



**OFFICE OF CLIMATE,
LICENSING & RESOURCE USE.**

INSPECTORS REPORT ON A WASTE WATER DISCHARGE LICENCE APPLICATION

To:	Dara Lynott, Director	
From:	Loretta Joyce	Environmental Licensing Programme
Date:	7 th October 2014	
RE:	Application for a Waste Water Discharge Licence from Irish Water for the Ladysbridge agglomeration, Co. Cork, Reg. No. D0328-01.	

Application Details	
Schedule of discharge licensed:	Discharges from agglomerations with a population equivalent of 1,001 to 2,000
Licence application received:	27/02/2009
Notice under Regulation 12 issued:	03/04/2009
Information under Reg.12 received:	17/04/2009
Notice under Regulation 18(3)(b) issued:	31/05/2010
Information under Reg.18(3)(b) received:	30/09/2010, 17/06/2014
Site notice check:	25/03/2009
Site visit:	06/03/2014
Submissions Received:	None

1. Agglomeration

This application relates to the Ladysbridge agglomeration in County Cork. The application was originally made by Cork County Council and subsequently transferred to Irish Water on 1st January 2014 under the Water Services (No. 2) Act 2013.

The Ladysbridge agglomeration had a population equivalent (p.e.) of 497 in 2011. A projected increase to 516 p.e. by 2020, provided by the applicant, is used in the mass balance below. There are no identified sources of industrial waste water in the agglomeration.

The agglomeration is served by a secondary level WWTP, upgraded in 2007 under DBO contract, with a design capacity of 1,000 p.e. The WWTP consists of inlet works, mechanical screen, aeration tank, clarifier, storm water holding tank and sludge holding tank.

There is chemical dosing for phosphorus removal. There is a flow meter and final effluent composite sampler in place at the WWTP.

2. Discharges to waters

Primary Discharge

The primary discharge (SW001) is the piped outfall from the WWTP to the Womanagh River, adjacent to the WWTP. At 95%ile flow of the Womanagh River (0.1m³/sec), there are approximately 39 dilutions available for the projected normal waste water discharge (0.0025m³/day). The estimated 95%ile river flow was provided by the Office of Environmental Assessment. The applicant's 2013 treated effluent monitoring results are shown in Table 1, along with the WWTP design standards.

Table 1. WWTP monitoring results

Parameter	BOD (mg/l)	COD (mg/l)	Suspended solids (mg/l)	Ammonia (mg/l)	Orthophosphate (mg/l)
Average effluent	3.6 (6 samples, 2013)	19 (6 samples, 2013)	11 (6 samples, 2013)	0.6 (10 samples 2007/2008)	0.2 (10 samples 2007/ 2008)
WWTP Design standards	25	35	125		

Secondary Discharges

There are no secondary waste water discharges from the agglomeration.

Storm water overflows

There is one storm water overflow, SW002, at the inlet, post screening to the WWTP which discharges via the primary discharge, SW001.

Emergency overflows

There are no emergency overflows in the agglomeration.

3. Receiving waters and impact

The receiving water is the Womanagh River which is located in the South Western River Basin District. The following table summarises the main considerations in relation to the receiving waters.

Table 2. Receiving waters

Characteristic	Description	Comment
Receiving water name and type	Womanagh River IE_SW_19_1793	
Relevant designations within 10km	None	
WWTP discharges within 5km	D0134-01 Castlemartyr	1.8km upstream of SW001
Drinking water abstraction within 10 km d/s	None	
EPA monitoring stations & Biological quality rating (Q value)	U/s station RS19W010700 5.1km u/s of SW001 (tributary converges)	Q4 in 2011

	upstream of SW001) D/s station RS19W011300 2.2km d/s of SW001 (tributary converges downstream of SW001)	Q3 in 2005
WFD status	Moderate	2011
WFD Risk Category	1a, water body at significant risk of failing objectives	2008
WFD Objective	Restore good status	2021
WFD protected areas	RPA drinking water groundwater	

Ambient water quality monitoring data for the Womanagh River supplied by the applicant in accordance with the Water Framework Directive is summarised in Table 3 below. The results show that BOD, Orthophosphate and Ammonia levels downstream of the primary discharge comply with the good status water quality standards in the Environmental Objectives Regulations 2009, as amended.

Table 3. Water Quality in the Womanagh River

Parameter (mg/l)	aSW-1u 110m u/s of SW001 (4-5 samples, 2008-2009)	RS19W011300 2.2km d/s of SW001 (11-12 samples, 2013)	Water Quality Standards ^{Note 1}
BOD	1.75	1	≤ 1.5 mg/l (mean)
Orthophosphate (as P)	0.047	0.016	≤ 0.035 mg/l (mean)
Ammonia (as N)	0.008	0.02	≤ 0.065 mg/l (mean)

Note 1: Good status under the European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended.

Table 4 below summarises the mass balance calculations which show the impact of the primary discharge on the receiving water at a projected loading of 516p.e. The calculations use the 'notionally clean river' approach (a hypothetically clean stretch of river) provided by the Office of Environmental Assessment.

Table 4. Mass Balance Calculations

Parameter (mg/l)	Proposed ELVs for Primary discharge	Contribution from primary discharge	Contribution from notionally clean background ^{Note 1}	Predicted Downstream concentration	Water Quality Standards ^{Note 2}
BOD	25	0.62	0.25	0.87	≤ 2.6
Orthophosphate (as P)	1.5	0.037	0.005	0.042	≤ 0.075
Ammonia (as N)	3	0.074	0.008	0.082	≤ 0.14

Note 1: The notionally clean background concentrations are 0.26 mg/l BOD, 0.005 mg/l ortho-phosphate (as P) and 0.008 mg/l ammonia (as N).

Note 2: Good status under the European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended.

The calculations show that the predicted downstream concentrations of BOD, Orthophosphate as P and Ammonia as N, based on the ELVs included in the RL from date of grant of licence, would comply with the good status standards in the Environmental Objectives Regulations 2009, as amended.

The RL proposes an ELV of 25mg/l BOD, 1.5mg/l Orthophosphate as P and 3mg/l Ammonia as N from date of grant of licence. Plants with chemical dosing for phosphorus removal, which is available at this WWTP can achieve 0.5 to 0.8mg/l Orthophosphate as P. Average Orthophosphate in the effluent was 0.2mg/l in 2007/2008 indicating that this ELV can be achieved.

Conventional activated sludge plants can achieve 2 to 5 mg/l Ammonia. Average Ammonia in the effluent was 0.6mg/l in 2007/2008 indicating that this ELV can be achieved.

4. Site Visit

I visited the Ladysbridge agglomeration on 06/03/2014 and met with a representative of Irish Water. I visited the WWTP and observed the primary discharge point and receiving waters.

5. Ambient Monitoring

Schedule B.2 Receiving Water Monitoring of the RL specifies quarterly monitoring of the Womanagh River for a number of specified parameters.

- Upstream: The location identified by Cork County Council is aSW-1u (grid ref. 196980E 071900N) located approximately 110m upstream of SW001, is a National Monitoring Station (Station Code: RS19W011100) and has been included in *Schedule B.2* of the RL. It is noted that a tributary converges downstream of this station.
- Downstream: The location identified by Cork County Council is aSW-1d (grid ref. 198612E 072455N) approximately 1.7km downstream of SW001. There is a National Monitoring Station (Station Code: RS19W011300) approximately 2.2km downstream of SW001 and it has been included in *Schedule B.2* of the RL. It is noted that a tributary converges upstream of both aSW-1d and of the ambient monitoring station.

6. Programme of Improvements

There are no planned improvements proposed by the applicant for Ladysbridge WWTP. The ELVs proposed in the RL are considered achievable without plant upgrade or improvement.

7. Compliance with EU Directives

In considering the application, regard was had to the requirements of Regulation 6(2) of the Waste Water (Discharge) Authorisation, Regulations 2007 as amended, notably:

Table 5. Compliance with EU Directives / Regulations

Compliance with Directives/Regulations	Description and Conditions in RL
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Urban Waste Water Treatment Directive [91/271/EEC]	Appropriate treatment was required by 31st December 2005.
Water Framework Directive [2000/60/EC]	Restore Good Status No salmonid waters present. No shellfish waters present
EC Environmental Objectives (Surface Water) Regulations 2009 (S.I. No. 272 of 2009), as amended	Schedule A of RL sets ELVs to contribute towards achieving good status water quality standards.
Drinking Water Abstraction Regulations	No drinking water abstractions present.
Bathing Water Directive [2006/7/EC]	No bathing waters present
Dangerous Substances Directive [2006/11/EC]	Condition 4 requires screening for priority substances.
Environmental Impact Assessment Directive [85/337/EEC]	An EIS was not required for Ladysbridge WWTP.
Environmental Liability Directive	Condition 7.2 of RL

8. Habitats Directive [92/43/EEC] & Birds Directive [79/409/EEC]

Ballymacoda (Clonpriest and Pillmore) SAC (Site Code: 000077) and Ballymacoda Bay SPA (Site Code: 004023) are located 10.2km downstream of SW001.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activity, individually or in combination with other plans or projects is likely to have a significant effect on those sites as European Site(s). In this context, particular attention was paid to the European sites at Ballymacoda (Clonpriest and Pillmore) SAC (Site Code: 000077) and Ballymacoda Bay SPA (Site Code: 004023). The Agency considered, for the reasons set out below, that the activity is not directly connected with or necessary to the management of those sites as European Sites and that it cannot be excluded, on the basis of objective information, that the activity, individually or in combination with other plans or projects, will have a significant effect on a European site and accordingly determined that an Appropriate Assessment of the activity is required. It has been determined that the activity does have the potential for significant effects on a European Site due to the direct hydrological connectivity of the discharge to European Sites.

An Appropriate Assessment has been completed and has determined based on best scientific knowledge in the field and in accordance with the European Communities (Birds and Natural Habitats) Regulations 2011 and 2013, pursuant to Article 6(3) of the Habitats Directive, that the activity, individually or in combination with other plans or projects, will not adversely affect the integrity of a European Site(s) in particular Ballymacoda (Clonpriest and Pillmore) SAC (Site Code: 000077) and Ballymacoda Bay SPA (Site Code: 004023), having regard to their conservation objectives and will not affect the preservation of these sites at favourable conservation status if carried out in accordance with this Licence and the conditions attached hereto for the following reasons: the RL sets stringent ELVs, to contribute towards good status water quality standards required by the Environmental Objectives Regulations 2009, as amended; the RL requires quarterly ambient water quality monitoring; the limited volume of the discharge and the dilution available in the receiving water.

In light of the foregoing reasons, no reasonable scientific doubt remains as to the

absence of adverse effects on the integrity of the Ballymacoda (Clonpriest and Pillmore) SAC (Site Code: 000077) and Ballymacoda Bay SPA (Site Code: 004023).

9. Submissions

No submissions were received in relation to this licence application.

10. Charges

The RL sets an annual charge for the agglomeration at €4,152.18 and is reflective of the monitoring and enforcement regime being proposed for the agglomeration.

11. Recommendation

I recommend that a Final Licence be issued subject to the conditions and for the reasons as set out in the attached Recommended Licence.

Signed



Loretta Joyce
Inspector
Environmental Licensing Programme

Figure 1.0. Ladysbridge Agglomeration D0328-01

