grab	20	ICPMS
Cadmium	< 0.1	< 1			Grab	0.1	ICPMS
Mercury	< 0.02	= 0.43			Grab	0.02	ICPMS
Selenium	= 0.7	< 2			Grab	0.2	ICPMS
Barium	= 34.1	= 59.8			Grab	1	ICPMS

Additional Comments:	

Annex 2: Check List For Regulation 16 Compliance

Regulation 16 of the waste water discharge (Authorisation) Regulations 2007 (S.I. No. 684 of 2007) sets out the information which must, in all cases, accompany a discharge licence application. In order to ensure that the application fully complies with the legal requirements of regulation 16 of the 2007 Regulations, all applicants should complete the following.

In each case, refer to the attachment number(s), of your application which contains(s) the information requested in the appropiate sub-article.

Regulation 16(1) **In the case of an application for a waste water discharge licence, the application shall -**		**Attachment Number**	**Checked by Applicant**
(a)	give the name, address, telefax number (if any) and telephone number of the applicant (and, if different, of the operator of any treatment plant concerned) and the address to which correspondence relating to the application should be sent and, if the operator is a body corporate, the address of its registered office or principal office,	Section B.1	Yes
(b)	give the name of the water services authority in whose functional area the relevant waste water discharge takes place or is to take place, if different from that of the applicant,	Section B.1	Yes
(c)	give the location or postal address (including where appropriate, the name of the townland or townlands) and the National Grid reference of the location of the waste water treatment plant and/or the waste water discharge point or points to which the application relates,	Section B.2, B.3 & B.5	Yes
(d)	state the population equivalent of the agglomeration to which the application relates,	Section B.9(i)	Yes
(e)	specify the content and extent of the waste water discharge, the level of treatment provided, if any, and the flow and type of discharge,	Attachment D.1	Yes
(f)	give details of the receiving water body, including its protected area status, if any, and details of any sensitive areas or protected areas or both in the vicinity of the discharge point or points likely to be affected by the discharge concerned, and for discharges to ground provide details of groundwater protection schemes in place for the receiving water body and all associated hydrogeological and geological assessments related to the receiving water environment in the vicinity of the discharge.	Section F.1	Yes
(g)	identify monitoring and sampling points and indicate proposed arrangements for the monitoring of discharges and, if Regulation 17 does not apply, provide details of the likely environmental consequences of any such discharges,	Attachment E.3 and Section F	Yes
(h)	in the case of an existing waste water treatment plant, specify the sampling data pertaining to the discharge based on the samples taken in the 12 months preceding the making of the application,	Attachment E.4	Yes
(i)	describe the existing or proposed measures, including emergency procedures, to prevent unintended waste water discharges and to minimise the impact on the environment of any such discharges,	Attachment G.3	Yes
(j)	give particulars of the nearest downstream drinking water abstraction point or points to the discharge point or points,	Attachment F.2	Yes
(k)	give details, and an assessment of the effects, of any existing or proposed emissions on the environment, including any environmental medium other than those into which the emissions are, or are to be made, and of proposed measures to prevent or eliminate or, where that is not practicable, to limit any pollution caused in such discharges,	Section F.1	Yes
(l)	give detail of compliance with relevant monitoring requirements and treatment standards contained in any applicable Council Directives of Regulations,	Section G.1	Yes
(m)	give details of any work necessary to meet relevant effluent discharge standards and a timeframe and schedule for such work.	Section G.1	Yes
(n)	Any other information as may be stipulated by the Agency.		Yes
Regulation 16(3) **Without prejudice to Regulation 16 (1) and (2), an application for a licence shall be accompanied by -**		**Attachment Number**	**Checked by Applicant**
(a)	a copy of the notice of intention to make an application given pursuant to Regulation 9,	B.8	Yes
(b)	where appropriate, a copy of the notice given to a relevant water services authority under Regulation 13,	B.7(iii)	Yes
(c)	Such other particulars, drawings, maps, reports and supporting documentation as are necessary to identify and describe, as appropriate -		Yes
(c) (i)	the point or points, including storm water overflows, from which a discharge or discharges take place or are to take place, and	B.3 & B.5	Yes
(c) (ii)	the point or points at which monitoring and sampling are undertaken or are to be undertaken,	B.2, B.3 & B.5	Yes
(d)	such fee as is appropriate having regard to the provisions of Regulations 38 and 39.	Section 9(iii)	Yes

Regulation 16(4) An original application shall be accompanied by 2 copies of it and of all accompanying documents and particulars as required under Regulation 16(3) in hardcopy or in an electronic or other format as specified by the Agency.		Attachment Number	Checked by Applicant
1	An Original Application shall be accompanied by 2 copies of it and of all accompanying documents and particulars as required under regulation 16(3) in hardcopy or in electronic or other format as specified by the agancy.		Yes
Regulation 16(5) **For the purpose of paragraph (4), all or part of the 2 copies of the said application and associated documents and particulars may, with the agreement of the Agency, be submitted in an electronic or other format specified by the Agency.**		**Attachment Number**	**Checked by Applicant**
1	Signed original.		Yes
2	2 hardcopies of application provided or 2 CD versions of application (PDF files) provided.		Yes
3	1 CD of geo-referenced digital files provided.		Yes
Regulation 17 **Where a treatment plant associated with the relevant waste water works is or has been subject to the European Communities (Environmental Impact Assessment) Regulations 1989 to 2001, in addition to compliance with the requirements of Regulation 16, an application in respect of the relevant discharge shall be accompanied by a copy of an environmental impact statement and approval in accordance with the Act of 2000 in respect of the said development and may be submitted in an electronic or other format specified by the Agency**		**Attachment Number**	**Checked by Applicant**
1	EIA provided if applicable	N/A	Yes
2	2 hardcopies of EIS provided if applicable.	N/A	Yes
3	2 CD versions of EIS, as PDF files, provided.	N/A	Yes
Regulation 24 **In the case of an application for a waste water discharge certificate of authorisation, the application shall –**		**Attachment Number**	**Checked by Applicant**
(a)	give the name, address, telefax number (if any) and telephone number of the applicant and the address to which correspondence relating to the application should be sent and, if the operator of the waste water works is a body corporate, the address of its registered office or principal office	N/A	Yes
(b)	give the name of the water services authority in whose functional area the relevant waste water discharge takes place or is to take place, if different from that of the applicant,	N/A	Yes
(c)	give the location or postal address (including where appropriate, the name of the townland or townlands) and the National Grid reference of the location of the discharge point or points to which the application relates,	N/A	Yes
(d)	state the population equivalent of the agglomeration to which the application relates,	N/A	Yes
(e)	in the case of an application for the review of a certificate, specify the reference number given to the relevant certificate in the register,	N/A	Yes
(f)	specify the content and extent of the waste water discharge, the level of treatment provided and the flow and type of discharge,	N/A	Yes
(g)	give details of the receiving water body, its protected area status, if any, and details of any sensitive areas or protected areas, or both, in the vicinity of the discharge point or points or likely to be affected by the discharge concerned,	N/A	Yes
(h)	identify monitoring and sampling points and indicate proposed arrangements for the monitoring of discharges and of the likely environmental consequences of any such discharges,	N/A	Yes
(i)	in the case of an existing discharge, specify the sampling data pertaining to the discharge based on the samples taken in the 12 months preceding the making of the application,	N/A	Yes
(j)	describe the existing or proposed measures, including emergency procedures, to prevent unauthorised or unexpected waste water discharges and to minimise the impact on the environment of any such discharges,	N/A	Yes
(k)	give particulars of the location of the nearest downstream drinking water abstraction point or points to the discharge point or points associated with the waste water works,	N/A	Yes
(l)	give details of any designation under any Council Directive or Regulations that apply in relation to the receiving waters,	N/A	Yes
(m)	give details of compliance with any applicable monitoring requirements and treatment standards,	N/A	Yes
(n)	give details of any work necessary to meet relevant effluent discharge standards and a timeframe and schedule for such work,	N/A	Yes
(o)	give any other information as may be stipulated by the Agency, and	N/A	Yes
(p)	be accompanied by such fee as is appropriate having regard to the provisions of Regulations 38 and 39.	N/A	Yes