



Comhairle Contae Mhaigh Eo

Áras an Chontae, Caisleán an Bharraigh, Contae Mhaigh Eo.

Teileafón: (094) 9024444 Facs: (094) 9023937

Do Thag. / Your Ref. A0054-01

Ár dTag. / Our Ref. WS 512

24th January 2011.

Administration
Environmental Licensing Programme
Office of Climate, Licensing & Resource Use
Environmental Protection Agency Headquarters
P.O. Box 3000 Johnstown Castle Estate
County Wexford

RE: **WASTE WATER DISCHARGE LICENCE APPLICATION:
A0054-01 – TURLOUGH**

Dear Ms. English

Further to Ms. Stafford's letter of 29th October 2010 and subsequent telephone call of 8th November 2010, I enclose the revised Appropriate Assessment Screening document which both addresses the Salmonid designation of the Castlebar River and includes the waste assimilative capacity calculations in Appendix B. This document has been included in Attachment F.1.

In addition, other unsolicited changes to the application were required. Sampling and monitoring results which were unavailable when the original application was made have been included in Attachments D.1, E.1 and F.1 along with a statement in Attachment G.3. Also three maps required the revision of labels regarding the upstream and downstream sampling locations, and these revised drawings have been included in Attachments B.1, B.2 & E.2.

This documentation includes:

- 1 no. signed copy & 1 no. copy in hardcopy format of the documentation
- 1 no. copies of all files in electronic searchable PDF format on CD-ROM
- 1 copies of drawing files on CD ROM

The content of the electronic files on the accompanying CD-ROM is a true copy of the original documentation.

Yours sincerely

Paddy Mahon
Director of Services

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Requested Documentation**CD**

GIS**CD**

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List of Drawing Titles

Original Drawings

- Drawing 1 – Agglomeration Boundary (Map B.1)
- Drawing 2 – Wastewater Treatment Plant Layout Plan (Map B.2)
- Drawing 3 – Location of Primary Discharge Point SW1 (P) (Map B.3)
- Drawing 4 – Process Flow Diagram for current operation (Map C.1)
- Drawing 5 – Overview of Sampling and Monitoring Points (Map E.2)

Revised Drawings

- Drawing 1 Agglomeration Boundary (Map B.1).
Revision B replaces original Drawing 1
Revisions – Main Map - Revised Up/Downstream
- Drawing 2 Wastewater Treatment Plant Layout Plan (Map B.2).
Revision B replaces original Drawing 2
Revisions – Revised Up/Downstream
- Drawing 5 Overview of Sampling and Monitoring Points (Map E.2).
Revision B replaces original Drawing 5.
Revisions – Revised Up/Downstream

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MAYO COUNTY COUNCIL

TURLOUGH

WASTE WATER DISCHARGE

Certificate of Authorisation Application

Regulation 24 Compliance Requirements

Regulation 24 Compliance Responses

January 2011

Additional Issues

January 2011

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Regulation 24 Compliance Requirements

Question 1

The Appropriate Assessment screening in relation to the above named agglomeration, received by the Agency on 10th September 2010 is deemed insufficient to comply with Regulation 24 of Waste Water Discharge (Authorisation) Regulations 2007 and 2010. The screening provided does not clearly specify whether the discharge(s) from the above named agglomeration is / is not likely to have a significant impact on any European Sites. Please revise the screening(s) to identify whether the discharge is / is not having an impact on European Sites.

A Stage 2 Appropriate Assessment should be carried out where it is identified that the discharge may be having an impact on a European Site(s). Please refer to the 'Waste Water Discharge Licensing Appropriate Assessment Guidance Notes' and 'Dept Environment Circular letter L8/8 dealing with Appropriate Assessment (From 2008)' located at www.epa.ie/downloads/forms/lic/wwdd/.

In a subsequent telephone call on 8th November 2010 Kate Stafford clarified her requirement regarding the Appropriate Assessment Screening. As stated in the 'Appropriate Assessment Screening Document for Turlough Wastewater Discharge Certificate of Authorisation Application' from August 2010, the Castlebar River is designated as Salmonid. Please revise the document to address the presence of Salmon in more detail.

Answer 1

A revised copy of the 'Appropriate Assessment Screening Document for Turlough Wastewater Discharge Certificate of Authorisation Application' from November 2010 can be found in Attachment F.1 submitted as part of this further information request. No Appropriate Assessment was required.

ADDITIONAL ISSUES

Sampling and Monitoring Results

Sampling and Monitoring Results were unavailable when the original Certificate of Authorisation application was made. However results have now been received and entered in the data collection website. The results have been printed and included along with an Impact Mitigation statement as the following attachments.

Attachments:

- D.1 Emissions to Surface Waters
- E.1 Waste Water Frequency and Quantity of Discharge
- F.1 Surface/Ground Water Monitoring
- G.1 Impact Mitigation
- Annex II Checklist for Regulation 24 Compliance

Waste Assimilative Capacity Calculations

The original version of 'Appropriate Assessment Screening Document for Turlough Wastewater Discharge Certificate of Authorisation Application' from August 2010 did not contain the Waste Assimilative Capacity calculations in Appendix B because there were no sampling and monitoring results available.

When these results became available the upstream results were not sensitive enough for use in the Waste Assimilative Capacity calculations for Ammonia. In order to facilitate this, further testing was requested to support these assimilative capacity calculations.

A revised copy of the 'Appropriate Assessment Screening Document for Turlough Wastewater Discharge Certificate of Authorisation Application' from November 2010 can be found in Attachment F.1., submitted as part of this further information request and this includes a revised Appendix B with the Waste Assimilative Capacity Calculations and the sampling and monitoring results that were used in the calculations.

Revision of Map Labels

Three maps required the revision of labels regarding the upstream and downstream sampling locations.

Map B.3 was corrected prior to submission of the original application and it has the upstream and downstream sampling locations labelled correctly. As a result the mapping data files supplied with the original application should also be correct.

However the hard copy and the PDF versions of Maps B.1, B.2 & E.2 had these points labelled incorrectly. Revised versions of these drawings have been included in the following attachments:

Attachments:

- B.1 Agglomeration Boundary
- B.2 Wastewater Treatment Plant Layout Plan
- E.2 Overview of Sampling and Monitoring Points

MAYO COUNTY COUNCIL
TURLOUGH
WASTE WATER DISCHARGE CERTIFICATE
APPLICATION
ATTACHMENT B.1

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Dwg. Title

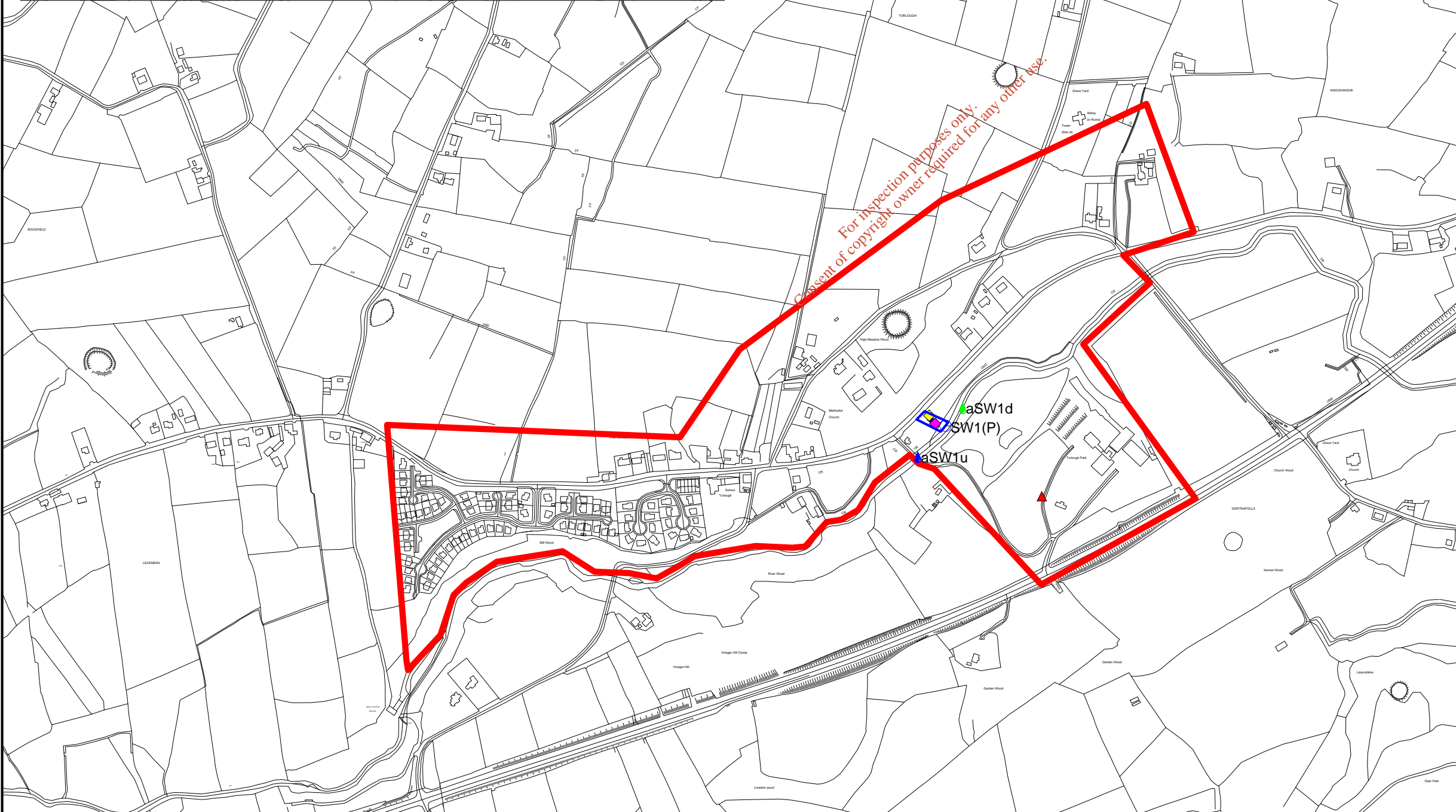
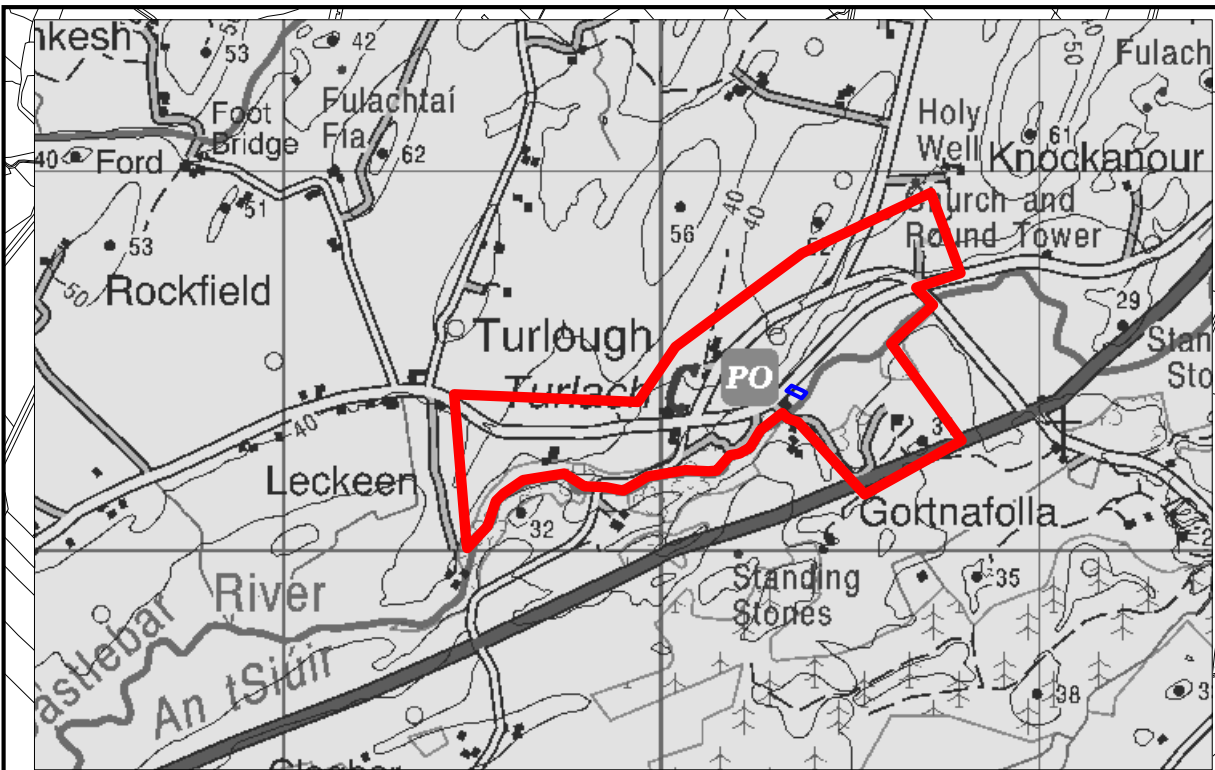
Dwg. No.

Agglomeration Boundary

1

Revision B – January 2011

- Upstream and Downstream labels corrected



Legend

- Agglomeration Boundary
- Turlough Wastewater Treatment Plant Boundary
- Primary Discharge Point
- ◆ Outlet Sampling Point
- ◆ Inlet Sampling Point
- ▲ Downstream Sampling Point
- ▲ Upstream Sampling Point
- ▲ Pumping Station

Rev B: Revised Up/Downstream

Drawn By: C Worsfold	Checked By: F Jennings	Approved By: N Burke
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Drg. Nr: Map B.1	Rev: B
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Scale: 1:7,500 & (Inset 1:20,000)	Date: 17/01/11
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Project:
Waste Water Discharge Certificate Application

Drg. Title:
Turlough Wastewater Treatment Plant Agglomeration

Mayo County Council
G.I.S. Section

Aras An Chontae,
The Mall, Castlebar,
Co. Mayo, Ireland
Tel: (094) 904 7149
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MAYO COUNTY COUNCIL
TURLOUGH
WASTE WATER DISCHARGE CERTIFICATE
APPLICATION
ATTACHMENT B.2

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Dwg. Title

Dwg. No.








Wastewater Treatment Plant Layout Plan

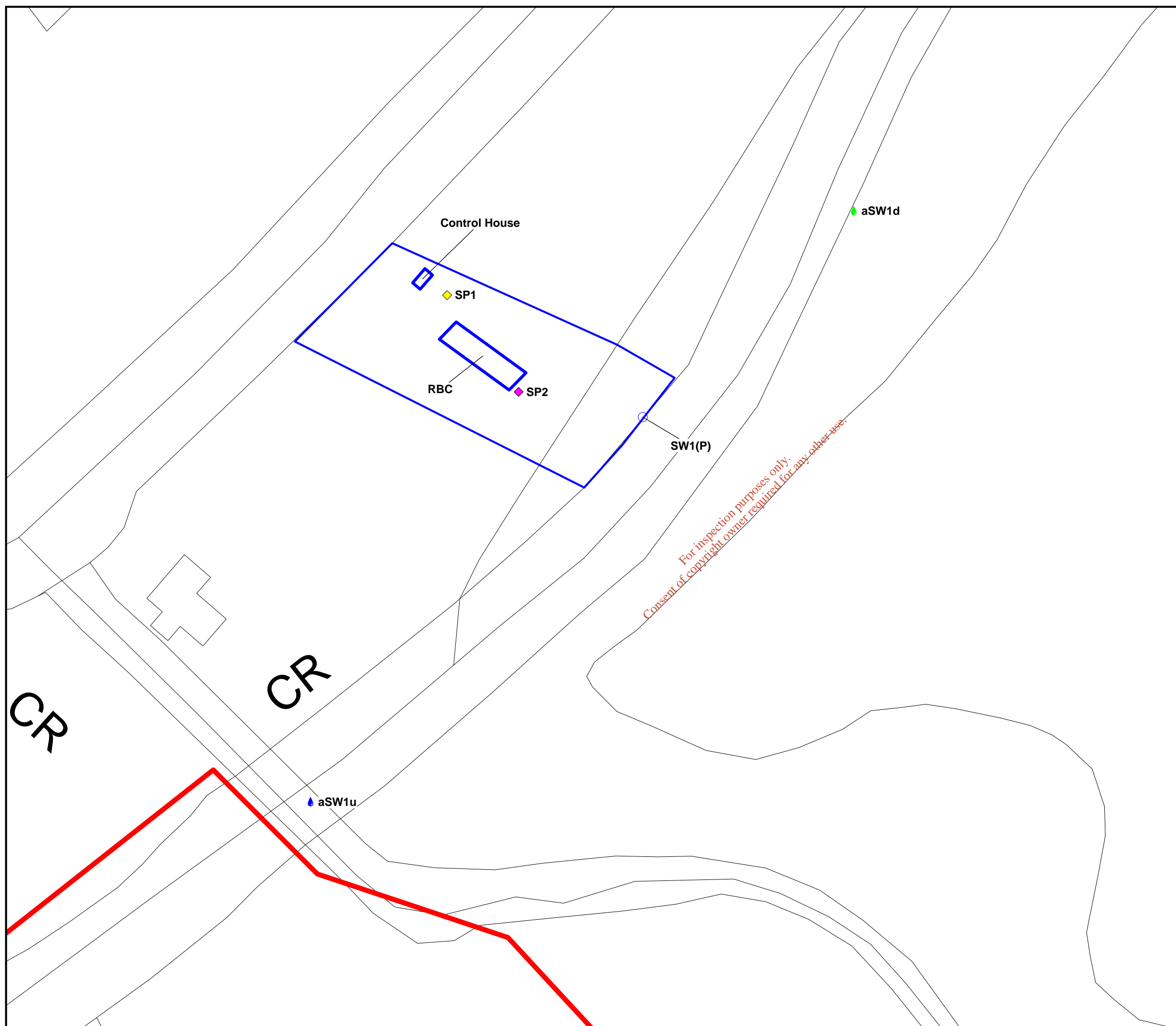
2

Revision B – January 2011

- Upstream and Downstream labels corrected

Legend

-  Agglomeration Boundary
-  Turlough Wastewater Treatment Plant Boundary
-  Primary Discharge Point
-  Outlet Sampling Point
-  Inlet Sampling Point
-  Downstream Sampling Point
-  Upstream Sampling Point



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REV B: Revised Up/Downstream

Drawn By: C Worsfold	Checked By: F Jennings	Approved By: N. Burke
Drg. Nr: Map B.2		Rev: B
Scale: 1:500		Date: 17/01/11

Project:
Waste Water Discharge Certificate Application

Drg. Title:
Turlough Wastewater Treatment Plant Site Layout

Mayo County Council
G.I.S. Section

Aras An Chontae,
The Mall, Castlebar,
Co. Mayo, Ireland
Tel: (094) 904 7149
Fax: 094 904 7192



**MAYO COUNTY COUNCIL
TURLOUGH
WASTE WATER DISCHARGE CERTIFICATE
APPLICATION**

ATTACHMENT D.1

Agglomeration Details

Table D.1 (i)(a)	Emissions To Surface Waters – SW1 (P) Revised January 2011
Table D.1 (i)(b)	Emissions To Surface Waters – SW1 (P) Revised January 2011
Table D.1 (i)(c)	Emissions To Surface Waters – SW1 (P) Revised January 2011

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Agglomeration details

Leading Local Authority	Mayo County Council
Co-Applicants	
Agglomeration	Turlough
Population Equivalent	360
Level of Treatment	Secondary
Treatment plant address	Turlough Waste Water Treatment Plant Turlough County Mayo
Grid Ref (12 digits, 6E, 6N)	120551 / 293415
EPA Reference No:	A0054-01

Contact details

Contact Name:	Paddy Mahon
Contact Address:	Director of Services Ballina Town Council Civic Offices Arran Place Co. Mayo
Contact Number:	096 76100
Contact Fax:	096 76199
Contact Email:	pmahon@mayococo.ie

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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:	SW1(P)	
Source of Emission:	Turlough WWTP	
Location:	Turlough WWTP	
Grid Ref (12 digits, 6E, 6N)	120380 / 293408	
Name of Receiving waters:	Castlebar River	
Water Body:	River Water Body	
River Basin District	Western RBD	
Designation of Receiving Waters:	Salmonid River and nutrient sensitive	
Flow Rate in Receiving Waters:	0.06	m ³ .sec ⁻¹ Dry Weather Flow
	0.178	m ³ .sec ⁻¹ 95% Weather Flow
Additional Comments (e.g. commentary on zero flow or other information deemed of value)	There was no value for temperature. Nitrite and Nitrate were reported as N02 and N03 values respectively, rather than as N values. Conductivity tested at 20 deg C. Limit for M.p-Xylene is 2.5 & o-Xylene is 1.7 so Xylenes recorded as 4.2.	

Emission Details:

(i) Volume emitted			
Normal/day	76.5 m ³	Maximum/day	229.5 m ³
Maximum rate/hour	9.56 m ³	Period of emission (avg)	60 min/hr 24 hr/day 365 day/yr
Dry Weather Flow	0.000885417 m ³ /sec		

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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	= 8.42	
Temperature	°C	Grab	= 1000000000	
Electrical Conductivity (@ 25°C)	µS/cm	Grab	= 936	
Suspended Solids	mg/l	Grab	= 75	5.7375
Ammonia (as N)	mg/l	Grab	= 4.93	0.377145
Biochemical Oxygen Demand	mg/l	Grab	= 81.6	6.2424
Chemical Oxygen Demand	mg/l	Grab	= 275	21.0375
Total Nitrogen (as N)	mg/l	Grab	= 46.1	3.52665
Nitrite (as N)	mg/l	Grab	< 0.05	0.003825
Nitrate (as N)	mg/l	Grab	< 0.3	0.02295
Total Phosphorous (as P)	mg/l	Grab	= 7.43	0.568395
OrthoPhosphate (as P)	mg/l	Grab	= 5.84	0.44676
Sulphate (SO ₄)	mg/l	Grab	= 59.4	4.5441
Phenols (Sum)	µg/l	Grab	= 40	0.00306

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
Atrazine	µg/l	Grab	< 10	0.000765
Dichloromethane	µg/l	Grab	< 3.7	0.28305
Simazine	µg/l	Grab	< 10	0.000765
Toluene	µg/l	Grab	= 2.88	0.22032
Tributyltin	µg/l	Grab	< 0.02	0.00000153
Xylenes	µg/l	Grab	< 4.2	0.3213
Arsenic	µg/l	Grab	< 2	0.153
Chromium	µg/l	Grab	< 3	0.2295
Copper	µg/l	Grab	= 112	8.568
Cyanide	µg/l	Grab	< 50	0.003825
Flouride	µg/l	Grab	= 601	0.0459765
Lead	µg/l	Grab	< 0.5	0.03825
Nickel	µg/l	Grab	= 3.24	0.24786
Zinc	µg/l	Grab	= 49.3	0.00377145
Boron	µg/l	Grab	= 135	10.3275
Cadmium	µg/l	Grab	< 0.5	0.03825
Mercury	µg/l	Grab	< 0.02	0.00153
Selenium	µg/l	Grab	< 1	0.0765
Barium	µg/l	Grab	= 22.9	1.75185

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

For Phenols: USEPA Method 604, AWWA Standard Method 6246, or equivalent.

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TURLOUGH
WASTE WATER DISCHARGE CERTIFICATE
APPLICATION
ATTACHMENT E.1

Table E.1 (i)	Waste Water Frequency and Quantity of Discharge Primary and Secondary Discharge Points Revised January 2011
Table E.1 (ii)	Waste Water Frequency and Quantity of Discharge Storm Water Overflows Revised January 2011

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	27922.5

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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
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MAYO COUNTY COUNCIL
TURLOUGH
WASTE WATER DISCHARGE CERTIFICATE
APPLICATION
ATTACHMENT E.2








Dwg. Title

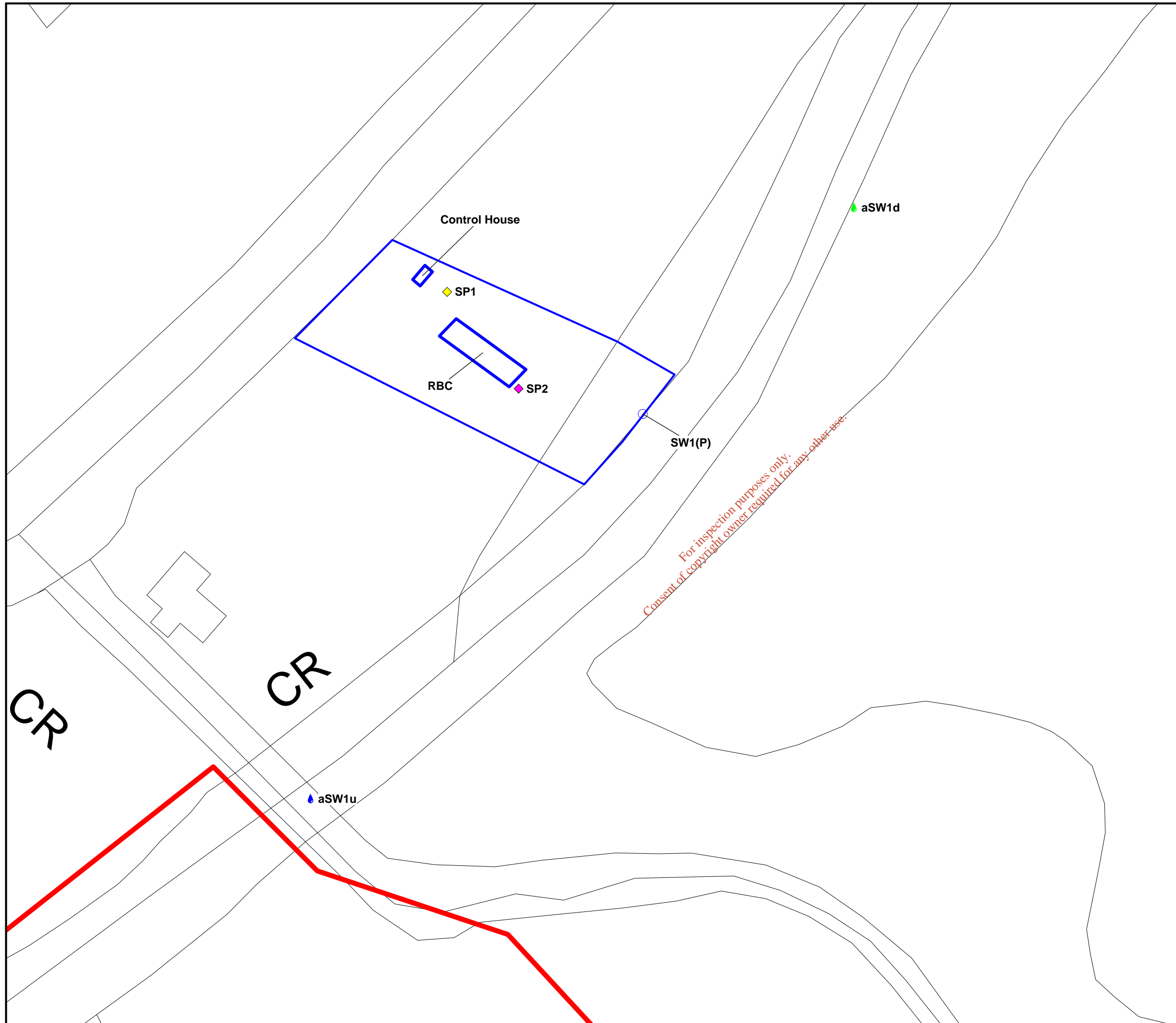
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Overview of Location of Sampling and Monitoring Points 5
Revision B – January 2011
- Upstream and Downstream labels corrected

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Legend

-  Agglomeration Boundary
-  Turlough Wastewater Treatment Plant Boundary
-  Primary Discharge Point
-  Outlet Sampling Point
-  Inlet Sampling Point
-  Downstream Sampling Point
-  Upstream Sampling Point



REV B: Revised Up/Down stream.

Drawn By: C Worsfold	Checked By: F Jennings	Approved By: N. Burke
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Drg. Nr: Map E.2	Rev: B
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Scale: 1:500	Date: 17/01/11
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Project:
Waste Water Discharge Certificate Application

Drg. Title:
**Turlough Wastewater Treatment Plant
Sampling & Monitoring Points**

**Mayo County Council
G.I.S. Section**

Aras An Chontae,
The Mall, Castlebar,
Co. Mayo, Ireland
Tel: (094) 904 7149
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MAYO COUNTY COUNCIL

TURLOUGH

WASTE WATER DISCHARGE

Certificate of Authorisation Application

ATTACHMENT F.1

Appropriate Assessment Screening
Revised November 2010

Table F.1 (i)(a) – Surface / Ground Water Monitoring (aSW-1d)
Revised January 2011

Table F.1 (i)(b) – Surface / Ground Water Monitoring (aSW-1d)
Revised January 2011

Table F.1 (i)(a) – Surface / Ground Water Monitoring (aSW-1u)
Revised January 2011

Table F.1 (i)(b) – Surface / Ground Water Monitoring (aSW-1u)
Revised January 2011

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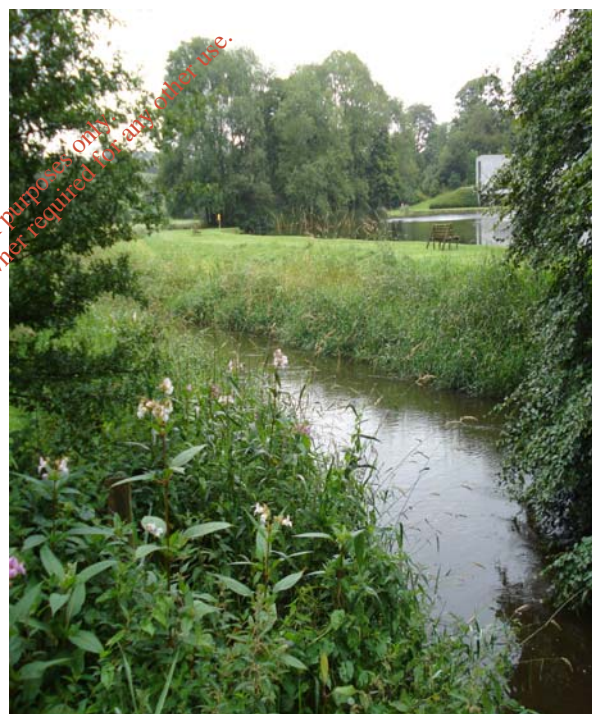
APPROPRIATE ASSESSMENT SCREENING

For

TURLOUGH WASTEWATER DISCHARGE

Certification of Authorisation Application

November 2010



**In accordance with the Waste Water Discharge
(Authorisation) Regulations, 2007 (S.I. No. 684 of 2007)**

And

**Article 6(3) and 6 (4) of the
Habitats Directive 92/43/EEC**

1. INTRODUCTION

Mayo County Council, Aras an Chontae, Castlebar, County Mayo made an application to the Environmental Protection Agency (EPA) for a Waste Water Discharge Certificate of Authorisation, for Turlough Agglomeration in compliance with the Waste Water Discharge (Authorisation) Regulations 2007 (S.I. No. 684 of 2007), in December 2009.

Under Part II Schedule 5 (5) of the Wastewater Discharge (Authorisation) Regulations 2007, In considering an application, where it appears to the Agency (i.e. Environmental Protection Agency) that the discharge concerned, or the proposed discharge, as the case may be, is likely to have a significant effect on a European site, either alone or in combination with other operations or activities, the Agency shall cause an assessment to be made of the implications for the site in view of that site's conservation objectives, and the Agency in deciding on the application shall have regard to the conclusions of the assessment.

The Turlough Wastewater Treatment Plant discharges into the Castlebar River via discharge point SW1P. The Castlebar River is designated salmonoid and as being nutrient sensitive. The only Natura 2000 designated site within 5km of the primary discharge is the River Moy SAC (Site Code 002298) located 1.95km downstream and east of the primary discharge point. The discharge point is not located directly within the River Moy SAC

This report includes:

1. Screening of the proposed plan in order to determine whether an Appropriate Assessment is required.

Purpose of Appropriate Assessment

Articles 6(3) and 6(4) of the Habitat Directive 92/43/EEC require an Appropriate Assessment of plans to prevent significant adverse effects on Natura 2000 sites.

Article 6(3) Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect there on either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and if appropriate, after having obtained the opinion of the general public.

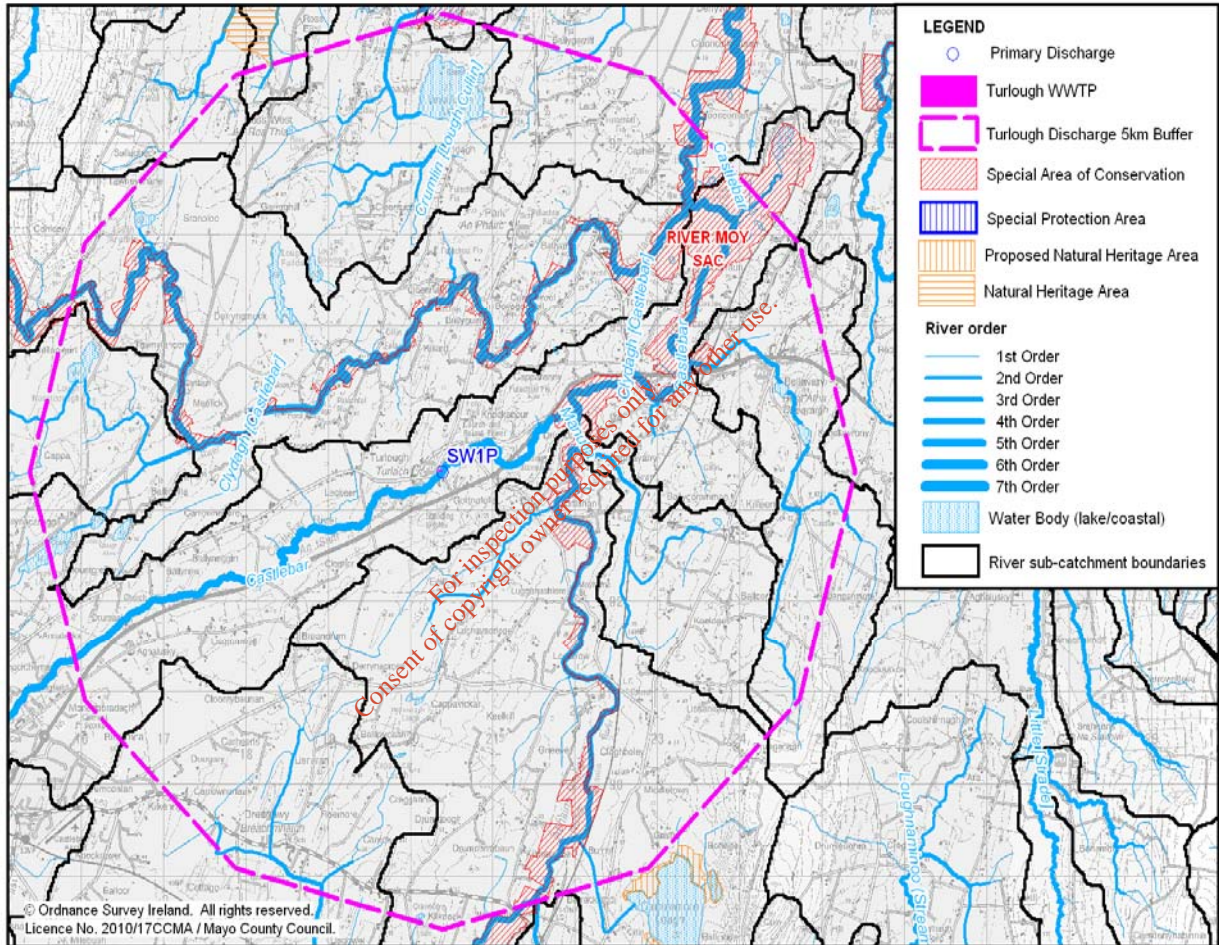
Article 6(4) If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of the Nature 2000 site is protected. It shall inform the Commission of the compensatory measures adopted.

Turlough Wastewater Discharge Certificate of Authorisation Application – Appropriate Assessment Screening

The purpose of this Appropriate Assessment (AA) is to address the potential impacts of discharges from the Turlough Waste Water Treatment Plant on the conservation objectives of Natura 2000 Site – River Moy cSAC (Site Code 002298)

The AA must determine whether the project is likely to have significant adverse effects on the site either along or in conjunction with other plans and projects in the area and whether these effects will adversely affect the integrity of the SAC in terms of their nature conservation objectives.

Figure 1.1 - Location Map – Turlough WWTP and associated discharges and Natura 2000 sites.



2. APPROPRIATE ASSESSMENT - THE PROCESS

According to European Commission Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EC (2001) and MN2000, the assessment requirements of Article 6 establish a stage-by-stage approach as follows:

Stage 1 - Screening for a likely significant effect: An initial assessment of the project or plans effect on a European site(s). If it cannot be concluded that there will be no significant effect upon a European site, an AA is required;

Stage 2 - Appropriate Assessment: The consideration of the impact on the integrity of the Natura 2000 site of the project or plan, either alone or in combination with other projects of plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts.

Stage 3 – Assessment of alternative solutions: The process which examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site:

Stage 4 – Assessment where no alternative solutions exist and where adverse impacts remain: An assessment of compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

Each stage determines whether a further stage in the process is required. If, for example, the conclusions at the end of Stage One are that there will be no significant impacts on the Natura 2000 site, there is no requirement to proceed further.

The following Assessment has been prepared in consultation with the following documents:

Department of Environment, Heritage and Local Government (2008) Circular L8/08. Water Services Investment and Rural Water Programmes – Protection of Natural Heritage and National Monuments.

EPA (2008) Wastewater Discharge Licensing Appropriate Assessment: Note on Appropriate Assessments for the purposes of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007).

EC (2000) Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.

EC (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.

Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC.

3. STAGE 1 - SCREENING

Screening is the process of deciding whether or not an AA is required for the project or plan. Screening only requires sufficient information to determine if there is a likely significant effect on a Natura 2000 site and does not require the detailed information needed for the AA.

The following Stage 1 Screening was undertaken according to the Department of Environment, Heritage and Local Government Circular L8/08 and EC Methodological guidance on the provision of Article 6 (3) and (4) of the Habitats Directive 92/443/EEC. This Screening is used below to ascertain if an AA is required.

3.1 – Description of the Project

The Wastewater Treatment Works in Turlough, commissioned in 2001, provides a collection network consisting of foul sewers and 2 No. pumping stations and a WWTP for a population equivalent (P.E.) of 360. Treated effluent from the plant is discharged to the Castlebar River through a primary discharge point (SW1P). The treatment plant process uses a biological filtration system consisting of Primary Settlement and a Rotating Biological Contactor. The sludge is tankered off site to Castlebar WWTP.

The WWTP is designed to treat

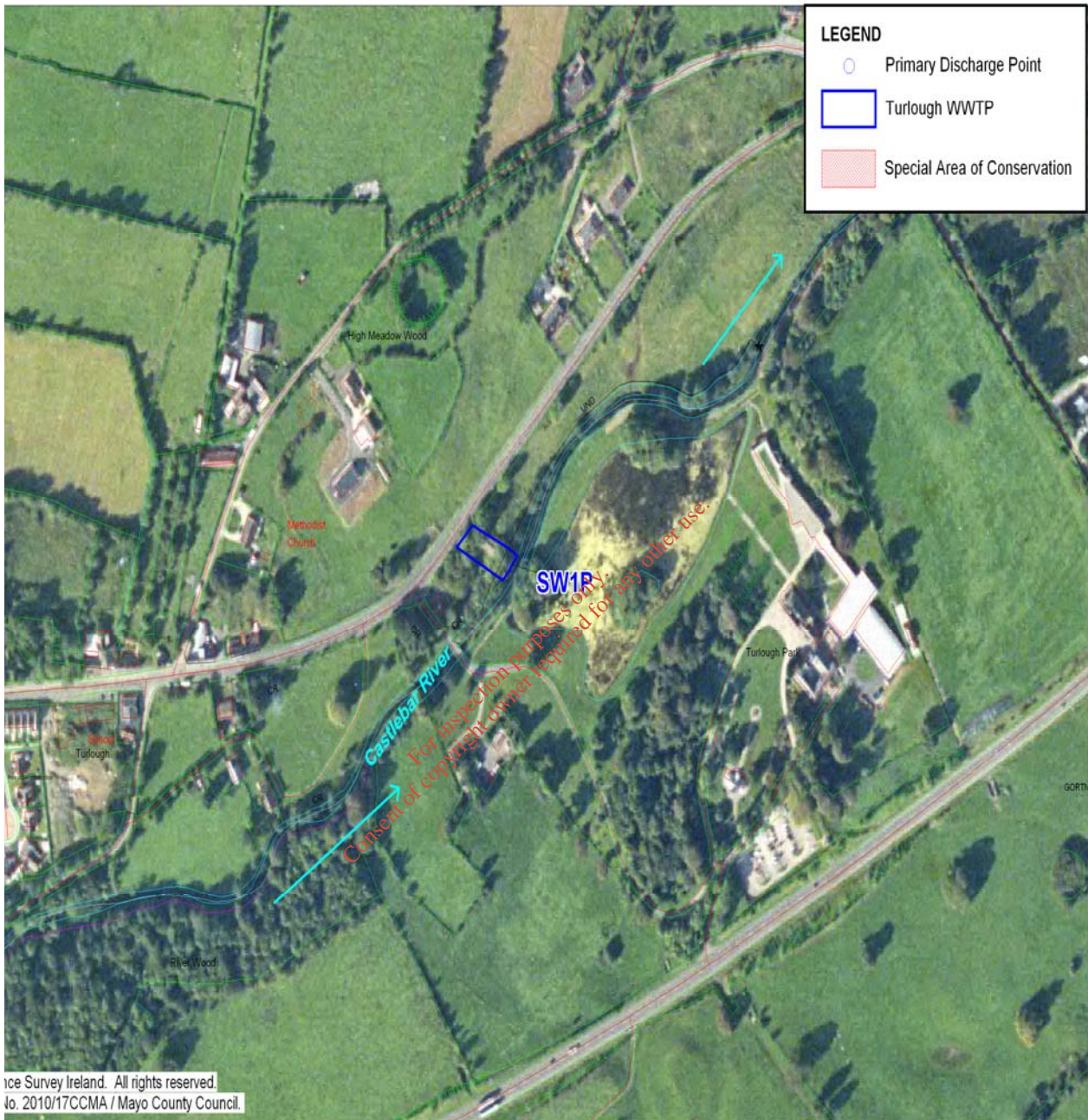
wastewater to the following standards:

- BOD 25mg/l;
- COD 125mg/l;
- Suspended Solids 35mg/l;

The existing pipe network in Turlough consists mostly of a 225mm foul pipe collection system. Sewerage from the village gravitates to a pump station in the middle of the village and is then pumped to the WWTP. Sewerage from Turlough House gravitates to a second pumping station in the house grounds which is pumped directly into the WWTP. There are no secondary discharges or storm overflows. The pump stations have been designed with a four-hour emergency volume storage. This is to give sufficient time for repair of the pumping plant or power supply.

The average volume currently discharged from the municipal effluent stream of the treatment plant is estimated at 76.5m³/day (340 PE). This is equivalent to an estimated maximum discharge of 1.92kg BOD and 2.7kg Suspended Solids per day.

Figure 3.1 - Location of primary discharge (SW1P)



3.2 – Description of Natura 2000 Site

Name: River Moy SAC (Site Code 002298)

(see Appendix A for site synopses)

As can be seen in Figure 1.1, Turlough WWTP is not located in the River Moy SAC but is located 1.95km upstream of it.

The River Moy SAC has an area of approximately 231ha. The SAC has been designated for the following habitats and species:

- Active Raised Bogs (Habitat Code 7110) – good representativity;
- Degraded raised bogs still capable of natural regeneration (Habitat Code 7120) – good representativity;
- Depressions of peat substrates of the Rhynchosporion – (Habitat Code 7150) – good representativity;
- Old sessile oak woods with Ilex and Blechnum in British Isles (Habitat Code 91A0) – excellent representativity;
- Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion al (Habitat Code 91E0) – significant representivity;
- Salmo salar (Species Code 1106) – greater than 2% of national population
- Petromyzon marinus (Species Code 1095) – greater than 2% of national population
- Lampetra planeri (Species Code 1096) – greater than 2% of national population
- Lutra lutra (Species Code 1355) – greater than 2% of national population
- Austropotamobius pallipes (Species Code 1092) – greater than 2% of national population.

3.3 – Other projects and plans to be considered ‘in combination’.

There have been 24 planning applications submitted since 2004 within the Agglomeration serviced by the Turlough sewerage, 12 of which have been granted planning permission.

None of these planning applications were for significant projects or plans that would impact on sites of nature conservation importance, or that would have an impact ‘in combination’ with the Turlough WWTP and associated discharges. Planning applications related predominantly to residential or ancillary works that would be accommodated within the existing sewerage schemes population equivalent.

There are 4 IPPC licensed premises within 5km of Turlough WWTP. WP(W)83A (Horkans Garden Centre) is located approximately 850m east of your discharge and WP(W)85 (Abbetbreaffy Nursing Home) is located 1.15km west of your discharge and both discharge to groundwater. Two of these are almost 5km away WP(W)91 (Roadstone Quarry) and WP(W)110 (Breaffy National School) and both have their own treatment facility on site.

There is no Local Area Plan for Turlough to be considered ‘in combination’ but due to development in recent years within the village, the treatment works is near its capacity and if further development of the village continues, additional capacity at the plant will have to be added to cater for the additional development.

Conclusion: There are no projects or plans to be considered ‘in combination’ with the current discharge license application.

3.4 – Assessment Criteria

3.4.1 – Is the development in or on the boundary of the aforementioned nature conservation sites?

No, discharges from the Turlough WWTP are not located within any of the aforementioned nature conservation sites (see Figure 1.1).

3.4.2 – Will nationally protected species be directly impacted? Wildlife Acts (1976 and 2000), Flora Protection Order (S.I. 94 of 1999)?

Flora Protection Order Species:

On the basis of NPWS Records, 5 different Flora Protection Order Species have been recorded within the four 10km survey grids (M28, M29, M38 and M39) within 5km of Turlough WWTP and associated discharge. These records are of Annual Knawel, Great Burnet, Heath Cudweed, Killarney Fern and Narrow Leaved Helleborine. Annual Knawel was recorded just once in 1900 at Lough Levally which is approximately 20km from Turlough. All other recorded species above were recorded from grids in which Turlough WWTP does not lie on and are in a different catchment to the WWTP and discharge. It is considered that the WWTP and associated discharge do not impact on these species.

Wildlife Acts Species:

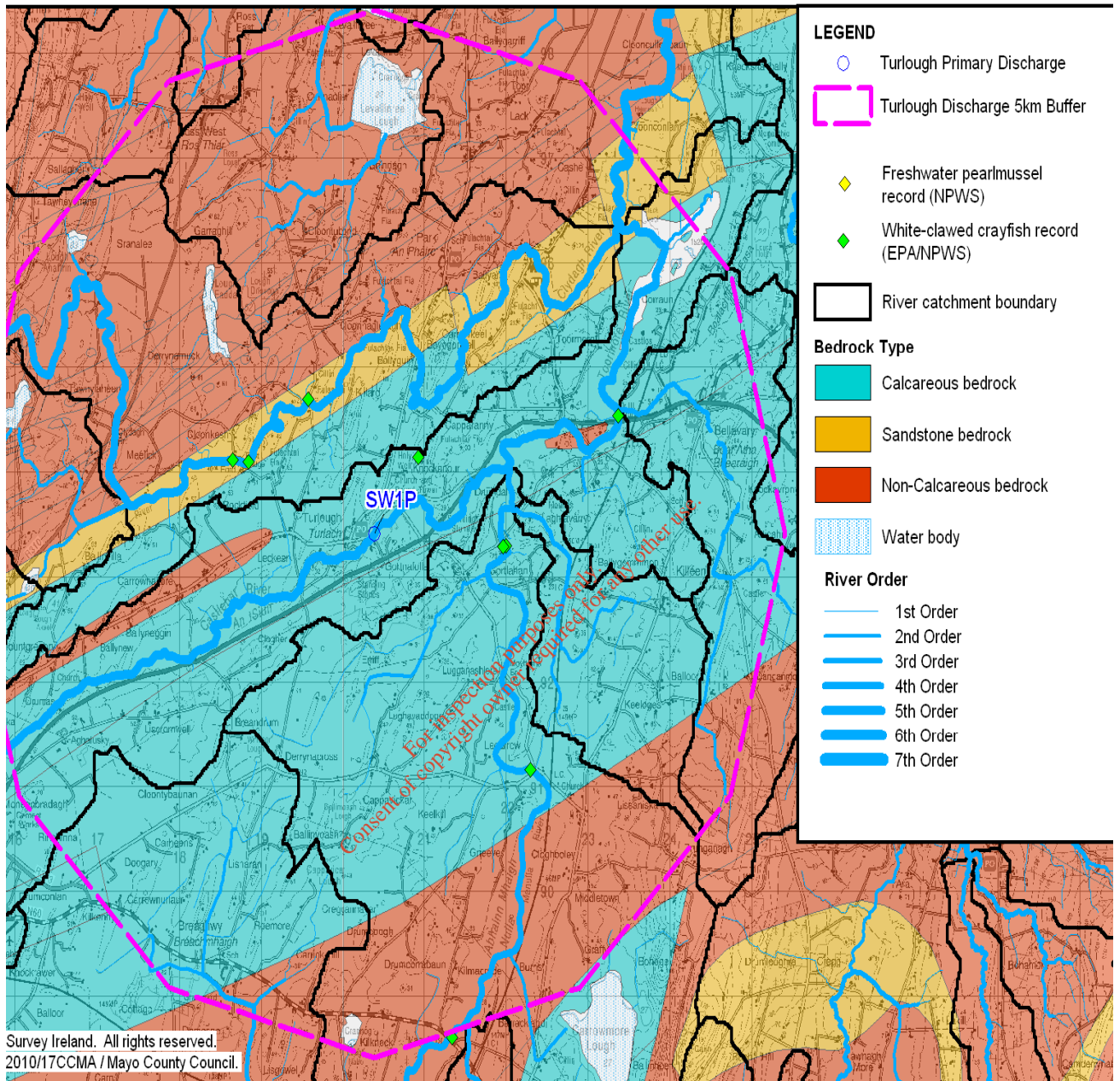
The NPWS have recorded badger, common frog, Eurasian Badger, Fallow Deer, freshwater crayfish, Irish hare, Irish Stoat, otter, pine marten, red deer, whooping snail, sea lamprey, red deer and sika deer within four 10km survey grids (M28, M29, M38 and M39) within 5km of Turlough WWTP and associated discharge. Three of these species are water dependent species.

The only species from this list potentially of risk from the WWTP and associated discharges are the Freshwater Crayfish, Sea Lamprey, Otter and Atlantic Salmon. Impacts on otter are considered indirect, while impacts on white-clawed crayfish, sea lamprey and salmon are direct.

White-clawed crayfish are widely distributed throughout the Irish midlands, and are located in 28 x 10km grid squares in County Mayo. The population status is favourable although the overall conservation status for future prospects for the species is unfavourable-inadequate, due to the reduction of range and locality number and continuing pressures (Reynolds, 2007). Crayfish require moderate to good water quality with water quality Q-ratings of less than 3 deemed unsuitable to support this species (Reynolds, 2007). Ideally water quality should be maintained at Q3-4 or greater to support this species although the species is found within Q3 water quality.

Occasional discharges from wastewater treatment plants are considered a threat to this species (Reynolds, 2007). Water quality in the Castlebar River both upstream and downstream of Turlough WWTP is currently classified as Q3 (moderately polluted). No evidence of white-clawed crayfish were recorded either upstream or downstream of the primary discharge point. There is no evidence of white-clawed crayfish in the vicinity of the primary discharge point. The closest areas where freshwater crayfish have been recorded are the Clydagh and Manulla Rivers, with the most recent record of crayfish in 2007. The Castlebar River has a poor water body status and a Q-value of 3 (moderately polluted) both upstream and downstream of the primary discharge SW1P. Thus it is considered that white-clawed crayfish are not at risk from the primary discharge of the WWTP.

Figure 3.2 – Areas where freshwater crayfish and freshwater pearl mussel have been recorded



Otter have been recorded in 2005 in the Castlebar River approximately 4 km from Turlough WWTP. No evidence of otter was found within the vicinity of the WWTP and associated discharges during a site walk-over survey undertaken on the 29th July 2010 as part of this screening report. Otter populations have the potential to be indirectly impacted from water quality impacts from the WWTP should these affect fish populations which are an important food source for the otter. However, otter feed on a wide range of food including stickleback, frogs, eels and crayfish all of which can tolerate moderate pollution.

The presence of the Sea Lamprey was recorded at 2 sites within the 10km survey grids. This was in grid square M39. The first recording was found in the River Moy at Ballylahan Bridge and the second was found in the Clydagh River approximately 5 km from Turlough WWTP. Water quality and eutrophication are not considered to be highly significant in impacting on lamprey status, in general. O'Connor (2007) found lampreys in rivers with Q values as low as 2 and suggested that, if anything, lampreys seem to favour slightly elevated levels of organic material and filamentous algae. King and Lehane (unpublished data) examined lamprey ammocoete density in the context of water quality as recorded in the EPA 'Q' rating system and found no linkage or correlation. Both low and high density values for ammocoetes were found in a wide range of water quality types.

Atlantic Salmon

The Castlebar River catchment area extends to approx. 30.5km² which represents 1.46% of the entire River Moy catchment area. The Castlebar River is designated as a Salmonid Water under the S.I. No. 293/1988 — European Communities (Quality of Salmonid Waters) Regulations, 1988. The Castlebar River has been the subject of costly habitat enhancement works in the past, including the construction of a fish pass in 1997 on the river close to Turlough Village and is regarded by the North Western Fisheries Board as having considerable potential as a salmonid nursery and angling channel.

The Atlantic salmon (*Salmo salar* L.) is one of the species covered by the Habitats Directive (92/43/EEC). The Directive states that: "If a species is included under this Directive, it requires measures to be taken by individual member states to maintain or restore them to favourable conservation status in their natural range". There are many factors that effect the survival of Atlantic Salmon, Environment, Freshwater Influences, Fisheries, By-Catches, Growth, Food, Competition, Predation, Parasites & Diseases, Marine Overfishing and Pollution. Therefore it is important for the survival of salmon, for numbers to increase and to stay above the conservation limit, that good water quality be maintained. The River Moy catchment is currently above the conservation limit (see Appendix E) and is one of Ireland's premier salmon waters. The Moy is a most productive catchment in salmon terms and this can be attributed to its being a fingered system with a multiplicity of 1st to 5th order tributaries which are large enough to support salmonids < 2 years of age while at the same time being too small to support significant adult trout numbers and are therefore highly productive in salmonid nursery terms.

The EU Water Framework Directive came into effect in December 2000 and was transposed into Irish law in December 2003. The objectives of the WFD are to retain high and good status water bodies and restore to good status those sites which are currently at a lesser status. Good status as defined by the WFD equates approximately to Q4 in the EPA's national scheme of biological classification. The Castlebar River at Turlough has been classified by the EPA as Q3 (moderately polluted). To achieve good water quality status under the EC Environmental Objectives (Surface Waters) Regulations 2009 (S.I.272 of 2009) in the Castlebar River downstream of the Turlough WWTP primary discharge point, the waste assimilative capacity (WAC) of the river at this point must not be exceeded.

The discharge from Turlough WWTP is within the WAC of the river for key parameters Biochemical Oxygen Demand (BOD), Suspended Solids, Ortho-Phosphate and Ammonia (see appendix B).

The average flow recorded in the Castlebar River at Turlough is 5184m³/day during dry weather flow and 15379m³/day during 95% weather flow. Therefore Turlough WWTP discharge flow as a percentage of Dry Weather Flow (DWF) of the Castlebar River is only 1.47% and of the 95 percentile flow of the river is only 0.49%. The WWTP in general does not appear to constitute a water quality risk to the river.

There will be no direct impact on nationally protected species that come under the Wildlife Acts

3.4.3 – Is the development a surface water discharge or abstraction in the surface water catchment or immediately downstream of a nature conservation site with water dependant qualifying habitats/species?

The Turlough WWTP discharges to the Castlebar River. The discharge point is not located in any SAC listed in section 3.2 above. The lower part of the Castlebar River runs through the River Moy SAC. It is considered that the Turlough WWTP discharge does not impact on these water dependent qualifying habitats/species.

3.4.4 – Is the development a groundwater discharge or abstraction in the ground water catchment or within 5km of a nature conservation site with water-dependant qualifying habitats/species?

No

3.4.5 - Is the development in the surface water or groundwater catchment of salmonid waters?

Yes the Castlebar River is designated as a Salmonid Water under the S.I. No. 293/1988 — European Communities (Quality of Salmonid Waters) Regulations, 1988.

3.4.6 – Is the treatment plant in an active or former floodplain or flood zone of a river, lake etc.?

The WWTP is partly located within 'benefiting lands' and there have been floods recorded at Bellavary/ Straide N58 (M254 958) (125,422,295,849) Flood Quality Code 4, approximately 4 km downstream of Turlough WWTP. (www.floodmaps.ie)

Turlough village area, Castlebar Dec 1999, flood quality Code 3 (M254 958) (www.floodmaps.ie).

3.4.7 – Is the development of a surface discharge or abstraction to or from marine waters and within 3km of a marine nature conservation site?

No, the Turlough WWTP discharges to the Castlebar River, not to the marine environment. There is no marine SAC or SPA within 3km downstream of the WWTP.

3.4.8 –Will the project in combination with other projects (existing and proposed) or changes to such projects affect the hydrology or water levels of sites of nature conservation interest or the habitats of protected species?

No, the average flow recorded in the Castlebar River at Turlough is 5184m³/day during dry weather flow and 15379m³/day during 95% weather flow. Therefore Turlough WWTP discharge flow as a percentage of Dry Weather Flow (DWF) of the Castlebar River is only 1.47% and of the 95 percentile flow of the river is only 0.49%.

A review of all planning applications in the agglomeration since 2004 (Source: Mayo County Council GIS database), shows no major development has been proposed that would affect the hydrology or water levels of sites of nature conservation interest or the habitats of protected species.

3.4.9 - Conclusion:

It is considered that an Appropriate Assessment is not required.

4. FINDINGS OF SIGNIFICANT EFFECTS REPORT MATRIX

- 4.1 – Name of project or plan** Turlough Wastewater Treatment Plant Discharge License Application
- 4.2 - Name and location of Natura 2000 sites** River Moy SAC (Site Code 002298)
- 4.3 - Description of the project or plan** As 3.1 above.
- 4.4 - Is the project or plan directly connected with or necessary to the management of the site (provide details)?** No
- 4.5 - Are there other projects or plans that together with the project or plan being assessed could affect the site (provide details)?** No

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5. – THE ASSESSMENT OF SIGNIFICANCE OF EFFECTS

5.1 - Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site.

Likely Impacts of project:

- **Size & Scale:** The relative small scale of the WWTP (76.5m³/day, equivalent to an average discharge of 1.92kg BOD/day and 2.7kg suspended solids) compared with the dry weather flow of the receiving waters (5184m³/day) reduces the likelihood of impact;

- **Land-take:** The WWTP does not require any land take from the SAC;

- **Distance from Nature 2000 Site or key features of the site:** The primary discharge SW1P is located 1.95km upstream of the River Moy SAC. The discharge from the WWTP is within the WAC of the river and it is considered that the discharge from the Turlough WWTP would be assimilated by the river by the time it reaches the River Moy SAC.

- **Resource Requirements:** None (water abstraction etc.);

- **Emissions:** The discharge from the WWTP is within the WAC of the river for key parameters Biochemical Oxygen Demand (BOD), Suspended Solids, Ortho-Phosphate and Ammonia (see appendix B).

It is considered that the potential impacts of the Turlough WWTP and associated discharges relate to impacts from emissions to water and indirect impacts on water dependant species and habitats from these emissions;

- **Excavation Requirements:** None;

- **Duration of Construction, Operation and Decommissioning:** No construction or decommissioning anticipated in the near future, while the operation of the WWTP and associated discharges are considered long-term.

Likely changes to site:

- **Reduction of habitat area:** No impact likely;

- **Disturbance to key species:** Possible direct/ indirect impact. The four water dependant species as outlined in 3.4.2 above found in the River Moy SAC are Crayfish, Sea Lamprey, Otter and Atlantic Salmon. Water quality and eutrophication are not considered to be highly significant in impacting on lamprey status, in general. O'Connor (2007) found lampreys in rivers with Q values as low as 2 and suggested that, if anything, lampreys seem to favour slightly elevated levels of organic material and filamentous algae.

No evidence of white-clawed crayfish were recorded either upstream or downstream of the primary discharge point. There is no evidence of white-clawed crayfish in the vicinity of the primary discharge point. The closest areas where freshwater crayfish have been recorded are the Clydagh and Manulla Rivers, with the most recent record of crayfish in 2007. The Castlebar River has a poor water body status and a Q-value of 3 (moderately polluted) both upstream and downstream of the primary discharge SW1P. Crayfish require moderate to good water quality with water quality Q-ratings of less than 3 deemed unsuitable to support this species (Reynolds, 2007). Thus it is considered that white-clawed crayfish are not at risk from the primary discharge of the WWTP.

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Otter populations have the potential to be indirectly impacted from water quality impacts from the WWTP should these affect fish populations which are an important food source for the otter. However, otter feed on a wide range of food including stickleback, frogs, eels and crayfish all of which can tolerate moderate pollution.

Salmon numbers have the potential to be impacted from water quality impacts from the WWTP and should the WWTP fail to keep within the WAC for key parameters (BOD, Suspended Solids, Orthophosphate, and Ammonia), this could pose a threat to salmon numbers. At present the discharge from Turlough WWTP is within the WAC of the river for key parameters Biochemical Oxygen Demand (BOD), Suspended Solids, Ortho-Phosphate and Ammonia (see appendix B).

The average flow recorded in the Castlebar River at Turlough is 5184m³/day during dry weather flow and 15379m³/day during 95% weather flow. Therefore Turlough WWTP discharge flow as a percentage of Dry Weather Flow (DWF) of the Castlebar River is only 1.47% and of the 95 percentile flow of the river is only 0.49%. The WWTP in general does not appear to constitute a water quality risk to the river.

There will be no direct impact on nationally protected species that come under the Wildlife Acts

- **Habitat or species fragmentation:** No impact likely.

- **Reduction in species density:** No impact likely.

- **Climate Change:** No impact likely.

- **Indicators of significance:** change to key elements of the site (i.e. water quality).

The Turlough WWTP and associated discharges will not impact on any Natura site.

5.2 - Explain why these effects are not considered significant.

Although the River Moy SAC is located downstream, it is considered that the discharge from Turlough WWTP will not have an adverse effect on any protected species as outlined in 5.1.

5.3 - List of Agencies Consulted: Provide contact name and telephone or e-mail address:

1. Naomi Kingston/ Rebecca Jeffrey, National Parks and Wildlife Service, e-mail: Naomi.Kingston@environ.ie, natureconservation@environ.ie
2. David Harrington, North Western Fisheries Board.

Any available data was assessed from the following websites;

- WFD Ireland,
- Western RBD,
- National Biodiversity Data Centre,
- Department of Environment Heritage and Local Government,
- North Western Fisheries Board,
- EPA,
- National Parks and Wildlife:

5.4 - Response to Consultation

The Castlebar River catchment area extends to approx. 30.5km² which represents 1.46% of the entire River Moy catchment area. The Castlebar River is designated as a Salmonid Water under the S.I. No. 293/1988 — European Communities (Quality of Salmonid Waters) Regulations, 1988. The Castlebar River originates in the Islandeady (Bilberry) and Lannagh Loughs located south-west of Castlebar Town. It is a rich limestone river and, because of its lake source, it rarely runs low in summer. The river is regulated at the exit from Lough Lannagh by removable weir boards. The river continues north westwards past Turlough Village and merges with the Manulla River at Drumdaff to form the Toormore River. The Toormore subsequently joins the Clydagh River prior to flowing into Lough Cullin. Trout fishing is good throughout its entire length. The Castlebar River has been the subject of costly habitat enhancement works in the past, including the construction of a fish pass in 1997 on the river close to Turlough Village and is regarded by the Board as having considerable potential as a salmonid nursery and angling channel.

DATA COLLECTED TO CARRY OUT THE ASSESSMENT SCREENING

Who carried out the Appropriate Assessment Screening?

Ronan Mc Donnell, Ballina WWTP Manager, Mayo County Council.

Sources of data

Any available data was assessed from the following websites;

- WFD Ireland,
- Western RBD,
- National Biodiversity Data Centre,
- Department of Environment Heritage and Local Government,
- National Parks and Wildlife;

See References/Sources of report.

Level of Assessment

Desk top study, site walkover survey.

Where can the full results of the Assessment Screening be accessed and viewed?

Water Services Capital Works Section, Mayo County Council.

REFERENCES

- Department of Environment, Heritage and Local Government (2008) Circular L8/08. Water Services Investment and Rural Water Programmes – Protection of Natural Heritage and National Monuments.
- European Council Directive on the Conservation of Habitats, Flora and Fauna 92/43/EEC
- EPA (2008) Wastewater Discharge Licensing Appropriate Assessment: Note on Appropriate Assessments for the purposes of the Waste Water Discharge (Authorisation) Regulations, 2007 (S.I. No. 684 of 2007).
- EC (2000) Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC.
- EC (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.
- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC.
- S.I. No. 293/1988 — European Communities (Quality of Salmonid Waters) Regulations, 1988.
- S.I. No. 440/2004 — Urban Waste Water Treatment (Amendment) Regulations, 2004.
- Mayo County Development Plan 2008-2014
- Holdich, D. (2003). Ecology of the White-clawed crayfish. Conserving Natura 2000 Rivers Ecology Series No. 1. English Nature, Peterborough.
- Demers, A., Lucey, J., McGarrigle, M.L. & Reynolds, J.D. (2005). The distribution of the white clawed crayfish, *Austropotamobius pallipes*, in Ireland. *Biology and Environment: Proceedings of the Royal Irish Academy*, Vol. 105B (2): 65-69
- E. A. Moorkens (1999) Conservation Management of the Freshwater Pearl Mussel *Margaritifera margaritifera*. Part 1: Biology of the species and its present situation in Ireland. *Irish Wildlife Manuals*, No. 8.
- Skinner, A., Young, M. & Hastie, L. (2003). Ecology of the Freshwater Pearl Mussel. *Conserving Natura 2000 Rivers Ecology Series No. 2*. English Nature, Peterborough.
- O'Connor, W. (2007) A Survey of Juvenile Lamprey Populations in the Corrib and Suir Catchments. *Irish Wildlife Manuals No. 26*. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.
- European Communities Environmental Objectives (Surface Waters) Regulations 2009.

APPENDIX A – SITE SYNOPSES FOR SACS

SITE SYNOPSIS

SITE NAME: RIVER MOY

SITE CODE: 002298

This site comprises almost the entire freshwater element of the Moy and its tributaries including both Loughs Conn and Cullin. The system drains a catchment area of 805sq. km. Most of the site is in Co. Mayo though parts are in west Sligo and north Roscommon. Apart from the Moy itself, other rivers included within the site are the Deel, Bar Deela, Castlehill, Addergoole, Clydagh and Manulla on the west side and the Glenree, Yellow, Strade, Gweestion, Trimogue, Sonnagh, Mullaghanoe, Owengarve, Eighnagh and Owenaher on the east side. The underlying geology is Carboniferous Limestone for the most part though Carboniferous Sandstone is present at the extreme west of the site with Dalradian Quartzites and schists at the south west. Some of the tributaries at the east, the south of Lough Conn and all Lough Cullin are underlain by granite. There are many towns adjacent to but not within the site. These include Ballina, Crossmolina, Foxford, Swinford, Kiltimagh and Charlestown.

The site is a candidate SAC selected for alluvial wet woodlands and raised bog, both priority habitats on Annex I of the E.U. Habitats Directive. The site is also a candidate SAC selected for old oak woodlands, degraded raised bog and Rhynchosporion, all habitats listed on Annex I of the E.U. Habitats Directive. The site is also selected for the following species listed on Annex II of the same directive – Atlantic Salmon, Otter, Sea and Brook Lamprey and White-clawed Crayfish.

On the slopes and rising ground around the southern shores of Loughs Conn and Cullin, Oak woodlands are seen. Sessile Oak (*Quercus petraea*) is the dominant tree with an understorey of Holly (*Ilex aquifolium*), Hazel (*Corylus avellana*) and Birch (*Betula pubescens*) with some Ash (*Fraxinus excelsior*). Additional species are associated with the lakeshore such as the whitebeam (*Sorbus rupicola*), Aspen (*Populus tremula*), Silver Birch (*B. pendula*) and the shrubs Guelder Rose (*Viburnum opulus*), Buckthorn (*Rhamnus catharticus*) and Spindle Tree (*Euonymus europaeus*). The ground flora is usually composed of Bilberry (*Vaccinium myrtillus*), Wood Rush (*Luzula sylvatica*), Wood Sorrel (*Oxalis acetosella*), Buckler Ferns (*Dryopteris aemula* and *D. dilatata*), Hard Fern (*Blechnum spicant*), Cow-wheat (*Melampyrum* spp.) and Bracken (*Pteridium aquilinum*). The rare Narrow-leaved Helleborine (*Cephalanthera longifolia*), protected under the Flora Protection Order, 1999, occurs in association with the woodlands. Also found in these woodlands is the snail (*Acanthinula lamellata*), associated with old natural woodlands.

On higher ground adjacent to the woodlands is blanket bog with scattered shrubs and trees on the drier areas. The rocky knolls often bear Juniper (*Juniperus communis*) or Gorse (*Ulex europaeus*), with some unusual rare herb species such as Intermediate Wintergreen (*Pyrola media*) and Lesser Twayblade (*Listera cordata*).

Within the site are a number of raised bogs including those at Kilgarriff, Gowlaun, Derrynabrock, Tawnaghbeg and Cloongoonagh. These are examples of raised bogs at the north-western edge of the spectrum and possesses many of the species typical of such in Ireland, including an abundance of Bog Asphodel (*Narthecium ossifragum*), Carnation Sedge (*Carex panicea*) and the moss *Campylopus atrovirens*. Some of the bogs include significant areas of active raised bog habitat. Well developed pool and hummock systems with quaking mats of bog mosses (*Sphagnum* spp.), Bog Asphodel (*Narthecium ossifragum*) and White Beaked-sedge (*Rhynchospora alba*) are present. Many of the pools contain a diversity of plant species, including Bogbean (*Menyanthes trifoliata*), the bog moss *Sphagnum cuspidatum*, *Campylopus atrovirens*, Common Cottongrass (*Eriophorum angustifolium*), Great Sundew (*Drosera anglica*) and occasional Lesser Bladderwort (*Utricularia minor*). Several of the hummock forming mosses (*Sphagnum fuscum* and *S. imbricatum*) which occur here are quite rare in this region and add to the scientific interest of the bogs within the overall site.

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Depressions on the bogs, pool edges and erosion channels, where the vegetation is dominated by White Beaked-sedge (*Rhynchospora alba*) comprise the habitat Rhynchosporion. Associated species in this habitat at the site include Bog Asphodel, Sundews, Deergrass (*Scirpus cespitosus*) and Carnation Sedge.

Degraded raised bog is present where the hydrology of the uncut bogs, has been affected by peat cutting and other land use activities in the surrounding area such as afforestation and associated drainage and also by the Moy arterial drainage. Species typical of the active raised bog habitat are still present but the relative abundance of them is different. A typical example of the degraded habitat, where drying has occurred at the edge of the high bog, contains an abundance and more uniform cover of Ling Heather (*Calluna vulgaris*), Carnation Sedge, Deergrass and sometimes Bogmyrtle (*Myrica gale*). Occurring in association with the uncut high bog are areas of wet regenerating cutover bog with species such as Common Cottongrass, bog mosses and Sundew, while on the drier areas, the vegetation is mostly dominated by Purple Moor-grass (*Molinia caerulea*). Natural regeneration with peat-forming capability will be possible over time with some restorative measures.

The open water of Loughs Conn and Cullin is moderately hard with relatively low colour and good transparency. The phytoplankton of the lake is dominated by diatoms and blue-green algae and there is evidence that the latter group is more common now than in former years. This indicates that nutrient inflow is occurring. Arctic Charr (*Salvelinus alpinus*) appear to have disappeared from the lake over the same period of time. The changes in Lough Conn appear to represent an early phase in the eutrication process. Stoneworts still present include *Chara aspera*, *C. delicatula* and *Nitella cf. opaca*. Other plants found in the shallower portions are the pondweeds. Where there is a peat influence Intermediate Bladderwort (*Utricularia intermedia*) is characteristic while Water Lobelia (*Lobelia dortmanna*) often grows in sand. Narrow reedbeds and patches of Yellow Water-lily (*Nuphar lutea*) occur in some of the bays.

Drainage of the Moy in the 60s lowered the level of the lakes, exposing wide areas of stony shoreline and wet grassland, which are liable to flooding in winter. This increased the habitat diversity of the shoreline and created a number of marginal wetlands, including fens and marshes. Plant species of note in the lake-margin include Heath Cudweed (*Omalotheca sylvatica*), Great Burnet (*Sanguisorba officinalis*) and Irish Lady's-tresses (*Spiranthes romanzoffiana*). These three species are listed on the Irish Red Data list and are protected under the Flora Protection Order 1999.

Other habitats present within the site include wet grassland dominated by Rushes (*Juncus* spp.) grading into species-rich marsh in which sedges are common. Among the other species found in this habitat are Yellow Iris (*Iris pseudacorus*), Water Mint (*Mentha aquatica*), Purple Loosestrife (*Lythrum salicaria*) and Soft Rush (*Juncus effusus*).

Grey Willow (*Salix cinerea*) scrub and pockets of wet woodland dominated by Alder (*Alnus glutinosa*) have become established in places throughout the site. Ash (*Fraxinus excelsior*) and Birch (*Betula pubescens*) are common in the latter and the ground flora is typical of wet woodland with Meadowsweet (*Filipendula ulmaria*), Angelica (*Angelica sylvestris*), Yellow Iris, Horsetail (*Equisetum* spp.) and occasional tussocks of Greater Tussock-sedge (*Carex paniculata*).

Small pockets of conifer plantation, close to the lakes and along the strip both sides of the rivers, are included in the site.

The Moy system is one of Ireland's premier salmon waters and it also encompasses two of Ireland's best lake trout fisheries in Loughs Conn and Cullin. Although the Atlantic Salmon (*Salmo salar*) is still fished commercially in Ireland, it is considered to be endangered or locally threatened elsewhere in Europe and is listed on Annex II of the Habitats Directive. The Moy is a most productive catchment in salmon terms and this can be attributed to its being a fingered

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system with a multiplicity of 1st to 5th order tributaries which are large enough to support salmonids < 2 years of age while at the same time being too small to support significant adult trout numbers and are therefore highly productive in salmonid nursery terms.

Salmon run the Moy every month of the year. Both multi-sea-winter fish and grilse are present. The salmon fishing season is 1st February to 30th September. The peak of the spring fishing is in April and the grilse begin running in early May. The average weight of the spring fish is 9 lb and the grilse range from about 3-7 lb. In general spring fish are found more frequently in the rivers at the western extent of the Moy system.

The Arctic Char (*Salvelinus alpinus*), an interesting relict species from the last ice age, which is listed as threatened in the Irish Red Data Book has been recorded from Lough Conn and in only a few other lakes in Ireland. The latest reports suggest that it may now have disappeared from the site.

The site is also important for the presence of three other species listed on Annex II of the E.U. Habitats Directive, namely Sea Lamprey (*Petromyzon marinus*), Otter (*Lutra lutra*) and White-clawed Crayfish (*Austropotamobius pallipes*). The Sea Lamprey is regularly encountered in the lower stretches of the river around Ballina, while the otter and crayfish are widespread throughout the system. In addition, the site also supports many more of the mammal species occurring in Ireland. Those which are listed in the Irish Red Data Book include Pine Marten, Badger, Irish Hare and Daubenton's Bat. Common Frog, another Red Data Book species, also occurs within the site.

Loughs Conn and Cullin support important concentrations of wintering waterfowl and both are designated Special Protection Areas. A nationally important population of the Annex I species Greenland White-fronted Geese (average 113 over 6 winters 1994/95 to 1999/00) is centred on Lough Conn. Whooper Swans also occur (numbers range between 25 to 50), along with nationally important populations of Tufted Duck 635, Goldeneye 189 and Coot 464. A range of other species occur on the lakes in regionally important concentrations, notably Wigeon 303, teal 154, Mallard 225, Pochard 182, Lapwing (>1,000) and Curlew 464. Golden Plover also frequent the lakes, with numbers ranging between 700 and 1,000.

Loughs Conn and Cullin are one of the few breeding sites for Common Scoter in Ireland. Breeding has occurred on Lough Conn since about the 1940s when about 20- 30 pairs were known. A census in 1983 recorded 29 pairs. Breeding was first proved on Lough Cullin in 1983 when 24 pairs were recorded. In 1995, 24-26 pairs were recorded at Lough Conn and 5 pairs at Lough Cullin. The latest survey in 1999 gives a total of 30 birds for both lakes, comprising only 5 pairs, 18 unpaired males and 2 unpaired females. The reason for the decline is not known but may be due to predation by mink, possible changes in food supply and/or redistribution to other sites. The Common Scoter is a Red listed species.

Agriculture, with particular emphasis on grazing, is the main landuse along the Moy. Much of the grassland is unimproved but improved grassland and silage are also present. The spreading of slurry and fertiliser poses a threat to the water quality of this salmonid river and to the large lakes. Fishing is a main tourist attraction on the Moy and there are a large number of Angler Associations, some with a number of beats. Fishing stands and styles have been erected in places. The North Western Regional Fishery Board have erected fencing along selected stretches of the river as part of their salmonid enhancement programme. Other aspects of tourism are concentrated around Loughs Conn and Cullin.

Afforestation has occurred in the past around the shores of Loughs Conn and Cullin. The coniferous trees are due for harvesting shortly. It is proposed to replant with native tree species in this area. Forestry is also present along many of the tributaries and in particular along the headwaters of the Deel. Forestry poses a threat in that sedimentation and acidification occurs. Sedimentation can cover the gravel beds resulting in a loss of suitable spawning grounds. The

**Turlough Wastewater Discharge Certificate of Authorisation Application –
Appropriate Assessment Screening**

Moy has been arterially dredged in the 60s. Water levels have been reduced since that time. This is particularly evident along the shores of Loughs Conn and Cullin and in the canal-like appearance of some river stretches. Ongoing maintenance dredging is carried out along stretches of the river system where the gradient is low. This is extremely destructive to salmonid habitat in the area.

The site supports populations of several species listed on Annex II of the EU Habitats Directive, and habitats listed on Annex I of this directive, as well as examples of other important habitats. The presence of a fine example of broad-leaved woodland in this part of the country increases the overall habitat diversity and adds to the ecological value of the site as does the presence of the range of nationally rare and Red Data Book plant and animal species.

16.05.2005

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APPENDIX B – WASTE ASSIMILATIVE CAPACITY (WAC) CALCULATIONS

Dilution Rate:

No. Dilutions = Flow in receiving water (m³/d) / WWTP discharge volume (m³/d)
= 5184 / 76.5 = 67.7

67.7 (Dilution Rate for WWTP)

WAC Calculation:

WAC (kg/d) = (Cmax-Cback) * F95 (m³/s) * 86.4

Where Cmax = max permissible concentration in receiving water (based on achieving 'good status' under the EC Environmental Objectives (Surface Waters) Regulations 2009).

Cback = background (upstream) concentration (mg/l)

F95 = 95% flow in receiving river (m³/s)

WAC for BOD = (2.6 - 1) * 0.17798 * 86.4 = **24.6 kg/day BOD**
(Using 'Good Status' for Cmax and results of aSW1u sample for Cback)

WAC for Suspended Solids = (25 - 2) * 0.17798 * 86.4 = **353.68 kg/d SS**
(Using Salmonid Regulations for Cmax and results for aSW1u sample for Cback)

WAC for Ortho-phosphorus = (0.075 - 0.02) * 0.17798 * 86.4 = **0.85 kg/d Ortho-phosphorus**
(Using 'Good Status' 95%ile for Cmax, results for aSW1u sample for Cback and 95%ile flow in receiving water)

WAC for Ammonia = (0.14 - 0.021) * 0.17798 * 86.4 = **1.82 kg/d Ammonia**
(Using 'Good Status' for Cmax and results for aSW1u sample for Cback)

Loadings from WWTP:

Loading (kg/d) = {discharge concentration (mg/l) x discharge flow (m³/d)} / 1000

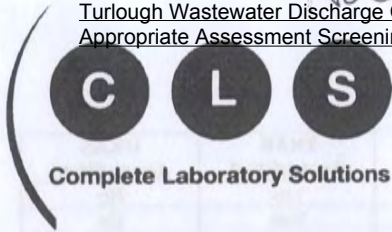
Where discharge concentrations are based on maximum concentrations provided in Table D.1 (i) of the discharge license application and flows are based on Dry Weather Flow (DWF) included in Section C.1.2 of the discharge license application.

WWTP BOD loading (within WAC) = (34 * 76.5) / 1000 = **2.6 kg/day BOD**

WWTP SS loading (within WAC) = (67 * 76.5) / 1000 = **5.13 kg/day SS**

WWTP Ortho-phosphorus loading (within WAC) = (4.24 * 76.5) / 1000 = **0.324 kg/day Ortho-P**

WWTP Ammonia loading (within WAC) = (21.551 * 76.5) / 1000 = **1.65 kg/day Ammonia**



Complete Laboratory Solutions
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 [Fax] 091 574356
 [Email] services@cls.ie
 [web] www.completelabsolutions.com

Client : Margaret Sweeney
 Mayo County Council
 Aras An Chontae
 Castlebar
 Co. Mayo

Report No. : 123008
 Date of Receipt : 15/10/2010
 Start Date of Analysis : 15/10/2010
 Date of Report : 29/10/2010
 Order Number :
 Sample taken by : CLS

CERTIFICATE OF ANALYSIS

Test	RESULTS			
	Turlough. Inflow, grab. 14/10/10 @ 9.30	Turlough. Outflow, grab. 15/10/10 @ 9.40	Turlough. Upstream, grab. 15/10/10 @9.50	Turlough. Downstream, grab. 15/10/10 @ 10.00
	282902	282904	282907	282909
Total Phosphorus as P (sw)			<0.05 mg/l	0.06 mg/l
Total Phosphorus as P (d)	11.0 mg/l	6.4 mg/l		
Total Nitrogen as N (sw)			1.527 mg/l	1.663 mg/l
Total Nitrogen as N (d)	51.78 mg/l	35.29 mg/l		
TON as N (sw)			0.25 mg/l	0.25 mg/l
TON as N (d)	<0.1 mg/l	<0.1 mg/l		
Temperature	13.5 C	14.2 C	11.9 C	12.2 C
Suspended Solids (d)	126 mg/l	67 mg/l		
Suspended Solids			<2 mg/l	2 mg/l
pH	7.4 pH Units	7.4 pH Units	7.6 pH Units	7.5 pH Units
Orthophosphate as PO4-P	7.376 mg/l	7.240 mg/l	0.020 mg/l	<0.01 mg/l
Dissolved Oxygen (mg/l)	1.7 mg/l	0.7 mg/l	10.5 mg/l	10.6 mg/l
Dissolved Oxygen (%)	17 %	6 %	97 %	98 %
COD	574 mg/l	210 mg/l	54 mg/l	39 mg/l
CBOD (with nitrification inhibition)		34 mg/l		
BOD (sw)			<1 mg/l	<1 mg/l
BOD (d)	216 mg/l			
Ammonium as NH4 (sw)			0.021 mg/l	0.040 mg/l
Ammonium as NH4 (d)	47.880 mg/l	21.551 mg/l		

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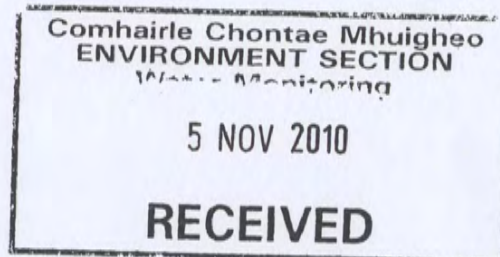
Approved by:

Kieran Cunningham

Kieran Cunningham
 Senior Analytical Chemist

See reverse for Test Specifications

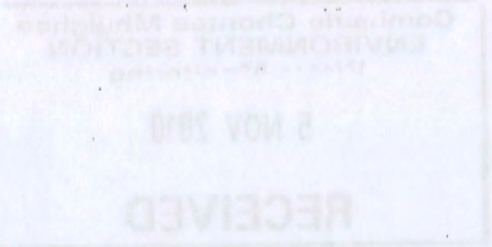
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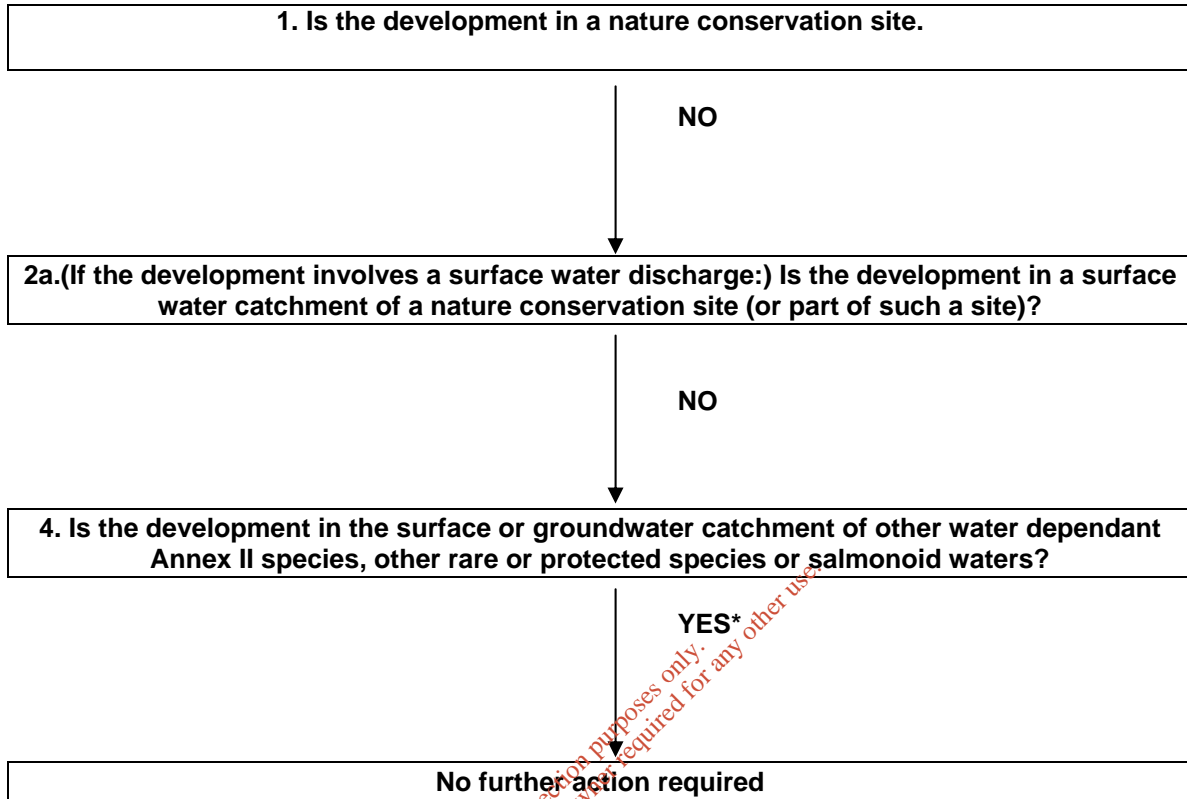
Turlough Wastewater Discharge Certificate of Authorisation Application -
Appropriate Assessment Screening

Test	Specification	Subcontracted	INAB Accredited	UKAS Accredited
Total Phosphorus as P (sw)	CLS 151	No	Yes	No
Total Phosphorus as P (d)	CLS 151	No	Yes	No
Total Nitrogen as N (sw)	CLS 152	No	Yes	No
Total Nitrogen as N (d)	CLS 152	No	Yes	No
TON as N (sw)	Konelab CLS 38	No	Yes	No
TON as N (d)	Konelab CLS 38	No	Yes	No
Temperature		No	Yes	No
Suspended Solids (d)	CLS 13	No	No	No
Suspended Solids	CLS 13	No	Yes	No
pH	CLS 26	No	Yes	No
Orthophosphate as PO4-P	Konelab CLS 35	No	Yes	No
Dissolved Oxygen (mg/l)	CLS 75	No	No	No
Dissolved Oxygen (%)	CLS 75	No	No	No
COD	CLS 52	No	Yes	No
CBOD (with nitrification inhibition)	CLS 12	No	Yes	No
BOD (sw)	CLS 12	No	Yes	No
BOD (d)	CLS 12	No	Yes	No
Ammonium as NH4 (sw)	Konelab CLS 40	No	Yes	No
Ammonium as NH4 (d)	Konelab CLS 40	No	Yes	No

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Appendix C – Flow Chart from Appendix 1 of Circular L8/08 from DoEHLG.



Note*: Justification for no further action required despite yes to 4. detailed in section 5.2 of screening report above.

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APPENDIX D - CONSULTATION

Castlebar River


David Harrington [dharrington@nwrfb.com]



Attachments can contain viruses that may harm your computer.
Attachments may not display correctly.

To: Mc Donnell Ronan

Cc:

Attachments:  Castlebar River.doc(37KB)

Ronan,

Info attached on the Castlebar River as discussed.

David

David Harrington
Fisheries Environmental Officer
Western River Basin District - Ballina

Iascach Intire Éireann
Inland Fisheries Ireland

Tel +353 (0)96 22788
Fax +353 (0)96 70543
Email dharrington@nwrfb.com
Web www.fisheriesireland.ie

Ardnaree House, Abbey Street, Ballina, County Mayo, IRELAND.

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Castlebar River

The Castlebar River catchment area extends to approx. 30.5km² which represents 1.46% of the entire River Moy catchment area. The Castlebar River is designated as a Salmonid Water under the S.I. No. 293/1988 — European Communities (Quality of Salmonid Waters) Regulations, 1988.

The Castlebar River originates in the Islandeady (Bilberry) and Lannagh Loughs located south-west of Castlebar Town. It is a rich limestone river and, because of its lake source, it rarely runs low in summer. The river is regulated at the exit from Lough Lannagh by removable weir boards. The river continues north westwards past Turlough Village and merges with the Manulla River at Drumdaff to form the Toormore River. The Toormore subsequently joins the Clydagh River prior to flowing into Lough Cullin. Trout fishing is good throughout its entire length.

The Castlebar River has been the subject of costly habitat enhancement works in the past, including the construction of a fish pass in 1997 on the river close to Turlough Village and is regarded by the Board as having considerable potential as a salmonid nursery and angling channel.

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APPENDIX E - ILLUSTRATION

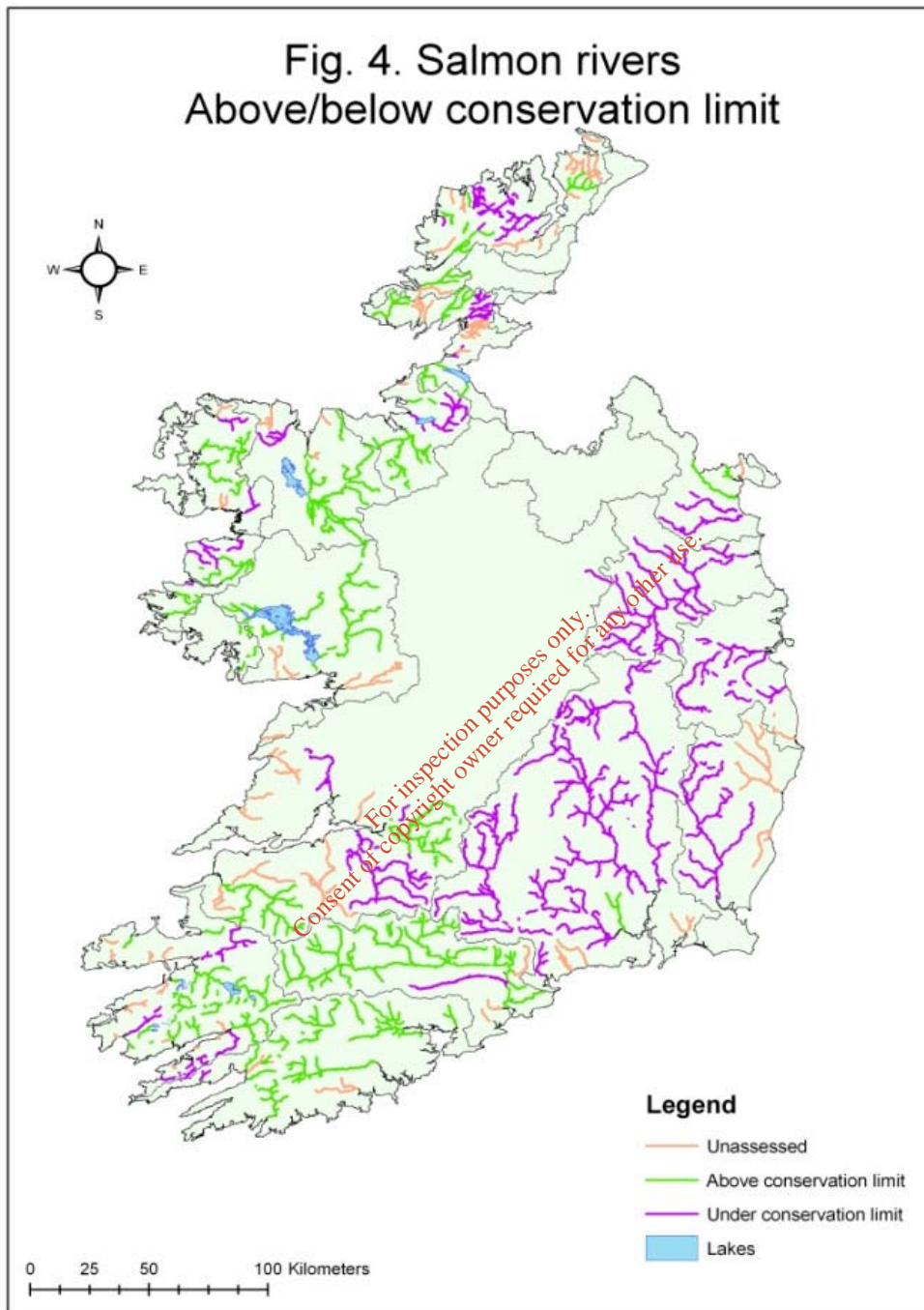


TABLE F.1(i)(a): SURFACE/GROUND WATER MONITORING

Primary Discharge Point

Discharge Point Code:	SW-1
MONITORING POINT CODE:	aSW-1d
Grid Ref (12 digits, 6E, 6N)	120409 / 293436

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	27/08/10						
pH	= 8.43				Grab	2	TM133 BS 1377: Part 3 1990;BS 6068-2.5 Determinati
Temperature	= 999999999				Grab		Not Applicable. See note below
Electrical Conductivity (@ 25°C)	= 376				Grab	14	TM120 Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS
Suspended Solids	< 2				Grab	2	TM022 Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS
Ammonia (as N)	< 0.2				Grab	0.2	TM099 BS 2690: Part 7:1968 / BS 6068: Part2.11:198
Biochemical Oxygen Demand	< 1				Grab	1	TM045 MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B,
Chemical Oxygen Demand	= 26.8				Grab	7	TM107 ISO 6060-1989 Determination of Chemical Oxyg
Dissolved Oxygen	= 9.48				Grab	1	TM046 Method 4500G, AWWA/APHA, 20th Ed., 1999 Meas
Hardness (as CaCO ₃)	= 187				Grab	1	TM228 US EPA Method 6010B Determination of Major C
Total Nitrogen (as N)	< 1				Grab	1	TM212 SO/TR 11905-2: 1997. Water quality – Determi
Nitrite (as N)	< 0.05				Grab	0.05	TM184 EPA Methods 325.1 & 325.2, The Determination
Nitrate (as N)	= 0.775				Grab	0.3	TM184 EPA Methods 325.1 & 325.2, The Determination

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Total Phosphorous (as P)	= 0.0302				Grab	0.02	TM191 Standard Methods for the examination of wate
OrthoPhosphate (as P)	< 0.03				Grab	0.03	TM184 EPA Methods 325.1 & 325.2, The Determination
Sulphate (SO ₄)	= 27.1				Grab	3	TM184 EPA Methods 325.1 & 325.2, The Determination
Phenols (Sum)	< 25				Grab	25	TM259 Alcontrol Laboratories

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:	<p>There was no value for temperature in the sample analysis report. Nitrite and Nitrate were reported as N02 and N03 values respectively, rather than as N values. Conductivity tested at 20 deg C.</p> <p>There was no value for temperature in the sample analysis report. Nitrite and Nitrate were reported as N02 and N03 values respectively, rather than as N values. Conductivity tested at 20 deg C.</p>
----------------------	---

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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)	120409 / 293436

Parameter	Results (µg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	27/08/10						
Atrazine	< 1				Grab	1	TM231 Agilent 6890 Gas Chromatograph system using
Dichloromethane	< 3.7				Grab	3.7	TM116 Modified: US EPA Method 8260, 8120, 8020, 62
Simazine	< 1				Grab	1	TM231 Agilent 6890 Gas Chromatograph system using
Toluene	< 1.4				Grab	1.4	TM116 Modified: US EPA Method 8260, 8120, 8020, 62
Tributyltin	< 0.02				Grab	0.02	Organotins in waters are converted to the hydride
Xylenes	< 4.2				Grab	4.2	TM116 Modified: US EPA Method 8260, 8120, 8020, 62
Arsenic	< 2				Grab	2	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal
Chromium	< 3				Grab	3	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal
Copper	< 4				Grab	4	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal
Cyanide	< 50				Grab	50	TM227 Standard methods for the examination of water
Flouride	< 500				Grab	500	TM104 Method 4500F, AWWA/APHA, 20th Ed., 1999 Dete
Lead	< 0.5				Grab	0.5	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal

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Nickel	= 2.26				Grab	0.5	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal
Zinc	< 3				Grab	3	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal
Boron	< 135				Grab	135	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal
Cadmium	< 0.5				Grab	0.5	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal
Mercury	< 0.02				Grab	0.02	TM183 BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0
Selenium	< 1				Grab	0	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal
Barium	= 55.4				Grab	0.5	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal

Additional Comments:	Limit of quantity for M.p-Xylene is 2.5 & o-Xylene is 1.7 so Xylenes recorded as 4.2. Value for M.p-Xylene is <2.5 & o-Xylene is <1.7 so Xylenes recorded as <4.2.
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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)	120334 / 293355

Parameter	Results (mg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	27/08/10						
pH	= 8.58				Grab	2	TM133 BS 1377: Part 3 1990;BS 6068-2.5 Determinati
Temperature	= 999999999				Grab		Not Applicable. See note Below
Electrical Conductivity (@ 25°C)	= 374				Grab	14	TM120 Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS
Suspended Solids	= 3.5				Grab	2	TM022 Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS
Ammonia (as N)	< 0.2				Grab	0.2	TM099 BS 2690: Part 7:1968 / BS 6068: Part2.11:198
Biochemical Oxygen Demand	< 1				Grab	1	TM045 MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B,
Chemical Oxygen Demand	= 28				Grab	7	TM107 ISO 6060-1989 Determination of Chemical Oxyg
Dissolved Oxygen	= 9.38				Grab	1	TM046 Method 4500G, AWWA/APHA, 20th Ed., 1999 Meas
Hardness (as CaCO ₃)	< 1				Grab	1	TM228 US EPA Method 6010B Determination of Major C
Total Nitrogen (as N)	< 1				Grab	1	TM212 SO/TR 11905-2: 1997. Water quality – Determi
Nitrite (as N)	< 0.05				Grab	0.05	TM184 EPA Methods 325.1 & 325.2, The Determination
Nitrate (as N)	= 0.717				Grab	0.3	TM184 EPA Methods 325.1 & 325.2, The Determination

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Total Phosphorous (as P)	= 0.0253				Grab	0.02	TM191 Standard Methods for the examination of wate
OrthoPhosphate (as P)	< 0.03				Grab	0.03	TM184 EPA Methods 325.1 & 325.2, The Determination
Sulphate (SO ₄)	= 999999999				Grab		Not Applicable. See note Below
Phenols (Sum)	< 25				Grab	25	TM259 Alcontrol Laboratories

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:	<p>There was no value available for temperature or sulphate. Nitrite and Nitrate were reported as N02 and N03 values respectively, rather than as N values. Conductivity tested at 20 deg C.</p> <p>There was no value available for temperature or sulphate. Nitrite and Nitrate were reported as N02 and N03 values respectively, rather than as N values. Conductivity tested at 20 deg C.</p>
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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)	120334 / 293355

Parameter	Results (µg/l)				Sampling method	Limit of Quantitation	Analysis method / technique
	27/08/10						
Atrazine	< 1				Grab	1	TM231 Agilent 6890 Gas Chromatograph system using
Dichloromethane	< 3.7				Grab	3.7	TM116 Modified: US EPA Method 8260, 8120, 8020, 62
Simazine	< 1				Grab	1	TM231 Agilent 6890 Gas Chromatograph system using
Toluene	< 1.4				Grab	1.4	TM116 Modified: US EPA Method 8260, 8120, 8020, 62
Tributyltin	< 0.02				Grab	0.02	Organotins in waters are converted to the hydride
Xylenes	< 4.2				Grab	2.5	TM116 Modified: US EPA Method 8260, 8120, 8020, 62
Arsenic	< 2				Grab	2	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal
Chromium	< 3				Grab	3	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal
Copper	< 4				Grab	4	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal
Cyanide	< 50				Grab	50	TM227 Standard methods for the examination of water
Flouride	< 500				Grab	500	TM104 Method 4500F, AWWA/APHA, 20th Ed., 1999 Dete
Lead	< 0.5				Grab	0.5	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal

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Nickel	= 2.2				Grab	0.5	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal
Zinc	< 3				Grab	3	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal
Boron	< 135				Grab	135	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal
Cadmium	< 0.5				Grab	0.5	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal
Mercury	< 0.02				Grab	0.02	TM183 BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0
Selenium	< 1				Grab	1	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal
Barium	= 57				Grab	0.5	TM152 Method 3125B, AWWA/APHA, 20th Ed., 1999 Anal

Additional Comments:	Limit of quantity for M.p-Xylene is 2.5 & o-Xylene is 1.7 so Xylenes recorded as 4.2. Value for M.p-Xylene is <2.5 & o-Xylene is <1.7 so Xylenes recorded as <4.2.
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MAYO COUNTY COUNCIL
TURLOUGH
WASTE WATER DISCHARGE CERTIFICATE
APPLICATION

ATTACHMENT G.3

G.3

Impact Mitigation

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G.3 Impact Mitigation

Investigation work is to be carried out to determine the cause of exceedances of cBOD, COD and Suspended Solids in the treated effluent over the limit values contained in the Urban Wastewater Treatment Regulations.

The investigation will include the collection system and the treatment plant.

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MAYO COUNTY COUNCIL
TURLOUGH
WASTE WATER DISCHARGE CERTIFICATE
APPLICATION

Annex II

Checklist for Regulation 24 Compliance

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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 appropriate 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,	Not Applicable	No
(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,	Not Applicable	No
(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,	Not Applicable	No
(d)	state the population equivalent of the agglomeration to which the application relates,	Not Applicable	No
(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,	Not Applicable	No
(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.	Not Applicable	No
(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,	Not Applicable	No
(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,	Not Applicable	No
(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,	Not Applicable	No
(j)	give particulars of the nearest downstream drinking water abstraction point or points to the discharge point or points,	Not Applicable	No
(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,	Not Applicable	No
(l)	give detail of compliance with relevant monitoring requirements and treatment standards contained in any applicable Council Directives of Regulations,	Not Applicable	No
(m)	give details of any work necessary to meet relevant effluent discharge standards and a timeframe and schedule for such work.	Not Applicable	No
(n)	Any other information as may be stipulated by the Agency.	Not Applicable	No
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,	Not Applicable	No
(b)	where appropriate, a copy of the notice given to a relevant water services authority under Regulation 13,	Not Applicable	No
(c)	Such other particulars, drawings, maps, reports and supporting documentation as are necessary to identify and describe, as appropriate -	Not Applicable	No
(c) (i)	the point or points, including storm water overflows, from which a discharge or discharges take place or are to take place, and	Not Applicable	No
(c) (ii)	the point or points at which monitoring and sampling are undertaken or are to be undertaken,	Not Applicable	No
(d)	such fee as is appropriate having regard to the provisions of Regulations 38 and 39.	Not Applicable	No

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 agency.	Not Applicable	No
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.	Not Applicable	No
2	2 hardcopies of application provided or 2 CD versions of application (PDF files) provided.	Not Applicable	No
3	1 CD of geo-referenced digital files provided.	Not Applicable	No
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	Not Applicable	No
2	2 hardcopies of EIS provided if applicable.	Not Applicable	No
3	2 CD versions of EIS, as PDF files, provided.	Not Applicable	No
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	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,	Not Applicable	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,	Section B.2	Yes
(d)	state the population equivalent of the agglomeration to which the application relates,	Section B.8(i)	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,	Not Applicable	Yes
(f)	specify the content and extent of the waste water discharge, the level of treatment provided and the flow and type of discharge,	Attachment D.1	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,	Attachment D.1(i)(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,	Attachment E.2 including Map, Attachment E.3&F.1	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,	Attachment D.1(i) (b)&(c) & Attachment E.4	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,	Attachment G.1	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,	Attachment F.2	Yes
(l)	give details of any designation under any Council Directive or Regulations that apply in relation to the receiving waters,	Attachment G.1	Yes
(m)	give details of compliance with any applicable monitoring requirements and treatment standards,	Attachment G.1	Yes
(n)	give details of any work necessary to meet relevant effluent discharge standards and a timeframe and schedule for such work,	Attachment G.3	Yes
(o)	give any other information as may be stipulated by the Agency, and	Not Applicable	Yes
(p)	be accompanied by such fee as is appropriate having regard to the provisions of Regulations 38 and 39.	Attachment B.8(iii)	Yes