3rd Party Appeal of Decision of Clare County Council 2560393 of Glenveagh Homes Ltd.

for

a Large-Scale Residential Development (LRD) at this site at Ballymacaula, Drumbiggle, Keelty, Circular Road, Ennis, Co. Clare. The development will consist of 1. The construction of 300 no. houses comprising 14 no. 1 beds, 91 no. 2 beds, 164 no. 3 beds, and 31 no. 4 beds; 2. 1 no. creche/childcare facility; 3. The provision of landscaping, open space and amenity areas, including a linear amenity walkway, footpaths, cycleways and play areas; 4. The provision of 3 no. pedestrian connections to the existing public footpath along the N85, 2 no. pedestrian connections into Ballymacaula View Estate, improvements/upgrades to the pedestrian footpaths along Circular Road including a raised pedestrian crossing and pedestrian footpath provision along part of the Drumbiggle and Cahercalla Roads; 5. All associated infrastructure and services including 1 no. vehicular access onto Circular Road, car and bicycle parking, bin storage, lighting, 3 no. ESB substations, drainage,1 no. pumping station, boundary treatments. An Environmental Impact Assessment Report and a Natura Impact Statement have been prepared in respect of the proposed development. The application may be inspected online at the following website set up by the applicant: www.ennislrd.ie

By Appellant

Michael Duffy.
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Kilfenora,
Co. Clare.
065 7088088
086 2557258
Duffycivileng@gmail.com

9th February 2026

Rialtas Áitiúil Éireann
Local Government Ireland

Submission No.: 150000032270

Date of Issue:
05/08/2025 03:16pm

THIS IS AN IMPORTANT DOCUMENT

KEEP THIS DOCUMENT SAFELY. YOU WILL BE REQUIRED TO PRODUCE THIS ACKNOWLEDGEMENT TO AN BORD PLEANALA IF YOU WISH TO APPEAL THE DECISION OF THE PLANNING AUTHORITY. IT IS THE ONLY FORM OF EVIDENCE WHICH WILL BE ACCEPTED BY AN BORD PLEANALA THAT A SUBMISSION OR OBSERVATION HAS BEEN MADE TO THE PLANNING AUTHORITY ON THE PLANNING APPLICATION.

Clare County Council

PLANNING APPLICATION REFERENCE No: 2560393

A submission/observation in writing, has been received from Michael Duffy on 03/08/2025 in relation to the above planning application.

The appropriate fee of €20 has been paid. (Fee not applicable to prescribed bodies)

The submission/observation is in accordance with the appropriate provisions of the Planning and Development Regulations 2001 and will be taken into account by the planning authority in its determination of the planning application.

Yours faithfully,
Clare County Council

IS DOICIMÉAD TÁBHACHTACH É SEO

COINNIGH AN DOICIMÉAD SEO SLÁN. BEIDH ORT AN ADMHÁIL SEO A CHUR AR FÁIL DON BHORD PLEANÁLA MÁS MIAN LEAT ACHOMARC A DHÉANAMH IN AGHAIDH CHINNEADH AN ÚDARÁIS PHLEANÁLA. IS É SEO AN tAON FHIANAISE AMHÁIN ATÁ ANN A NGLACFAIDH AN BORD PLEANÁLA LEIS GUR CUIREADH AIGHNEACHT FAOI BHRÁID AN ÚDARÁIS PHLEANÁLA MAIDIR LEIS AN IARRATAS.

Clare County Council

UIMHIR THAGARTHA AN IARRATAIS PHLEANÁLA: 256

Maidir leis an iarratas pleanála thuasluaite fuarthas
Duffy ar 03/08/2025.

Íocadh an táille chuí de €20. (Ní chaithfidh comhlach

Tá an aighneacht/tuairim ag teacht leis na forálacha
Forbartha 2001 agus cuirfidh an tÚdarás Pleanála si
cinneadh ar an iarratas pleanála.

Is mise le meas,
Clare County Council

Contents

1. Basis for Appeal:

The decision of the Planning Authority (PA) is being appealed herein on the following grounds.

My appeal is confined to the issues of wastewater capacity in the network and Ennis North wwtp capacity for C&D waste in licensed or certified facilities within a reasonable distance from the subject development site and the issue of in-situ crushing rock arising.

The relevant conditions of the PA decision are 1, 7, 8, 11, 15, and 22.

Condition 1 is included in so far as it is the general condition of compliance with the details submitted.

Condition 11 is included in so far as the discharge of stormwater to surface waters connected to protected sites places an obligation on the applicant/developer to carry out and assessment of in-combination or cumulative impacts on those sites which includes, but is not restricted to, impacts from the wastewater arising on the subject site.

The remaining conditions listed go to the core issues of lack of assessment of wastewater treatment capacity and a lack of assessment of C&D disposal capacity with the associated lack of consideration of impacts on qualifying interests of protected sites, lack of consideration of water framework directive requirements and lack of consideration of impacts on the wider environment.

2. Condition No.15:

The PA decided to apply a condition requiring that *"the applicant shall enter into connection agreements with Uisce Eireann to provide for a service connection(s) to the public wastewater connection network and adhere to the standards and conditions set out in that agreement".*

In the first instance this is an inappropriate condition of a planning permission when regard is had to s.28 Development Management Guidelines for Planning Authorities June, 2007.

Uisce Eireann has a policy for the Connection Application Phase

1. **Applying for a Connection**
   You should submit your Connection Application form once you have secured planning permission.
2. **Assessment of New Connection Application**
   Uisce Éireann will assess your application to confirm that it is still feasible, and we will calculate the least cost design solution for you.
3. **Design Vetting**
   This applies to housing developments only or where public infrastructure is to be Taken in Charge. Uisce Éireann can work with you to vet the design of local infrastructure.
4. **Getting a Connection Agreement**
   Uisce Éireann will issue you with an offer to connect, detailing costs and the works required to enable your connection. Average timeline from Application to Connection Agreement is 16 weeks.
5. **Accepting the Connection Agreement**
   You can enter into a Connection Agreement with Uisce Éireann by accepting the terms and conditions as set out in the Connection Agreement, making the required payment and signing and returning all documentation within the Connection Agreement's validation period.

This is a private contract between Uisce Eireann and the Developer. The PA has no part to play in this private contract and it is *ultra vires* the PA to insert such a condition in a planning permission. The assessment of connections is within the gift of the PA, in fact, it has a duty to assess any proposal for connections but it cannot condition entering into a private contract. A simple analogy is that the PA does not condition connection agreements with electricity, gas or other utility providers. In the case of a data centre planning application the PA may well be entitled, and even obliged, to assess the environmental aspects of an electricity connection but it does not condition a connection agreement in such circumstances.

Management Guidelines for Planning Authorities June, 2007.

Chapter 7 Drafting Planning Conditions/Reasons for Refusal of Permission

7.1 Introduction: planning conditions

Conditions proposed to be attached to permissions, and the reasons for them, should be carefully drafted so that their purpose and meaning are clear. Conditions must always be precise and unambiguous, particularly since the effectiveness of subsequent enforcement action may depend on the wording. Moreover, adequate reasons should be given by planning authorities to justify conditions; it is not, for example, in the majority of cases, acceptable to give as a reason "in the interests of the proper planning and sustainable development of the area" since this affords the applicant no indication of the particular object of the condition.

The recommendations in this Chapter apply equally to the drafting of planning conditions by the Board.

The reason provided for this condition by the PA is *"to provide adequate water and wastewater facilities and protect existing public infrastructure"*. The PA has no role in the provision of water or wastewater facilities or the provision/protection of the relevant public infrastructure.

7.2 Standard conditions

Some planning authorities have devised standard conditions (and reasons) for use in relation to different types of applications. This practice is useful in the interests of consistency and can achieve time savings. Great care should be taken, however, to ensure that standard conditions are used only where they actually apply or that they are properly adapted to meet the needs of particular cases, and that the availability of sets of standard conditions does not lead to the automatic inclusion of unnecessary conditions in particular cases, e.g. conditions which are irrelevant to the particular development, or which deal with matters best dealt with under other codes (see para.7.8 below).

This condition is not applied to most planning decisions. It has evolved to be included when there is a question as to infrastructure capacity. It is used as an impermissible delegation of decion maker's duty to properly assess the application on environmental grounds. If there is deficit or restriction on infrastructure capacity there is absolutely no need for any such condition. That can be seen by the lack of reference for the potable water connection for which there is ample capacity. Clearly connection agreements are between the applicant and the provider with no relevance to the PA. If there is a capacity issue that should be picked up in the environmental determinations required in law before a planning decision is made. It may be appropriate for alternative conditions to be applied but not a connection agreement condition.

7.3 Basic criteria for conditions

Certain basic criteria have often been suggested as a guide to deciding whether to impose a condition. These include whether the condition is:

- Necessary;
- Relevant to planning;
- Relevant to the development to be permitted;
- Enforceable;
- Precise;
- Reasonable.

In addition, it is useful before deciding to impose a condition to consider what specific reason can be given for it: if the only reason which can be framed is a vague, general one, the need for or relevance of the condition, or its validity, may be questionable.

The condition is not required by any of the criteria. The vast majority of planning permissions have progressed to compliant development without any such condition in appropriate circumstances.

7.3.1 Conditions should be necessary

> One useful test of need is whether, without the condition, either permission for the proposed development would have to be refused, or the development would be contrary to proper planning and sustainable development in some identifiable manner. It is not enough to be able to say that a condition will do no harm: if it is to be justified, it ought to do some good in terms of achieving a satisfactory standard of development and in supporting objectives of the development plan. It should also be borne in mind that a condition is not necessary where what is sought by the condition is clearly provided for in the plans and particulars by reference to which the permission is being granted.

This goes to the core of the issue. Clearly there are unanswered questions around the network and wwtp capacity to service this development. If the PA has no such concerns why did it not simply grant permission? Condition 1 covers the proposed water and wastewater connections. If proper environmental determinations can be made then there is nothing else to be done in this regard. This condition is not an appropriate to address environmental concerns particularly when no further environmental assessment is made in the connection agreement process.

7.3.2 Conditions should be relevant to planning

> As the planning system is intended to be used for genuine planning purposes and not for any extraneous purpose, it is obvious that a condition that has no relevance to the "proper planning and sustainable development of the area" ought not to be attached to a planning permission.

This condition is not relevant to planning. It is relevant to environmental matters which must be addressed under s.177V with a determination before the process can move to a planning decision.

7.3.3 Conditions should be enforceable

Clearly a condition should not be imposed if it cannot be made effective. In a case where any doubt arises, it may be useful, therefore, to consider how the enforcement provisions of the Act could be operated to secure compliance with a proposed condition. To facilitate enforcement, the aim should be to frame conditions, where possible, so as to require some specific act to be done at or before a specified time, or to prohibit some specific thing from being done in carrying out the development.

If the condition is *ultra vires* it cannot be enforced.

7.8 Conditions relating to other codes

There has been a tendency to attach to planning permissions conditions relating to matters that, though of concern in the exercise of development management, are the subject of more specific controls under other legislation or are directly regulated by other statutes or by the common law. The aim, no doubt, is to seek to improve the operation of those other controls or codes by the use of the enforcement provisions of the Planning Act. It is inappropriate, however, in development management, to deal with matters which are the subject of other controls unless there are particular circumstances e.g. the matters are relevant to proper planning and sustainable development and there is good reason to believe that they cannot be dealt with effectively by other means. The existence of a planning condition, or its omission, will not free a developer from his or her responsibilities under other codes and it is entirely wrong to use the development management process to attempt to force a developer to apply for other some licence, approval, consent, etc. At best, the imposition of conditions in relation to matters that are the subject of other controls is an undesirable duplication. In practice, such an approach can give rise to conflict and confusion if the effect of a condition on a development is different from that of the specific control provision. In this context, it should be remembered that the Building Regulations require certification by the developer's design team.

The Uisce Eireann connection agreement is the subject of other controls or codes.

7.8.1 Conditions in relation to construction and demolition waste

In relation to the issue of the proper management of construction and demolition waste, planning authorities should have regard to DEHLG Circular Letter WPR 7-06 and Best Practice Guidelines on the Preparation of Waste Management Plans for Construction & Demolition Projects (available at www.environ.ie) or any subsequent revision of these guidelines. These documents provide guidance on how proposals with significant construction and demolition waste management issues relevant to planning should be considered in an integrated manner.

The PA had no regard to my submission on the matter of C&D waste. I have been in contact with the Local Authority including regularly with the PA on the issue of a lack of licenced or certified locations for C&D waste. Such facilities are as important to proper planning and sustainable development as any other infrastructure. The LA itself frequently struggles to source suitable licensed locations for its own C&D waste. It is fully aware of this issue but chose to ignore it in the assessment of this decision. When the matter is raised the PA has a duty to take into consideration the issue being raised. The following is a suggested wording for an appropriate condition from the EPA but that would be predicated on available infrastructure in the first place.

BEST PRACTICE GUIDELINES for the preparation of resource & waste management plans for construction & demolition projects © Environmental Protection Agency 2021

Text Box 3: Sample Planning Condition

Condition: Prior to the commencement of development, the developer or any agent acting on its behalf shall prepare a Construction and Demolition Resource Waste Management Plan (RWMP) as set out in the Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for C&D Projects (2021) including demonstration of proposals to adhere to best practice and protocols. The RWMP shall include specific proposals as to how the RWMP will be measured and monitored for effectiveness; these details shall be placed on the file and retained as part of the public record. The RWMP must be submitted to the planning authority for written agreement prior to the commencement of development. All records (including for waste and all resources) pursuant to the agreed RWMP shall be made available for inspection at the site office at all times.
Reason: In the interest of proper planning and sustainable development.

3. Uisce Eireann

3.1. UE Scoping Response –

l) Any potential impacts on the assimilative capacity of receiving waters in relation to Uisce Éireann discharge outfalls including changes in dispersion / circulation characterises. Hydrological / hydrogeological pathways between the applicant's site and receiving waters should be identified within the report.

n) Where a development proposes to connect to an Uisce Éireann network and that network either abstracts water from or discharges wastewater to a "protected"/ sensitive area, consideration as to whether the integrity of the site / conservation objectives of the site would be compromised should be identified within the report.

This is not an exhaustive list.

Please note;

Where a new connection(s) is sought, the applicant or developer shall enter into water and/or wastewater connection agreement(s) with Uisce Éireann prior to the commencement of this development.

These potential impacts were not identified and/or assessed in the EIAR or the NIS. There was no relevant information provided by the applicant in the EIAR, NIS or WFD assessment to inform the PA of the actual status of the network and wwtp or the impacts on the assimilative capacity of receiving waters. Reliance on the Uisce Eireann Capacity Register (Appendix B) is completely unacceptable given the highly qualified nature of that register. There is ample scientific information readily available on the EPA portal for this agglomeration (appended below) to inform decision makers on the status of the network and wwtp. It is also open at any stage to the decision maker to seek the advice of the EPA if there are any concerns about environmental risks with a proposal.

As can be seen in the note on the scoping response it is already UE policy to enter into connection agreements with developers. The planning condition to this effect is superfluous, unnecessary and *ultra vires*.

3.2.UE Response as a Statutory Notified Body:

The submission is unambiguous on the potable water connection.

> *This statement confirms the feasibility to connect to Uisce Éireann's water services, with sufficient network capacity to facilitate this development*

Why can it not be the same for wastewater? Unless it is trying to hide some detail from the decision makers?

> *Separate to this, the COF report also states that wastewater connection will also require a Feasible subject to minor upgrades at the WWTP. A Stage 2 Preliminary Business Case commenced in 2021 to address the above issues to provide capacity for future growth and ensure compliance with the WWDA. Timeframe for completion of the development as well as phasing are to be provided at connection application stage.*
>
> *24-hr storage and real time controls to limit pumping as hydraulic issues exist downstream will also be required.*

Pointedly, it does not tell the decision makers what upgrades are required at the wwtp or the nature of the downstream hydraulic issues. The recommendations are risible and the reasons given for them are even more risible in the context of what the PA and An Coimisiún Pleanala are tasked with deciding. While technically there is a low bar to the regard the decision maker is obliged to give this, or any submission, it is to be noted that UE does not state that it considered whether or not there was available capacity in the wastewater network or the relevant wwtp. The statutory consultee observation addresses token and uncontentious issues such as the network extension, compliance with standard UE details and the diversion of UE assets, the latter having no relevance in this application.

3.3.Uisce Eireann Confirmation of Feasibility

CONFIRMATION OF FEASIBILITY

24-hr storage and real time controls to limit pumping as hydraulic issues exist downstream will be required.

The Developer shall provide design details of the pump design flow rates, emergency storage provisions etc. for agreement with UE Asset Planning team. The location of real time control shall be agreed with the UE Asset Planning team and UE Operations at connection application stage.

This letter does not constitute an offer, in whole or in part, to provide a connection to any Uisce Éireann infrastructure. Before the Development can be connected to our network(s) you must submit a connection application and be granted and sign a connection agreement with Uisce Éireann.

As the network capacity changes constantly, this review is only valid at the time of its completion. As soon as planning permission has been granted for the Development, a completed connection application should be submitted.

This letter is issued to provide information about the current feasibility of the proposed connection(s) to Uisce Éireann's network(s). This is not a connection offer and capacity in Uisce Éireann's network(s) may only be secured by entering into a connection agreement with Uisce Éireann.

***Note:** The information provided on the included maps as to the position of Uisce Éireann's underground network(s) is provided as a general guide only. The information is based on the best available information provided by each Local Authority in Ireland to Uisce Éireann.*

This is not the basis for an appropriate assessment determination of likely impacts on the qualifying interests of connected downstream Natura 2000 sites or compliance with the Water Framework Directive as required. The provision of the required information or the Appropriate Assessment cannot be deferred to connection application stage. Uisce Eireann has confirmed to the Appellant that it does not carry out appropriate assessment of connection applications. Therefore if not assessed at this time, before a consent decision is made, it will not be environmentally assessed at any time in the future. This would be a direct contravention of Article 6(3) of the Habitats Directive. The statutory duty is on the decision maker in this process to satisfy itself on the basis of the best scientific knowledge available that this proposal will not impact the qualifying interests in Natura 2000 sites and will comply with WFD requirements. The determination of that cannot be based on a deferral of capacity assessment in either the network or the wwtp.

It is within the competence of Uisce Eireann to assess the capacity in the network, including network pump stations, and the capacity and headroom in the wwtp. If there is capacity for this proposed development it could be ring fenced for this development. There is absolutely no reason why a connection agreement cannot form part of this, or any, planning application. If the ring fenced capacity is required for any other proposed development a simple clause in the connection agreement that it can be rescinded if not used would allow it to be used in a timely manner with repayment of connection fees. A similar clause already exists in connection agreements. UE reserve the right to back out of a connection agreement at any time. This would allow decision maker to fulfil duties in respect of EIA, AA and WFD assessments and any required determinations.

This Confirmation of Feasibility needs to be considered alongside the data appended below from the EPA portal for the Ennis North wwtp & network and the expert report of Mr. Daniel Owens B.Sc. in Pure Chemistry from the University of Bath and who has over 45 years' experience in water and wastewater systems. All appended hereto.

3.4.UE Wastewater Capacity Register:

https://www.water.ie/connections/developer-services/capacity-registers/wastewater-treatment-capacity-register

The county registers on this page give an indication of the spare capacity available at a wastewater treatment plant to treat additional loads in an area.

The capacity register is intended to inform forward planning activities, by indicating the ability of the Uisce Éireann treatment and production infrastructure to accommodate growth, estimated using a standardised methodology.

The capacity available at treatment plants changes regularly based upon the loads received from new and existing customers. Our registers are only an indication of available capacity based on available information at the date of issue and are subject to change.

These registers provide wastewater treatment capacity information only and do not provide an indication of network capacity. In cases where a new development is planned, we may need to make upgrades to the wastewater network to support the collection of the new load and to mitigate the risk of flooding from occurring to our existing infrastructure. We assess whether the wastewater network can support a new development during the connections process.

Please note:

If a capacity register states there is available capacity that is not confirmation that a connection will be approved. Uisce Éireann does not accept liability for the consequences of any person relying on the information in these registers. At all times an executed Connection Agreement with Uisce Éireann is required to ensure a connection can be made and capacity is available for your development.

In all instances if you are considering progressing a development you should contact our Connection and Developer Services team who will provide an up-to-date view and greater level of detail in relation to the availability of capacity. Learn more about the Pre Connection Enquiry and Connection Application process in the Connections section of this site.

All new Connections are subject to Uisce Éireann's Connections Charging Policy and at all times the issue of a connection offer is a matter for the discretion of Uisce Éireann.

4. Applicant Documentation:

4.1.Planning Report

Section 7.7 *A pre-connection enquiry (PCE) for this LRD application has been submitted and Uisce Éireann have issued a Confirmation of Feasibility (COF) confirming that a connection to the existing Uisce Éireann network is feasible. The COF has been included in this application.*

In addition, Uisce Éireann have issued a Statement of Design Acceptance, confirming that they have no objection to the proposals submitted.

7.9 Appropriate Assessment does not refer to assessment of wastewater as required at first meeting.

Token submission to s.32 D meeting by Tobin which refers briefly to on-site PS detail and rising main to UE tie-in. Nothing about network or wwtp.

4.2.Tobin Civil Works Design Report Stage 2

Section 6.2 loading rates 147m^3/d. Section 6.4 wastewater discharge does not address how a (24 hour) pump storage will be released to the gravity tie-in to the network and how this stored loading will impact on live flows in the existing network or from the proposed development. In short the applicant has not demonstrated that the proposed new rising main or the existing network can accommodate such combined flows.

6.4 WASTEWATER DISCHARGE

A pre-connection enquiry for this LRD application was submitted to Uisce Éireann and a consequent Confirmation of Feasibility (COF) was received. Refer to Appendix A. The COF confirms a feasible connection to the existing Uisce Éireann network.

A pre-connection enquiry was previously submitted to Uisce Éireann under the SHD planning application scheme, and a Confirmation of Feasibility was also granted under reference number CDS21003780. The proposal for both said developments are of similar demand.

A statement of design acceptance (SODA) was also received from Uisce Eireann for the previous development application and will also be obtained for this LRD application and submitted with this document at the final planning stage.

6.5 UISCE EIREANN CORRESPONDENCE

Wastewater Treatment Plant Assessment:

Uisce Eireann advise that upgrade works at the WWTP will be carried out by Uisce Eireann as part of the Uisce Eireann Capital Investment Plan (CIP). These minor upgrade works consist of the upgrading of the inlet screen at Francis Street and the forward feed pumps. These works, however, do not impact our current residential development. Uisce Eireann has confirmed in their latest capacity register that there is wastewater treatment capacity to accept the current proposed development.

Wastewater Network Assessment:

The proposed development requires a network extension, a wastewater pumping station and rising main. 24-hour storage and real time controls to limit pumping only if hydraulic issues exist downstream. (The need for controls required will be advised by Uisce Eireann at connection application stage).

The network extension, the WWPS and Rising Main will all be constructed as part of the proposed development and funded by the developer.

The proposal is to pump wastewater from the site. No upgrades to any existing Uisce Eireann owned pumping station and rising main are required for the proposed development.

Therefore, we are satisfied that the proposed development can be served by Uisce Eireann with its existing capacity and the minor upgrades to be carried out by Uisce Eireann will not impact the serving of the development.

This is completely incorrect and misleading. As can be clearly seen from the details from the CoF above in which UE concedes that hydraulic issues exist downstream. There is no basis to state that "*No upgrades to any existing Uisce Eireann owned pumping station and rising main are required for the proposed development*". The applicant provides no references or back-up documentation in support of these false claims.

5. Stormwater:

Notwithstanding the proposal to connect the wastewater arising from this development to a network and wwtp which are directly connected to protected sites, the proposal also requires permission for a stormwater discharge to surface waters which also has direct connectivity with protected sites and implications for WFD compliance. The decision under appeal permitted the discharge of stormwater but there was no proper assessment of the in-combination or cumulative effects of the stormwater discharge with the discharges from the wastewater network or the wwtp taking into consideration the EPA data on the network and wwtp. There was no information in this regard in the NIS submitted and therefore there are lacunae and the PA did not have the required information to properly satisfy itself that this proposal will not have adverse impacts on the related qualifying interests. I pointed out these facts in my submissions, particularly my observations on the FI submitted. (Appendix hereto)

The RFI response with respect to stormwater is short and sweet.

> Item _4(e) - Noting the potential for in-stream works identified in EIAR mitigation, please clarify this requirement and update the NIS, EIAR and CEMP, accordingly, providing assessment for such works if/as required.
>
> *The response to the RFI indicates that No in-stream works are proposed. The only works proximate to the Claureen River consist of a proposed bio-swale extending east-west toward the watercourse (Figure 9). All construction related to the bio-swale adjacent to the river will be undertaken during dry weather under ecological supervision. No cement or structural works will occur within or immediately adjacent to the Claureen River.*

There is no assessment by the Applicant but particularly by the PA in its AA of in-combination or cumulative impacts on water quality downstream from the stormwater discharge and the discharges resulting from the wastewater arising.

6. C&D Waste:

Tobin's **Construction Waste Management Plan Stage 2** does not give account of volumes or rock-breaking, crushing, screening or C&D for removal off site.

Tobin's **Preliminary Construction Environmental Management Plan Stage 2** does not specify volumes of C&D arising or where there is capacity for disposal of same. The is an ongoing issue in County Clare with ongoing unauthorised disposal of C&D waste because of a significant lack of registered or permitted sites for disposal. The waste register is approximately 18 months out of date due to the procedure for accounting of deposited fill in designated sites.

> *6. ENVIRONMENTAL OBJECTIVES AND TARGETS*
>
> *The key environmental objectives of the construction phase of the proposed development are:*
>
> - *To ensure there is no deterioration in soil or water quality at the site as a result of construction activities; and*
> - *To ensure there is minimal impact on local residents and road users as a result of construction activities.*
>
> *In terms of waste management, a target of 80% recycling and recovery of C&D waste has been set and waste contractors will be evaluated on the basis of being able to achieve this target and be able to provide evidence of same.*

The internal reports do not make any reference to the volumes of C&D waste arising or whether or not there is capacity in registered or permitted waste facilities in the County or elsewhere. Under the Waste Act all waste arising should be managed as closely as possible to where it is created. In the case of C&D waste this is of particular consideration due to the volumes involved and the cost in terms of carbon and emissions for removal over large distances.

There was no evidence before the PA and there is none before An Coimisiún Pleanala that there is licensed capacity or otherwise for C&D waste arising in this development. This is an EIA/AA issue because unauthorised disposal impacts on the environment and depending on where unauthorised disposal occurs there can be significant impacts on Natura 2000 sites. Therefore a proper s.177V determination cannot be made with complete detailed information being provided in advance of a planning decision.

EIAR Chapter 8 – Material Assets: Waste

It is noted that site investigations were undertaken on the site between July and September 2021, as part of the previous SHD scheme proposals.

This chapter indicates that some difficulties were encountered, noting that until final materials and detailed construction methodologies are confirmed, it is difficult to predict with a high level of accuracy, the construction waste that will be generated from the proposed works as the exact materials and quantities may be subject to some degree of change and variation during the construction process. It is noted that spot samples were taken across the site, and it may be possible to encounter contaminated materials on the with naturally occurring variations in minerals and chemicals that necessitates sending it to a different suitably licensed facility.

A Resource Waste Management Plan (RWMP) and an Operational Waste Management Plan (OWMP) indicate the proposals to manage any waste from the construction and operation of the development. It is estimated that approximately 15,000m3 of material will be excavated on site, with an estimated 13,500m3 retained and reused on site for landscaping and fill. All remaining material, including surplus of building materials, such as timber off-cuts, broken concrete blocks, cladding, plastics, metals and tiles generated along with excess concrete will be disposed of off-site appropriately. The Operational Waste Management Plan indicates how the waste from the operational development has been calculated and shall be managed and disposed of.

There are a number of potential significant effects of the construction phase of the development outlined, which are indicated as both long and short term and significant and negative, which include use of non-permitted waste contractors, wastes not disposed of through licensed facilities or recycled and management of topsoil excavated on site.

There are also a number of potential significant effects of the operational phase of the development outlined, which are indicated as both long and short term and significant and negative, which include improper/ lack of waste management and appropriate recycling, networks of waste collection, treatment, recovery and disposal infrastructure put in place, waste material which is not managed and stored correctly is likely to lead to litter or pollution issues and presence of vermin and use of non-permitted waste contractors or unauthorised facilities which could give rise to inappropriate management of waste and result in negative environmental impacts or pollution. Mitigation measures are required to ensure such effects are not created.

Cumulatively, it is stated that if waste material are not managed and stored correctly and in the absence of mitigation, it is possible the effect on the local and regional environment could be long-term, significant and negative.

Various Mitigation Measures are proposed for the construction and operational phases of the development, which are required to be adhered to in order to mitigate against any potential significant effects. Such include; appointment of specific contractors and updating of RWMP and OWMP, which are to be implemented throughout construction and operation of the site, building materials chosen to 'design out waste', on-site segregation of waste materials for appropriate disposal, re-use of materials on site where possible, appointing of appropriate staff for management of waste and training for all staff on same, use of licensed and permitted contractors for all waste disposal, and use of clearly identified bins for disposal of operational waste to ensure no cross-contamination.

Provided mitigation measures are followed, the construction phase waste management will ensure that the predicted effect on the environment will be short-term, imperceptible and neutral, and provided the mitigation measures are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted impact of the operational phase on the environment will be long-term, imperceptible and neutral.

The management of waste for both the construction and operational phases are also considered cumulatively with other developments to be imperceptible and neutral and in the event of the development no longer being Clare Plannng Authority - Inspection Purposes Only!

occupied/operational the development may be decommissioned and appropriate plans will be formulated to decommission the site to ensure no waste nuisance occurs.

Significant interactions with other chapters have been outlined and are considered to be imperceptible and neutral in conjunction with adherence to mitigation measures and the outlined management plans.

Executive Engineer Comments on FI submitted.

Waste

All waste generated and transported off site during the construction phase shall be managed in accordance with the relevant provisions of the Waste Management Act 1996 and associated amendments and regulations thereof.

7. Rock-breaking/Crushing/Screening:

The PA did not address the issues I raised in section 4 of my FI observation on the applicants references to crushing and screening in 7.1.2 of the updated CEMP. Furthermore it did not insert a condition precluding crushing & screening in circumstances where this was not sought in the development description.

2.12 Chapter 12 EIAR Addendum

*There is potential for the Construction Noise Threshold value to be exceeded due to rock breaking **and rock crushing activities** during Phases 1 and 2. During Phase 1, exceedences are predicted at all NSLs (1, 2, 3, and 4). In Phase 2, exceedences are expected only at NSLs 2 and 3. These works will be temporary in duration and are scheduled to occur during periods considered least disruptive to surrounding stakeholders — such as mid-morning to mid-afternoon on weekdays, when the majority of nearby residents are likely to be at work or school. During Phase 3, predicted noise levels are not expected to exceed the threshold at any NSL, and therefore no significant noise effects are anticipated for that phase.*

*During rock breaking **and crushing activities**, the residual noise effect is predicted to be negative, significant to very significant, and temporary at distances up to 60m from the works, assuming all plant items operate simultaneously adjacent to the closest site boundary. This applies to all NSLs during Phase 1, and to NSL 3 during Phase 2, where exceedences of the Construction Noise Threshold (CNT) are predicted.*

2.18 Chapter 18

Noise and Vibration

There is potential for the Construction Noise Threshold value to be exceeded due to rock breaking ***and rock crushing activities*** *during Phases 1 and 2.*

12.8.2.1 Rock Breaking and Crushing Works

For construction activities associated with rock breaking and rock crushing, excavators with rock breaking attachments, diggers, and HGVs are likely to be utilised. A total construction noise level of 92 dB LAeq,T at 10m has been used for the purposes of indicative calculations, based on typical plant noise data from BS 5228-1:2009+A1:2014. This represents a worst-case scenario for simultaneous operation within one work area.

12.12 Rock breaking and crushing

Worst-case predictions presented in Table 12-12 indicate that construction noise levels associated with rock breaking and crushing are likely to exceed the adopted threshold of 65 dB LAeq,T at all NSLs during Phase 1. These exceedances are expected to result in a negative, significant to very significant, and temporary effect at NSLs 1, 2, 3, and 4.

During Phase 2, exceedances of the threshold are predicted at NSLs 2 and 3 only, resulting in a negative, significant to very significant, and temporary effect at these locations. At the remaining NSLs, 1 and 4, the noise levels are predicted to remain below the adopted threshold, resulting in a negative, slight to moderate, and temporary effect.

Phase 3 rock breaking and crushing construction noise levels are predicted to remain below the adopted threshold, and as such, no significant noise effects are anticipated at any NSLs during this phase resulting in a negative, slight to moderate, and temporary effect.

12.9.1.1 Construction Stage

There is potential for the Construction Noise Threshold value to be exceeded due to rock breaking and rock crushing activities during Phases 1 and 2. During Phase 1, exceedances are predicted at all NSLs (1, 2, 3, and 4). In Phase 2, exceedances are expected only at NSLs 2 and 3. These works will be temporary in duration and are scheduled to occur during periods considered leastdisruptive to surrounding stakeholders — such as mid-morning to mid-afternoon on weekdays, whenthe majority of nearby residents are likely to be at work or school. During Phase 3, predicted noiselevels are not expected to exceed the threshold at any NSL, and therefore no significant noise effectsare anticipated for that phase.

8. Planner's Reports:

8.1.Planner 1 – Pre RFI

I note that with reference to the pre-planning stage discussions between the Applicant and the PA the Planner refers to commentary about taking in charge with respect to wastewater

With reference to the Environmental Assessment Officer the Planner extracts references to the NIS whereby the EAO in respect of Bat assessment quotes

"definitive findings In line with Kelly v An Bord Pleanála [2014] IEHC 400 Finlay Geoghegan J. which identified key legal requirements in respect of AA:

> *"Must contain complete, precise, and definitive findings and conclusions and may not have lacunae or gaps. The requirement for precise and definitive findings and conclusions appears to require analysis, evaluation, and decisions. Further, the reference to findings and conclusions in a scientific context requires both findings following analysis and conclusions following an evaluation each in the light of the best scientific knowledge in the field".*

It also concluded that a decision can only be reached where no reasonable scientific doubt remains as to the absence of the identified potential effects.

I can find no fault with those sentiments provided they are applied to all relevant aspects of the proposed development including potential impacts on water quality and associated qualifying interests.

Under the Wastewater Treatment heading the EAO states;

Having reviewed the Natura Impact Statement in support of Appropriate Assessment I note the assessment around the proposed discharge in terms of Wastewater does not identify which plant the new development will discharge to. The NIS contains no assessment or consideration of likely impacts on the associated European Sites located downstream with connectivity via the WWTP. There is no analysis as to the remaining treatment capacity at the plant in terms of P.E taking into consideration the design capacity of the plant and the hydraulic loading. The Natura Impact Statement which accompanies the application does not address the status of the receiving environment associated with the Wastewater Treatment Plant nor does it provide any assessment as to the potential for cumulative or in-combination effects in a comprehensive manner with only 4 recent applications listed as having potential for in-combination effects. The conclusion as reached in the assessment is done so without the benefit of any scientific analysis or information to justify the conclusion reached. In addition, I note that Uisce Eireann in their submission have indicated the following:

> A Stage 2 Preliminary Business Case commenced in 2021 to address the above issues to provide capacity for future growth and ensure compliance with the WWDA. Timeframe for completion of the development as well as phasing are to be provided at connection application stage. In addition, an approximately 300m network extension is required from the proposed development to the existing UE foul sewer, including a pump station & rising main (as per developer proposal). Connection is to be made to gravity sewer (minimum 300mm). 24-hr storage and real time controls to limit pumping as hydraulic issues exist downstream will also be required Uisce Éireann acknowledges the applicant has submitted finalised designs and has been issued of a statement of design acceptance (SODA) on the 18th of June 2025. These designs outline the necessary infrastructure upgrades described in the COF to facilitate connections from the development to Uisce Éireann water and wastewater networks, to be undertaken by the applicant as self-lay works

The applicant should be requested to provide an updated NIS as part of a Further Information Request which addresses the points raised here and utilises the most recent Annual Environmental Reports (2023/2024) for the associated plant to inform the Appropriate Assessment. It is not possible with the information as presented for Clare County Council (as the Competent Authority) to conclude a finding in relation to the risk of significant or adverse effects based on the information as presented in the application at present.

CEMP

The Mitigation in Section 7.4 Surface Water Management Plan indicates the potential for in-stream machine works on the Claureen River. It does not appear that the potential for these works and what they entail have been addressed or assessed in the NIS. The applicant should be required to clarify this requirement and update the CEMP and NIS as appropriate.

Section 9.0 refers to Waste and 9.1 states;

All waste generated and transported off site during the construction phase shall be managed in accordance with the relevant provisions of the Waste Management Act 1996 and associated amendments and regulations thereof.

In relation to submissions from prescribed bodies it includes the UE (COF) for the proposed development on the 9th of December 2024 (reference: CDS21003780).

The Planner then gives a good account of the 3rd party submissions made.

It was determined that a RFI was required.

In the Planner's stage 1 assessment:

PUBLIC HEALTH

Potable Water

I note the submission received from Uisce Eireann which states that "this *statement confirms the feasibility to connect to Uisce Éireann's water services, with sufficient network capacity to facilitate this development*".

I am satisfied that the proposed development can connect to the public water mains.

Wastewater:

A Confirmation of Feasibility (CoF) and Statement of Design Acceptance (SoDA) were included with this application. It is noted that Uisce Eireann stated in this CoF the wastewater connection is feasible subject to minor upgrades at the WWTP, advising " A Stage 2 Preliminary Business Case commenced in 2021 to address the above issues to provide capacity for future growth and ensure compliance with the WWDA. Timeframe for completion of the development as well as phasing to be provided at connection application stage. A 300m Approx. network extension is required from the proposed development to the existing UE foul sewer by way of pumped solution (WWPS) & rising main (as per developer proposal). Connection to be made to gravity sewer (minimum 300mm). 24-hr storage and real time controls to limit pumping as hydraulic issues exist downstream will be required. The Developer shall provide design details of the pump design flow rates, emergency storage provisions etc. for agreement with UE Asset Planning team. The location of real time control shall be agreed with the UE Asset Planning team and UE Operations at connection application stage."

It is noted that the requirements set out in Uisce Eireann's CoF have been proposed in the application and a SoDA from Uisce Eireann following the receipt of the CoF have also been provided. It is stated in their observation that "Uisce Éireann acknowledges the applicant has submitted finalised designs and has been issued of a statement of design acceptance (SODA) on the 18th of June 2025. These designs outline the necessary infrastructure upgrades described in the COF to facilitate connections from the development to Uisce Éireann water and wastewater networks, to be undertaken by the applicant as self-lay works."

The Planning Authority are satisfied with the wastewater discharge proposals in this regard, subject to design and upgrade works being carried out in accordance with Uisce Eireann's submission.

BIODIVERSITY

Notwithstanding the conclusion arrived at in the previous section the Planner decides in this section that;

It is also noted that the assessment within the NIS in respect of the proposed discharge in terms of Wastewater does not identify which plant the new development will discharge to, nor does it contain any assessment or consideration of likely impacts on the associated European Sites located downstream with connectivity via the WWTP. No analysis of the remaining treatment capacity at the WWTP in terms of P.E taking into consideration the design capacity of the plant and the hydraulic loading, the status of the receiving environment associated with the Wastewater Treatment Plant, or any assessment as to the potential for cumulative or in-combination effects in a comprehensive manner, with only 4 recent applications listed as having potential for in-combination effects. It is, therefore, considered that the conclusion reached did not have the benefit of any scientific analysis or information to justify the conclusion reached. It is also noted that Uisce Eireann stated in their submission that the timeframe for the completion of the development along with phasing of the development are to be provided to Uisce Eireann at connection application stage, with a 300m network extension required from the proposed development to the existing foul sewer, which includes a pumping station, rising main, a gravity sewer (min dia. 300mm) and 24-hr storage with real time controls to limit pumping, noting hydraulic issues exist downstream. Such works have not been assessed within the NIS and the applicant shall be requested to provide an updated NIS which addresses the points raised above and in the relevant submissions, and utilises the most recent Annual Environmental Reports (2023/2024) for the associated plant to inform the Appropriate Assessment by way of Further Information.

I, therefore, consider that it is not possible with the information as presented, for Clare County Council (as the Competent Authority) to conclude a finding in relation to the risk of significant or adverse effects based on the information as presented in the application at present.

In addition to the above relating to the NIS, the Construction and Environmental Management Plan (CEMP) has also been considered in respect of the impact of the construction phase of the development on biodiversity and European Sites. It is noted that the Mitigation in Section 7.4 Surface Water Management Plan indicates the potential for in-stream machine works on the Claureen River, however, it does not appear that the potential for these works and what they entail have been addressed or assessed in the NIS. The applicant shall be required to clarify this requirement and update the CEMP and NIS as appropriate by way of Further Information.

The Planner carried out an AA screening and made a recommendation that a RFI be sought and this was implemented.

8.2.Planner 2 – Post FI

The Planner describes the details of the receipt of the FI and proceeds to deal with the responses to the different topics in the order requested.

RFI 4(d) relates to wastewater. The Planner gives an account of the FI received and the internal reports this one being from the Environmental Assessment Officer of Clare County Council.

> Item 4(d) - The NIS shall be revised to assess the remaining treatment capacity of the WWTP in terms of P.E taking into consideration the design capacity of the plant and the hydraulic loading, the status of the receiving environment associated with the Wastewater Treatment Plant, or any assessment as to the potential for cumulative or in-combination effects in a comprehensive manner, along with the upgrade works required to facilitate the development. The updated NIS should address the points raised by submissions and should utilise the most recent Annual Environmental Reports (2023/2024) for the associated plant to inform the Appropriate Assessment.

The closest European site to the proposed development is 0.9 km away (Lower River Shannon SAC). The proposed development site is greenfield, located 120m north the nearest watercourse (Claureen River, also referred to as the Inch River- a tributary of River Fergus). It is proposed to collect, treat, and retain surface water drainage within the subject site via the use of SuDs features, prior to discharge to the Claureen River.

This river outfalls to the River Fergus C. 900m north of the proposed development site and so it is considered that there is an indirect hydrological connection between the subject site and the Lower River Shannon SAC. There is also an indirect hydrological connection to the River Shannon and River Fergus Estuaries SPA which lies further downstream the River Fergus. Foul water will be discharged to the existing foul sewer located on Cahercalla Road. This network ultimately outfalls to Ennis North WwTP for treatment under license. As outlined in the 2023 Annual Environmental Report for Ennis North (most recent publication), there is sufficient capacity until at least 2029" with 6841 organic capacities (Person Equivalent) remaining. Additionally, as outlined in the Civil Works Design Report by Tobin's_a Pre-Connection enquiry for the wastewater discharge from the proposed residential development was submitted to Uisce Eireann, and a Confirmation of Feasibility (CoF) statement (December 2024) was received confirming a feasible connection to the existing Uisce Eireann network. Uisce Eireann has confirmed in their latest capacity register (September 2025) that there is wastewater treatment capacity to accept the current proposed development. Therefore, no significant effects on Natura 2000 sites are foreseen from foul water drainage.

It is incomprehensible that such a glib assessment of an important environmental issue is made by the body tasked with protecting such environments. This should be compared with the sentiments on page 23 above. The 2023 AER is certainly is not the only available information for this plant. There is copious other data on the EPA portal including Site Visit Reports (SVRs). This plant has consistently failed its ELV for Ammonia (N) for each of the last 4 years. This is in circumstances where the plant discharges to an already impacted river body consistently designated as moderate and declared at risk of not achieving is WFD objectives.

The loading on this plant is not provided as prescribed in the Urban Wastewater Treatment Directive which defines 1 p.e. (population equivalent) as the organic biodegradable load having a five-day biochemical oxygen demand (BOD_5) of 60 g of oxygen per day. Article 4 (4) defines loading on a plant as the load expressed in p.e. shall be calculated on the basis of the maximum average weekly load entering the treatment plant during the year, excluding unusual situations such as those due to heavy rain.

Therefore the loading on the plant requires the maximum average weekly load, excluding unusual situations such as those due to heavy rain, in m^3/d and the influent BOD_5 in mg/l for those days. For those figures the organic loading in mg BOD_5 can be determined and from that figure the PE loading on the plant is determined. The AER does not provide those figures.

In the AER's the PE is quoted with absolutely no supporting evidence. It does not event attempt to give the mass of BOD_5 behind these figures. How is UE calculating the PE figures in Tables 2.1.4.2 of the AER's?

In any event there are 7 Emergency Overflows and Stormwater Overflows in the Ennis North Plant and network. The **2023 AER** at table **4.1.1** gives an annual discharge at SW2 of **741,496m³** per annum. This contains an unknown volume of untreated wastewater and is in contravention of Article 4 of the UWWT Directive. None of the other six overflows in the agglomeration are monitored for events or volumes discharged. Appendix F shows dates for this SW2 overflow which far exceed the unusual situations or extreme rainfall events to which overflows are restricted under the directive and established in ECJ Case law.

It is impossible to get any sort of a reasonable estimate for the loading on a WWTP which has 6 unmonitored overflows along with an annual further overflow of **741,496m³** per annum. To put that overflow in context it is equivalent to 104 days Dry Weather Flow @ a PE of 31,500. The ECJ determined that each agglomeration should be assessed on its own merits for the number of annual overflow events. It is established that they should be in a range from 5 to 20 per annum.

> *The proposed development will ultimately discharge to the Clonroadmore Wastewater Treatment Plant in Ennis which underwent a significant upgrade to address its previous capacity issues. The old plant was severely overloaded, treating only 30% of the wastewater _it received, with the remaining 70% being discharged untreated into the River Fergus. The €5.2 million investment increased the plant's capacity from 17,000 to 30,500 population equivalent (PE), ensuring that all wastewater is now treated to EPA standards'. This upgrade not only protects the River Fergus from pollution but also supports future population growth and economic development in the area' which has fed into the County Development Plan process and the zoning of this site for residential development. The project included the installation of preliminary treatment facilities at Tulla Road and Francis Street Pumping Stations to improve the quality of wastewater discharged'.*

This is an abomination in respect of the facts about this plant and the associated network. The "upgrade" in 2015 was *de minimis* and any assessment of AER and SVR's. There has never been a review of the licence for this plant which remains for a PE of 17,000. In January 2024 the EPA required UE to initiate a review of this licence. To date it has failed to even lodge an application for the review. What are they afraid of? A very simple solution is for An Coimisiún Pleanala to seek the advice of the EPA regarding the capacity of this wwtp and network. The truth lies somewhere between what I am submitting and the account above.

> *At the Tulla Road Pumping Station, significant upgrades were made as part of the overall improvement project for the Clonroadmore Wastewater Treatment Plant. These works included the installation of preliminary treatment facilities designed to enhance the quality of wastewater before it reaches the main treatment plant'. This involved upgrading the infrastructure to handle increased volumes and improve the efficiency of the wastewater treatment process, ensuring that the discharged water meets environmental standards'.*

The Tulla Road PS has absolutely nothing to do with the subject part of the network. Any assessment of events on the EPA portal will quickly demonstrate the dysfunction in it and the rest of the network.

> *By enhancing the preliminary treatment, the Francis Street Pumping Station can better manage increased wastewater volumes, ensuring that the water entering the main treatment plant is of higher quality. This not only helps in meeting environmental standards but also reduces the load on the main treatment facilities, leading to more effective and sustainable wastewater management.*

This is a disgraceful comment as part of an environmental assessment. There is a long history to screens at the Francis St. PS Screens provide no treatment whatsoever. Screens primarily protect the pumps and have a secondary role in screening gross matter in SWO discharges. The claim that *"enhancing the preliminary treatment, the Francis Street Pumping Station can better manage increased wastewater volumes, ensuring that the water entering the main treatment plant is of higher quality"* is total rubbish. The screens may allow the pumps work without blocking but that is the extent of their input.

Since the upgrade of the Clonroadmore Wastewater Treatment Plant, there has been a marked improvement in the water quality of the River Fergus. Environmental monitoring has shown a significant reduction in pollutants, thanks to the enhanced treatment processes now in place. The plant's increased capacity ensures that all wastewater is treated to meet EPA standards before being discharged, which has greatly reduced the levels of harmful substances entering the river. Specific improvements have been seen in water quality include lower levels of biochemical oxygen demand (BOD) and suspended solids, both of which are key indicators of water pollution. The reduction in these pollutants has led to a healthier aquatic ecosystem, benefiting fish and other wildlife in the River Fergus. Additionally, the improved odour control systems at the pumping stations have minimized unpleasant smells, enhancing the quality of life for nearby residents.

This is factually untrue and any assessment of AERs and EPA Water Maps will confirm this. The river is a modified waterbody, consistently at Moderate Status, and consistently at risk of not achieving WFD objectives. Wastewater has been identified as a pressure on both the River and Groundwater. The groundwater status in the agglomeration is poor. There was no in-combination or cumulative assessments of other discharges into the SAC from Doora Dump of Clareabbey wwtp or the Roche site further downstream.

I note the analysis as undertaken in the NIS with regards to the capacity of the Plant and in particular Table 3 which looks at the remaining treatment capacity of the WWTP.

The development will make up <1% of the designed hydraulic design capacity.

** Organic headroom: 31,500 2 24,659 = 6,847 P.E. (approx. 21.7 % unused).*

** The development will make up 3.46% of the hydraulic headroom remaining.*

The data above demonstrates that Ennis North WWTP retains substantial residual hydraulic and organic capacity. In terms of the cumulative and in-combination effects the total volume for developments assessed for potential in combination effects within Ennis North Wastewater Plant is 167m3 /day. The proposed development 147 m3 /day. This gives a combined figure of 314 m3 /day. This makes up approximately 7% of the remaining hydraulic headroom. As a result, the development is unlikely to give rise to potential in -combination effects in relation to the Ennis North Wastewater Treatment Plant.

In. terms of impacts on the achievement of Water Framework Directive status I have reviewed the catchment summary for the Shannon Estuary North catchment (27) which is available from the EPA via EPA Catchments/EPA Maps together with the sub-catchment reports for the Fergus catchment, and particularly those rivers feeding into the main channel of the Fergus. This shows the complete picture in terms of risks and pressures on this catchment. Fergus_060 is the Claureen, Fergus_040 is the Fergus north of Ballyallia and Fergus_070 is the main channel which is indicating "Moderate" status. The data which is available through Data - Catchments.ie - Catchments.ie indicates that all upper catchments feeding into the Fergus are identified as either "at risk" of not achieving good status or under pressure with macroinvertebrates being the key indicator of impacts from Agriculture, forestry and Urban pressure all leading to siltation in the channel. Therefore, any downstream issues which are being evidenced in the lower Fergus in terms of moderate WFD status are being influenced by the upper catchment and not the WWTP itself.

The writer has absolutely no information to support this claim. The facts are that a public body, including the writer personally, commits an offence if they facilitate adding pollution to an already impacted Natura 2000 site. The writer should take some time to read articles 13, 14 and 15 of the Surface Water Regulations 2009 listed above.

Further, the 2023 Annual Environmental Reports (AERs) for the Ennis North Wastewater Treatment Plant states that the discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status. Therefore, the proposed development at Ballymacula (given the WWTP has both hydraulic and organic headroom) is extremely unlikely to affect water quality within the receiving waters of the Fergus to an extent that leads to adverse effects upon the QIs of the Lower River Shannon SAC or the SCIs of the River Shannon and Fergus Estuaries SPA.

This paragraph does not warrant a comment other than there are none so blind as those who will not see.

Stormwater

The applicant-developer shall install the storm water network, hydrocarbon interceptors, soak ways, infiltration basin, bioswales, permeable paving and all other proposed SUDS measures per the designer's requirements and the manufacturer's instructions. The applicant/developer shall employ a suitably qualified Engineer to certify that the storm water network, hydrocarbon interceptors, soakaways, infiltration basin, bioswales, permeable paving and all other proposed SUDS measures has been installed as per the designer's requirements and the manufacturer's instructions. Following the completion of the development the applicant shall submit a record of same to the Planning Authority.

The applicant/developer's design team shall set out the maintenance requirements and schedules for the storm water network, hydrocarbon interceptors, soakaways, infiltration basin, bioswales, permeable paving and ail other proposed SUDS measures in the development and the operator of the development shall undertake to carry out the maintenance as per the schedule. The records of the maintenance requirements and schedule shall be kept at the proposed development for inspection by the Planning Authority.

Summary of 3rd party observations are summarised and it is stated that all have been considered in full in the assessment of the application.

The Planner then proceeds through the different FI topics in her assessment.

Waste water treatment proposals and Natura Impact Statement

As per point 4(d) of the requests for further information as was sent to the applicants, the Planning Authority requested that the NIS for the proposed development be revised to assess the remaining treatment capacity of the WWTP in terms of P.E taking into consideration the design capacity of the plant and the hydraulic loading, the status of the receiving environment associated with the Wastewater Treatment Plant, or any assessment as to the potential for cumulative or in-combination effects in a comprehensive manner.

The applicants were also advised that updated NIS should address the points raised by submissions and should use the most recent Annual Environmental Reports (2023/2024) for the associated plant to inform the Appropriate Assessment.

The agents for the applicants have submitted a detailed response in this regard and have updated the NIS as requested.

The applicant's response as per the updated NIS can be summarised as follows:

-The NIS for the proposed development has been updated in order to provide for an assessment of the remaining treatment capacity of the WWTP in terms of P.E, taking into consideration the design capacity of the plant and its hydraulic loading, the status of the receiving environment associated with the WWTP, and an assessment of the potential for cumulative or in-combination effects.

-In relation to the WWTP, a revised assessment has been carried out, incorporating the requested elements based on the most up to date Uisce Eireann Annual Environmental Report.

- The development will make up<1% of the designed hydraulic design capacity and 3.46% of the hydraulic headroom remaining within WWTP. The data outlined in Table 3 of the NIS demonstrates that Ennis North WWTP retains substantial residual hydraulic and organic capacity.

- An assessment of the potential in combination effects of permitted and schemes currently undergoing planning within the catchment of the Ennis North WWTP has been undertaken. It has been found that the total volume for developments assessed for potential in combination effects within Ennis North Wastewater Plant is 167m3/day. The proposed development 147 m3/day. This gives a combined figure of 314 m3/day. This makes up approximately 7% of the remaining hydraulic headroom, and <5% of the remaining PE headroom.

- The updated NIS as submitted concludes that the development is unlikely to give rise to potential incombination effects in relation to the Ennis North Wastewater Treatment Plant. The WWTP operates within capacity, and it should be noted that confirmation of feasibility from Uisce Eireann was received for the proposed development.

The Environmental Assessment Officer of Clare County Council has commented comprehensively on the further information received in response to point 4(d) and the report of the EAO contains the following comments (in summary and amongst others).

Foul water will be discharged to the existing foul sewer located on Cahercalla Road. This network ultimately outfalls to Ennis North WwTP for treatment under license. As outlined in the 2023 Annual Environmental Report for Ennis North, ... there is sufficient capacity until at least 2029 with 6841 organic capacity (Person Equivalent) remaining.

Uisce Eireann has confirmed in their latest capacity register (September 2025) that there is wastewater treatment capacity to accept the current proposed development. Therefore, no significant effects on Natura 2000 sites are foreseen from foul water drainage

The proposed development will ultimately discharge to the Clonroadmore Wastewater Treatment Plant in Ennis which underwent a significant upgrade to address its previous capacity issues. The old plant was severely overloaded, treating only 30% of the wastewater it received, with the remaining 70% _ being discharged untreated into the River Ferqus'. The €5.2 million investment increased the plant's capacity from 17,000 to 30,500 population equivaient (PE), ensuring that _all_wastewater_is now treated to EPA standards'. This upgrade not only protects the River Ferqus from pollution but also supports future population growth and economic development in the area' which has fed into the County Development Plan process and the zoning of this site for residential development

*At the Tulla Road Pumping Station, significant upgrades were made as part of the overall improvement project for the Clonroadmore Wastewater Treatment Plant. These works included_the_installation_of preliminary treatment facilities designed to enhance the quality of wastewater before it reaches the main treatment plant'**

By enhancing the preliminary treatment, the Francis Street Pumping Station can better manage increased wastewater volumes, ensuring that the water entering the main treatment plant is of higher quality.

Since the upgrade of the Clonroadmore Wastewater Treatment Plant, there has been a marked improvement in the water quality of the River Fergus.

**The development will make up 3.46% of the hydraulic headroom remaining in the Ennis North Wastewater Treatment Plant.*

The development is unlikely to give rise to potential in -combination effects in relation to the Ennis North Wastewater Treatment Plant.

The 2023 Annual Environmental Reports (AERs) for the Ennis North Wastewater Treatment Plant states that the discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status. Therefore, the proposed development is extremely unlikely to affect water quality within the receiving waters of the Fergus to an extent that leads to adverse effects upon the QIs of the Lower River Shannon SAC or the SCIs of the River Shannon and Fergus Estuaries SPA.

Having regard to the details originally received and as submitted in response to the requests for FI, as well as the report of the Environmental Assessment Officer of Clare Council in terms of the Further Information received, I am satisfied that full and comprehensive consideration has been given to the matter of waste water treatment system capacity to accommodate the proposed development without potential for negative environmental impacts and the details submitted are considered to comprehensive demonstrate that there is sufficient capacity in terms of Uisce Eireann Waste water treatment infrastructure to accommodate the proposed developed without any negative environmental impacts.

An Coimisiún Pleanala will see the comprehensive observation I made in respect of the FI received and should note that notwithstanding platitudes elsewhere the Planner in the last paragraph makes not reference to my observation.

9. S.177V Determination

The determination lists *"potential for impacts on the designated sites outlined here arises from three sources",*

- Run-off which could enter via the Claureen River (and thereafter the River Fergus)
- Groundwater contamination (via underlying karst aquifer)
- Disturbance to Lesser Horseshoe Bat (habitat loss, human activity, light & noise pollution).

It has no regard to potential impacts from the additional discharges for the wastewater arising due to a lack of capacity in the network and the wwtp. It fails to consider the potential for in-combination or cumulative impacts from the stormwater discharges and the discharges from stormwater overflows and emergency overflows in the network or at the wwtp.

10. NIS

WASTEWATER DRAINAGE SYSTEM OVERVIEW (Page 5)

The proposed wastewater drainage system will consist of a combination of gravity sewers and a pumped discharge to a local foul sewer. All gravity sewers will be laid beneath roads and open spaces.

Due to the site's topography, a pumping station is required and will be located at the lowest point in the northern section of the developable area. This station will serve the proposed development and allow for future connection of 7 existing dwellings along the Circular Road, as well as a small adjoining parcel of land to the south. The pumping station has been designed to provide 24-hour storage for approximately 330 units, in full compliance with Uisce Éireann9s Code of Practice for Wastewater Infrastructure.

Foul flows will be pumped through a new rising main to the existing public sewer network, connecting via a new discharge manhole approximately 105 metres east of the site entrance, as required by Uisce Éireann.

The foul drainage network has been designed using Causeway Flow modelling software. All gravity pipes will be thermoplastic structured wall pipes, with diameters ranging from 150mm to 225mm. Gradients will vary between 1/21 and 1/200, and flow velocities will remain within the required range of 0.75 to 2.5 m/s, in accordance with Uisce Éireann standards.

A Pre-Connection Enquiry for the wastewater discharge from the proposed residential development was submitted to Uisce Éireann, and a Confirmation of Feasibility (CoF) statement has been received. All foul sewer designs were also submitted to Uisce Éireann for design vetting to obtain a Statement of Design Acceptance (SoDA) prior to the submission of the planning application. Both the CoF and SoDA are included in Appendix F.

Following the grant of planning permission, the final sewer designs will be submitted to Uisce Éireann for review and approval, prior to the issuance of a connection offer

11. Water Framework Directive

There is no WFD assessment carried out by the applicant or the PA.

12. Duty on Public Authorities

There are onerous duties on decision makers in deciding applications which include regard to;

Habitats Directive

Water Framework Directive

Waste Directive

The Water Services Act 2007 as amended

European Communities Environmental Objectives (Surface Waters) Regulations 2009, specifically require;

S.I. No. 272 of 2009 EUROPEAN COMMUNITIES ENVIRONMENTAL OBJECTIVES (SURFACE WATERS) REGULATIONS 2009

S.I. No. 327 of 2012 EUROPEAN COMMUNITIES ENVIRONMENTAL OBJECTIVES (SURFACE WATERS) (AMENDMENT) REGULATIONS 2012

S.I. No. 288 of 2022 EUROPEAN COMMUNITIES ENVIRONMENTAL OBJECTIVES (SURFACE WATERS) (AMENDMENT) REGULATIONS 2022

S.I. No. 50 of 2025 EUROPEAN COMMUNITIES ENVIRONMENTAL OBJECTIVES (SURFACE WATERS) (AMENDMENT) REGULATIONS 2025

S.I. No 722 of 2003 EUROPEAN COMMUNITIES (WATER POLICY) REGULATIONS 2003

The 2009 Regulations

Duty on public authorities

4. A public authority that has functions the performance of which may affect the achievement of the environmental objectives established by these Regulations shall undertake those functions in a manner that will, as far as practicable, promote compliance with the requirements of these Regulations and, in particular shall—

(a) ensure, in so far as its functions allow, that—

(i) surface water bodies comply with the relevant environmental quality standards specified in the Schedules contained in these Regulations, and

(ii) protected areas achieve compliance with any standards and objectives laid down for such areas at the latest by 22 December 2015 unless otherwise specified in the national legislation under which the individual protected areas have been established.

Where one or more of the objectives or standards under this subparagraph relates to a given body of water, the most stringent shall apply

(b) establish or make operational within the timeframes prescribed such measures appropriate to its functions as are necessary to achieve the environmental objectives and quality standards established, including the objective of progressively reducing pollution by priority substances and the ceasing or phasing out of emissions, discharges and losses of priority hazardous substances, and

(c) consult, co-operate and liaise with other public authorities within the river basin district and, where appropriate with the relevant competent authorities in Northern Ireland, in such a manner and to such extent as is necessary to co-ordinate compliance with these Regulations.

5. A public authority shall not, in the performance of its functions, undertake those functions in a manner that knowingly causes or allows deterioration in the chemical status or ecological status (or ecological potential as the case may be) of a body of surface water.

Emission controls and environmental quality standards

7. Point source and diffuse source discharges liable to cause water pollution are prohibited except where subject to a system of prior authorisation or registration based on general binding rules. A public authority that authorises a discharge to waters shall lay down emission limits in the authorisation granted that satisfy the following requirements:

(a) the emission limits shall establish the maximum concentration and the maximum quantity of a substance permissible in a discharge and shall aim to achieve the environmental objectives established in Part III of these Regulations including the environmental quality standards set out in Schedules 5 and 6 and any standards or objectives laid down for protected areas, and

(b) discharges shall be controlled according to the combined approach whereby emission limits shall be established according to the stricter of the requirements which would result from the application of limits which aim to achieve the quality standards referred to in sub- paragraph

(a) and, where relevant, the application of limits based on—

(i) emission controls based on best available techniques, or

(ii) relevant emission limit values, or

(iii) in the case of diffuse impacts controls including, as appropriate, best environmental practices set out in:

— a specification prepared by the Agency in accordance with section 5 of the Environmental Protection Agency Act 1992 as amended by section 7 of the Protection of the Environment Act 2003 or

— the Urban Waste Water Treatment Regulations 2001 (S.I. No. 254 of 2001) as amended by the Urban Waste Water Treatment (Amendment) Regulations 2004 (S.I. No. 440 of 2004) or any future amendment thereof or

— the European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. No. 101 of 2009) or any future amendment thereof or

— the Local Government (Water Pollution) Act, 1977 (Control of Cadmium Discharges) Regulations 1985 (S.I. No. 294 of 1985) or

— the Local Government (Water Pollution) Act, 1977 (Control of Hexachlorocyclohexane and Mercury Discharges) Regulations 1986 (S.I. No. 55 of 1986) or

— the Local Government (Water Pollution) Acts, 1977 and 1990 (Control of Carbon Tetrachloride, DDT and Pentachlorophenol Discharges) Regulations 1994 (S.I. No. 43 of 1994) or

— measures or controls identified in a pollution reduction plan for the river basin district prepared in accordance with Part V of these Regulations for the reduction of pollution by priority substances or the ceasing or phasing out of emissions, discharges and losses of priority hazardous substances.

13. It shall be an offence not to comply with a requirement of these Regulations.

14. A person, public authority, body corporate or unincorporated body guilty of an offence is liable,

(1) on summary conviction to a fine not exceeding \5,000 or to imprisonment for a term not exceeding 3 months or to both, or

(2) on conviction on indictment to a fine not exceeding \500,000 or to imprisonment for a term not exceeding 3 years or to both.

15. Where an offence under these Regulations has been committed by a body corporate and is proved to have been committed with the consent or connivance or to be attributable to any neglect on the part of a person being a director, manager, secretary or other similar officer of the body corporate, or of a person who was purporting to act in any such capacity, that person as well as the body corporate is guilty of an offence and is liable to be proceeded against and punished as if that person was guilty of the first-mentioned offence.

Amendments to SW Regulations

S.I. No. 288 of 2022

Amendment of Article 32 of Principal Regulations

5. Article 32 of the Principal Regulations is amended by the substitution of the following paragraphs for paragraphs (1) and (2):

"(1) All practicable steps are taken to prevent further deterioration in status and in order not to compromise the achievement of the objectives of these Regulations in other bodies of water not affected by those circumstances;

(2) The conditions under which circumstances that are exceptional or that could not reasonably have been foreseen may be declared, including the adoption of the appropriate indicators, are stated in the river basin management plan;".

Amendment of Article 44 of Principal Regulations

6. Article 44 of the Principal Regulations is amended by substituting "Table 4A in Schedule 4" for "section 1.2 of Annex V of the Water Framework Directive" in each place where it occurs.

S.I. No. 50 of 2025

Interpretation

2. (1) In these Regulations, "Principal Regulations" means the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (S.I. No. 272 of 2009).

(2) A word or expression which is used in these Regulations and which is also used in the Directive 2000/60/EC of the European Parliament and of the Council of 23 October 20001 has, unless the context otherwise requires, the same meaning in these Regulations as it has in the Directive.

AMENDMENT OF PRINCIPAL REGULATIONS

Amendment of Article 49 of Principal Regulations

3. The Principal Regulations are amended by inserting the following Article after Article 49:

"49A. Where more than one of the objectives under paragraph 1 of Article 4 of the Water Framework Directive relates to a given body of water, the most stringent shall apply."

Amendment of Schedule 2 of the Principal Regulations

4. The 2009 Regulations are amended in Schedule 2 (amended by Regulation 8 of the European Communities Environmental Objectives (Surface Waters) (Amendment) Regulations 2022 (S.I. No. 288 of 2020)) by inserting the following paragraph after paragraph 8:

"8A. The controls, mentioned in paragraph 8, shall also apply to the indirect potential impacts on ground waters.".

13. Previous Application SHD TA03.314448

The previous application was for a very similar project which was judicially review predominantly on wastewater treatment and network capacity grounds. There was no finding in that case as to whether or not there is capacity in the Ennis North Network and/or wwtp. At its simplest the Court found that there was not the required evidence before the (then) Board to refuse planning permission. This appeal has addressed that matter and I believe there is ample evidence in this appeal for An Coimisiún Pleanala to overturn the decision of the PA.

I have copied the conclusions of Ms. Justice Farrell's judgement below and would like to point out paragraph 97 and the reference to the EPA. This is practically the same development albeit under a slightly different planning process. However the need for the EPA to be consulted remains as strong as ever and I urge an Coimisiún to seek the input and expertise of the Agency as part of this appeal. I believe an Coimisiún has the discretion to do so and advising public bodies in such circumstances is a core duty of the Agency.

14. Duffy V An Bord Pleanala & Others [2025] IEHC 715

Conclusion

92. In summary, the complaint about material contravention of zoning has already been rejected in O'Donnell v. Bord Pleanála [2023] IEHC 381 and Save Roscam v An Bord Pleanála [2024] IEHC 335. The Applicant accepts that there is no basis for not following the authorities. Therefore, he cannot succeed on Core Ground 1.

93. The complaint about the letter from Uisce Éireann is based on the incorrect premise that a need for minor works amounts to a statement that capacity is lacking. That would be an unduly restrictive reading of the Regulations. I am satisfied that the application was not invalid having regard to the terms of the Uisce Éireann letter.

94. The failure to have regard to relevant matters as pleaded at Core Ground 5 has not been demonstrated on the evidence.

95. The Commission's jurisdiction to grant the permission sought was not limited to granting permission subject to a condition preventing the commencement of the development until after the upgrade works are carried out. Furthermore, the evidential basis for contending that the permission granted breached the State's obligations under the Urban Wastewater Treatment Directive or Water Framework Directive is absent. The validity of the impugned decision must be assessed on the basis of the evidence before the Commission.

96. The non-transposition complaint regarding Article 4 of the Urban Wastewater Treatment Directive is wholly unparticularised and impermissible. Therefore, the application for a declaration of non-transposition must fail.

97. As regard the failure to notify the EPA, I will assume in favour of the Applicant that there was an error on the part of the Commission in not requiring the EPA to be notified of the application. However, in all the circumstances, this is not a basis for granting an order of certiorari in the discretion of the Court. I rely in particular on the fact that the developer had notified the EPA of the proposed application in relation to the general scope of the EIAR, the EPA did not complain that it had not been notified of the application despite having been joined in the proceedings and being aware of the application, and of the Commission's decision to grant permission. Furthermore, the Applicant consented to discharge the EPA from the proceedings.

15. ECJ - Case C-204/24

(Failure of a Member State to fulfil I obligations – Environment – Directive 2000/60/EC – Community action in the field of water policy – Failure to transpose fully and correctly)

ACTION for failure to fulfil obligations under Article 258 TFEU, brought on 15 March 2024.

1. By its application, the European Commission requests the Court to declare that, by failing to correctly and fully transpose Article 2(38), Article 4(2), Article 5(2), Article 7(3), Article 9(2) and Article 1l(3)(a) to (e),(i) and (l) of, as well as Annexes II and V to, Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ2000 L 327, p. 1), Ireland has failed to fulfil its obligations under that directive.

Article 11 of the same directive, entitled 'Programme of measures', provides:

"Basic measures" are the minimum requirements to be complied with and shall consist of:

(i) for any other significant adverse impacts on the status of water identified under Article 5 and Annex II, in particular measures to ensure that the hydromorphological conditions of the bodies of water are consistent with the achievement of the required ecological status or good ecological potential for bodies of water designated as artificial or heavily modified. Controls for this purpose may take the form of a requirement for prior authorisation or registration based on general binding rules where such a requirement is not otherwise provided for under Community legislation. Such controls shall be periodically reviewed and, where necessary, updated;

(l) any measures required to prevent significant losses of pollutants from technical installations, and to prevent and/or to reduce the impact of accidental pollution incidents for example as a result of floods, including through systems to detect or give warning of such events including, in the case of accidents which could not reasonably have been foreseen, all appropriate measures to reduce the risk to aquatic ecosystems.

11 Article 13 of Directive 2000/60, entitled 'River basin management plans', is worded as follows:

7. River basin management plans shall be reviewed and updated at the latest 15 years after the date of entry into force of this Directive and every six years thereafter.

14 Section 1 of Annex V to Directive 2000/60, entitled 'Surface water status', includes a point 1.3,entitled 'Monitoring of ecological status and chemical status for surface waters', which is worded as follows:

Habitat and species protection areas

Bodies of water forming these areas shall be included within the operational monitoring programme referred to above where, on the basis of the impact assessment and the surveillance monitoring, they are identified as being at risk of failing to meet their environmental objectives under Article 4. Monitoring shall be carried out to assess the magnitude and impact of all relevant significant pressures on these bodies and, where necessary, to assess changes in the status of such bodies resulting from the programmes of measures. Monitoring shall continue until the areas satisfy the water-related requirements of the legislation under which they are designated and meet their objectives under Article 4.

15 Point 2 of Annex V to that directive, relating to 'Groundwater', includes a point 2.4, entitled 'Monitoring of groundwater chemical status', point 2.4.5 of which, itself entitled 'Interpretation and presentation of groundwater chemical status', provides:

Subject to point 2.5, Member States shall provide a map of groundwater chemical status, colour-coded as indicated below:

Good: green

Poor: red

Member States shall also indicate by a black dot on the map, those groundwater bodies which are subject to a significant and sustained upward trend in the concentrations of any pollutant resulting from the impact of human activity. Reversal of a trend shall be indicated by a blue dot on the map.

20 Regulation 3(1)(a) of the 2003 Regulations requires each public authority to 'exercise its functions in a manner which is consistent with the provisions of [Directive 2000/60] and which achieves or promotes compliance with the requirements of that directive'.

21 Under regulation 3(1)(b) of those regulations, each public authority has the duty to 'take such actions as may be appropriate in the context of its functions to secure compliance with [Directive 2000/60] and with the provisions of any river basin management plan made, and any programme of measures established, in accordance with these Regulations'.

22 According to regulation 6(2) of those regulations, the Environmental Protection Agency ('the EPA') is to take such measures as it considers appropriate to promote and facilitate the coordination of activities for the purposes of Articles 4, 5, 7, 10, 11 and 13 of Directive 2000/60.

Findings of the Court

89 Next, having regard to the Irish legislation as it stood at the end of the period laid down in the additional reasoned opinion, namely 30 December 2020, such a generic reference to the obligation, for the relevant national authorities, to 'establish environmental objectives in relation to each river basin district' in no way appears to ensure the implementation of Article 4(2) of the said directive.

Third complaint: failure to transpose Article 5 (2) of Directive 2000/60

Arguments of the parties

93 In its application, the Commission stresses that, during the pre-litigation procedure, it acknowledged that Article 5(2) of Directive 2000/60 had been transposed by regulation 7(6) of the 2003 Regulations. However, it found that that regulation 7(6) had been repealed by regulation 5 of the European Union (Water Policy) Regulations 2014 (S.I. No 350 of 2014). Consequently, it inferred that Article 5(2) of that directive was no longer transposed into Irish law.

94 The Commission adds that the Irish authorities acknowledged, during the pre-litigation procedure, that that repeal had taken place inadvertently and that they undertook to re-transpose the said Article 5(2).

95 Having received, on 17 June 2022, notification of the 2022 Regulations, it notes that, contrary to what is stated in the correlation table communicated alongside that notification, no national provision appears to transpose Article 5(2) of Directive 2000/60. It therefore considers that Ireland has failed to fulfil its obligation to provide for the review, every six years after their first update, of the analyses and reviews referred to in Article 5(1) of that directive.

96 Ireland acknowledges that regulation 7(6) of the 2003 Regulations was deleted inadvertently. It therefore undertakes to re-transpose Article 5(2) of Directive 2000/60 completely and effectively into Irish law. Ireland states that that transposition will be notified in due course before 31 December 2024.

102 In the case at hand, Ireland having acknowledged that it inadvertently repealed the provision of the 2003 Regulations implementing the obligation contained in Article 5(2) of Directive 2000/60, without having put an end to the alleged failure to fulfil obligations at the end of the period laid down in the additional reasoned opinion, that situation corresponds to negligence within the meaning of the case-law cited in the preceding paragraph. Accordingly, it must be held that the third complaint is well founded.

Sixth to ninth complaints: failure to transpose

Article 11 (3)(a) to (d) of Directive 2000/60 in relation to groundwater Arguments of the parties

160 Regarding the transposition of those provisions into Irish law on the expiry of the period laid down in the additional reasoned opinion, namely 30 December 2020, it should be noted that Ireland does not dispute that such transposition had to be carried out not only for bodies of surface water, but also for groundwater. That Member State nevertheless submits that, on the expiry of that period, regulation 12(2) of the 2003 Regulations, supplemented by regulation 3(1)(a) and (b) of those regulations, ensured adequate transposition of those provisions for groundwater.

161 In that regard, it is important to point out that, whereas regulation 3(1)(a) and (b) of the 2003Regulations places every public authority under a duty to exercise its functions in a manner which is consistent with the provisions of Directive 2000/60 and which achieves and promotes compliance with the requirements of it, while taking appropriate measures to ensure compliance with it, regulation 12(2) of those regulations merely states that 'a programme of measures shall include the basic measures specified in Article 11(3) of ... Directive [2000/60] and such supplementary measures specified in Article 11(4) of ...Directive [2000/60] as the relevant authorities consider appropriate.'

165 Furthermore, Ireland has not set out the reasons why it considered that, at the end of the period laid down in the additional reasoned opinion, the specific obligation to transpose Article 11(3)(a) to (d) of Directive 2000/60 applied to bodies of surface water but not to bodies of groundwater.

166 Accordingly, the sixth to ninth complaints, alleging failure to transpose Article 11(3)(a) to (d) of Directive 2000/60 in relation to groundwater, are well founded.

Eleventh complaint: incomplete transposition of Article 11 (3)(i) of Directive 2000/60

Arguments of the parties

187 The Commission points out that, under Article 11(3)(i) of Directive 2000/60, 'basic measures' must include the monitoring of the hydromorphological status not only of surface water but also of groundwater, which may take the form of a requirement for prior authorisation or registration based on binding rules subject to periodic review.

212 Consequently, the eleventh complaint must be upheld in so far as it alleges incomplete transposition of Article 11(3)(i) of Directive 2000/60 as regards surface waters and rejected as to the remainder.

Twelfth complaint: failure to transpose Article 11 (3)(l) of Directive 2000/60 in relation to groundwater

Arguments of the parties

213 According to the Commission, Article 11(3)(l) of Directive 2000/60 requires Member States to establish a detection and warning system in order to reduce the risks to aquatic ecosystems in the event of accidental pollution, including for groundwater.

221 It follows that the twelfth complaint, alleging failure to transpose Article 11(3)(l) of Directive 2000/60in relation to groundwater, is well founded.

Thirteenth complaint: failure to transpose points 1.4 and 1.5 of Annex II to Directive 2000/60

Arguments of the parties

222 The Commission recalls that one of the main provisions of Directive 2000/60 is Article 5, which concerns the identification of the characteristics of a river basin district, a review of the environmental impact of human activity on the waters in that district and an economic analysis of water use in the said district. Annex II to that directive sets out many of the technical specifications according to which those tasks must be carried out.

223 Those specifications include points 1.4 and 1.5 of Annex II, which concern, respectively, identification of the anthropogenic pressures to which the surface water bodies in a river basin district are liable to be subject and the assessment of the susceptibility of the surface water status of each surface water body to those pressures. According to the Commission, those points speak directly to the second of the three pillars on which Article 5 of that directive is based, namely a review of the environmental impact of human activity on the waters in a river basin district.

224 The Commission notes, however, that there is no provision in Irish law transposing those two points of the said Annex II. There is no mention of them in the 2022 Regulations, which amended the 2003Regulations and which however transposed other points of the same Annex II.

225 The Commission adds that, while it does not dispute Ireland's assertion that it is legitimate, in practice, to leave it to a competent authority, such as the EPA, to select by means of a technical evaluation which of the elements detailed in points 1.4 and 1.5 of Annex II to Directive 2000/60 need monitoring and assessment, it does not agree with the Irish authorities' conclusion that it is not necessary for the scope of that discretion to be described in national law, where, as in the case at hand, the points in question are central to the effective functioning of the framework established by that directive.

226 Ireland states that, in view of the Commission's concerns and in accordance with the duty of sincere cooperation, it made express reference to that Annex II in the 2022 Regulations, which amends the 2003Regulations.

227 However, the Commission's thirteenth complaint amounts to a requirement that all of the detailed provisions of the said Annex II – points 1.4 and 1.5 in this case – be incorporated formally and verbatim in express, specific legislation, even though the Commission has acknowledged that some of those provisions are of a highly technical nature appropriate for technical evaluation by the relevant national authority.

228 Without prejudice to that position, Ireland indicates that it undertakes to amend the 2003 Regulations again, before 31 December 2024, to insert points 1.4 and 1.5 of Annex II to Directive 2000/60 into them.

240 It follows that the thirteenth complaint, alleging failure to transpose points 1.4 and 1.5 of Annex II to Directive 2000/60, is well founded.

Fourteenth complaint: failure to transpose points 1.3 to 1.3.5 and the first paragraph of point 2.4.5 of Annex V to Directive 2000/60

255 In the light of all the foregoing considerations, it must be held that, by failing to transpose fully or correctly Article 2(38), Article 4(2), Article 5(2), Article 7(3), Article 9(2), Article 11(3)(a) to (d) in relation to groundwater, Article 11(3)(e), Article 11(3)(i) in relation to surface water, Article 11(3)(l) in relation to groundwater, and points 1.4 and 1.5 of Annex II to, and points 1.3.1 to 1.3.5 and point 2.4.5, first paragraph, of Annex V to Directive 2000/60, Ireland has failed to fulfil its obligations under those provisions.

On those grounds, the Court (Ninth Chamber) hereby:

1. Declares that, by failing to transpose fully or correctly Article 2(38), Article 4(2), Article 5(2),Article 7(3), Article 9(2), Article 11(3)(a) to (d) in relation to groundwater, Article 11(3)(e), Article 11(3)(i)in relation to surface water, Article 11(3)(l) in relation to groundwater, and points 1.4 and 1.5 of Annex II to, and points 1.3.1 to 1.3.5 and point 2.4.5, first paragraph, of Annex V to Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy, Ireland has failed to fulfil its obligations under those provisions;

16. Conclusion

There are three grounds in this appeal. Two of them can be very easily resolved by An Coimisiún.

It can request the Applicant to demonstrate that there actually is capacity within a reasonable distance of this proposed site for licensed or certified disposal of C&D waste and that those sites have a capability to accept C&D waste at the rate at which the applicant will need to dispose of it. This is because C&D sites often have planning conditions restricting the number of truck movements to as few as five loads per day.

The other issue easily resolved is a condition precluding the on-site crushing of rock arising on the site on the basis that this was not sought in the development application and was not assessed in the EIAR and NIS. Furthermore, as it was not in the development description the public could not comment on it. It is an unauthorised trend on such sites which has environmental, planning and economic considerations. I have no hard and fast opinions other than if the developer intends to crush the rock arising on the site is should have declared it in the planning application. As matters stand I have demonstrated where crushing of rock is referred to in several submitted reports but is not mentioned in the development description.

This should narrow the appeal significantly so that it can focus on water and the impacts on groundwater and surface waters both of which are already impacted in Ennis and its environs. I have provided much detail in my FI observation. Enough that a reasonable observer might think that the PA should have sat up and paid a little bit more attention than it did. It played the game to a certain extent up to the RFI stage and thereafter dropped the ball and quite frankly embarrassed itself in so far as a PA can do so. In the alternative it is bringing the planning process into disrepute.

I'm not shy and I know where the Four Courts are notwithstanding the bad actors commenting on judicial reviews. If Europe and the State say we can discharge our foul sewers into adjacent rivers then that will be the law of the land and I and others will have to accept that. Until then I will fight cynicism. I have provided even more information to An Coimisiún least what was provided to the PA was not enough.

Judge Farrell set a good road-map and I have followed it. An Coimisiún can decide whether or not it wants to involve the EPA. That might be an astute move as it could transfer the target from the Coimisiún going forward.

The EPA data appended hereto is telling about this wwtp and network. Any comparison of the plant capacity tables over the different years of the AER's will demonstrate how the figures are being clouded and hidden. The irrefutable proof is in the 2018, 2019 and 2023 SVR's in which the plant is declared to be hydraulically overloaded, has operational problems, is not meeting the Department criteria for SWO's , and is a significant pressure which is impacting on the SAC waterbody. I'm not imagining this, its in the data.

Michael Duffy

List of Appendices

A. Uisce Eireann
B. Report of Daniel Owens
C. M Duffy FI observations
D. AERs
E. SVRs
F. Licence Review
G. Licence
H. ECJ
I. CoF v Facts

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For the attention of Aida Vaisvilaite
MH Planning
6 Joyce House
Barrack Square
Ballincollig
Cork
H31 YX97

20st January 2025

By Email: avaisvilaite@mhplanning.ie

Re: EIA Scoping Request – Proposed development consisting of 300 no. residential units (comprising 111 no. detached/semidetached houses, 171 no. townhouses, and 18 no. bungalows), an 80 child creche, and all associated site development works including landscaping, open spaces, parking, access, and drainage t Ballymacaula, Drumbiggle, Keelty, Circular Road, Ennis, Co. Clare.

Dear Aida,

Uisce Éireann has received notification of your Environmental Impact Assessment (EIA) scoping request relating to Glenveagh Homes Ltd.'s forthcoming application to construct 300 no. residential units (comprising 111 no. detached/semidetached houses, 171 no. townhouses, and 18 no. bungalows), an 80 child creche, and all associated site development works including landscaping, open spaces, parking, access, and drainage at Ballymacaula, Drumbiggle, Keelty, Circular Road, Ennis, Co. Clare.

Please see attached, Uisce Éireann's scoping opinion in relation to your proposals and Uisce Éireann's public infrastructure & assets.

On receipt of the planning referral, Uisce Éireann will review the finalised Environmental Impact Assessment Report (EIAR) as part of our planning assessment. Uisce Éireann's will then issue a statutory response to the Planning Authority in line with our obligations as a statutory consultee.

Uisce Éireann's Response to EIAR Scoping Request

The proposed site boundary as described appears to have no interaction with existing UE infrastructure, however please note that Uisce Éireann does not allow build over of its infrastructure, and if such an impact is to be expected, an agreement between the applicant and our diversions team will be necessary.

The proposed development requires significant water and wastewater services from UE. The applicant is encouraged to engage with UEs connections department at an early juncture, submit a pre connection enquiry to Uisce Éireann and receive a Confirmation of Feasibility (COF) letter from the, that will form part of the formal planning application lodgment documentation.

In addition to the specific items outlined above please note the following aspects of Water Services which should be considered in the scope of an EIAR where relevant;

a) Where the development proposal has the potential to impact an Uisce Éireann Drinking Water Source(s), the applicant shall provide details of measures to be taken to ensure that there will be no negative impact to Uisce Éireann's Drinking Water Source(s) during the construction and operational phases of the development. Hydrological / hydrogeological pathways between the applicant's site and receiving waters should be identified as part of the report.

b) Where the development proposes the backfilling of materials, the applicant is required to include a waste sampling strategy to ensure the material is inert.

c) Mitigations should be proposed for any potential negative impacts on any water source(s) which may be in proximity and included in the environmental management plan and incident response.

d) Any and all potential impacts on the nearby reservoir as public water supply water source(s) are assessed, including any impact on hydrogeology and any groundwater/ surface water interactions.

e) Impacts of the development on the capacity of water services (*i.e. do existing water services have the capacity to cater for the new development*). This is confirmed by Uisce Éireann in the form of a Confirmation of Feasibility (COF). If a development requires a connection to either a public water supply or sewage collection system, the developer is advised to submit a Pre-Connection Enquiry (PCE) enquiry to Uisce Éireann to determine the feasibility of connection to the Uisce Éireann network.

f) The applicant shall identify any upgrading of water services infrastructure that would be required to accommodate the proposed development.

g) In relation to a development that would discharge trade effluent – any upstream treatment or attenuation of discharges required prior to discharging to an Uisce Éireann collection network.

h) In relation to the management of surface water; the potential impact of surface water discharges to combined sewer networks and potential measures to minimise and or / stop surface waters from combined sewers.

i) Any physical impact on Uisce Éireann assets – reservoir, drinking water source, treatment works, pipes, pumping stations, discharges outfalls etc. including any relocation of assets.

j) When considering a development proposal, the applicant is advised to determine the location of public water services assets, possible connection points from the applicant's site / lands to the public network and any drinking water abstraction catchments to ensure these are included and fully assessed in any pre-planning proposals. Details, where known, can be obtained by emailing an Ordnance Survey map identifying the proposed location of the applicant's intended development

k) Other indicators or methodologies for identifying infrastructure located within the applicant's lands are the presence of registered wayleave agreements, visible manholes, vent stacks, valve chambers, marker posts etc. within the proposed site.

l) Any potential impacts on the assimilative capacity of receiving waters in relation to Uisce Éireann discharge outfalls including changes in dispersion / circulation characterises. Hydrological / hydrogeological pathways between the applicant's site and receiving waters should be identified within the report.

m) Any potential impact on the contributing catchment of water sources either in terms of water abstraction for the development (*and resultant potential impact on the capacity of the source*) or the potential of the development to influence / present a risk to the quality of the water abstracted by Uisce Éireann for public supply should be identified within the report.

n) Where a development proposes to connect to an Uisce Éireann network and that network either abstracts water from or discharges wastewater to a "protected"/ sensitive area, consideration as to whether the integrity of the site / conservation objectives of the site would be compromised should be identified within the report.

o) Uisce Éireann does not permit building over of its assets. As an applicant you are required to;

- survey the site to determine the exact location of the assets. Any trial investigations should be carried out with the agreement and in the presence of Uisce Éireann.
- Provide evidence of separation distances between the existing Uisce Éireann assets and proposed structures, other services, trees, etc. have to be in accordance with the Irish Water Codes of Practice and Standard Details.

p) Where a diversion of Public Infrastructure may be required subject to layout proposal of the development and separation distances, the applicant is required to submit a Diversions Enquiry to diversions@water.ie

q) Mitigation measures in relation to any of the above ensuring a zero risk to any Uisce Éireann drinking water sources (Surface and Ground water).

This is not an exhaustive list.

Please note;

- Where connection(s) to the public network is required as part of the development proposal, applicants are advised to complete the Pre-Connection Enquiry process and have received a Confirmation of Feasibility letter from Uisce Éireann ahead of any planning application.
- Uisce Éireann will not accept new surface water discharges to combined sewer networks.
- Where a new connection(s) is sought, the applicant or developer shall enter into water and/or wastewater connection agreement(s) with Uisce Éireann prior to the commencement of this development.
- Where an existing connection is on place, the applicant or developer may be required to enter into a new or revised water and/or wastewater connection agreement(s) with Uisce Éireann prior to the commencement of this development.

Queries relating to this EIAR scoping request should be directed to plan[illegible]@water.ie

PP. *Ali Robinson*

Signed on behalf of Geoffrey Burke

Connections and Developer Services

An Roinn Tith[illegible]hta,
Rialtais Áitiúi[illegible]s Oidhreachta
Department of Housing,
Local Government and Heritage

Your Ref: ENNIS SHD
Our Ref: G Pre00029/2022 (Please quote in all related correspondence)

22 April 2022

McCutcheon Halley Chartered Planning Consultant
6 Joyce House
Barrack Square
Ballincollig
Co.Cork

Via email: mocallaghan@mhplanning.ie

Proposed Pre Planning Development: Glenveagh Homes LtdEnvironmental Impact Assessment Report (EIAR) for a proposed residential development of c. 285 no. residential units ; at Ballymacaula, Keelty, Drumbiggle, Circular Road, Ennis, Co. Clare

A chara

I refer to correspondence received in connection with the above. Outlined below are heritage-related observations/recommendations co-ordinated by the Development Applications Unit under the stated headings.

Nature Conservation

This submission is made by the Department in its advisory role in relation to biodiversity, nature conservation, and the nature directives (i.e. the Birds and Habitats Directives). The observations are not exhaustive and focus on key issues of potential relevance to European sites, natural habitats and protected species, biodiversity protection, aspects of proper planning and sustainable development, and the scope of the environmental assessments that may be required. The observations are made on the basis of the information provided and are without prejudice to any future recommendation that may be made by the Department if/when a planning application is made.

Assessment of the direct and indirect significant effects of the project on biodiversity should be made, where applicable, and especially with regard to all Species protected under the Wildlife Acts. Regarding survey, assessment and potential mitigation proposals in particular it should be noted that the site is utilised by badgers and other mammals. Good quality ecological corridors occur throughout the site. These are in the form of stone walls with mature hazel scrub alongside which grades to more recent whitethorn/blackthorn scrub which is colonising adjacent open fields. The corridors are suitable for protected mammals (for example stoat in the stone walls) and potentially lizards. It is also possible that Pine Marten could utilise the site considering the range and habitat of the species. It should be noted a golf course and built up area bounds the site to the east whilst the N85 road bounds

6 Joyce House,
Barrack Square
Ballincollig, Co Cork
P31 YX97

8th February 2022

UISCE ÉIREANN : IRISH WATER

Uisce Éireann
Bosca OP 6000
Baile Átha Cliath 1
D01 WA07
Éire

Irish Water
PO Box 6000
Dublin 1
D01 WA07
Ireland

T +353 01 89 25000
T +353 01 89 25001
www.water.ie

Re: EIA Scoping Request – Strategic Housing Development at Ballymacaula, Keelty, Drumbiggle, Circular Road, Ennis Co. Clare.

Dear Ms O'Callaghan,

Irish Water has received notification of your Environmental Impact Assessment (EIA) scoping request relating to your Strategic Housing Development (SHD) proposal to construct a "residential development of c. 285 no. residential units" at Ballymacaula, Keelty, Drumbiggle, Circular Road, Ennis Co. Clare.

Please see attached, Irish Water's scoping opinion in relation to Water Services. On receipt of the planning referral, Irish Water will review the finalised Environmental Impact Assessment Report (EIAR) as part of the planning process.

Queries relating to the terms and the EIA scoping opinions below should be directed to planning@water.ie

Yours sincerely,

Signed on behalf of Irish Water:

PP: Ali Robinson

Yvonne Harris
Connections and Development Services

Irish Water's Response to EIA Scoping Requests

At present, Irish Water does not have the capacity to advise on the scoping of individual projects. However, in general the following aspects of Water Services should be considered in the scope of an EIA where relevant;

a) Where the development proposal has the potential to impact an Irish Water Drinking Water Source(s), the applicant shall provide details of measures to be taken to ensure that there will be no negative impact to Irish Waters Drinking Water Source(s) during the construction and operational phases of the development. Hydrological / hydrogeological pathways between the applicant's site and receiving waters should be identified as part of the report.

b) Where the development proposes the backfilling of materials, the applicant is required to include a waste sampling strategy to ensure the material is inert.

c) Mitigations should be proposed for any potential negative impacts on any water source(s) which may be in proximity and included in the environmental management plan and incident response.

d) Any and all potential impacts on the nearby reservoir as public water supply water source(s) are assessed, including any impact on hydrogeology and any groundwater/ surface water interactions.

e) Impacts of the development on the capacity of water services (*i.e. do existing water services have the capacity to cater for the new development*). This is confirmed by Irish Water in the form of a Confirmation of Feasibility (COF). If a development requires a connection to either a public water supply or sewage collection system, the developer is advised to submit a Pre-Connection Enquiry (PCE) enquiry to Irish Water to determine the feasibility of connection to the Irish Water network. All pre-connection enquiry forms are available from https://www.water.ie/connections/connection-steps/.

f) The applicant shall identify any upgrading of water services infrastructure that would be required to accommodate the proposed development.

g) In relation to a development that would discharge trade effluent – any upstream treatment or attenuation of discharges required prior to discharging to an Irish Water collection network.

h) In relation to the management of surface water; the potential impact of surface water discharges to combined sewer networks and potential measures to minimise and or / stop surface waters from combined sewers.

i) Any physical impact on Irish Water assets – reservoir, drinking water source, treatment works, pipes, pumping stations, discharges outfalls etc. including any relocation of assets.

j) When considering a development proposal, the applicant is advised to determine the location of public water services assets, possible connection points from the applicant's site / lands to the public network and any drinking

water abstraction catchments to ensure these are included and fully assessed in any pre-planning proposals. Details, where known, can be obtained by emailing an Ordnance Survey map identifying the proposed location of the applicant's intended development to datarequests@water.ie.

k) Other indicators or methodologies for identifying infrastructure located within the applicant's lands are the presence of registered wayleave agreements, visible manholes, vent stacks, valve chambers, marker posts etc. within the proposed site.

l) Any potential impacts on the assimilative capacity of receiving waters in relation to Irish Water discharge outfalls including changes in dispersion / circulation characterises. Hydrological / hydrogeological pathways between the applicant's site and receiving waters should be identified within the report.

m) Any potential impact on the contributing catchment of water sources either in terms of water abstraction for the development (*and resultant potential impact on the capacity of the source*) or the potential of the development to influence / present a risk to the quality of the water abstracted by Irish Water for public supply should be identified within the report.

n) Where a development proposes to connect to an Irish Water network and that network either abstracts water from or discharges wastewater to a "protected"/ sensitive area, consideration as to whether the integrity of the site / conservation objectives of the site would be compromised should be identified within the report.

o) Mitigation measures in relation to any of the above ensuring a zero risk to any Irish Water drinking water sources (Surface and Ground water).

This is not an exhaustive list.

Please note;

- Where connection(s) to the public network is required as part of the development proposal, applicants are advised to complete the Pre-Connection Enquiry process and have received a Confirmation of Feasibility letter from Irish Water ahead of any planning application.
- Irish Water will not accept new surface water discharges to combined sewer networks.

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

Majella O'Callaghan
Mc Cutcheon Halley
Arran Court
Kreston House,
Arran Quay,
Dublin,
D07 K271
By email mocallaghan@mhplanning.ie

Date/Dáta: 17-02-2022

Re: TII22-117109 - EIS Scoping for Proposed SHD Application in Ennis Co. Clare

Dear Ms. O'Callaghan,

I refer to your letter of 31st of January, relating to the above.

Transport Infrastructure Ireland (TII) safeguards the strategic function of Luas and National Roads to promote the safe and efficient operation of both the national roads and light rail networks.

The approach to be adopted by TII in making submissions or comments will seek to uphold official policy and guidance as outlined in the Spatial Planning and National Roads Guidelines for Planning Authorities (2012). Regard should also be had to other relevant guidance available at www.TII.ie.

With regard to this location and area, TII has made submissions on planning applications file references 18/811 and 17/237 requesting clarification on proposals for surface water disposal which had the potential to impact on the N85, national road, drainage regime.

TII does not support proposals for private development to discharge to national road drainage infrastructure. Such proposals have the potential to impact on the capacity and efficiency of the drainage regime provided for the national road network. It is TII's opinion that adequate surface water drainage proposals need to be presented for development proposals in this area which demonstrate that the drainage regime associated with the N85, national road, is safeguarded and independent from the road.

It is requested that the applicant addressees this matter comprehensively and, where warranted, alternative surface water disposal proposals developed prior to the making of a future planning application.

TII will not be responsible for the costs of any future mitigation, repair or improvement required to the national road and associated drainage regime to remedy any negative impacts arising as a result of private development proposals being facilitated by the planning authority. Such costs will be the responsibility of the Council and/or the applicant.

With respect to General EIAR Scoping issues, the recommendations indicated below provide only general guidance for the preparation of EIAR, which may affect the National Roads Network. The developer should have regard, *inter alia*, to the following;

As set down in the DoECLG Spatial Planning and National Roads Guidelines (2012) it is in the public interest that, in so far as is reasonably practicable, that the national road network continues to serve its intended strategic purpose. The EIAR should identify the methods/techniques proposed for any works traversing/in proximity to the national road network to demonstrate that the development can proceed complementary to safeguarding the capacity, safety and operational efficiency of that network.

1. Consultations should be had with the relevant Local Authority/National Roads Design Office with regard to locations of existing and future national road schemes.

2. The Environmental Assessment should have regard to previous Environmental Assessment Statements/Reports and conditions and/or modifications imposed by An Bord Pleanála regarding road schemes in the area.

3. Where appropriate, subject to meeting the appropriate thresholds and criteria and having regard to best practice, a Traffic and Transport Assessment be carried out in accordance with relevant guidelines, noting construction and operational traffic volumes attending the site and traffic routes to/from the site with reference to impacts on the national road network and junctions of lower category roads with national roads. The Authority's Traffic and Transport Assessment Guidelines (2014) should be referred to in relation to proposed development with potential impacts on the national road network. The scheme promoter is also advised to have regard to Section 2.2 of the TII TTA Guidelines which addresses requirements for sub-threshold TTA.

4. TII Standards should be consulted to determine the requirement for Road Safety Audit (RSA) and Road Safety Impact Assessment (RSIA).

5. Assessments and design and construction and maintenance standards and guidance are available at TII Publications that replaced the NRA Design Manual for Roads and Bridges (DMRB) and the NRA Manual of Contract Documents for Road Works (MCDRW).

6. Environmental Impact Assessment shall include provision for travel planning / mobility management planning in the interests of protecting national roads capacity in the interests of sustainable travel policy.

7. The developer, in conducting Environmental Impact Assessment, should have regard to TII Environment Guidelines that deal with assessment and mitigation measures for varied environmental factors and occurrences. In particular evidenced assessment of the protection of the strategic function of the national road and interface with adjacent land uses in relation to the following matters is required;

   i. TII's Environmental Assessment and Construction Guidelines, including the *Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes* (National Roads Authority, 2006),

   ii. The EIAR should consider the Environmental Noise Regulations 2006 (SI 140 of 2006) and, in particular, how the development will affect future action plans by the relevant competent authority. The developer may need to consider the incorporation of noise barriers and attenuation to reduce noise impacts (see *Guidelines for the Treatment of Noise and Vibration in National Road Schemes* (1st Rev., National Roads Authority, 2004)). The Authority will entertain no future claims in respect of impacts on the proposed development, if approved, due to the presence of the existing road or any new road scheme which is currently in planning.

   iii. The Authority requests that the EIAR has regard to the provisions of Chapter 3 of the DoECLG Spatial Planning and National Roads Guidelines in the assessment and determination of the subject planning application. The Authority will entertain no future claims in respect of impacts (e.g. dust , glare visual etc.) on the proposed development, if approved, due to the presence of the existing road or any new road scheme which is currently in planning.

The developer is advised that any additional works/structures required as a result of the Assessment should be funded by the developer.

Notwithstanding, any of the above, the developer should be aware that this list is non-exhaustive, thus site and development specific issues should be addressed in accordance with best practise.
I hope that the above comments are of use in your scoping process.

In the interests of clarity, the issuing of this correspondence is provided as best practice guidance only. This correspondence does not prejudice TII's statutory right to make any observations, requests for further information, objections or appeals following the examination of any valid planning application referred.

Yours sincerely,

Tara Spain
Head of Land Use Planning

Uisce Éireann Irish Water

IN YOUR AREA

MENU

Clare

Settlements with Wastewater Discharge Authorisations - Wastewater Treatment Capacity Register

/ Connections / Developer Services / Capacity Registers / Wastewater treatment capacity register / Clare

The spare capacity available to treat additional loads at the treatment plants changes regularly based upon the loads received from new and existing customers. This register is only an indication of available capacity based on available information at the date of issue and is subject to change.

This register cannot be taken as confirmation that capacity is available for a particular development. In all instances if you are considering progressing a development you should contact our Connection and Developer Services team who will provide an up-to-date view, and greater level of detail, in relation to the availability of capacity.

This register provides wastewater treatment capacity information only and does not provide an indication of network capacity. In cases where a new development is planned, we may need to make upgrades to the wastewater network to support the collection of the new load and to mitigate the risk of flooding from occurring to our existing infrastructure. We assess whether the wastewater network can support a new development during the connections process.

Uisce Éireann Irish Water

IN YOUR AREA

To an Enter an Executed Connection Agreement with Uisce Éireann is required to ensure a connection can be made and capacity is available for your development. All new Connections are subject to UÉ's Connections Charging Policy and at all times the issue of a connection offer is a matter for the discretion of UÉ.

Published August 2025

Region	County	Settlement	Wastewater Treatment Plant (WWTP)	Reg #	Indication of Available Capacity	WWTP Project Planned/Underway
S	Clare	Ennis	Ennis North WWTP	D0048	• Green	Yes
S	Clare	Ennis	Clareabbey WWTP	D0199	• Amber	Yes
S	Clare	Shannon	Shannon Town WWTP	D0045	• Green	
S	Clare	Sixmilebridge	Sixmilebridge WWTP	D0076	• Green	
S	Clare	Newmarket on Fergus	Newmarket on Fergus WWTP	D0079	• Green	Yes
S	Clare	Killaloe	Ballina (Tipperary) WWTP	D0189	• Green	Yes
S	Clare	Scarriff-Tuamgraney	Scarriff WWTP	D0319	• Green	
S	Clare	Ennistimon	Ennistymon WWTP	D0081	• Amber	Yes
S	Clare	Quin	Quin WWTP	D0318	• Green	
S	Clare	Lisdoonvarna	Lisdoonvarna WWTP	D0077	• Green	
S	Clare	Miltown Malbay	Milltown/Malbay WWTP	D0321	• Red	
S	Clare	Corofin	Corofin WWTP	D0434	• Green	
S	Clare	Clonlara	Limerick WWTP	D0013	• Green	Yes
S	Clare	Tulla	Tulla WWTP	D0320	• Amber	
S	Clare	Lehinch	Lahinch WWTP	D0080	• Amber	Yes
S	Clare	Kilkeshin	Kilkishen WWTP	D0420	• Red	
S	Clare	Crusheen	Crusheen WWTP	D0424	• Green	
S	Clare	Doonbeg	Doonbeg WWTP	D0324	• Amber	Yes
S	Clare	Inagh	Inagh WWTP	D0422	• Green	
S	Clare	Ballyvaughan	-	D0327	• Green	Yes^

Uisce Éireann Irish Water

IN YOUR AREA

			WWTP			
S	Clare	Liscannor	Liscannor WWTP	D0430	• Green	
S	Clare	Kilkee	Kilkee WWTP	D0078	• Amber	Yes
S	Clare	Kilrush	-	D0075	• Green	Yes
S	Clare	Limerick City and suburbs	Limerick WWTP	D0013	• Green	Yes
S	Clare	Ballycannon	Limerick WWTP	A0081	• Amber	Yes
S	Clare	Ballynacally	Ballynacally H.E. WWTP	A0455	• Green	
S	Clare	Feakle	Feakle WWTP	A0436	• Green	
S	Clare	Kildysert	Kildysert WWTP	A0454	• Red	
S	Clare	Kilfenora	Kilfenora WWTP	A0079	• Green	
S	Clare	Killimer	Killimer WWTP	A0456	• Green	
S	Clare	Kilmihil	Kilmihil WWTP	A0091	• Amber	Yes
S	Clare	Mountshannon	Mountshannon WWTP	A0064	• Green	
S	Clare	Whitegate	Whitegate WWTP	A0077	• Green	

Indication of Available Capacity

This register provides an indication of available wastewater treatment capacity based on loads received in 2023 and available treatment plan capacity now or by completion of a project at construction (where relevant).

• Green = spare capacity available.

• Amber = potential spare capacity, additional analysis of applications may be required on an individual basis considering their specific load requirements. Potential availability of capacity in this case would be dependent on any additional load not resulting in a significant breach of the combined approach as set out in Regulation 43 of the Wastewater Discharge (Authorisation) Regulations 2007, which is a matter for the relevant Planning Authorities to determine

• Red = no spare capacity available at present.

WWTP Project Planned/Underway

Project planned or underway to increase capacity and/or improve treatment performance, based on available information in December 2024.

^Indication of Available Capacity is based on capacity available on completion of a project currently at construction.

Uisce Éireann Irish Water

IN YOUR AREA

- The information in this register has been determined based on a standardised national review of the available information and is subject to change. It is indicative only, non-binding and should not be relied upon.
- This register provides commentary on the available capacity at the WWTP, it does not consider the capacity of the sewer network.
- A Pre-Connection Enquiry should be submitted to Uisce Éireann (UÉ) to determine the feasibility of connecting any particular site to the UÉ network, feasibility should not be inferred from this register. Note that a positive response to a Pre-Connection enquiry does not guarantee that a connection can be facilitated in future – an executed Connection Agreement with UÉ is required to ensure a connection can be made and capacity is available for your development. All new Connections are subject to UÉ's Connections Charging Policy and at all times the issue of a connection offer is a matter for the discretion of UÉ.
- Should there be a material change to the indication of available capacity during the course of the year, this will generally be updated in the web version of the register and the relevant Local Authority will be notified.

Reg

Wastewater Discharge Authorisation Number

Contact us

Have a question for us? Get in contact with our team who can help.

Get in contact

CUSTOMER CARE

X (Twitter) - @IWCare

Contact

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YOUR WATER

YOUR PREFERENCES

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Uisce Éireann Irish Water

IN YOUR AREA

National projects

Water supply and service

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TikTok

Uisce Éireann
Irish Water

CONFIRMATION OF FEASIBILITY

Uisce Éireann
Bosca OP 448
Oifig Sheachadta na
Cathrach Theas
Cathair Chorcaí

Uisce Éireann
PO Box 448
South City
Delivery Office
Cork City

www.water.ie

Michael Naughton

Tobins Consulting Engineers
Fairgreen House
Fairgreen Road
Co. Galway
H91 AXK8

9 December 2024

Our Ref: CDS21003780 Pre-Connection Enquiry
Golf Links Road, Ennis, Clare

Dear Applicant/Agent,

We have completed the review of the Pre-Connection Enquiry.

Uisce Éireann has reviewed the pre-connection enquiry in relation to a Water & Wastewater connection for a Housing Development of 305 unit(s) at Golf Links Road, Ennis, Clare, (the **Development**).

Based upon the details provided we can advise the following regarding connecting to the networks;

- **Water Connection**
  - Feasible without infrastructure upgrade by Uisce Éireann
  - There is sufficient capacity in the Uisce Éireann assets to facilitate the proposed development.
- **Wastewater Connection**
  - Feasible Subject to upgrades
  - Feasible subject to minor upgrades at the WWTP. A Stage 2 Preliminary Business Case commenced in 2021 to address the above issues to provide capacity for future growth and ensure compliance with the WWDA. Timeframe for completion of the development as well as phasing to be provided at connection application stage. A 300m Approx. network extension is required from the proposed development

to the existing UE foul sewer by way of pumped solution (WWPS) & rising main (as per developer proposal). Connection to be made to gravity sewer (minimum 300mm). 24-hr storage and real time controls to limit pumping as hydraulic issues exist downstream will be required.

The Developer shall provide design details of the pump design flow rates, emergency storage provisions etc. for agreement with UE Asset Planning team. The location of real time control shall be agreed with the UE Asset Planning team and UE Operations at connection application stage.

This letter does not constitute an offer, in whole or in part, to provide a connection to any Uisce Éireann infrastructure. Before the Development can be connected to our network(s) you must submit a connection application and be granted and sign a connection agreement with Uisce Éireann.

As the network capacity changes constantly, this review is only valid at the time of its completion. As soon as planning permission has been granted for the Development, a completed connection application should be submitted. The connection application is available at www.water.ie/connections/get-connected/

Where can you find more information?

- **Section A -** What is important to know?
- **Section B -** Details of Uisce Éireann's Network(s)

This letter is issued to provide information about the current feasibility of the proposed connection(s) to Uisce Éireann's network(s). This is not a connection offer and capacity in Uisce Éireann's network(s) may only be secured by entering into a connection agreement with Uisce Éireann.

For any further information, visit **www.water.ie/connections**, **email** **newconnections@water.ie** or contact 1800 278 278.

Yours sincerely,

Dermot Phelan
Connections Delivery Manager

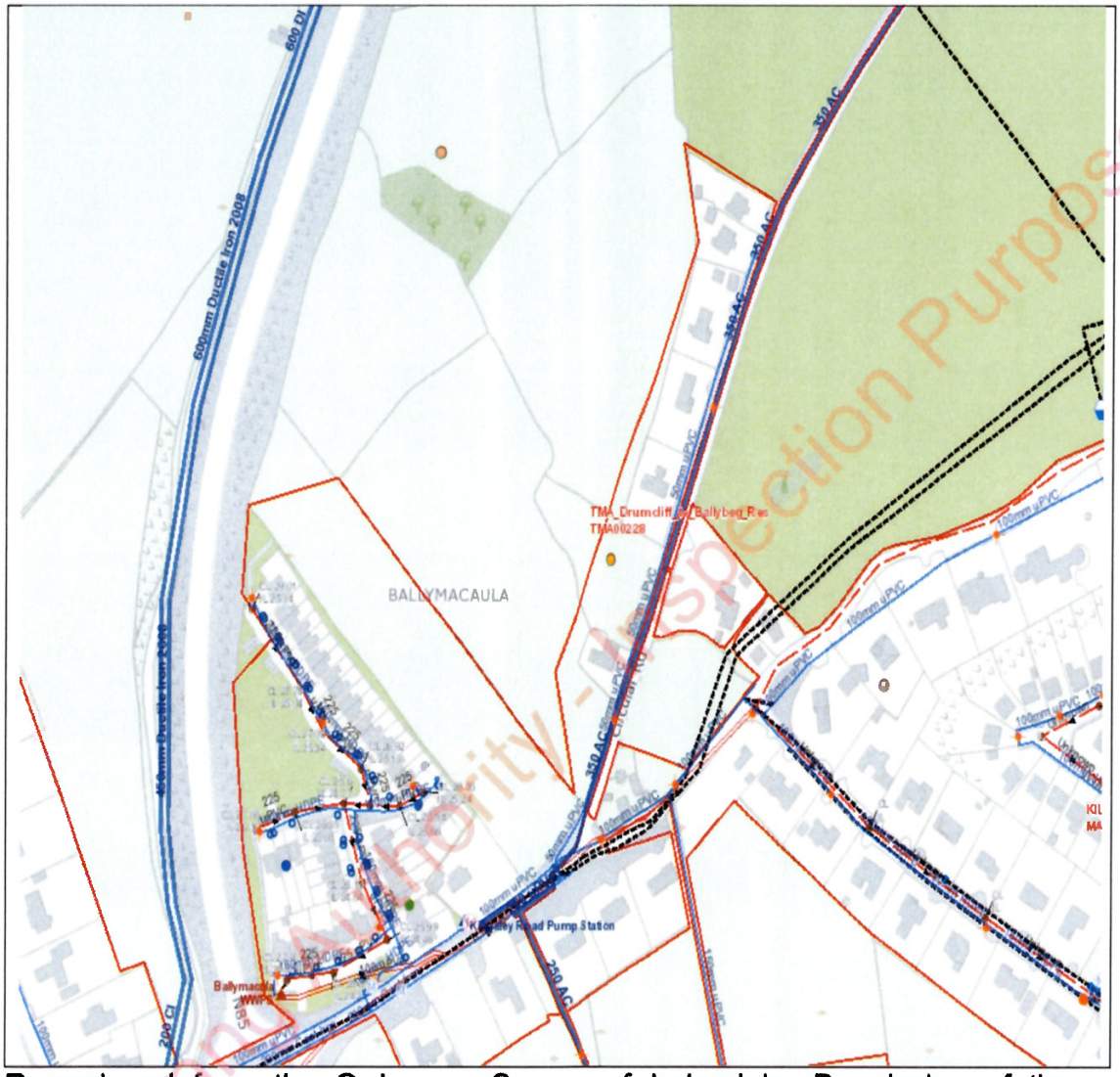
Section A - What is important to know?

What is important to know?	Why is this important?
Do you need a contract to connect?	• Yes, a contract is required to connect. This letter does not constitute a contract or an offer in whole or in part to provide a connection to Uisce Éireann's network(s). • Before the Development can connect to Uisce Éireann's network(s), you must submit a connection application and be granted and sign a connection agreement with Uisce Éireann.
When should I submit a Connection Application?	• A connection application should only be submitted after planning permission has been granted.
Where can I find information on connection charges?	• Uisce Éireann connection charges can be found at: https://www.water.ie/connections/information/charges/
Who will carry out the connection work?	• All works to Uisce Éireann's network(s), including works in the public space, must be carried out by Uisce Éireann*. *Where a Developer has been granted specific permission and has been issued a connection offer for Self-Lay in the Public Road/Area, they may complete the relevant connection works
Fire flow Requirements	• The Confirmation of Feasibility does not extend to fire flow requirements for the Development. Fire flow requirements are a matter for the Developer to determine. • **What to do?** - Contact the relevant Local Fire Authority
Plan for disposal of storm water	• The Confirmation of Feasibility does not extend to the management or disposal of storm water or ground waters. • **What to do?** - Contact the relevant Local Authority to discuss the management or disposal of proposed storm water or ground water discharges.
Where do I find details of Uisce Éireann's network(s)?	• Requests for maps showing Uisce Éireann's network(s) can be submitted to: datarequests@water.ie

What are the design requirements for the connection(s)?	• The design and construction of the Water & Wastewater pipes and related infrastructure to be installed in this Development shall comply with ***the Uisce Éireann Connections and Developer Services Standard Details and Codes of Practice,*** available at www.water.ie/connections
Trade Effluent Licensing	• Any person discharging trade effluent** to a sewer, must have a Trade Effluent Licence issued pursuant to section 16 of the Local Government (Water Pollution) Act, 1977 (as amended). • More information and an application form for a Trade Effluent License can be found at the following link: https://www.water.ie/business/trade-effluent/about/ **trade effluent is defined in the Local Government (Water Pollution) Act, 1977 (as amended)

Section B – Details of Uisce Éireann's Network(s)

The map included below outlines the current Uisce Éireann infrastructure adjacent the Development: To access Uisce Éireann Maps email datarequests@water.ie



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Note: The information provided on the included maps as to the position of Uisce Éireann's underground network(s) is provided as a general guide only. The information is based on the best available information provided by each Local Authority in Ireland to Uisce Éireann.

Whilst every care has been taken in respect of the information on Uisce Éireann's network(s), Uisce Éireann assumes no responsibility for and gives no guarantees, undertakings or warranties concerning the accuracy, completeness or up to date nature of the information provided, nor does it accept any liability whatsoever arising from or out of any errors or omissions. This information

should not be solely relied upon in the event of excavations or any other works being carried out in the vicinity of Uisce Éireann's underground network(s). The onus is on the parties carrying out excavations or any other works to ensure the exact location of Uisce Éireann's underground network(s) is identified prior to excavations or any other works being carried out. Service connection pipes are not generally shown but their presence should be anticipated.

Uisce Éireann Irish Water

IN YOUR AREA

MENU

Clare

Settlements with Wastewater Discharge Authorisations - Wastewater Treatment Capacity Register

/ Connections / Developer Services / Capacity Registers / Wastewater treatment capacity register / Clare

The spare capacity available to treat additional loads at the treatment plants changes regularly based upon the loads received from new and existing customers. This register is only an indication of available capacity based on available information at the date of issue and is subject to change.

This register cannot be taken as confirmation that capacity is available for a particular development. In all instances if you are considering progressing a development you should contact our Connection and Developer Services team who will provide an up-to-date view, and greater level of detail, in relation to the availability of capacity.

This register provides wastewater treatment capacity information only and does not provide an indication of network capacity. In cases where a new development is planned, we may need to make upgrades to the wastewater network to support the collection of the new load and to mitigate the risk of flooding from occurring to our existing infrastructure. We assess whether the wastewater network can support a new development during the connections process.

Uisce Éireann Irish Water

IN YOUR AREA

Éireann is required to ensure a connection can be made and capacity is available for your development. All new Connections are subject to UÉ's Connections Charging Policy and at all times the issue of a connection offer is a matter for the discretion of UÉ.

Published August 2025

Region	County	Settlement	Wastewater Treatment Plant (WWTP)	Reg #	Indication of Available Capacity	WWTP Project Planned/Underway
S	Clare	Ennis	Ennis North WWTP	D0048	• Green	Yes
S	Clare	Ennis	Clareabbey WWTP	D0199	• Amber	Yes
S	Clare	Shannon	Shannon Town WWTP	D0045	• Green	
S	Clare	Sixmilebridge	Sixmilebridge WWTP	D0076	• Green	
S	Clare	Newmarket on Fergus	Newmarket on Fergus WWTP	D0079	• Green	Yes
S	Clare	Killaloe	Ballina (Tipperary) WWTP	D0189	• Green	Yes
S	Clare	Scarriff-Tuamgraney	Scarriff WWTP	D0319	• Green	
S	Clare	Ennistimon	Ennistymon WWTP	D0081	• Amber	Yes
S	Clare	Quin	Quin WWTP	D0318	• Green	
S	Clare	Lisdoonvarna	Lisdoonvarna WWTP	D0077	• Green	
S	Clare	Miltown Malbay	Milltown/Malbay WWTP	D0321	• Red	
S	Clare	Corofin	Corofin WWTP	D0434	• Green	
S	Clare	Clonlara	Limerick WWTP	D0013	• Green	Yes
S	Clare	Tulla	Tulla WWTP	D0320	• Amber	
S	Clare	Lehinch	Lahinch WWTP	D0080	• Amber	Yes
S	Clare	Kilkeshin	Kilkishen WWTP	D0420	• Red	
S	Clare	Crusheen	Crusheen WWTP	D0424	• Green	
S	Clare	Doonbeg	Doonbeg WWTP	D0324	• Amber	Yes
S	Clare	Inagh	Inagh WWTP	D0422	• Green	
S	Clare	Ballyvaughan	-	D0327	• Green	Yes^

IN YOUR AREA

			WWTP			
S	Clare	Liscannor	Liscannor WWTP	D0430	• Green	
S	Clare	Kilkee	Kilkee WWTP	D0078	• Amber	Yes
S	Clare	Kilrush	-	D0075	• Green	Yes
S	Clare	Limerick City and suburbs	Limerick WWTP	D0013	• Green	Yes
S	Clare	Ballycannon	Limerick WWTP	A0081	• Amber	Yes
S	Clare	Ballynacally	Ballynacally H.E. WWTP	A0455	• Green	
S	Clare	Feakle	Feakle WWTP	A0436	• Green	
S	Clare	Kildysert	Kildysert WWTP	A0454	• Red	
S	Clare	Kilfenora	Kilfenora WWTP	A0079	• Green	
S	Clare	Killimer	Killimer WWTP	A0456	• Green	
S	Clare	Kilmihil	Kilmihil WWTP	A0091	• Amber	Yes
S	Clare	Mountshannon	Mountshannon WWTP	A0064	• Green	
S	Clare	Whitegate	Whitegate WWTP	A0077	• Green	

Indication of Available Capacity

This register provides an indication of available wastewater treatment capacity based on loads received in 2023 and available treatment plan capacity now or by completion of a project at construction (where relevant).

• Green = spare capacity available.

• Amber = potential spare capacity, additional analysis of applications may be required on an individual basis considering their specific load requirements. Potential availability of capacity in this case would be dependent on any additional load not resulting in a significant breach of the combined approach as set out in Regulation 43 of the Wastewater Discharge (Authorisation) Regulations 2007, which is a matter for the relevant Planning Authorities to determine

• Red = no spare capacity available at present.

WWTP Project Planned/Underway

Project planned or underway to increase capacity and/or improve treatment performance, based on available information in December 2024.

^Indication of Available Capacity is based on capacity available on completion of a project currently at construction.

Uisce Éireann Irish Water

IN YOUR AREA

- The information in this register has been determined based on a standardised national review of the available information and is subject to change. It is indicative only, non-binding and should not be relied upon.
- This register provides commentary on the available capacity at the WWTP, it does not consider the capacity of the sewer network.
- A Pre-Connection Enquiry should be submitted to Uisce Éireann (UÉ) to determine the feasibility of connecting any particular site to the UÉ network, feasibility should not be inferred from this register. Note that a positive response to a Pre-Connection enquiry does not guarantee that a connection can be facilitated in future – an executed Connection Agreement with UÉ is required to ensure a connection can be made and capacity is available for your development. All new Connections are subject to UÉ's Connections Charging Policy and at all times the issue of a connection offer is a matter for the discretion of UÉ.
- Should there be a material change to the indication of available capacity during the course of the year, this will generally be updated in the web version of the register and the relevant Local Authority will be notified.

Reg

Wastewater Discharge Authorisation Number

Contact us

Have a question for us? Get in contact with our team who can help.

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LinkedIn

Instagram

TikTok

Submission Details

Submitter

Name	Uisce Eireann
Address	PO Box 6000, Dublin 1 Ireland.
Note	

In relation to application

File Number	2560393
Name	Ltd Glenveagh Homes
Address	Ballymacaula, Drumbiggle, Keelty, Circular Road, Ennis, Co. Clare

Uisce Éireann
Irish Water

Uisce Éireann
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Uisce Éireann Ref: PN25000026626

Planning Ref: 2560393

Planning Authority: Clare County Council

Issue Date: 1 August 2025

Development Location:

Ballymacaula, Drumbiggle,, Keelty, Circular Road,, Ennis, Co. Clare

Development Description:

for a Large-Scale Residential Development (LRD) at this site at Ballymacaula, Drumbiggle, Keelty, Circular Road, Ennis, Co. Clare. The development will consist of 1. The construction of 300 no. houses comprising 14 no. 1 beds, 91 no. 2 beds, 164 no. 3 beds, and 31 no. 4 beds; 2. 1 no. creche/childcare facility; 3. The provision of landscaping, open space and amenity areas, including a linear amenity walkway, footpaths, cycleways and play areas; 4. The provision of 3 no. pedestrian connections to the existing public footpath along the N85, 2 no. pedestrian connections into Ballymacaula View Estate, improvements/upgrades to the pedestrian footpaths along Circular Road including a raised pedestrian crossing and pedestrian footpath provision along part of the Drumbiggle and Cahercalla Roads; 5. All associated infrastructure and services including 1 no. vehicular access onto Circular Road, car and bicycle parking, bin storage, lighting, 3 no. ESB substations, drainage,1 no. pumping station, boundary treatments. An Environmental Impact Assessment Report and a Natura Impact Statement have been prepared in respect of the proposed development. The application may be inspected online at the following website set up by the applicant: www.ennislrd.ie

A Chara,

Please accept this submission in respect to the above-referenced planning application. Uisce Éireann (UÉ) has reviewed the plans and particulars submitted with the application and have the following observation(s).

Uisce Éireann's Assessment/Observation(s):

Uisce Éireann (UÉ) has reviewed the plans and particulars submitted with the application and has the following observations:

Uisce Éireann notes the applicant's engagement with a pre-connection enquiry process, which resulted in the issuance of a confirmation of feasibility (COF) for the proposed development on the 9th of December 2024 (reference: CDS21003780).

This statement confirms the feasibility to connect to Uisce Éireann's water services, with sufficient network capacity to facilitate this development

Separate to this, the COF report also states that wastewater connection will also require a Feasible subject to minor upgrades at the WWTP. A Stage 2 Preliminary Business Case commenced in 2021 to address the above issues to provide capacity for future growth and ensure compliance with the WWDA. Timeframe for completion of the development as well as phasing are to be provided at connection application stage.

In addition, an approximately 300m network extension is required from the proposed development to the existing UE foul sewer, including a pump station & rising main (as per developer proposal). Connection is to be made to gravity sewer (minimum 300mm). 24-hr storage and real time controls to limit pumping as hydraulic issues exist downstream will also be required

Uisce Éireann acknowledges the applicant has submitted finalised designs and has been issued of a statement of design acceptance (SODA) on the 18th of June 2025. These designs outline the necessary infrastructure upgrades described in the COF to facilitate connections from the development to Uisce Éireann water and wastewater networks, to be undertaken by the applicant as self-lay works.

Uisce Éireann's recommendations:

Uisce Éireann respectfully requests any grant be conditioned on the following:

1. The applicant shall enter into a Connection Agreements with Uisce Éireann to provide for a service connection(s) to the public wastewater collection network and adhere to the standards and conditions set out in that agreement.

2. All development shall be carried out in compliance with Uisce Éireann's *Standard Details and Codes of Practice*.

3. Where a diversion of Uisce Éireann assets is proposed, the applicant shall enter into a Diversion Agreement with Uisce Éireann for the diversion of the impacted wastewater sewer prior to any works commencing and adhere to the standards and conditions set out in that agreement.

Reason: To provide adequate water and wastewater facilities and protect existing public infrastructure.

Queries relating to the terms and observations above should be directed to planning@water.ie

Dermot Phelan,

Connections Delivery Manager

DANIEL OWENS B.Sc.
Consultant
Cherry Fields,
Ewenny,
Bridgend,
Wales.

Report for LRD appeal commissioned by Michael Duffy

Ennis North Drainage Area Plan Stage 1 Report (January 2024)

This report describes the sewer network upstream of the Clonroadmore (Ennis North) WwTP.

Information that describes the network has been taken directly from this report.

Pumping Stations

There are 30 pumping stations identified in the Ennis North agglomeration. These have been sourced from the Uisce Eireann's GIS, InfoAsset file and consultation with stakeholders.

All flows from the agglomeration are received at Francis Street WwPS or Tulla Road WwPS before being pumped across to Clonroadmore WwTW.

A total of 7 WwPS are known to have Emergency Overflows (EO); Francis St. has an EO.

Number	Pump Station ID	WwPS Name	EO Present
1	Riverside	Riverside	Yes
2	Industrial Estate PS	SR33796004	Yes
3	Gort Road PS	SR33787404	Yes
4	Glassan	SR32789201	Yes
5	Francis St	SR34773602	Yes
6	Caherlla WwPS	Caherlla WwPS	Yes
7	Ballyalla PS	Ballyalla PS	Yes

Storm Water Overflows

Interrogation of the InfoAsset database identified 6 functional SWO/EOs in the Ennis North agglomeration.

It should be noted that an EO can act as a Storm water overflow (SWO). A survey of the pumping station would be necessary to confirm the exact overflow configuration.

Number	SWO location	Outfall ST
1	Ennis North Ballyallia Main PS	SR34804508
2	Cronroad WwTP	SR34778403
3	Upstream of Francis St WwPS	SR34773705
4	Clonroad WwTP Overflow Tank 1	SR34778403
5	Francis St WwPS	
6	Tulla Rd WwPS	SR34776901

Future Developments

It is believed that the network is working close to capacity restricting much future development.

Network Schematic

The network schematic shows that there are 3 known overflows upstream of the Francis St. WwPS. Francis St WwPS also has an overflow. Francis St WwPS pumps directly to the Clonroad WwTP.

The network schematic shows that the Glassan WwPS overflows to the network (rather than a receiving water).

The network schematic shows that there are 3 known overflows upstream of the Tulla Rd WwPS. Tulla Rd WwPS also has an overflow. Tulla Rd WwPS pumps directly to the Clonroad WwTP.

Letter from Uisce Éireann

17. As set out in Core Ground 3, the Applicant claims that the application for permission was invalid, contrary to Article 297 of the Planning and Development Regulations 2001, because a letter from Uisce Eireann purporting to confirm "capacity" of the Ennis sewer system did not in fact do so. Article 297(2)(d) of the 2001 Regulations stipulates that, where the developer proposes to connect to the Uisce Éireann water network, it must provide "evidence that Irish Water has confirmed that it is feasible to provide the appropriate service or services and that the relevant water network or networks have the capacity to service the development."

18. The letter from Uisce Éireann, dated 26th November 2021, provided by the developer stated: "Irish Water has reviewed your pre-connection enquiry in relation to a Water & Wastewater connection at Golf Links Road, Ennis, Clare (the Premises). Based upon the details you have provided with your pre-connection enquiry and on our desk top analysis of the capacity currently available in the Irish Water network(s) as assessed by Irish Water, we wish to advise you that your proposed connection to the Irish Water network(s) can be facilitated at this moment in time.

Wastewater Connection

Feasible subject to minor upgrades at the WWTP. WW network extension required with likely upgrades of the existing Irish Water owned pumping station and rising main also required. Further details can be discussed prior to connection application stage.

31. The submissions of Uisce Éireann dated 28th September 2022, confirmed that it had reviewed the plans and particulars submitted for the proposed development and that, based on the details provided by the developer, and on the capacity available in the local networks, it had the following observations:

"In respect of Water: There is sufficient capacity in the Irish Water assets to facilitate the proposed development.

In respect of Wastewater:

There is sufficient capacity at the Wastewater Treatment Plan to facilitate the proposed development. In order to accommodate the proposed wastewater connection to Irish Water network, the following works are required:

• Minor upgrades at the wastewater treatment plant will be required to enable this development. These upgrades are expected to be delivered as part of Irish Waters Capital Investment Plan (CIP) for the region.

• A network extension will be required to connect to the Irish Water wastewater network. These extension works, which take place within the public domain, are not currently on Irish Waters investment plan and therefore the applicant will be required to fund these local network upgrades.

• The Drainage Area Plan (DAP) for the area has commenced, the final findings/outputs from the DAP will inform the Capital Needs Assessment at (CNA) at connection application stage. These works are expected to be progressed in 2022/2023 (subject to change).

Ennis North SVR 2023

Date of inspection 13/07/2023

Summary

Waste water discharges from Ennis North were identified during the characterisation for the third cycle of Ireland's River Basin Management Plan as a significant pressure on the Fergus putting it at risk of not meeting its environmental objective of good status. Discharges from storm water overflow outlets on the collecting system are a significant pressure and adversely impacting the Fergus as identified in the Water Framework Directive Characterisation Assessment.

Storm water overflows are a significant pressure impacting this receiving water. There is a lack of information on the frequency of discharge of many of the overflows in this agglomeration. There are also outstanding specified improvements in relation to the rehabilitation of the sewer network.

2. Inlet Works

Based on the data submitted by Uisce Éireann prior to the site visit for 2022, for 133 of the 360 days reported, there was a storm water discharge via SW2. The 2022 AER reports that a total of 458,391 m3 discharged via SW2 in 2022. From the data, it is clear that this SWO discharges untreated effluent almost daily in the winter.

6. Pump Station

1. The Ballyallia pump station was inspected. It is designed as an Emergency Overflow. This station is in place approximately twenty years. It also acts as an emergency overflow. No flow monitoring of storm water takes place at the outfall point. it was highlighted that any overflow here would likely be storm water only.

2. The Francis Street pump station also acts as an Emergency overflow. It has three foul pumps. There are four storm pumps at this station. There is no flow monitoring on what volume of combined sewer overflow is going to storm water overflow point.

8. Site Specific Issues

No flow meters exist on any SWO outfalls apart from SW2 which is located at the WWTP.

The Licensee reported a volume of 458,391 m3 of sewage discharged via monitored SWOs in the agglomeration for 2022, in the 2022 AER. This volume is for SW2 only as no other SWOs within the agglomeration are monitored.

Glenveagh Homes Limited

The development requires a foul sewer connection to the existing network upstream of the Francis St. WwPS.

The development includes a pumping station with 24 hours of storage capacity. Design foul flow is estimated at 147m^3 per day.

Opinion

It is incorrect for Uisce Eireann to state that the sewer network and the WwTP has sufficient hydraulic capacity for the development. Whilst it appears that capacity would exist mainly during dry weather summer periods with low groundwater levels. During periods of high rainfall and throughout the winter period with high groundwater levels there is insufficient hydraulic capacity.

In order for the hydraulic assessment to be made, the stage 2 DAP would need to be completed along with flow monitoring of overflows at Francis St WwPS.

There is a total of 8 SWO/EO that can operate as overflows upstream of the Clonroad WwTP. None of these overflows have flow monitoring and so the volume and frequency of storm overflows in the network is unknown.

The only monitored SWO is at the WwTP and data shows that in 2022 a total of 458,391 m^3 of storm sewage was discharged. Storm water discharges occurred for 133 of 360 monitored days during 2022, this equates to 36.9% of days. Thus, the daily average storm overflow was 3446m^3 for the 133 days when storm overflows occurred at the treatment works in 2022. Thus, it appears that the treatment works is operating at full flow to treatment (FFT) for extended periods as there is no capacity to return storm sewage to treatment and empty (or reduce the levels) in the 2 storm tanks.

There is an overflow at Francis St WwPS and there are a further 3 overflows upstream of this WwPS.

The scenario therefore exists that during periods of heavy rainfall the Francis St WwPS overflows storm sewage to the R. Fergus and/or the Clonroad WwTP storm tanks also overflow to the R. Fergus. This storm overflow particularly from the Francis St WwPS will include a proportion of the foul flow from the development.

The development includes for 24 hours of foul sewage storage. This has the potential to reduce the hydraulic impact on the Francis St WwPS during wet weather. However, infiltration during the winter and on the days following a storm event is likely to result in overflows continuing at the Francis St WwPS and the Clonroad WwTP.

To: Secretary
Planning Section
Clare County Council,
Ennis,
Co. Clare.

Submission/Observation on Application P25/60393 of Glenveagh Homes Ltd.

For

a Large-Scale Residential Development (LRD) at this site at Ballymacaula, Drumbiggle, Keelty, Circular Road, Ennis, Co. Clare.

By

Michael J. Duffy. CEng. MIEI
Consulting Chartered Civil Engineer
1 Clòs Na hEaglaise,
Kilfenora,
Co. Clare.
065 7088088
086 2557258
Duffycivileng@gmail.com

14th December 2025

A Chara,

I wish to make the following submission on a further information response in application 2560393 of Glenveagh Homes Ltd.

I wish to make submissions on the following responses to the RFI submitted.

RFI 4(d) The NIS to be revised to show remaining capacity of wwtp or any assessment taking into account the design capacity of the plant and the hydraulic loading, the status of the receiving environment associated with the wwtp, or any assessment as to the potential for cumulative or in-combination effects in a comprehensive manner, along with the upgrade works required to facilitate the development. The updated NIS should address the points raised by submissions and should utilise the most recent AER for the associated plant to inform the appropriate assessment.

RFI 5. Assessment of rock-breaking.

Contents

1. Wastewater Treatment Capacity:

RFI 4(d) sought the "*NIS to be revised to show remaining capacity of wwtp or any assessment taking into account the design capacity of the plant and the hydraulic loading, the status of the receiving environment associated with the wwtp, or any assessment as to the potential for cumulative or in-combination effects in a comprehensive manner, along with the upgrade works required to facilitate the development. The updated NIS should address the points raised by submissions and should utilise the most recent AER for the associated plant to inform the appropriate assessment*".

1.1. CDP Objective:

Objective 4.1 of the County Development Plan states that it is an objective of Clare County Council:

> *m) To monitor the cumulative effect of grants of planning permission on available wastewater capacity where connection to a public wastewater treatment plant is included as part of a development proposal;*

While no reflection on the Planner, it is not appropriate for the PA to delegate this task to the subjective assessment of an applicant. The applicant has a duty to provide data on likely in-combination and cumulative effects on Natura 2000 sites in its NIS. The CDP objective should clearly be an in-house assessment the PA should be carrying out. The problem with this policy is that nobody knows the actual loading on this wwtp.

1.2. RFI 4(d) Response:

The 4(d) RFI response is addressed in the updated NIS dated 16th October 2025 in a *de minimis* and subjective manner. It claims a revised assessment has been carried out, incorporating the requested elements based on the most up to date Uisce Eireann Annual Environmental Report (AER). This is given as the 2023 AER. However the requirement is that the AER for the previous year is published by March the following year. It is now December 2025 so the 2024 AER should be informing this appropriate assessment.

The updated NIS at Table 3 indicates Ennis North Wastewater Plant Capacity vs Utilisation (2023) Category Design Capacity Current Load Remaining Headroom Hydraulic (volumetric) 16,272 m^3/day (peak) 11,996 m^3/day (annual max) 10,557.1 m^3/day (average) 4,276 m^3/day 26.3 % Organic (P.E.) 31,500 P.E. 24,659 P.E. (peak week) 6,841 P.E. 21.7 %

It gives the hydraulic design capacity for the plant at 16,272m^3/d which equates to a PE of 72,320 and is clearly incorrect.

It claims a max daily loading of 11,996 m^3/d and annual average of 10,557m^3/d. These are not the correct parameters to determine the loading on a wwtp which is defined in the Urban Wastewater Directive 91 /271 /EEC as;

> Article 4(4). *The load expressed in p.e. shall be calculated on the basis of the maximum average weekly load entering the treatment plant during the year, excluding unusual situations such as those due to heavy rain.*
>
> Article 2 (6) *"1 p.e. (population equivalent)" means the organic biodegradable load having a five-day biochemical oxygen demand (BOD_5) of 60 g of oxygen per day;*

The AER does not provide the required data and the figures quoted do not represent the loading on the plant. Furthermore in the AER's the organic loadings are given in PE with no supporting data on the mass of BOD_5 entering the plant.

Uisce Eireann AER's do not provide the maximum average weekly organic load entering the plant so that an interested party can satisfy themselves as to the plant loading. Instead we are expected to accept an unverified organic loading professed in terms of PE and not mg/l BOD_5. Appropriate Assessment cannot contain lacunae and if the best scientific knowledge is not available we have a bigger problem than even I envisaged. UE should have this information, and if the Applicant had any confidence in the capacity of this wwtp in respect of its application and comprehensively answering the RFI it had ample time to seek daily influent organic loadings, SWO data (if available) , the DAP assessment, if available, for the agglomeration. It neglected to do so with the result that the PA still does not have the information to make a determination prior to moving on to make a planning decision on this application. On that basis this PA must refuse this application due to lacunae in the NIS.

The RFI response interpolates percentage figures from these incorrect AER figures and is not the best scientific knowledge available to inform an Appropriate Assessment. The likely significant impact on the SAC from an overloaded wwtp and/or untreated discharges from network stormwater overflows (SWO's) and emergency overflows (EO's) is what is required to be assessed. The Planning Authority decision maker must be provided with all relevant data by the Applicant. For instance, of particular relevance is the 458,391m^3 of untreated wastewater discharged through an unidentified stormwater overflow referenced in section 4.1.1 of the 2022 AER for the plant.

An important fact is that AER's are Uisce Eireann produced reports the contents of which are not validated by the EPA, simply published on its website. The contents of AER's cannot be taken at face value for the purposes of AA particularly because the requirement is for an assessment based on the best scientific information available.

I note in section 2.1.1 of the 2022 AER for this plant a stated annual mean hydraulic capacity of 11,366. It does not give any units but it is reasonable to interpret that as m3/d. On that basis this equates to 50,515 PE. The data from the 2023 AER referenced in Table 3 of the RFI response gives an average flow of 10,557m3/d which equates to a PE of 47,008. It is quite likely that extreme events are not discounted from these figures but should be. However only extreme events should be discounted and we have not been provided with that data. Furthermore, these figures do not take account of the other SWO's and EO's in the network including the Francis Street and Tulla Road pump stations.

To correctly assess the loading on a wwtp requires analysis of the daily influent BOD5 concentrations. The corresponding hydraulic equivalent in Ireland where there is a combined sewer network, as in Ennis North, is 225l/p/d. This figure would equate to DWF. The 2022 stated in section 2.1.2.4 gives an unsubstantiated DWF figure of 6,784 m3/d. This equates to a PE of 30,151 for a plant licensed for 17,000 but claimed to have a 31,500 PE capacity. This DWF figure does not take account of volumes discharging through SWO's or EO's.

1.3. Ennis North D0048-01 Discharge Licence:

The introduction to the licence states;

> The extant licence for Ennis North WWTP D0048-01 is for a PE of 17,000 and has not been review[1] since it implementation on the 2nd September 2009. The introduction to the licence states the following;
>
> This licence relates to the Ennis North agglomeration. The design capacity of the wastewater treatment plant (WWTP) located at Clonroadmore was 17,000 population equivalent (p.e.). The organic load entering the WWTP at Clonroadmore is estimated at 27,650 p.e. at present. The plant has not been upgraded to facilitate this load, therefore, the plant is operating over its treatment capacity. The long term plan for urban waste water treatment in Ennis is to build a new plant with 50,000 p.e. An interim programme of improvements is in place to ensure the discharge does not cause environmental pollution.
>
> The primary discharge from the WWTP discharges into the lower River Fergus. As the receiving water body would suggest, the discharge location is impacted by tidal influences. The primary discharge from Clonroadmore WWTP takes place approximately 500 metres upstream of Doora Bridge (EPA Hydrometric Station number 27060).
>
> There is one secondary discharge point from the plant and two storm water overflows. The secondary discharge point is an open ended single pipe discharge to the River Fergus, approximately 80 metres upstream of the primary discharge from the Clonroadmore WWTP.
>
> The stormwater overflows are located at the Tulla Road and Francis Street pumping stations.
>
> There are eight satellite pump-stations within the Tulla Road pump station catchment and three satellite pump-stations within the Francis Street pump station catchment. There are a total of nine emergency overflows in the system.
>
> The licence requires appropriate remedial action, within specified timeframes, to be undertaken in order to address each of the discharge locations within the agglomeration. This remedial action will ensure that appropriate protection is afforded to the receiving water environment. [My highlighting]

[1] On the 8th January 2024 the EPA informed Uisce Eireann that it required a licence review which process required UE to make a formal application for a review. To date it has not done so.

SCHEDULE C: Specified Improvement Programme

C.1 Improvement Programme for Primary Discharge

Clonroadmore WWTP by 31st December 2010

♦ Rehabilitation of the storm/balance tanks;
♦ Upgrade of the inlet works;
♦ Upgrade of the treatment capacity of the current aerator and clarifier tanks to cater for the existing and the short term increase in wastewater loading;
♦ Upgrade of the sludge handling facilities;
♦ Installation of tertiary treatment systems

Collection System by 31st December 2010

♦ Upgrade of satellite pump station overflows;
♦ Separation of known surface water connections from the main combined sewer where feasible;
♦ Rehabilitation of sewers with high levels of infiltration.

Tulla Road & Francis St Pump Stations by 31st December 2010

♦ Repair of grit traps;
♦ Replacement of pumps and improving the pump controls;
♦ Diversion of surface water flows away from pump stations;
♦ Upgrade of the combined sewer overflow regime at pump stations

A.2 Secondary Waste Water Discharges

Discharges from SW2 shall comply with the specifications for a 'Storm Water Overflow' by 1st January 2011 in accordance with Condition 5.6 and Schedule A.3 Secondary Discharges to be upgraded to Storm Water Overflows, of this licence.

A.3. Secondary Discharges to be upgraded to Storm Water Overflows.

SW2 Overflow from storm water tanks located at the WWTP Discharge shall revert to performance standards as required of a Storm Water Overflow by 1st January 2011.

SCHEDULE D: Annual Environmental Report

Annual Environmental Report Content

Inter alia

- Discharges from the agglomeration.
- Storm water overflow identification and inspection report.
- Report on progress made and proposals being developed to meet the improvement programme requirements.

Upgrade works were carried out to the wwtp in or about 2015/2016. It is unclear as to the extent or the efficacy of these works as there was never a subsequent review of the discharge licence which remains extant but still only for a PE of 17,000. This is of particular relevance given the Site Visit Reports of the Agency over the past 6 years which consistently raise issues with sludge. This is an indication that this plant is overloaded and the June 2019 SVR stated that the plant is overloaded.

In support of the unreliability of AER's it is noted that the 2022 AER for this wwtp reports a SWO discharge of 458,391m^3 in the previous year. It does not give a location for this/these SWO discharges except it is declared that only one unidentified SWO is monitored. A very important point regarding this untreated SWO discharge is that it, and other unmonitored SWO's, distort what should be the actual loading on this plant if a proper network existed. The RFI 4(d) response did not declare the volume of SWO for the 2023 AER. It selectively disclosed the parts that suited its cause.

Notwithstanding the issues with the plant and the declared unidentified SWO's the licence required specific upgrades to the collection system by the 31st December 2010. That did not happen and has not happened since. There are unmonitored SWO's and EO's from the network including both identified pump stations. Again, a true factual loading for this wwtp cannot be determined when unmonitored network discharges of raw wastewater exist. Apart from the likely impacts on Natura 2000 sites caused by these discharges which are recognised as a significant pressure on the groundwater and surface water it is also a breach of the WFD to discharge untreated wastewater except in extreme events. Without proper monitoring, the number, duration and dates of events cannot be determined. ECJ case law has determined that each agglomeration should be assessed individually for acceptable SWO events but they should only be during exceptional weather events. This wwtp, network and associated pump stations do not comply with these requirements.

1.4. EPA Site Visit Reports:

The following are extracts from Site Visit reports for this plant & network which the applicant did not bother to provide in its RFI response for 4(d).

1.4.1. SVR June 2019

Plant hydraulically overloaded. The optimum sludge age for the WWTP is 9-10 day. The current sludge age is 30 days due to the limitations on sludge wasting. Is there any evidence of operational problems? Yes. Excessive foam attributed to Nocardia bacteria, was noted in both aeration tanks at the WWTP (see photograph 1). Irish Water stated that due to the limited sludge treatment capacity at the site, Irish Water are not able to waste the appropriate sludge volume to optimise the performance of the WWTP. Corrective Action required Irish Water are required to implement measures at the WWTP to ensure that the appropriate volume of sludge can be removed from the system to optimise the performance of the WWTP. In the interim, Irish Water need to consider short-term measures such as tankering, until the sludge management facilities have been upgraded. Is there any evidence of operational problems? Yes. During the site visit, sludge was observed overflowing from clarifier No. 2 and into the overflow channel (see photograph 2). Corrective Action Required Irish Water shall implement mitigation measures at the WWTP to prevent sludge carryover into the final effluent. Is the Pump Station designed as a Storm Water Overflow (SWO)? Yes. It was noted during the site visit, that numerous overflows occurred during the month of April 2019. These overflows have been largely attributed to the ingress issues within the network. Corrective Action Required Irish Water is required to ensure that the storm water overflows associated with the Tulla road and Francis street pumping stations, comply with the criteria set out in the Department of the Environments publications entitled, "Procedures and criteria in relation to storm water overflows".

Were there any breakdowns at any of the pumping stations on the network in the past 12 months? Yes. Comment / Corrective Action One of the two screens was not in operation on the day of the site visit due to mechanical failure. Irish Water stated that the screens serving both the Tulla road and Francis Street pumping stations regularly breakdown. Irish Water are engaging with the supplier to address the issue. The primary issue identified during the site visit is the sludge management issues. Irish Water is required to complete the corrective action raised in this site visit report.

1.4.2. SVR August 2022

Have you had any emission limit value breaches in the past 12 months? Yes. A single breach of ammonia emission limit value (ELV)(3.65mg/l vs ELV 1mg/l) and orthophosphate (1.24mg/l vs ELV 1mg/l) were recorded in December 2021. Irish Water attributed these to the storm tanks emptying into the inlet works. Irish Water are required to put in place a regular desludging programme of the storm tanks. Is there any evidence of operational problems? Yes. The Dissolved Oxygen (D.O.) level in the larger aeration tank was noted to be very low (0.57mg/l). There were areas of the tank where the foam had crusted over (see photograph nos.1 and 2).

Irish Water are required to:
1. Investigate the cause of the excess foam on the surface in the aeration tank and put in place appropriate measures to manage it;
2. Complete a profile of the dissolved oxygen levels across the aeration tank to identify whether the diffuse aeration system is operating uniformly; and
3. Ensure that there are appropriate levels of oxygen in the aeration basins at all times.

Comment / Action Required

It was noted during the site visit that the bund underneath the dosing pumps was observed to be half full with a mixture of ferric sulphate and rain water (see photograph no.3). There was also localised staining from spillages of ferric sulphate. Irish Water are required to ensure the contents of the bund are managed appropriately.

The dosing pumps are scheduled for replacement by end of Q3 2022. Irish Water are required to progress with the replacement of the pumps as soon as possible. Significant levels of solids and some litter were observed on the surface of one of the clarifiers on the date of this site visit (see photograph no.4). These increased solids appear to be having an adverse impact on the operation of the final effluent composite sampler. Irish Water are required to establish if the desludging arrangements at this plant are adequate and appropriate.

1.4.3. SVR July 2023

This site visit was primarily to review the network of the Ennis agglomeration and also included a visit to the waste water treatment plant. Uisce Éireann need to establish if the plant is being desludged at an appropriate frequency.

Waste water discharges from Ennis North were identified during the characterisation for the third cycle of Ireland's River Basin Management Plan as a significant pressure on the Fergus putting it at risk of not meeting its environmental objective of good status. Discharges from storm water overflow outlets on the collecting system are a significant pressure and adversely impacting the Fergus as identified in the Water Framework Directive

Characterisation Assessment.

Storm water overflows are a significant pressure impacting this receiving water. There is a lack of information on the frequency of discharge of many of the overflows in this agglomeration. There are also outstanding specified improvements in relation to the rehabilitation of the sewer network.

Uisce Éireann are required to complete all the corrective actions as set out in this site visit report.

The following documentation were submitted by Uisce Éireann on 10 July 2023.

- *Effluent monitoring results 2022 and 2023 to date;*
- *Ambient monitoring results 2022 and 2023 to date;*

The following information was requested of Uisce Éireann and where available was assessed prior to the visit:

- *Annual Environmental Report 2022.*
- *Information on the SWOs in the Ennis North network.*
- *Drawings of the SWOs/CSOs on the Network in Ennis North and schematics of the type of SWO or overflow mechanisms*
- *2022 Event Duration Monitoring data for Ballyallia Main PS, Francis St PS and Tulla Road PS.*
- *Data on Flow to treatment, flow to storm tank(s) and effluent flow values for 2021 and 2022.*
- *Details of the SWO assessments to meet Department Criteria (e.g. formula A calculations and storage information).*
- *Co-ordinates for ENNIS NORTH - BALLYALLIA MAIN PS.*
- *monitoring data and calculations to support the reported 458,391 m3 of sewage was discharged via monitored*

SWOs in the agglomeration in the year (2022 AER).

The following additional information was submitted after the site visit:

- *Desludging records for 2022 and 2023 to date; and*
- *SVI and Cone data for 2022 and 2023 to date.*

One breach of ammonia emission limit value (ELV)(2.381mg/l vs ELV 1mg/l) was recorded in December 2022. Corrective Action Required: Uisce Éireann shall investigate the causes of this ELV breach and implement measures to ensure that the final effluent complies with the ELVs in the licence at all times.

There are two storm tanks at the Inlet to the plant. On the day of the inspection, both storm tanks were almost full (see photograph 1). The capacity of untreated waste water in the storm tanks is reported as 766m3 per tank.

Discharges of untreated effluent occur frequently from the storm tanks via SW2. It should be noted that SW2 was a secondary discharge and was required to be upgraded to a storm water overflow by 1 January 2011.

The 2022 Ennis North AER indicates that none of the SWOs meet the Department criteria for SWOs.

There is no safe and permanent access to SW2 and on the day of the inspection the SW2 outfall point was not accessible.

Based on the data submitted by Uisce Éireann prior to the site visit for 2022, for 133 of the 360 days reported, there was a storm water discharge via SW2. The 2022 AER reports that a total of 458,391 m3 discharged via SW2 in 2022. From the data, it is clear that this SWO discharges untreated effluent almost daily in the winter.

Actions Required

Uisce Éireann are required to:

1. *Reassess SW2 against Department criteria and clarify why it is failing the criteria.*
2. *Provide safe access to SW2 outfall point as required by Condition 4.6 of the WWDL for this agglomeration.*

There were some localised areas of aeration tank no. 1 with what appeared to be Nocarrdia bacteria type scum which had crusted over (see photograph no. 2) and this indicates operational problems. The Dissolved Oxygen (D.O.) level in aeration tank no. 1 was found to be reading 2.57mg/l and 1.13mg/l in aeration tank no. 2.

Action required:

Uisce Éireann are required to:

1. *Investigate the cause of the excess foam on the surface in the aeration tank and put in place appropriate measures to manage it;*
2. *Complete a profile of the dissolved oxygen levels across both aeration tanks to establish if the oxygen delivery system is operating adequately;*
3. *Ensure that there are appropriate levels of oxygen in the aeration basins at all times.*
4. *Clarify whether the plant is being desludged at the appropriate rates and whether there is any limiting factor preventing this from occurring.*

It is noted that the last site visit report (SV23807) stated that the dosing pumps were scheduled for replacement end of Q3 of 2022. However, these works have not been completed. Uisce Éireann personnel stated that there is a planned upgrade to the phosphate system planned within the next two months. This upgrade is to include the installation of an additional two pumps to allow for four pumps (one duty/standby for each stream).

Action required:

Uisce Éireann are required to give this greater priority and to revert with a timeframe by which this will be completed.

The V-notch weirs in the clarifier No. 1 appeared to be flooded on the day of the inspection with high flow going through the plant. Some 'pin floc' solids were observed overflowing the v-notch weirs and discharging on the date of this site visit (see photograph no.3). This may be evidence of denitrification occurring in the clarifier and can lead to sludge carryover and suspended solids being an issue in the final effluent.

Uisce Éireann are required to:

1. *Establish if the desludging arrangements at this plant are adequate and appropriate.*
2. *Review the control of flows through the plant to ensure that it is not overloaded.*
3. *Investigate what is giving rise to the 'pin floc' carry over.*
4. *Increase the frequency of effluent sampling to weekly until this brought under control.*

Is the Pump Station designed as a Storm Water Overflow (SWO)? Yes

Tulla Road Pump Station

The Tulla road pump station was visited as part of the site inspection. This pump station has two screens and operates with three foul pumps and three storm pumps, which operate on different cycles. There is a flow monitor at the inlet to the main WWTP and this informs what volume is coming from the Tulla Road Pump station. There is no monitor on the pump station itself. Uisce Éireann stated that flow from the Tulla road pump station can vary between 4,000-5,000 m^3/day.

Is the Pump Station designed as an Emergency Overflow (EO)? Yes.

1. *The Ballyallia pump station was inspected. It is designed as an Emergency Overflow. This station is in place approximately twenty years. It also acts as an emergency overflow. No flow monitoring of storm water takes place at the outfall point. It was highlighted that any overflow here would likely be storm water only.*

2. *The Francis Street pump station also acts as an Emergency overflow. It has three foul pumps. There are four storm pumps at this station. There is no flow monitoring on what volume of combined sewer overflow is going to storm water overflow point.*

Uisce Éireann confirmed that there are screens in situ for the main pumping stations. There are two screens at the Francis Street Pump station. It was confirmed that one of these screens was broken down and in need of repair on the day of the inspection.

Action required:

Uisce Éireann are required to revert with timeframes to repair the damaged screen at the Francis Street pump station.

Is the agglomeration categorised as a significant pressure under the Water Framework Directive? Yes.

Waste water discharges from Ennis North were identified during the characterisation for the third cycle of Ireland's River Basin Management Plan as a significant pressure on the Fergus putting it at risk of not meeting its environmental objective of good status. Storm water overflows were identified as the significant pressure impacting this water body.

The Ennis North network is identified as significant pressures on the Fergus River under the Water Framework Directive.

Are the issues that gave rise to the agglomeration been categorised as a significant pressure still ongoing? Yes.

During the site visit an inspection of the outfall from SW3 was conducted. It was found that access was poor. There was an old spill boom in the river (adjacent to SW3 outfall). At 13:37 there was a stormwater overflow occurred, which continued for approximately 1 minute.

Uisce Éireann should examine the feasibility of installing a flow monitor or events monitor on this outfall point at SW4 to determine the volume being discharged at this point.

Are corrective actions being progressed to address the significant pressure? Yes.

Uisce Éireann's representatives advised that a drainage area plan (DAP) to assess the waste water collecting system is underway. This DAP will inform improvements needed to the collecting system. Action required: Uisce Éireann are requested to revert with timeframes by which the DAP will be completed for Ennis North.

No flow meters exist on any SWO outfalls apart from SW2 which is located at the WWTP. Action required: Uisce Éireann should look at the feasibility of installing a flow meter or events monitor on all SWO outfall points (even temporarily) to accurately determine volumes of untreated discharges and overflow events across the network.

AER reported monitoring on SWOs

The Licensee reported a volume of 458,391 m3 of sewage discharged via monitored SWOs in the agglomeration for 2022, in the 2022 AER. This volume is for SW2 only as no other SWOs within the agglomeration are monitored. The table in Section 4.1.1 of the 2022 AER reported the monitoring status and reports monitoring status as ' Monitored' for TBC and SW4. Subsequent data submitted prior to the inspection reported that 'Events duration' monitoring is in place for SWO locations: TBC, SW3 and SW4. Neither of these are accurate or reflective of what was observed on the day of the visit and as pointed out by licensee representatives. Action required: UE are required to check what is reported in AERs and ensure that it is accurate and reflects practices on the ground. The licensee should ensure that SWO reporting in the AERs is corrected and reported accurately going forward.

All Storm Water Overflows in the agglomeration are reported in the 2022 AER as not meeting DoEHLG criteria. Action Required: Uisce Éireann are requested to clarify what works are required at each Storm Water Overflow so that they can meet the DoEHLG criteria.

No sign was visible at the licensed primary waste water discharge monitoring point at the WWTP on the day of the visit. Condition 4.6 of the Licence requires that the licensee clearly labels and provides safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency. Uisce Éireann are required to ensure that there is full compliance with the above mentioned Condition of the Licence.

During the site visit pin floc was noted flowing over the v-notch weirs of Clarifier No.1. Action required: Uisce Éireann are required to investigate the cause of pin floc evident in the Clarifier no. 1 and put in place necessary measures to prevent its reoccurrence.

A review of the MLSS and SVI results provided following the site visit on the 18 July 2023 showed that side 1 had an elevated MLSS result of 6,464mg/l and a low SVI of 54 for 12 July 2023. Side 1 has reported fluctuations in MLSS from 8 July to 17 July that varied from 1,937mg/l on 8 July to 6,464mg/l on 12 July 2023. Both Side 1 and Side 2 have low SVI reported on 12 July and 13 July at 54 and 68 (Side 1) and 71 and 73 (side 2) respectively. These low levels potentially indicate that the activated sludge may be not as healthy. Side 1 has reported SVI results of >200 for the period 13 May 2023 to 31 May 2023. These high SVI levels would indicate sludge bulking. Action required: Uisce Éireann are required to:

1. *Review the desludging of the plant and ensure that it is adequately desludged at all times.*
2. *Investigate the cause of the low SVI and elevated MLSS in Side 1 on the 12 July 2023 and put in place necessary measures to prevent its reoccurrence.*

1.4.4. AER 2022/2023 Comparison:

It is interesting to compare the 2022 AER and the revised 2023 AER for this plant. The first thing of note is that this plant consistently fails to comply with the set ELV for Ammonia-Total (as N) mg/l.

The WFD status is Moderate both upstream and downstream. [2]

The 2022 DWF is 6,784 m^3/d – The 2023 DWF is 6,784 m^3/d a truly remarkable correlation.

While 2022 has a claimed annual max flow of 15,520 m^3/d, the 2023 annual max flow is only 11,996m^3/d. There is no explanation for the 23% reduction in max flow.

The 2022 average hydraulic loading is 11,336m^3/d which is in almost perfect harmony with the 2023 figure of 11,996m^3/d.

The uncorroborated 2022 peak organic loading is stated as 24,632 PE while the 2023 figure blends well at 24,659 PE. Again, truly remarkable consistency for an agglomeration which had a 2022 untreated discharge of 458,391m^3 from one on numerous SWO's and a 2023 untreated discharge of 741,496m^3. Something more than smells about these figures. The 2022 AER give one monitored but unidentified SWO but 2023 gives two monitored but only one identified SWO. The latter discharge figure is from the identified SW2 SWO with is very comforting. Of course neither year give any account of the SWO's at the Francis Street or Tulla Road pump stations.

It should be of small comfort, and totally irrelevant in the context of this decision, but the 2023 AER declares that a Drainage Area Plan (DAP) is ongoing for Ennis North agglomeration and that the "*Tulla Road and Francis Street pump stations: upgrade of the combined sewer overflow regime at the pump stations*" is "*at the planning stage*" and is due to be "*completed by 2037*".

[2] See statutory obligations and responsibilities on decision makers

The 2024 AER should make for interesting reading whenever it becomes available. The author checked the EPA website today and it is not available.

2. Cycle 3 Water Framework Directive:

HA 27 Shannon Estuary North Catchment Report, May 2024:

The Ennis groundwater body IE_SH_G_080 is at risk of not achieving Good WFD status and urban wastewater is considered a pressure on this waterbody.

The Fergus River IE_SH_27F010780 FERGUS_070 is at risk of not achieving Good WFD status and urban wastewater is considered a pressure on this waterbody.

The Fergus Estuary IE_SH_060_1100 current status is Moderate and identified as at risk of not achieving Good WFD status. Urban wastewater is considered a pressure on this waterbody.

High Status Objective Waterbodies

High status waters are prioritised for protection and action.

There are seven waterbodies with a High Ecological Status Objective (HSO) in the Shannon Estuary North Catchment, with all seven currently not meeting their environmental objective of High.

There is one heavily modified waterbody (HMWB) in the Shannon Estuary North catchment (FERGUS_070). It is currently At Risk.

Significant Pressures: Urban Waste Water

Report series: Impacts of pressures on water quality URBAN WASTEWATER

Impacts of Urban Wastewater on Water Quality

The implementation of the Urban Wastewater Treatment Directive has led to a significant reduction in nutrients and organic material polluting surface waters. However, Ireland is still not fully compliant with this directive; pollution from some urban wastewater treatment facilities has not yet been adequately addressed, including pollution from smaller agglomerations, storm water overflows and micropollutants that damage the environment.

Discharges from urban wastewater treatment plants and agglomeration networks (UWW) have been identified as the fourth most prevalent significant pressure in the country. Nearly 200 waterbodies or 12% of all waterbodies 'At Risk' of not achieving their environmental objective under the Water Framework Directive (Table 1 and Figure 1) have UWW as a significant pressure.

Waterbodies are categorised as being 'At Risk' of not achieving its WFD objectives where the monitoring data shows evidence that water quality is impacted, and actions are required to deliver water quality improvements. This is based on the most recent characterisation assessment using data up to 2021.

Water quality impacts arising from urban wastewater Direct discharge of nutrients from UWW treatment plants and discharge from combined storm overflows (CSOs) or storm water overflows (SWOs) from the sewer network are the most common water quality problems associated with UWW1. The excess nutrients can cause eutrophication which is an overgrowth of algae and aquatic plants, which in turn impacts other species and the ecosystem balance. Emissions of elevated concentrations of phosphorus and ammonia from UWW are the key nutrients for rivers and lakes, while emissions of nitrogen and phosphorus are the focus for transitional and coastal waters. Elevated concentrations of microbes, such as E.coli, viruses and other pathogens in the waste water may impact public health at bathing and shellfish waters. Chemical impacts associated with pharmaceutical/personal care products, and microplastics, may not be removed by wastewater treatment plants and can also be emitted into surface waters.

Nutrient impacts EPA assessments have shown that the proportion of nutrients from UWW in Irish rivers varies according to nutrient type. For nitrogen, the contribution from UWW is relatively small (8%) in comparison to the load coming from agriculture (84%) (Figure 2). For phosphorus, the proportion of the load is higher at (45%). However, it must be noted that 40% of the Irish population lives within 5km of the coast, which means the majority of their wastewater is predominantly discharged into marine waters, including the Ringsend UWW plant which takes over 40% of the national wastewater generated. This means that in the rural environment, the proportion of the phosphorus load coming from UWW is lower than at the national scale, though it can be very important immediately downstream of urban areas at the local scale.

Figure 3 shows the annual average concentrations of phosphate (blue) and ammonia (green) in rivers from 2007 to 2023 for waterbodies currently 'At risk' with UWW identified as a significant pressure and those waterbodies considered 'Not at risk'. The dashed lines represent the environmental quality standard for phosphate (0.035 mg/l) and ammonia (0.065 mg/l) associated with good status. Mean concentrations below the standard are typically required to support good ecological status. For both parameters, annual averages of both nutrients in 'At risk' rivers are consistently above these standards and below those assessed as 'Not at risk'. At high concentrations ammonia is particularly toxic to river invertebrates. There can be considerable variation from year to year in both nutrients highlighting the impact often caused by, for example, overflows during heavy rain. Overall, the concentrations of both are consistently too high.

Protected areas UWW has been identified as being the main source of microbial pollution for the three bathing waters classified as Poor in Ireland in 2022. When a bathing water is classified as Poor it means there is a risk of periodic pollution, with the potential to cause illness such as stomach upset, skin rash and infections of the eye, ear, nose and throat. While wastewater adversely affects some bathing waters from time to time, the overall quality of Ireland's identified bathing waters remains good, with 97% of our beaches meeting the basic water quality standards in 2022. However, there were three bathing waters that did not meet the minimum standards because of impacts from UWW – these are Lady's Bay Buncrana in Co Donegal, Front Strand Beach in Balbriggan in Co. Dublin 2 , and Trá na mBan in An Spidéal, Co Galway. Works are ongoing since 2023 to mitigate these impacts.

Micropollutants Micropollutants are found at trace concentrations in the environment and include pharmaceuticals, personal care products (PPCPs), per- and polyfluoroalkyl substances (PFASs), nanomaterials, microplastics, steroid hormones, pesticides, and plasticisers. Micropollutant exposure can have a range of adverse effects on wildlife. Although these effects are not always easily observable, these changes may impact the overall survival rate of the species.

UWW discharges are a significant pathway for these substances into our waters as existing treatment systems are unable to fully remove the wide variety of products from both effluent and/or sludge. To date in Ireland, UWW has not been identified as a significant pressure associated with a failure to achieve good chemical status in the 2016-2021 period. This reflects the focus of the initial EU priority substances list on pesticides (many of which have subsequently been banned), industrial chemicals and metals.

Recently the Commission has moved towards regulating a wider variety of micropollutants. The EU chemicals strategy proposes a transition to chemicals and products that are safe by design, the phasing out of harmful substances (such as per- and poly-fluoroalkylated substances(PFAS)) and improved risk assessment procedures. However, these source controls are not viable for all micropollutants, such as some pharmaceuticals, so improved treatment (quaternary) at wastewater facilities is required. In an Irish context about 50% of the ≈ 300 plants serving a PE > 1000, currently have tertiary treatment and none have quaternary treatment. Of the seven larger wastewater treatment plants (> 100000 PE) only one has tertiary treatment. This highlights the challenge in meeting these treatment objectives over the next two decades, notwithstanding the provision in proposed regulations for the producers to pay for much of the additional cost in upgrading these plants. Campaigns aimed at changing consumer behaviour can also be effective in optimising usage, storage, and disposal of certain chemicals, however, substance specific regulations and information campaigns are unlikely to ease the overall burden given the variety of substances so in conjunction with source controls, improved wastewater treatment are the most important measures for reducing the risk to surface waters of micropollutants. This has been highlighted as an action as part of the EU review of the Urban Wastewater Treatment Directive.

What is being done?

Mitigation actions include putting in place or upgrading deficient wastewater treatment infrastructure which will require investment, and getting the best performance from existing systems by improving how they are operated and maintained. Nutrient removal that is already in operation in 30% of treatment plants needs to be extended to some large towns and cities discharging into sensitive areas.

While considerable progress has been made to date, substantial work needs to be done to improve the UWW network in Ireland and it will take many years of sustained investment to bring all treatment infrastructure up to standard and also provide for future needs. It will take a multi-billion euro investment and, based on current investment levels, at least two decades to get all treatment systems up to standard.

In the 2022 report on UWW, the EPA has identified 89 priority areas where action is needed to protect the environment. These include the following:

- Treatment at 15 large urban areas that did not comply with EU standards;
- 26 towns and villages discharging raw sewage into our seas and rivers;
- upgrading of the network collection systems in 6 areas;
- 39 areas where improvements are most needed to protect inland and coastal waters adversely impacted by wastewater discharges;
- 12 towns and villages where treatment must be improved to protect the endangered freshwater pearl mussel; and
- Assessments of the 23 shellfish areas are urgent.

Uisce Éireann's next capital investment plan, which will run from 2025 to 2029, has the potential to deliver significant benefits for our environment and it is critical that investment is directed to the priority areas. The plan must have a strong focus on protecting and improving waters most at risk from wastewater discharges. Details of investment projects currently underway are available on the Uisce

Eireann website at Capital Investment Plan | Strategic Plans | Uisce Éireann (formerly Irish Water).

Additional actions have been highlighted in the third River Basin Management Plan to address UWW pressures. These include for example, securing additional funding, under the Enhanced Ambition Programme, for Uisce Éireann to advance priority projects where UWW is a significant pressure, and review of the criteria for the performance of combined storm water overflows. Further details are available in the third River Basin Management Plan (Water Action Plan 2023).

The catchment is also a Local Authority Waters Programme (LAWPRO) area for restoration under the third cycle River Basin Management Plan.

3. Statutory obligations and responsibilities on decision makers

S.I. No. 272 of 2009

EUROPEAN COMMUNITIES ENVIRONMENTAL OBJECTIVES

(SURFACE WATERS) REGULATIONS 2009

Duty on public authorities

4. A public authority that has functions the performance of which may affect the achievement of the environmental objectives established by these Regulations shall undertake those functions in a manner that will, as far as practicable, promote compliance with the requirements of these Regulations and, in particular shall—

(a) ensure, in so far as its functions allow, that—

(i) surface water bodies comply with the relevant environmental quality standards specified in the Schedules contained in these Regulations, and

(ii) protected areas achieve compliance with any standards and objectives laid down for such areas at the latest by 22 December 2015 unless otherwise specified in the national legislation under which the individual protected areas have been established.

Where one or more of the objectives or standards under this subparagraph relates to a given body of water, the most stringent shall apply

(b) establish or make operational within the timeframes prescribed such measures appropriate to its functions as are necessary to achieve the environmental objectives and quality standards established, including the objective of progressively reducing pollution by priority substances and the ceasing or phasing out of emissions, discharges and losses of priority hazardous substances, and

(c) consult, co-operate and liaise with other public authorities within the river basin district and, where appropriate with the relevant competent authorities in Northern Ireland, in such a manner and to such extent as is necessary to co-ordinate compliance with these

Regulations.

5. A public authority shall not, in the performance of its functions, undertake those functions in a manner that knowingly causes or allows deterioration in the chemical status or ecological status (or ecological potential as the case may be) of a body of surface water.

8. A person, public authority or body corporate authorised or otherwise regulated within the meaning of Article 7 shall comply within the timeframe specified, with the emission limits, or other requirements, laid down in the authorisation granted.

Prosecution of offences and performance of statutory functions by public authorities

13. It shall be an offence not to comply with a requirement of these Regulations.

14. A person, public authority, body corporate or unincorporated body guilty of an offence is liable,

(1) on summary conviction to a fine not exceeding \5,000 or to imprisonment for a term not exceeding 3 months or to both, or

(2) on conviction on indictment to a fine not exceeding \500,000 or to imprisonment for a term not exceeding 3 years or to both.

15. Where an offence under these Regulations has been committed by a body corporate and is proved to have been committed with the consent or connivance or to be attributable to any neglect on the part of a person being a director, manager, secretary or other similar officer of the body corporate, or of a person who was purporting to act in any such capacity, that person as well as the body corporate is guilty of an offence and is liable to be proceeded against and punished as if that person was guilty of the first-mentioned offence.

4. Rock-breaking/Crushing/Screening:

RFI response updated CEMP

7.1.2 DUST AND PARTICULATE CONTROL MEASURES

The main activities that may give rise to dust emissions during construction include the following:

- *Excavation of material;*
- *Rock breaking, crushing and/or screening;*
- *Materials handling and storage;*
- *Movement of vehicles (particularly HGV's) and mobile plant.*

Mitigation measures to be in place:

- *Consultation will be carried with an ecologist throughout the construction phase;*
- *Trucks leaving the site with any excavated material will be covered so as to avoid dust emissions along the haulage routes which run close to the Claureen River.*

This never happens and is practically impossible to enforce under planning conditions.

- *Speed limits on site (15kmh) to reduce dust generation and mobilisation.*
- *Install fixed and mobile water spraying systems on crushers, screens, and rock breaking areas to suppress dust emissions continuously during operations.*

There was no application for permission for crushing. Why is it being slipped in here? Where will any crusher be located? Where will the fixed and mobile spraying be located? What noise assessment was carried out?

Preparing and Maintaining the Site

- *Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.*

This is verbiage for the sake of verbiage and is meaningless.

- *Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.*

This is more verbiage. Is the developer undertaking to cover all stockpiles of sand and stone on the site?

Measures Specific to Earthworks

- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.

When, 3 years later?

- *Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.*

Will the developer agree to the inclusion of a condition to enforce this condition?

7.1.4 MONITORING AND COMMUNICATION

- *Check and clean surfaces (e.g. windowsills, parked cars) within 100 m of the site for visible dust soiling.*

This is nonsense. What right of access has the developer to residences within 100m of the site boundary? Given the developer recognises the potential for these impacts how does it intend to address this issue in a practical sense?

- *Increase inspection frequency during high-risk activities or adverse weather.*

Define high risk activities or adverse weather.

- *Maintain a dust complaint register; all reports will be recorded, investigated, and responded to with corrective action as necessary.*

Given that the developer recognises the potential for this nuisance it needs to define how this policy will operate in reality. What access or input to this register have the impacted public?

7.1.5 STAKEHOLDER ENGAGEMENT

- *Develop and implement a Stakeholder Communication Plan prior to construction, detailing how local residents and businesses will be informed of project timelines and mitigation efforts.*

This plan should be defined and developed here and now.

- *Encourage residents to report dust concerns, which will be managed transparently and promptly.*

This is disingenuous and not what the public experience with such developments.

7.2 NOISE & VIBRATION

Crushing, screening and rock-breaking with very heavy machinery was not assessed.

- *Using minimal impact reversing alerts and avoiding the use of horns, where possible.*

Please define or expand on this proposal for "*minimal impact reversing alerts*".

- *Install temporary noise barriers (e.g., timber hoarding, earth bunds) around high noise generating equipment.*

Define the locations for these proposals.

- *Provide advance notice of high vibration/noise activities to affected residents and maintain a hotline for complaints.*

This should be provided at this stage where there is still public participation. Hereafter there is no opportunity for participation.

- *Rock breaking and/or crushing activities are anticipated to occur primarily in the south-western portion of the site, in the vicinity of Soakaway A, where, based on available site investigation data, an estimated rock cut of approximately 3m into grey fine- to coarse-grained limestone may be required which potentially will cause vibration effects.*

There is no application for crushing of rock in this application. Crushing is a production process and requires planning permission following a full assessment of likely EIA/AA impacts. It has evolved on these large development that the crushing of rock is a given. It is not and if the developer wishes to crush rock on this site it should include it formally in the planning application.

7.3 SOIL & GROUNDWATER

The size of machine using rock breakers should be specific and the noise assessment based on the outputs which increase with size. Blasting of rock should be specifically forbidden by a condition of planning permission.

5. Conclusion:

The applicant had ample time to source the relevant data from Uisce Eireann to determine the capacity of this wwtp. Uisce Eireann have average weekly influent flow data from which the highest average weekly flow can be determined as prescribed in the UWWD. It also has data for the daily influent BOD_5 to correlate with the dates for the highest average influent flows. It is easy to work out the organic loading in grams and to determine the PE based on the definition for PE in the UWWD. The applicant was requested to do this in the RFI but demonstrably failed to do so.

I am certain that if this information is sourced that it will show clearly that this wwtp is both hydraulically and organically overloaded contrary to the illusion portrayed in AER's. Of course those figures are without any consideration of the untreated discharges from SW2 at the plant or from the Pump Stations in Francis Street and Tulla Road. Is it any wonder the Q-values for the River are what they are?

The applicant chose not to mention the judicial review of the previous SHD for this site (which was an almost identical planning application) which judgement is due on the 16th January 2026. Be that as it may and least the decision makers fall into the trap of kicking this can down the road they will be aware of the current challenge to a wastewater connection agreement in the contiguous agglomeration.

Uisce Eireann do not carry out any environmental assessment of its connection agreements so rest assured any attempt to delegate responsibility for a proper assessment of the capacity to treat the wastewater arising from this proposal will be vigorously contested.

The applicant needs to clarify its intentions with regard to crushing and screening of extracted rock on this site. I respectfully request Clare County Council to refuse this application on grounds of a lack of required information and prematurity until capacity to treat the wastewater arising is available.

Yours Sincerely,

Michael Duffy - Electronic submission

UISCE EIREANN : IRISH WATER

Annual Environmental Report 2015

Agglomeration Name:	**Ennis North**
Licence Register No.	**D0048-01**

Table of Contents

Section 1. Executive Summary and Introduction to the 2015 AER

1.1 Summary report on 2015

This Annual Environmental Report has been prepared for D0048-01, Ennis North, in County Clare in accordance with the requirements of the wastewater discharge licence for the agglomeration.

Specified reports are included as an appendix to the AER as follows:

- Habitats Impact Assessment Report

The agglomeration is served by a wastewater treatment plant with a Plant Capacity PE of 17,000. The treatment process includes the following:

- Preliminary treatment including screening and grit removal
- Primary treatment
- Secondary treatment – extended aeration activated sludge

The final effluent from the Primary Discharge Point was non-compliant with the Emission Limit Values in 2015.

The following parameters exceeded the emission limit values in 2015:

- Orthophosphate
- Ammonia as N

308,600 Kgs (as 21.7% dry solids) were removed from the wastewater treatment plant as dewatered sludge cake. Sludge was transferred by Biocore Environmental to Ballivor, Co. Meath and Tulsk, Co. Roscommon, under contract between Biocore & IW/CCC.

The following capital improvement works was undertaken during 2015 with completion expected to be in Q2 of 2016:

- Rehabilitation & capacity increase of storm balance tanks,
- upgrade of inlet works
- Upgrade of treatment capacity of current aerator and clarifier tanks to cater for existing increase in wastewater loading
- Installation of tertiary treatment systems

An Annual Statement of Measures is included in **Appendix 7.1.**

Section 2. Monitoring Reports Summary

2.1 Summary report on monthly influent monitoring

Table 2.1 - Influent Monitoring Summary

	BOD (mg/l)	COD (mg/l)	SS (mg/l)	TP (mg/l)	TN (mg/l)	Ammonia as N (mg/l)	pH	Hydraulic Loading (m3/d)	Organic Loading (PE/day)
Number of Samples	12	12	12	12	12	1	10		
Annual Max.	251	514	292	11	41	33	7.75	52,934	37,521
Annual Mean	85.0	241	103	4.5	22	33	N/A	13,011	17,394

Significance of results

The annual mean hydraulic loading is greater than the peak Treatment Plant Capacity as detailed further in Section 3.2.

The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity as detailed further in Section 3.2.

The annual mean organic loading is greater than the Treatment Plant Capacity as detailed further in Section 3.2.

The annual maximum organic loading is greater than the Treatment Plant Capacity as detailed further in Section 3.2.

2.2 Discharges from the agglomeration

Table 2.2 - Effluent Monitoring Summary

	BOD (mg/l)[2]	COD (mg/l)[2]	TSS (mg/l)[2]	PO4 as P (mg/l)	NH3 as N (mg/l)	TN (mg/l)	TP (mg/l)	pH	Comment
WWDL ELV (*Schedule A*)	10	125	35	1	1	15	2	7-9	
ELV with Condition 2 Interpretation included	10	*250*	87.5	1.2	1.2	18	2.4	7-9	
Number of sample results	12	12	12	12	12	12	12	12	
Number of sample results above WWDL ELV/not achieving min % reduction [1,2]	**0**	**0**	**0**	**6**	**1**	**0**	**0**	**N/A**	
Number of sample results above ELV with Condition 2 Interpretation included	**0**	**0**	**0**	**5**	**1**	**0**	**0**	**N/A**	
Annual Mean (for parameters where a mean ELV applies)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Compliance (Pass/Fail)	Pass	Pass	Pass	Fail	Fail	Pass	Pass	Pass	

Significance of results

The WWTP was non-compliant with the ELV's set in the wastewater discharge licence. There were 6 samples non-compliant with the ELV's in relation to Orthophosphate (5) and Ammonia as N (1). The non-compliance is due to treatment inefficiencies which are currently being addressed. However, it should be noted that 75.2% of the flow pumped from the pump stations to the WWTP discharges untreated via SW2. The impact on receiving waters is assessed further in Section 2.3.

2.3 Ambient monitoring summary

The discharge drains to the River Fergus Code SH_27_F01. For the reporting period 2015, monitoring of the receiving waters was carried out upstream and downstream of the discharge point SW1, and also upstream and downstream of SW3 (storm overflow from Francis Street Pumping Station). Access to the monitoring points listed in the licence has proven to be extremely hazardous as they are only accessible during low tide conditions. The monitoring points are subject to ongoing flooding hence they are not suitable as locations for regular monitoring. Alternative monitoring locations have been identified at the bridges upstream and downstream of the WWTP and Pump Station. The proposed monitoring locations are included in the Water Framework Directive (WFD) monitoring programme, which promotes effective use of resources within the Council. Clare County Council, on behalf of IW, is in correspondence with the Agency with regard to amending the ambient monitoring locations.

Table 2.3 - Ambient Monitoring Report Summary

Ambient Monitoring Point from WWDL (or as agreed with EPA)	***Irish Grid Reference***	**EPA Feature Coding Tool code**	**Receiving Waters Designation(Y/N)**				**WFD Status**	**Does assessment of the ambient monitoring results indicate that the discharge is impacting on water quality?**
			Bathing Water	**Drinking Water**	**FWPM**	**Shellfish**		
aSW1u & aSW3d Br near Clonroad House Code: SH_27_F01_0700	E134520 N177880		N	N	N	N	Poor	n/a
aSW1d Br SW of Doora Code: SH_27_F01_0720	E134888 N176809		N	N	N	N	Poor (River Status) Moderate (Transitional status)	Yes – for parameter NH3 (N)
aSW3u Club Bridge (upstream Francis St Pump Station) Code: SH_27_F01	E133876 N177677		N	N	N	N	Poor	No observable negative impact.

The results for the upstream and downstream monitoring used are included as in Appendix 7.2.

Significance of results

- The WWTP was non-compliant with the ELV's set in the wastewater discharge licence for ammonia and ortho-P as detailed in Section 2.2.

- The discharge from the wastewater treatment plant may be contributing to the poor water quality status of the receiving waters.
- The discharge from the wastewater treatment plant may have a negative impact on the Water Framework Directive status (which is assigned Poor status for River Water body Status 2010-2012, and Moderate status for Transitional Water body Status 2010-2012).

2.4 Data collection and reporting requirements under the Urban Waste Water Treatment Directive

The reporting requirement under the Urban Wastewater Directive is completed by electronic submission of data was completed in February 2016.

2.5 Pollutant Release and Transfer Register (PRTR) - report for previous year

A PRTR is not required this year as the agglomeration is less than 100,000 p.e. A PRTR will be due for completion in February 2017 for the 2016 reporting period.

Section 3 Operational Reports Summary

3.1 Treatment Efficiency Report

A summary presentation of the efficiency of the treatment process including information for all the parameters specified in the licence is included below:-

Table 3.1 - Treatment Efficiency Report Summary

	cBOD (kg/yr)	COD (kg/yr)	SS (kg/yr)	Total P (kg/yr)	Total N (kg/yr)	Comment
Influent mass loading (kg/year)	380,936	1,082,673	463,361	20,451	99,811	
Effluent mass emission (kg/year)	3,467	20,281	6,721	1,189	8,438	
% Efficiency (% reduction of influent load)	99%	98%	99%	94%	92%	

3.2 Treatment Capacity Report

Table 3.2 - Treatment Capacity Report Summary

Hydraulic Capacity – Design / As Constructed (dry weather flow) (m3/year)	1,365,100
Hydraulic Capacity – Design / As Constructed (peak flow) (m3/year)	4,095,300
Hydraulic Capacity – Current loading (m3/year)	4,748,906
Hydraulic Capacity – Remaining (m3/year)	0
Organic Capacity - Design / As Constructed (PE)	17,000
Organic Capacity - Current loading (PE)	17,394
Organic Capacity – Remaining (PE)	0
Will the capacity be exceeded in the next three years? (Yes/ No)	Yes

3.3 Extent of Agglomeration Summary Report

In this section Irish Water is required to report on the amount of urban waste water generated within the agglomeration. It does not include any waste water collected and treated in a private system and discharged to water under a Section 4 Licence issued under the Water Pollution Acts 1977 (as amended):

Table 3.3 - Extent of Agglomeration Summary Report

	% of p.e. load generated in the agglomeration
Load generated in the agglomeration that is collected in the sewer network	**100%**
Load collected in the agglomeration that enters treatment plant	**Unknown**
Load collected in the sewer network but discharged without treatment	**Unknown**

Load generated in the agglomeration that is collected in the sewer network is the total load generated and collected in the municipal network within the boundary of the agglomeration.

Load collected in the agglomerations that enters treatment plant is that portion of the previous figure which enters the waste water treatment plant

Load collected but discharged without treatment is that portion of the first figure which is discharged without treatment.

The data in Table 3.3 is estimated based on influent monitoring as detailed in Section 2.1 above.

3.4 Complaints Summary

Of complaints received during 2015, there were 10 complaints of an environmental nature related to the operation of Ennis North Waste Water Treatment Plant Licence No: D0048-01.

A summary of complaints of an environmental nature is included below.

Table 3.4 - Complaints Summary Table:

Number	Date & Time	Nature of Complaint	Cause of Complaint	Actions taken to resolve issue	Closed (Y/N)
WO22656127	28/01/2015	Sewage overflowing	Blocked sewer	Unblocked sewer	Y
WO22698323	06/02/2015	Sewer overflowing from manhole	Blocked sewer	Unblocked sewer	Y
WO22705711	05/02/2015	Drains overflowing near Restaurant	Poorly constructed pipe work.	Old manhole reconstructed to alleviate problem.	Y
WO22718976	06/02/15	Sewer overflowing onto street.	Blocked sewer	Unblocked sewer	Y
WO22767471	19/02/2015	Sewage overflowing from manhole.	Blocked sewer	Unblocked sewer	Y
WO22883930	04/03/2015	Sewage overflowing from manhole.	Blocked sewer	Unblocked sewer	Y
WO22958722	20/03/2015	Sewage coming up through garden.	Blocked sewer	Unblocked sewer	Y

WO22969112	19/03/2015	Sewage overflowing onto road.	Blocked sewer	Unblocked sewer	Y
WO23115792	23/04/2015	Sewage overflowing onto footpath.	Blocked sewer	Unblocked sewer	Y
W23800070	21/12/2015	Sewage overflowing onto lane.	Combined foul sewer during extreme weather event.	Checked regularly.	Y

3.5 Reported Incidents Summary

A summary of reported incidents is included below.

Table 3.5.1 - Summary of Incidents

Incident Type (e.g. Non-compliance, Emission, spillage, Emergency Overflow Activation)	Incident Description	Cause	No. of incidents	Corrective Action	Authorities Contacted Note 1	Reported to EPA (Yes/No)	Closed (Y/N)
Breach of ELV	ELV exceedance for parameter Ammonia as N	WWTP overloaded	1	Upgrading of Ennis North WWTP	No	Yes	No CI000012 open
Breach of ELV	ELV exceedance for parameter Ortho-phosphate	WWTP overloaded	5	Upgrading of Ennis North WWTP	No	Yes	No CI000012 open
Uncontrolled Release	Uncontrolled release of effluent from storm tanks at Francis St Pumping Station to River Fergus	Extreme rainfall event	1	Limited corrective action due to Ennis town centre having a combined sewer.	Fisheries Ireland	Yes INCI006932	Yes
Emergency Overflow	Storm pumps at	Extreme rainfall	1	Over pumped	Fisheries Ireland	Yes INCI009165	No

	Francis St Pump Station were restricted.	event		from intake to storm sump within Francis St PS during extreme event.			
Emergency Overflow	Difficulty experienced with sewers by nearby large business	Extreme rainfall event	1	Over pumped from Gort Road Pumping Station to River Fergus Minor to prevent flooding of property.	Fisheries Ireland	Yes INC009218	Yes

Note 1: For shellfish waters notify the Marine Institute (MI) Sea Fisheries Protection Authority (SFPA) Food Safety Authority (FSAI) and An Bord Iascaigh Mhara (BIM). This should also include any other authorities that should be contacted arising from the findings of any Licence Specific Reports also e.g. Drinking Water Abstraction Impact Risk Assessment, Fresh Water Pearl Mussel Impact Assessments etc.

Table 3.5.2 - Summary of Overall Incidents

Number of Incidents in 2015	No. of 9
Number of Incidents reported to the EPA via EDEN in 2015	No. of 3
Explanation of any discrepancies between the two numbers above	All results of monitoring submitted as quarterly reports to the Agency in compliance with CI000012.

3.6 Sludge / Other inputs to the WWTP

'Other inputs' to the waste water treatment plant are summarised in Table 3.6 below.

Table 3.6 - Other Inputs[1,2]

Input type	m3/year	PE/year	% of load to WWTP	Included in Influent Monitoring (Y/N)?[3]	Is there a leachate/sludge acceptance procedure for the WWTP? (Y/N)	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
Domestic /Septic Tank Sludge	0	0	0	N/A	N/A	N/A
Industrial / Commercial Sludge	0	0	0	N/A	N/A	N/A
Landfill Leachate (delivered by tanker)	0	0	0	N/A	N/A	N/A
Landfill Leachate (delivered by sewer network)	0	0	0	N/A	N/A	N/A
Other (specify)	0	0	0	N/A	N/A	N/A

Notes:

1. Other Inputs include; septic tank sludge, industrial /commercial sludge, landfill leachate and any other sludge that is collected and added to the treatment plant.
2. Sludge that is added to a dedicated sludge reception facility at a waste water treatment plant **not** included in Table 3.6. Only include sludge which is added to the waste water treatment process stream. Enter zero where there are no inputs.
3. If any inputs were introduced **prior** to influent monitoring point and therefore already reported in S.2.1 *Influent Monitoring Summary*, then clarify this to avoid duplication and over-reporting of PE.

Section 4. Infrastructural Assessments and Programme of Improvements

4.1 Storm water overflow identification and inspection report

A full assessment of storm overflows, including the investigation, identification and assessment of storm water overflows as required under Condition 4.11 has not been undertaken. However, arising from the combined sewer network design within the Ennis North agglomeration, it is acknowledged that storm water management is a major contributor to the hydraulic load to both the collection system and the WWTP. Storm overflows from the sewer network take place from Francis Street and Tulla Road Pumping Stations. These overflows are both located upstream of the Ennis North discharge point. A storm overflow from the Ennis North WWTP is

also located approximately 50 metres upstream of the treated wastewater discharge. Monitoring of the River Fergus downstream of these discharges provides information on impact of the discharges on the receiving waters.

Table 4.1.1 - SWO Identification and Inspection Summary Report

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow (High / Medium / Low)	Compliance with DoEHLG Criteria	No. of times activated in 2015 (No. of events)	Total volume discharged in 2015(m3)	Total volume discharged in 2015(P.E.)	Estimated /Measured data
SW2	E134859 N177469	No	Not yet assessed	Not yet assessed	Continuous	3,572,271	15,529	Estimated
SW3	E134355 N177744	Yes	Not yet assessed	Not yet assessed	Unknown	Unknown	Unknown	N/A
SW4	E134675 N178004	Yes	Not yet assessed	Not yet assessed	Unknown	Unknown	Unknown	N/A

Table 4.1.2 - SWO Identification and Inspection Summary Report

How much sewage was discharged via SWOs in the agglomeration in the year (m3/yr)?	Unknown
How much sewage was discharged via SWOs in the agglomeration in the year (p.e.)?	Unknown
What % of the total volume of sewage generated in the agglomeration was discharged via SWOs in the agglomeration in 2015?	Unknown
Is each SWO identified as non-compliant with DoEHLG Guidance included in the Programme of Improvements?	N/A
The SWO assessment includes the requirements of Schedule A3 & C3	N/A
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	N/A

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4. 2 Report on progress made and proposals being developed to meet the improvement programme requirements.

See Table 4.2.1 below for a progress summary on the improvement works specified under Schedules A3 and C of the WWDL.

Table 4.2.1 - Specified Improvement Programme Summary

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule (A or C)	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works ((i) Not Started; (ii) At planning stage; (iii) Work ongoing on-site; (iv) Commissioning Phase; (v) Completed; (vi) Delayed;)	% Construction Work Completed	Timeframe for Completing the Work	Comments
Ennis North WWTP • Rehabilitation and capacity increase of storm balance tanks • Upgrade of inlet works • Upgrade of treatment capacity of current aeration and clarifier tanks to cater for existing increase in wastewater loading. • Installation of tertiary treatment systems.	C A.3	31/12/2010	Yes	Works currently under construction	88%	Q2 2016	
Collection System • Upgrade of satellite	C A.3	31/12/2010	Yes	Not Started	0%	TBC	

pump station overflows • Separation of known surface water connections from the main combined sewer where feasible • Rehabilitation of sewers with high levels of infiltration							
SW2 discharge to be upgraded to SWO Discharge SW2 to revert to performance standards and comply with specifications for a Storm Water Overflow	A.2 A.3	01/01/2011	Yes	Not Started	0%	TBC	

A summary of the status of any improvements identified by under Condition 5.2 is included below.

Table 4.2.2 - Improvement Programme Summary

Improvement Identifier	Improvement Description	Improvement Source	Progress (% completed)	Expected Completion Date	Comments
N/A	**N/A**	*WWTP assessment (Condition 5.2).*	**N/A**	**N/A**	**N/A**
N/A	**N/A**	*Sewer Integrity Tool (Condition 5.2).*	**N/A**	**N/A**	**N/A**
N/A	**N/A**	*Secondary discharges assessment (Condition 5.2).*	**N/A**	**N/A**	**N/A**
N/A	**N/A**	*SWO assessment (Condition 4 & 5.2).*	**N/A**	**N/A**	**N/A**
N/A	**N/A**	*Drinking Water Abstraction Risk Assessment (Condition 4)*	**N/A**	**N/A**	**N/A**
N/A	**N/A**	*Shellfish Impact Risk Assessment (Condition 5)*	**N/A**	**N/A**	**N/A**

N/A	**N/A**	*Pearl Mussel Impact Assessment (Condition 4)*	**N/A**	**N/A**	**N/A**
N/A	**N/A**	*Improved Operational Control*	**N/A**	**N/A**	**N/A**
N/A	**N/A**	*Incident Reduction*	**N/A**	**N/A**	**N/A**
N/A	**N/A**	*Elimination/Reduction of Priority Substances*	**N/A**	**N/A**	**N/A**

Table 4.2.3 - Sewer Integrity Risk Assessment Tool Summary

The Improvement Programme should include an assessment of the integrity of the existing wastewater works for the following:	***Risk Assessment Rating (High, Medium, Low)***	***Risk Assessment Score***	***Comment***
Hydraulic Risk Assessment Score	*High*	*150*	*Refer to 2014 AER*
Environmental Risk Assessment Score	*Low*	*115*	
Structural Risk Assessment Score	*High*	*150*	
Operation & Maintenance Risk Assessment Score	*High*	*200*	
Overall Risk Score for the agglomeration	*High*	*615*	*Scores may not be a true reflection of the agglomeration due absence of survey*

Section 5. Licence Specific Reports

Licence Specific Reports Summary Table

Licence Specific Report	Required in AER or outstanding from previous AER	Report Included in AER	*Reference to relevant section of AER (e.g. Appendix 2 Section4.*
Priority Substances Assessment	No	No	Already submitted as Attachment 4 of 2011 AER.
Drinking Water Abstraction Point Risk Assessment	No	No	
Habitats Impact Assessment	yes	yes	Appendix 7.3
Shellfish Impact Assessment	No	No	
Pearl Mussel Report	No	No	
Toxicity/Leachate Management	No	No	
Toxicity of Final Effluent Report	No	No	

Licence Specific Reports Summary of Findings

Licence Specific Report	Recommendations in Report	Summary of Recommendations in Report
Priority Substances Assessment	N/A	Refer to attachment 4 of 2011 AER
Drinking Water Abstraction Point Risk Assessment	N/A	N/A
Habitats Impact Assessment	no	Ensure capacity of WWTP is not exceeded and continued monitoring of the WWTP.
Shellfish Impact Assessment	N/A	N/A
Pearl Mussel Report	N/A	N/A
Toxicity/Leachate Management	N/A	N/A
Toxicity of Final Effluent Report	N/A	N/A

5.1 Priority Substances Assessment

A Priority Substances Assessment report is not required.

Table 5.1 - Priority Substance Assessment Summary

	Licensee self- assessment checks to determine whether all relevant information is included in the Assessment.
Does the assessment use the Desk Top Study Method or Screening Analysis to determine if the discharge contains the parameters in Appendix 1 of the EPA guidance	Desktop Study
Does the assessment include a review of Trade inputs to the works?	Yes
Does the assessment include a review of other inputs to the works?	Yes
Does the report include an assessment of the significance of the results where a listed material is present in the discharge? (e.g. impact on the relevant EQS standard for the receiving water)	Yes
Does the assessment identify that priority substances may be impacting the receiving water?	No
Does the Improvement Programme for the agglomeration include the elimination / reduction of all priority substances identified as having an impact on receiving water quality?	N/A

5.2 Drinking Water Abstraction Point Risk Assessment.

A Drinking Water Abstraction Point Risk Assessment report is not required.

Table 5.2 - Drinking Water Abstraction Point Risk Assessment Summary

	Licensee self- assessment checks to determine whether all relevant information is included in the Assessment.
Is a Drinking Water Abstraction Risk Assessment required in the AER (or outstanding from a previous AER)	No
Does the Drinking Water Abstraction Risk Assessment identify whether any of the discharges in Schedule A of the licence pose a risk to a drinking water abstraction	N/A
Does the assessment identify if any other discharge(s) from the works pose a risk to a drinking water abstraction (includes emergency overflows)	N/A
What is the overall risk ranking applied by the licensee	N/A

Does the risk assessment consider the impacts of normal operation	N/A
Does the risk assessment consider the impacts of abnormal operation (e.g. incidents /overflows)	N/A
Does the risk assessment include control measures for each risk identified	N/A
Does the risk assessment consider operational control measures e.g? waste water incident notification to drinking water abstraction operator	N/A
Does the risk assessment include infrastructural control measures	N/A
Does the Improvement Programme for the agglomeration include control measures / corrective actions to eliminate / reduce priority substances identified as having an impact on receiving water quality?	N/A

5.3 Shellfish Impact Assessment Report.

A Shellfish Impact Assessment Report is not required.

Table 5.3 - Preferred format for Shellfish Impact Assessment Summary

Is a Shellfish Impact assessment required in the AER (or outstanding from a previous AER)?	No
List prescribed organisations consulted when preparing the assessment (BIM, SFPA, MI)	
Does the assessment consider the impact of all discharges from the works?	N/A
Does the assessment identify that any of the discharges from the works are impacting on the microbiological quality of the shellfish?	N/A
Does the assessment recommend that there is a requirement to install UV/other disinfection equipment on any of the discharges?	N/A
Provide details on disinfection system to be employed	N/A
Has this been completed?	N/A
If not yet complete what is the expected date for completion?	N/A
Where disinfection is required, is there a programme in place to demonstrate the efficiency of any disinfection system in place?	N/A
What is the demonstrated efficiency of the disinfection system?	N/A
Is there a shellfish monitoring programme in place?	N/A
Does the shellfish or shellfish water monitoring programme include results generated by other organisations	N/A
List organisations contributing data to the assessment	N/A
Does the Improvement Programme for the agglomeration include the findings and recommendations of the shellfish impact risk assessment?	N/A

5.4 Toxicity / Leachate Management

A Toxicity / Leachate Management Assessment report is not required.

Table 5.4 - Toxicity / Leachate Management Report Summary

Is a Toxicity / Leachate Management Report required in the AER (or outstanding from previous AER)	No
What % of the total influent for the year is leachate?	N/A
Does leachate addition exceed 4% ((volume) of the influent load at any time?	N/A
Maximum leachate loading rate	N/A
Does the leachate study identify any constituents of the material that present an environmental risk?	N/A
List leachate constituent identified and impact *(insert a row for each constituent)*	N/A
Has the WWTP suitability to treat the leachate been assessed?	N/A
What are the results of the assessment (Suitable / Not Suitable / Suitable subject to improvement programme works completion)	N/A
Has the study identified the max and operational loadings (mass, volume and rate of addition) for leachate to the WWTP?	N/A
Is there a monitoring programme for the priority substances identified above?	N/A
Have trigger and action levels for the concentration of identified leachate constituents been established to prevent impact on the receiving water?	N/A
Does the Improvement Programme for the agglomeration include any procedural and/or infrastructural works to reduce the impacts of leachate acceptance on the operation of the wwtp?	N/A

5.5 Toxicity of the Final Effluent Report

A Toxicity / Leachate Management Assessment report is not required.

Table 5.5 - Toxicity of the Final Effluent Assessment Summary

Is a Toxicity report required? (Condition 4)	No
Has the study been carried out against 4 species in 3 trophic levels?	N/A
Does the report identify that the discharge is toxic to any of the species in the study?	N/A
List species impacted	N/A
Does the Improvement Programme for the agglomeration include any procedural and/or infrastructural works to reduce the toxicity of the final discharge?	N/A

5.6 Pearl Mussel Measures Report

A Pearl Mussel Sub Basin Management Report is not required.

Table 5.6 - Pearl Mussel Measure Report Summary

Is a progress report on implementation of the findings of Pearl Mussel Protection Measures report[1]required in the 2015 AER (or outstanding from previous AER)	No
Is there a Pearl Mussel Protection Measures Report for the receiving water body?	N/A
Include hyperlink to internet location of report	N/A
Does this report identify measures relevant to discharges from the waste water works as having a potential impact on the Pearl Mussel habitat?	N/A
List measures relevant to discharges from the waste water works	N/A
Does the Improvement Programme for the agglomeration include any procedural and/or infrastructural works to reduce the impacts of discharge on pearl mussel habitat / populations?	N/A
List Condition 5 Improvement Programme reference	N/A

5.7 Habitats Impact Assessment Report

A Habitats Impact Assessment Report is attached in Appendix 7.3.

Table 5.7 - Habitats Impact Assessment Summary

	Licensee self- assessment checks to determine whether all relevant information is included in the Assessment.
Is a Habitats Assessment required in the AER (includes outstanding assessments from previous years)?	Yes – Attached as Appendix 7.3
Was the scope of the study agreed in advance with NPWS	Yes
Does the report include a Stage 1 screening assessment?	Yes
Does the screening identify that discharges are causing an impact on listed sites?	Potentially

[1]Pearl Mussel Protection Measures report = Pearl mussel sub basin management plan

Does the report require a Stage 2 Appropriate assessment?	Yes
Does the report identify any European Sites (e.g. SPA, SAC, NHA) that discharges from the works could have an impact on?	Yes – Lower River Shannon SAC
List European sites identified (insert a line for each site identified)	Lower River Shannon SAC River Shannon & River Fergus Estuary SPA
Does the report include mitigation measures for each identified impact?	Yes
Does each measure explain how the adverse impact will be avoided/reduced?	Yes
Does the Improvement Programme for the agglomeration include any procedural and/or infrastructural works to reduce the impacts of discharges on a listed site (NHA, SAC, SPA)?	Yes

Section 6. Certification and Sign Off

Table 6.1 - Summary of AER Contents

Does the AER include an Executive Summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for consideration of a Technical Amendment / Review of the licence?	No
List reason e.g. additional SWO identified *(insert lines as required)*	N/A
Is there a need to request/advise the EPA of any modifications to the existing WWDL? Refer to Condition 1.7 (changes to works/discharges) & Condition 4 (changes to monitoring location, frequency etc.)	Yes
List reason e.g. failure to complete specified works within dates specified in the licence, changes to monitoring requirements *(insert lines as required)*	Change to upstream ambient monitoring point
Have these processes commenced? (i.e. Request for Technical Amendment / Licence Review / Change Request)	Yes. Requested amendment to ambient monitoring locations. Awaiting response from the EPA.
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER?	No
List outstanding reports *(insert lines as required)*	N/A

Declaration by Irish Water

The AER contains the following;

- Introduction and background to AER
- Monitoring reports summary.
- Operational reports summary.
- Infrastructural Assessment and Programme of Improvements.
- Licence specific reports.
- Certification and Sign Off
- Appendices

I certify that the information given in this Annual Environmental Report is truthful, accurate and complete:

Signed: _____ Date: 22/03/16

Gerry Galvin
Chief Technical Advisor

Section 7. Appendices

The following appendices are attached to this AER:

Appendix 7.1 - Annual Statement of Measures
Appendix 7.2 - Ambient monitoring summary
Appendix 7.3 – Natura Impact Statement

Appendix 7.1 Annual Statement of Measures

The following capital improvement works was undertaken during 2015 with completion expected to be in Q2 of 2016:

- Rehabilitation & capacity increase of storm balance tanks,
- upgrade of inlet works
- Upgrade of treatment capacity of current aerator and clarifier tanks to cater for existing increase in wastewater loading
- Installation of tertiary treatment systems

No additional measures have been taken in 2015 in relation to prevention of environmental damage. The need for measures to prevent environmental damage will be reviewed on an annual basis.

Appendix 7.2 Ambient Monitoring Summary

Ambient monitoring data for Ennis North WWTP (D0048-01) Year Jan - Dec 2015

Ennis North aSW3u **Club Bridge** E133876 N177677

SampleDate	NH3(N)	BOD	Do % Sat	DO(Meas)	Ortho-Phosphate (P)	pH	TN (N)	Total Phosphorus (P)
20/01/2015	0.01	1	92.3	11.8	0.005	7.87	1.15	0.12
11/02/2015	0.011	1	88.6	11.3	0.005	8.01	1.14	0.025
11/03/2015	0.05	1	95	10.8	0.005	8.05	0.729	0.025
15/04/2015	0.01	1	90.8	9.87	0.005	8.07	0.84	0.025
12/05/2015	0.01	1	94.7	9.73	0.005	7.99	0.78	0.06
10/06/2015	0.021	1	98	10.01	0.005	8.17	0.699	0.025
08/07/2015	0.06	2.7	84	8.55	0.02	7.82	1.08	0.13
23/09/2015	0.01	1	82.1	8.44	0.017	7.86	0.53	0.025
20/10/2015	0.027	1	84.4	9.4	0.011	8.88	0.87	0.025
18/11/2015	0.01	1	87.5	9.64	0.015	8.02	0.97	0.025
Average	**0.022**	**1.2**	**89.740**	**9.954**	**0.009**	**8.074**	**0.88**	**0.049**
95%ile	**0.056**	**2.1**	**96.95**	**11.63**	**0.019**	**8.14**	**1.15**	**0.127**
	H	**H***	**H**		**H**			

Appendix 7.2 Ambient Monitoring Summary (continued)

Ambient monitoring data for Ennis North WWTP (D0048-01) Year Jan - Dec 2015
aSW1u &
aSW3d
Bridge near
Clonroad
House – 0700

						E134520	N177880	
SampleDate	**NH3(N)**	**BOD (O2)**	**DO % Sat**	**DO (Meas)**	**Ortho-Phosphate (P)**	**pH**	**TN (N)**	**TP (P)**
20/01/2015	0.01	1	92.1	11.8	0.005	7.84	1.15	0.025
11/02/2015	0.027	1	89.2	11.41	0.011	7.98	1.04	0.025
11/03/2015	0.034	1	95.2	11.1	0.005	8.06	0.749	0.025
15/04/2015	0.01	1	91.2	9.92	0.005	8.05	0.749	0.025
12/05/2015	0.01	1	95.2	10.1	0.005	8.08	0.793	0.06
10/06/2015	0.01	1	98.1	10.07	0.005	8.17	1.49	0.05
08/07/2015	0.05	2.1	81.5	8.28	0.02	7.81	1.04	0.14
23/09/2015	0.01	1	83.2	8.59	0.013	7.84	0.58	0.025
20/10/2015	0.022	1	82.3	9.2	0.014	8.09	0.775	0.025
18/11/2015	0.026	1	87.1	9.63	0.016	8.05	1.16	0.025
Average	**0.021**	**1.1**	**89.51**	**10.01**	**0.010**	**8.00**	**0.95**	**0.04**
95%ile	**0.043**	**1.6**	**96.795**	**11.62**	**0.018**	**8.13**	**1.3415**	**0.104**
	H	**H***	**H**		**H**			

Appendix 7.2 Ambient Monitoring Summary (continued)

Ambient monitoring data for Ennis North WWTP (D0048-01) Year Jan - Dec 2015

aSW1d
Bridge S.W.
of Doora -
0720

E134888 N176809

SampleDate	NH3(N)	BOD (O2)	DO % Saturation	DO (Measurement)	Ortho-Phosphate (P)	pH	TN (N)	TP (P)	
20/01/2015	0.024	1	91.4	11.7	0.005	7.81	1.15	0.025	
10/02/2015	*0.089*	1	86.1	11.2	0.016	7.88	1.22	0.025	
11/03/2015	0.042	1	93.9	11	0.016	8.03	0.789	0.05	
14/04/2015	*0.064*	2.3	85.7	9.2	0.02	8.01	0.879		No TP available
12/05/2015	*0.069*	1	92.2	9.7	0.018	7.91	0.858	0.07	
09/06/2015	*0.079*	1	*88.5*	9.5	*0.013*	8.09	0.801	0.025	
08/07/2015									Not reported - Saline sample as tide in
23/09/2015	*0.046*	1	*81.3*	8.5	*0.014*	7.86			
20/10/2015	*0.496*	1	80	*8.4*	0.116	*8.03*			
17/11/2015	*0.028*	1	*83.2*	9.2	*0.018*	7.86	1.18	0.025	
Average	**0.104**	**1.1**	**86.9**	**9.82**	**0.026**	**7.94**	**0.98**	**0.04**	
95%ile	**0.333**	**1.8**	**93.2**	**11.50**	**0.078**	**8.07**	**1.21**	**0.07**	
	F	**H***	**H**		**G**				

Limit of detection for BOD is 2mg/l hence the average and 95%ile cannot be calculated
Results for nutrients cannot be accepted where samples indicate hide tide saline location

Appendix 7.3 Habitat Impact Assessment Report (Natura Impact Statement) for Ennis North WWTP (D0048-01)

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Annual Environmental Report 2016

Agglomeration Name:	Ennis North
Licence Register No.	D0048-01

Table of Contents

Section 1. Executive Summary and Introduction to the 2016 AER

1.1 Summary report on 2016

This Annual Environmental Report has been prepared for D0048-01, Ennis North, in County Clare in accordance with the requirements of the wastewater discharge licence for the agglomeration.

No specified reports are included as an appendix to the AER.

The agglomeration is served by a wastewater treatment plant with a Plant Capacity PE of circa 30,150 (please note this is not verified since the upgrade contract is not concluded). The treatment process includes the following:

- Preliminary treatment including screening and grit removal
- Primary treatment
- Secondary treatment – extended aeration activated sludge

The final effluent from the Primary Discharge Point was non-compliant with the Emission Limit Values in 2016.

The following parameters exceeded the emission limit values in 2016:
- cBOD
- Suspended Solids
- Total Nitrogen
- Total Phosphorus
- Orthophosphate
- Ammonia as N

1,274,360 Kgs (as 16.1% dry solids) were removed from the wastewater treatment plant as dewatered sludge cake. Sludge was transferred by Biocore Environmental to Tulsk, Co. Roscommon, under contract between Biocore and Irish Water/Clare County Council. In addition, 382,020 Kgs of liquid sludge was removed and transferred to Limerick Main Drainage.

The following capital improvement works was undertaken during 2016 with completion expected to be in Q1 of 2017:
- Rehabilitation & capacity increase of storm balance tanks,
- upgrade of inlet works
- Upgrade of treatment capacity of current aerator and clarifier tanks to cater for existing increase in wastewater loading
- Installation of tertiary treatment systems

An Annual Statement of Measures is included in **Appendix 7.1.**

Section 2. Monitoring Reports Summary

2.1 Summary report on monthly influent monitoring

Table 2.1 - Influent Monitoring Summary

	BOD (mg/l)	COD (mg/l)	SS (mg/l)	TP (mg/l)	TN (mg/l)	Hydraulic Loading (m3/d)	Organic Loading (PE/day)
Number of Samples	12	12	12	12	12		
Annual Max.	216	1273	888	27	46	25,423	31,176
Annual Mean	89	312	202	5	21	12,562	17,239

Significance of results

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity as detailed further in Section 3.2.

The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity as detailed further in Section 3.2.

The annual mean organic loading is less than the Treatment Plant Capacity as detailed further in Section 3.2.

The annual maximum organic loading is greater than the Treatment Plant Capacity as detailed further in Section 3.2.

2.2 Discharges from the agglomeration

Table 2.2 - Effluent Monitoring Summary

	cBOD (mg/l)[2]	COD (mg/l)[2]	TSS (mg/l)[2]	PO4 as P (mg/l)	NH3 as N (mg/l)	TN (mg/l)	TP (mg/l)	pH	Comment
WWDL ELV (*Schedule A*)	10	125	35	1	1	15	2	7-9	
ELV with Condition 2 Interpretation included	10	*250*	87.5	1.2	1.2	18	2.4	7-9	
Number of sample results	12	12	12	12	12	12	12	12	
Number of sample results above WWDL ELV/not achieving min % reduction [1,2]	**3**	**0**	**3**	**1**	**3**	**1**	**2**	**0**	
Number of sample results above ELV with Condition 2 Interpretation included	**3**	**0**	**1**	**1**	**3**	**1**	**1**	**0**	
Annual Mean (for parameters where a mean ELV applies)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Compliance (Pass/Fail)	Fail	Pass	Fail	Fail	Fail	Fail	Fail	Pass	

Significance of results

The WWTP was non-compliant with the ELV's set in the wastewater discharge licence. There were 10 samples non-compliant with the ELV's in relation to cBOD (3), Total Suspended Solids (1), Orthophosphate (1), Ammonia as N (3), Total Nitrogen (1) and Total Phosphorus (1). The non-compliances are due to treatment inefficiencies which are currently being addressed. The impact on receiving waters is assessed further in Section 2.3.

2.3 Ambient monitoring summary

The discharge drains to the River Fergus Code SH_27_F01. For the reporting period 2016, monitoring of the receiving waters was carried out upstream and downstream of the discharge point SW1, and also upstream and downstream of SW3 (storm overflow from Francis Street Pumping Station). Access to the monitoring points listed in the licence has proven to be extremely hazardous as they are only accessible during low tide conditions. The monitoring points are subject to ongoing flooding hence they are not suitable as locations for regular monitoring. Alternative monitoring locations have been identified at the bridges upstream and downstream of the WWTP and Pump Station. The proposed monitoring locations are included in the Water Framework Directive (WFD) monitoring programme, which promotes effective use of resources within the Council. Clare County Council, on behalf of IW, is in correspondence with the Agency with regard to amending the ambient monitoring locations.

Table 2.3 - Ambient Monitoring Report Summary

Ambient Monitoring Point from WWDL (or as agreed with EPA)	***Irish Grid Reference***	**EPA Feature Coding Tool code**	**Receiving Waters Designation(Y/N)**				**WFD Status**	**Does assessment of the ambient monitoring results indicate that the discharge is impacting on water quality?**
			Bathing Water	**Drinking Water**	**FWPM**	**Shellfish**		
aSW1u & aSW3d Br near Clonroad House Code: SH_27_F01_0700	E134520 N177880		N	N	N	N	Poor	No observable negative impact
aSW1d Br SW of Doora Code: SH_27_F01_0720	E134888 N176809		N	N	N	N	Poor (River Status) Moderate (Transitional status)	No observable negative impact.
aSW3u Club Bridge (upstream Francis St Pump Station) Code: SH_27_F01	E133876 N177677		N	N	N	N	Poor	No observable negative impact.

The results for the upstream and downstream monitoring used are included as in Appendix 7.2.

<u>Significance of results</u>

- The WWTP was non-compliant with the ELV's set in the wastewater discharge licence for cBOD, TSS, TN, TP, Ammonia as N and Orthophosphate as P as detailed in Section 2.2.
- Based on this year's results, the discharge from the wastewater treatment plant does not appear to have a negative impact on the receiving waters.

- The discharge from the wastewater treatment plant may have a negative impact on the Water Framework Directive status (which is assigned Poor status for River Water body Status 2010-2012, and Moderate status for Transitional Water body Status 2010-2012).

2.4 Data collection and reporting requirements under the Urban Waste Water Treatment Directive

The reporting requirement under the Urban Wastewater Directive is completed by electronic submission of data was completed in February 2017.

2.5 Pollutant Release and Transfer Register (PRTR) - report for previous year

A PRTR is not required this year as the agglomeration is less than 100,000 p.e.

Section 3 Operational Reports Summary

3.1 Treatment Efficiency Report

A summary presentation of the efficiency of the treatment process including information for all the parameters specified in the licence is included below:-

Table 3.1 - Treatment Efficiency Report Summary

	cBOD (kg/yr)	COD (kg/yr)	SS (kg/yr)	Total P (kg/yr)	Total N (kg/yr)	Comment
Influent mass loading (kg/year)	377,529	1,320,689	853,471	21,732	90,511	
Effluent mass emission (kg/year)	21,332	121,979	68,250	4,514	28,133	
% Efficiency (% reduction of influent load)	94%	91%	92%	79%	69%	

3.2 Treatment Capacity Report

Table 3.2 - Treatment Capacity Report Summary

Hydraulic Capacity – Design / As Constructed (m3/day) DWF	6,784
Hydraulic Capacity – Design / As Constructed (m3/day) Peak	20,352
Hydraulic Capacity – Current loading (m3/day	12,562
Hydraulic Capacity – Remaining (m3/day)	-
Organic Capacity - Design / As Constructed (PE)	30,150
Organic Capacity - Current loading (PE)	17,239
Organic Capacity – Remaining (PE)	-
Will the capacity be exceeded in the next three years? (Yes / No)	-

It should be noted that the plant design capabilities cannot be verifed as the upgrade contract has not yet concluded.

3.3 Extent of Agglomeration Summary Report

In this section Irish Water is required to report on the amount of urban waste water generated within the agglomeration. It does not include any waste water collected and treated in a private system and discharged to water under a Section 4 Licence issued under the Water Pollution Acts 1977 (as amended):

Table 3.3 - Extent of Agglomeration Summary Report

	% of p.e. load generated in the agglomeration
Load generated in the agglomeration that is collected in the sewer network	**100%**
Load collected in the agglomeration that enters treatment plant	**Unknown**
Load collected in the sewer network but discharged without treatment	**Unknown**

Load generated in the agglomeration that is collected in the sewer network is the total load generated and collected in the municipal network within the boundary of the agglomeration.

Load collected in the agglomerations that enters treatment plant is that portion of the previous figure which enters the waste water treatment plant

Load collected but discharged without treatment is that portion of the first figure which is discharged without treatment.

The data in Table 3.3 is estimated based on influent monitoring as detailed in Section 2.1 above.

3.4 Complaints Summary

Of complaints received during 2016, there were 10 complaints of an environmental nature related to the operation of Ennis North Waste Water Treatment Plant Licence No: D0048-01.

A summary of complaints of an environmental nature is included below.

Table 3.4 - Complaints Summary Table:

Number of Complaints	**Nature of Complaint**	**Number Open Complaints**	**Number Closed Complaints**	**Comment**
22	Sewer overflowing	0	22	
1	Sewer overflowing	0	1	COM005575. Not taken in charge by IW.

3.5 Reported Incidents Summary

A summary of reported incidents is included below.

Table 3.5.1 - Summary of Incidents

Incident Type (e.g. Non-compliance, Emission, spillage, Emergency Overflow Activation)	Incident Description	Cause	No. of incidents	Corrective Action	Authorities Contacted Note 1	Reported to EPA (Yes/No)	Closed (Y/N)
Breach of ELV	ELV exceedance for parameter cBOD	WWTP overloaded	3	Upgrading of Ennis North WWTP	No	Yes	No CI000012 open
Breach of ELV	ELV exceedance for parameter TSS	WWTP overloaded	1	Upgrading of Ennis North WWTP	No	Yes	No CI000012 open
Breach of ELV	ELV exceedance for parameter Ammonia as N	WWTP overloaded	3	Upgrading of Ennis North WWTP	No	Yes	No CI000012 open
Breach of ELV	ELV exceedance for parameter Ortho-phosphate	WWTP overloaded	1	Upgrading of Ennis North WWTP	No	Yes	No CI000012 open
Breach of ELV	ELV exceedance for parameter Total Nitrogen	WWTP overloaded	1	Upgrading of Ennis North WWTP	No	Yes	No CI000012 open
Breach of ELV	ELV exceedance for parameter Total Phosphorus	WWTP overloaded	1	Upgrading of Ennis North WWTP	No	Yes	No CI000012 open
Uncontrolled Release	Uncontrolled release from Pump Station	Pump Overheated	1	Reset and brought online.	Fisheries Ireland	Yes INCI009657	Yes

Note 1: For shellfish waters notify the Marine Institute (MI) Sea Fisheries Protection Authority (SFPA) Food Safety Authority (FSAI) and An Bord Iascaigh Mhara (BIM). This should also include any other authorities that should be contacted arising from the findings of any Licence Specific Reports also e.g. Drinking Water Abstraction Impact Risk Assessment, Fresh Water Pearl Mussel Impact Assessments etc.

Table 3.5.2 - Summary of Overall Incidents

Number of Incidents in 2016	No. of 11
Number of Incidents reported to the EPA via EDEN in 2016	No. of 1
Explanation of any discrepancies between the two numbers above	All results of monitoring submitted as quarterly reports to the Agency in compliance with CI000012.

3.6 Sludge / Other inputs to the WWTP

'Other inputs' to the waste water treatment plant are summarised in Table 3.6 below.

Table 3.6 - Other Inputs[1,2]

Input type	**m3/year**	**PE/year**	**% of load to WWTP**	**Included in Influent Monitoring (Y/N)?[3]**	**Is there a leachate/sludge acceptance procedure for the WWTP? (Y/N)**	**Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)**
Domestic /Septic Tank Sludge	0	0	0	N/A	N/A	N/A
Industrial / Commercial Sludge	0	0	0	N/A	N/A	N/A
Landfill Leachate (delivered by tanker)	0	0	0	N/A	N/A	N/A
Landfill Leachate (delivered by sewer network)	0	0	0	N/A	N/A	N/A
Other (specify)	0	0	0	N/A	N/A	N/A

Notes:

1. Other Inputs include; septic tank sludge, industrial /commercial sludge, landfill leachate and any other sludge that is collected and added to the treatment plant.
2. Sludge that is added to a dedicated sludge reception facility at a waste water treatment plant **not** included in Table 3.6. Only include sludge which is added to the waste water treatment process stream. Enter zero where there are no inputs.
3. If any inputs were introduced **prior** to influent monitoring point and therefore already reported in S.2.1 *Influent Monitoring Summary*, then clarify this to avoid duplication and over-reporting of PE.

Section 4. Infrastructural Assessments and Programme of Improvements

4.1 Storm water overflow identification and inspection report

A full assessment of storm overflows, including the investigation, identification and assessment of storm water overflows as required under Condition 4.11 has not been undertaken. However, arising from the combined sewer network design within the Ennis North agglomeration, it is acknowledged that storm water management is a major contributor to the hydraulic load to both the collection system and the WWTP. Storm overflows from the sewer network take place from Francis Street and Tulla Road Pumping Stations. These overflows are both located upstream of the Ennis North discharge point. A storm overflow from the Ennis North WWTP is also located approximately 50 metres upstream of the treated wastewater discharge. Monitoring of the River Fergus downstream of these discharges provides information on impact of the discharges on the receiving waters.

Table 4.1.1 - SWO Identification and Inspection Summary Report

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow (High / Medium / Low)	Compliance with DoEHLG Criteria	No. of times activated in 2016 (No. of events)	Total volume discharged in 2016(m3)	Total volume discharged in 2016(P.E.)	Estimated /Measured data
SW2	E134859 N177469	No (in A3)	Not yet assessed	Not yet assessed	Continuous	1,896,188	9,143	Estimated
SW3	E134355 N177744	Yes	Not yet assessed	Not yet assessed	Unknown	Unknown	Unknown	N/A
SW4	E134675 N178004	Yes	Not yet assessed	Not yet assessed	Unknown	Unknown	Unknown	N/A

Table 4.1.2 - SWO Identification and Inspection Summary Report

How much sewage was discharged via SWOs in the agglomeration in the year (m3/yr)?	Unknown
How much sewage was discharged via SWOs in the agglomeration in the year (p.e.)?	Unknown
What % of the total volume of sewage generated in the agglomeration was discharged via SWOs in the agglomeration in 2016?	Unknown
Is each SWO identified as non-compliant with DoEHLG Guidance included in the Programme of Improvements?	N/A
The SWO assessment includes the requirements of Schedule A3 & C3	N/A
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	N/A

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4. 2 Report on progress made and proposals being developed to meet the improvement programme requirements.

See Table 4.2.1 below for a progress summary on the improvement works specified under Schedules A3 and C of the WWDL.

Table 4.2.1 - Specified Improvement Programme Summary

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule (A or C)	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works ((i) Not Started; (ii) At planning stage; (iii) Work ongoing on-site; (iv) Commissioning Phase; (v) Completed; (vi) Delayed;)	% Construction Work Completed	Timeframe for Completing the Work	Comments
Ennis North WWTP • Rehabilitation and capacity increase of storm balance tanks • Upgrade of inlet works • Upgrade of treatment capacity of current aeration and clarifier tanks to cater for existing increase in wastewater loading. • Installation of tertiary treatment systems.	C A.3	31/12/2010	Yes	Works complete	100%	Q1 2017	
Collection System • Upgrade of satellite pump station overflows	C A.3	31/12/2010	Yes	Not Started	0%	TBC	

• Separation of known surface water connections from the main combined sewer where feasible • Rehabilitation of sewers with high levels of infiltration							
Tulla Road & Francis St Pump Stations • Repair of grit traps • Replacement of pumps and improving pump controls • Diversion of surface water flows away from pump stations • Upgrade of combined sewer overflow regime at pump stations.	C1	31/12/2010	Yes	Works ongoing Part completed Ennis Flood Relief Scheme Phases 1 and 2	90%	April 2017 2009 and 2014 TBC	Not yet operational. Foul pumps replaced in both pump stations. Small sections of Ennis Town centre completed. CSO Pumps not yet upgraded.
SW2 discharge to be upgraded to SWO Discharge SW2 to revert to performance standards and comply with specifications for a Storm Water Overflow	A.2 A.3	01/01/2011	Yes	Works Complete	100%	Q4 2016	

A summary of the status of any improvements identified by under Condition 5.2 is included below.

Table 4.2.2 - Improvement Programme Summary

Improvement Identifier	Improvement Description	Improvement Source	Progress (% completed)	Expected Completion Date	Comments
N/A	N/A	*WWTP assessment (Condition 5.2).*	N/A	N/A	N/A
N/A	N/A	*Sewer Integrity Tool (Condition 5.2).*	N/A	N/A	N/A
N/A	N/A	*Secondary discharges assessment (Condition 5.2).*	N/A	N/A	N/A
N/A	N/A	*SWO assessment (Condition 4 & 5.2).*	N/A	N/A	N/A
N/A	N/A	*Drinking Water Abstraction Risk Assessment (Condition 4)*	N/A	N/A	N/A
N/A	N/A	*Shellfish Impact Risk Assessment (Condition 5)*	N/A	N/A	N/A
N/A	N/A	*Pearl Mussel Impact Assessment (Condition 4)*	N/A	N/A	N/A
N/A	N/A	*Improved Operational Control*	N/A	N/A	N/A
N/A	N/A	*Incident Reduction*	N/A	N/A	N/A
N/A	N/A	*Elimination/Reduction of Priority Substances*	N/A	N/A	N/A

Table 4.2.3 - Sewer Integrity Risk Assessment Tool Summary

The Improvement Programme should include an assessment of the integrity of the existing wastewater works for the following:	***Risk Assessment Rating (High, Medium, Low)***	***Risk Assessment Score***	***Comment***
Hydraulic Risk Assessment Score	*High*	*150*	*Refer to 2014 AER*
Environmental Risk Assessment Score	*Low*	*115*	
Structural Risk Assessment Score	*High*	*150*	
Operation & Maintenance Risk Assessment Score	*High*	*200*	
Overall Risk Score for the agglomeration	*High*	*615*	*Scores may not be a true reflection of the agglomeration due absence of survey*

Section 5. Licence Specific Reports

Licence Specific Reports Summary Table

Licence Specific Report	Required in AER or outstanding from previous AER	Report Included in AER	*Reference to relevant section of AER (e.g. Appendix 2 Section4.*
Priority Substances Assessment	No	No	Already submitted as Attachment 4 of 2011 AER.
Drinking Water Abstraction Point Risk Assessment	No	No	N/A
Habitats Impact Assessment	No	No	Already submitted as Appendix 7.3 of 2015 AER.
Shellfish Impact Assessment	No	No	N/A
Pearl Mussel Report	No	No	N/A
Toxicity/Leachate Management	No	No	N/A
Toxicity of Final Effluent Report	No	No	N/A
Small Streams Risk Score	No	No	N/A

Licence Specific Reports Summary of Findings

Licence Specific Report	Recommendations in Report	Summary of Recommendations in Report
Priority Substances Assessment	No	Refer to attachment 4 of 2011 AER
Drinking Water Abstraction Point Risk Assessment	N/A	N/A
Habitats Impact Assessment	Yes	Ensure capacity of WWTP is not exceeded and continued monitoring of the WWTP.
Shellfish Impact Assessment	N/A	N/A
Pearl Mussel Report	N/A	N/A
Toxicity/Leachate Management	N/A	N/A
Toxicity of Final Effluent Report	N/A	N/A
Small Streams Risk Score	N/A	N/A

5.1 Priority Substances Assessment

A Priority Substances Assessment report is not required.

Table 5.1 - Priority Substance Assessment Summary

	Licensee self- assessment checks to determine whether all relevant information is included in the Assessment.
Does the assessment use the Desk Top Study Method or Screening Analysis to determine if the discharge contains the parameters in Appendix 1 of the EPA guidance	Desktop Study
Does the assessment include a review of Trade inputs to the works?	Yes
Does the assessment include a review of other inputs to the works?	Yes
Does the report include an assessment of the significance of the results where a listed material is present in the discharge? (e.g. impact on the relevant EQS standard for the receiving water)	Yes
Does the assessment identify that priority substances may be impacting the receiving water?	No
Does the Improvement Programme for the agglomeration include the elimination / reduction of all priority substances identified as having an impact on receiving water quality?	N/A

5.2 Habitats Impact Assessment Report

A Habitats Impact Assessment Report is not required in the AER. It was submitted as Appendix 7.3. as per 2015 AER.

Table 5.2 - Habitats Impact Assessment Summary

	Licensee self- assessment checks to determine whether all relevant information is included in the Assessment.
Is a Habitats Assessment required in the AER (includes outstanding assessments from previous years)?	No
Was the scope of the study agreed in advance with NPWS	N/A
Does the report include a Stage 1 screening assessment?	N/A
Does the screening identify that discharges are causing an impact on listed sites?	Potentially

Does the report require a Stage 2 Appropriate assessment?	Yes
Does the report identify any European Sites (e.g. SPA, SAC, NHA) that discharges from the works could have an impact on?	Yes – Lower River Shannon SAC
List European sites identified (insert a line for each site identified)	Lower River Shannon SAC River Shannon & River Fergus Estuary SPA
Does the report include mitigation measures for each identified impact?	Yes
Does each measure explain how the adverse impact will be avoided/reduced?	Yes
Does the Improvement Programme for the agglomeration include any procedural and/or infrastructural works to reduce the impacts of discharges on a listed site (NHA, SAC, SPA)?	Yes

Section 6. Certification and Sign Off

Table 6.1 - Summary of AER Contents

Does the AER include an Executive Summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for consideration of a Technical Amendment / Review of the licence?	No
List reason e.g. additional SWO identified *(insert lines as required)*	N/A
Is there a need to request/advise the EPA of any modifications to the existing WWDL? Refer to Condition 1.7 (changes to works/discharges) & Condition 4 (changes to monitoring location, frequency etc.)	Yes
List reason e.g. failure to complete specified works within dates specified in the licence, changes to monitoring requirements *(insert lines as required)*	Change to upstream ambient monitoring point
Have these processes commenced? (i.e. Request for Technical Amendment / Licence Review / Change Request)	Yes. Requested amendment to ambient monitoring locations. Awaiting response from the EPA.
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER?	No
List outstanding reports *(insert lines as required)*	N/A

Declaration by Irish Water

The AER contains the following;

- Introduction and background to AER
- Monitoring reports summary.
- Operational reports summary.
- Infrastructural Assessment and Programme of Improvements.
- Licence specific reports.
- Certification and Sign Off
- Appendices

I certify that the information given in this Annual Environmental Report is truthful, accurate and complete:

Signed: _____ Date: _28/02/2017_____

Elizabeth Arnett
Head of Corporate Affairs & Environmental Regulation

Section 7. Appendices

The following appendices are attached to this AER:

Appendix 7.1 - Annual Statement of Measures
Appendix 7.2 - Ambient monitoring summary

Appendix 7.1 Annual Statement of Measures

The following capital improvement works was undertaken during 2016 with works completed in Q4 of 2016:

- Rehabilitation & capacity increase of storm balance tanks,
- upgrade of inlet works
- Upgrade of treatment capacity of current aerator and clarifier tanks to cater for existing increase in wastewater loading
- Installation of tertiary treatment systems

No additional measures have been taken in 2016 in relation to prevention of environmental damage. The need for measures to prevent environmental damage will be reviewed on an annual basis.

Appendix 7.2 Ambient Monitoring Summary

Ambient monitoring data for Ennis North WWTP (D0048-01) Year Jan - Dec 2016

Ennis North aSW3u **Club Bridge** E133876 N177677

SampleDate	NH3(N)	BOD	Do % Sat	DO(Meas)	Ortho-Phosphate (P)	pH	TN (N)	Total Phosphorus (P)
27-Jan-2016	< 0.02	1	89.6	9.7	0.031	8.06	0.82	0.09
24-Feb-2016	< 0.02	1	92.7	11.18	0.005	8.28	0.68	0.07
10-Mar-2016	< 0.02	1	92.7	11.34	0.005	8.17	0.5	0.025
20-Apr-2016	0.031	1	94.3	10.6	0.004	8.09	1.08	0.025
18-May-2016	0.087	1	102.3	9.9	0.03	8.2	0.25	0.025
15-June-2016	< 0.02	1	98.3	98.3	0.007	8.13	0.25	0.025
13-July-2016	0.02	1	92.4	8.87	0.005	8.14	0.64	0.05
7-Sep-2016	0.036	1	90	8.36	0.009	7.83	1.28	0.07
5-Oct-2016	0.028	1	90.2	9.37	0.012	7.86	1.11	0.05
15-Nov-2016	0.035	1	92.4	9.88	0.014	7.85	0.83	0.025
Average	**0.040**	**1.0**	**93.490**	**18.750**	**0.012**	**8.061**	**0.74**	**0.046**
95%ile	**0.074**	**1.0**	**100.90**	**67.86**	**0.031**	**8.25**	**1.21**	**0.083**
	H	**H**	**H**		**H**			

Appendix 7.2 Ambient Monitoring Summary (continued)

Ambient monitoring data for Ennis North WWTP (D0048-01) Year Jan - Dec 2016
aSW1u &
aSW3d
Bridge near
Clonroad
House – 0700

E134520 N177880

SampleDate	NH3(N)	BOD (O2)	DO % Sat	DO (Meas)	Ortho-Phosphate (P)	pH	TN (N)	TP (P)
27-Jan-2016	0.03	1	91.3	10.4	0.041	7.99	0.72	0.08
24-Feb-2016	0.011	1	92.7	11.38	0.005	8.28	0.52	0.025
10-Mar-2016	0.01	1	91.8	11.26	0.01	8.15	0.25	0.025
20-Apr-2016	0.027	1	96	10.46	0.003	8.08	0.89	0.025
18-May-2016	0.044	1	101.3	10.1	0.02	8.17	0.25	0.025
15-June-2016	0.01	1	104.3	9.7	0.014	8.23	0.52	0.025
13-July-2016	0.023	1	89.6	8.87	0.005	8.11	0.61	0.06
7-Sep-2016	0.033	1	90.2	8.52	0.008	7.82	0.91	0.15
5-Oct-2016	0.029	1	90.3	9.41	0.013	7.88	1.05	0.025
15-Nov-2016	0.034	1	89.3	9.9	0.013	7.86	1.56	0.025
Average	**0.025**	**1.0**	**93.68**	**10.00**	**0.013**	**8.06**	**0.73**	**0.05**
95%ile	**0.040**	**1.0**	**102.95**	**11.33**	**0.032**	**8.26**	**1.3305**	**0.1185**
	H	**H**	**H**		**H**			

Appendix 7.2 Ambient Monitoring Summary (continued)

Ambient monitoring data for Ennis North WWTP (D0048-01) Year Jan - Dec 2016

aSW1d Bridge S.W. of Doora -0720 E134888 N176809

SampleDate	NH3(N)	BOD (O2)	DO % Saturation	DO (Measurement)	Ortho-Phosphate (P)	pH	TN (N)	TP (P)
27-Jan-2016	0.036	1	90	10.2	0.035	7.95	0.82	0.09
24-Feb-2016	*0.08*	1	90.5	11.37	0.005	8.28	0.63	0.05
10-Mar-2016	0.044	1	78.4	9.59	0.005	8.12	0.7	0.025
20-Apr-2016	*0.141*	1	90.7	9.49	0.094	8.04	1.42	0.09
18-May-2016	*0.062*	1	87.3	8.7	0.018	8	0.56	0.06
15-June-2016	*0.097*	1	*83.4*	7.84	*0.053*	8	1.18	0.08
13-July-2016	0.037	*1*	86.9	8.61	0.011	8.08	0.96	0.1
7-Sept-2016	*0.05*	1	*81.5*	7.72	*0.19*	7.72	1.95	0.07
5-Oct-2016	*0.036*	1	*85.9*	9.07	*0.017*	7.83	1.08	0.07
15-Nov-2016	*0.092*	1	89.3	*9.9*	0.024	*7.86*	1.02	0.06
Average	**0.068**	**1.0**	**86.4**	**9.25**	**0.028**	**7.99**	**1.03**	**0.07**
95%ile	**0.121**	**1.0**	**90.6**	**10.84**	**0.076**	**8.21**	**1.71**	**0.10**
	G	**H**	**H**		**G**			

UISCE EIREANN : IRISH WATER

Annual Environmental Report 2017

Agglomeration Name:	**Ennis North**
Licence Register No.	**D0048-01**

Table of Contents

Section 1. Executive Summary and Introduction to the 2017 AER

1.1 Summary report on 2017

This Annual Environmental Report has been prepared for D0048-01, Ennis North, in County Clare in accordance with the requirements of the wastewater discharge licence for the agglomeration.

No specified reports are included as an appendix to the AER.

The agglomeration is served by a wastewater treatment plant with a Plant Capacity PE of 30,150. The treatment process includes the following:

- Preliminary treatment including screening and grit removal
- Primary treatment
- Secondary treatment – extended aeration activated sludge

The final effluent from the Primary Discharge Point was non-compliant with the Emission Limit Values in 2017.

The following parameters exceeded the emission limit values in 2017:

- Suspended Solids
- Total Phosphorus
- Orthophosphate
- Ammonia as N

1,545,640 Kgs (as 16.1% dry solids) were removed from the wastewater treatment plant as dewatered sludge cake, and transferred by Biocore Environmental to Tulsk, Co. Roscommon, under contract between Biocore and Irish Water/Clare County Council. In addition, 130,230 Kgs of liquid sludge was removed and transferred to Limerick Main Drainage.

The handover certificate was issued by JBB Consulting Engineers to the contractor, Response/Ward & Burke, on 12 December 2017 and, thus, operational control reverted to Irish Water/Clare County Council thereafter.

An Annual Statement of Measures is included in **Appendix 7.1.**

Section 2. Monitoring Reports Summary

2.1 Summary report on monthly influent monitoring

Table 2.1 - Influent Monitoring Summary

	BOD (mg/l)	COD (mg/l)	SS (mg/l)	TP (mg/l)	TN (mg/l)	Hydraulic Loading (m3/d)
Number of Samples	12	12	12	12	12	
Annual Max.	186.4	529	377	6.4	34.8	21,765
Annual Mean	102.9	278.27	180.23	3.75	21.25	13,000.2

Significance of results

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity as detailed further in Section 3.2.

The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity as detailed further in Section 3.2.

The annual mean organic loading is less than the Treatment Plant Capacity as detailed further in Section 3.2.

The annual maximum organic loading is greater than the Treatment Plant Capacity as detailed further in Section 3.2.

2.2 Discharges from the agglomeration

Table 2.2 - Effluent Monitoring Summary

	cBOD (mg/l)[2]	COD (mg/l)[2]	TSS (mg/l)[2]	Ortho P/MRP (mg/l)	Ammonia as N (mg/l)	Total N (mg/l)	Total P (mg/l)	pH (Range)	Comment
WWDL ELV (*Schedule A*)	10	125	35	1	1	15	2	7-9	
ELV with Condition 2 Interpretation included	10	*250*	87.5	1.2	1.2	18	2.4	7-9	
Number of sample results	12	12	12	12	12	12	12	12	
Number of sample results above WWDL ELV	**0**	**0**	**1**	**4**	**4**	**0**	**1**	**0**	
Number of sample results above ELV with Condition 2 Interpretation	**0**	**0**	**0**	**4**	**4**	**0**	**0**	**0**	
Annual Mean (for parameters where a mean ELV applies)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Compliance (Pass/Fail)	Pass	Pass	Pass	Fail	Fail	Pass	Pass	Pass	

Significance of results

The WWTP was non-compliant with the ELV's set in the wastewater discharge licence. There were 8 results which were non-compliant with the ELV's in relation to Orthophosphate (4) and Ammonia as N (4). The non-compliances are due to treatment inefficiencies including ferric dosing and blower controls which have been addressed by the contractor. The impact on receiving waters is assessed further in Section 2.3.

2.3 Ambient monitoring summary

The discharge drains to the River Fergus Code IE_SH_27_F010700. For the reporting period 2017, monitoring of the receiving waters was carried out upstream and downstream of the discharge point SW1; and upstream and downstream of SW3 (storm overflow from Francis Street Pumping Station). Access to the monitoring points listed in the licence has proven to be extremely hazardous as they are only accessible during low tide conditions. The monitoring points are subject to ongoing flooding hence they are not suitable as locations for regular monitoring. Alternative monitoring locations have been identified at the bridges upstream and downstream of the WWTP and Pump Station. The proposed monitoring locations are included in the Water Framework Directive (WFD) monitoring programme, which promotes effective use of resources within the Council. Clare County Council, on behalf of IW, is in correspondence with the Agency regarding the amendment of the ambient monitoring locations.

Table 2.3 - Ambient Monitoring Report Summary

Ambient Monitoring Point from WWDL (or as agreed with EPA)	***Irish Grid Reference***	**EPA Feature Coding Tool code**	**Receiving Waters Designation(Y/N)**				**WFD Status**
			Bathing Water	**Drinking Water**	**FWPM**	**Shellfish**	
aSW1u & aSW3d Br near Clonroad House Code: IE_SH_27_F01_0700	E134520 N177880		N	N	N	N	Poor
aSW1d Br SW of Doora Code: IE_SH_27_F01_0720	E134888 N176809		N	N	N	N	Poor (River Status) Moderate (Transitional status)
aSW3u Club Bridge (upstream Francis St Pump Station) Code: IE_SH_27_F01	E133876 N177677		N	N	N	N	Poor

Table 2.3.2 Ambient Impact Assessment Table

Ambient Monitoring Point from WWDL (or as agreed with EPA)	**Current WFD Status**	**cBOD**	**0-Phosphate (as P)**	**Ammonia (as N)**	**Total Nitrogen (N)**	**Total Phosphorus (P)**
Upstream Monitoring Point (aSW1u) Br near Clonroad House	Poor	1.3	0.020	0.067	0.7	0.1
Downstream Monitoring Point (aSW1d) Br S.W. Doora	Poor (River Status) Moderate (Transitional status)	1.5	0.030	0.064	0.79	0.08
Upstream Monitoring Point (aSW3u)	Poor	1.3	0.020	0.067	0.7	0.1

Club Bridge						
Downstream Monitoring (aSW3d) Br near Clonroad House		1	0.016	0.031	0.7	0.07
Difference between Upstream and Downstream		**0.2**	**+0.010**	**-0.003**	**0.09**	**-0.02**
Difference between Upstream and Downstream #2		**-0.3**	**-0.004**	**-0.036**	0	**-0.03**
EQS		2.6	0.075	0.140		
% of Eqs		0.077%	0.133%	-0.021%		
% of Eqs #2		-0.115%	0.053%	-0.257		

The results for the upstream and downstream monitoring for both the main discharge (SW1) and SW3 from Clare County Council are included in Appendix 7.2.

Significance of results

- The WWTP was non-compliant with the ELV's set in the wastewater discharge licence for TSS, Ammonia as N and Orthophosphate as P as detailed in Section 2.2.
- Based on this year's results, the discharge from the wastewater treatment plant does not appear to have a negative impact on the receiving waters.
- Based on these monitoring results, the discharge from the wastewater treatment plant has no observable negative impact on the Water Framework Directive status.

2.4 Pollutant Release and Transfer Register (PRTR) - report for previous year

A PRTR is not required this year as the agglomeration is less than 100,000 p.e.

Section 3 Operational Reports Summary

3.1 Treatment Efficiency Report

A summary presentation of the efficiency of the treatment process including information for all the parameters specified in the licence is included below:

Table 3.1 - Treatment Efficiency Report Summary

	cBOD (kg/yr)	COD (kg/yr)	SS (kg/yr)	Total P (kg/yr)	Total N (kg/yr)
Influent mass loading (kg/year)	453,453.0	1226451.5	794332.1	16526.5	93674.3
Effluent mass emission (kg/year)	13,111.89	99,174.82	51,961.70	3,598.23	31,316.46
% Efficiency (% reduction of influent load)	97%	92%	93%	78%	67%

3.2 Treatment Capacity Report

Table 3.2 - Treatment Capacity Report Summary

Hydraulic Capacity – Design / As Constructed (m3/day) DWF	6,784
Hydraulic Capacity – Design / As Constructed (m3/day) Peak	16,272
Hydraulic Capacity – Current loading (m3/day)	13,000
Hydraulic Capacity – Remaining (m3/day)	-
Organic Capacity - Design / As Constructed (PE)	30,150
Organic Capacity - Current loading (PE)	24,478
Organic Capacity – Remaining (PE)	5,672
Will the capacity be exceeded in the next three years? (Yes / No)	Yes

The plant is hydraulically overloaded due to infiltration into the foul sewer combined network and hydraulic restrictions at the plant that were not envisaged as part of the recent upgrade works. In addition, capacity of the plant is restricted by its existing sludge dewatering unit.

3.3 Extent of Agglomeration Summary Report

In this section Irish Water is required to report on the amount of urban waste water generated within the agglomeration. It does not include any waste water collected and treated in a private system and discharged to water under a Section 4 Licence issued under the Water Pollution Acts 1977 (as amended):

Table 3.3 - Extent of Agglomeration Summary Report

	% of p.e. load generated in the agglomeration
Load generated in the agglomeration that is collected in the sewer network	**100%**
Load collected in the agglomeration that enters treatment plant	**Unknown**
Load collected in the sewer network but discharged without treatment	**Unknown**

Load generated in the agglomeration that is collected in the sewer network is the total load generated and collected in the municipal network within the boundary of the agglomeration.

Load collected in the agglomerations that enters treatment plant is that portion of the previous figure which enters the waste water treatment plant

Load collected but discharged without treatment is that portion of the first figure which is discharged without treatment.

The data in Table 3.3 is estimated based on influent monitoring as detailed in Section 2.1 above.

3.4 Complaints Summary

Of complaints received during 2017, there were 19 complaints of an environmental nature related to the operation of Ennis North Waste Water Treatment Plant Licence No: D0048-01.

A summary of complaints of an environmental nature is included below.

Table 3.4 - Complaints Summary Table:

Number of Complaints	**Nature of Complaint**	**Number Open Complaints**	**Number Closed Complaints**
18	Investigation Sewage Flooding - Below Ground Waste Water	0	18
1	Investigation Pollution Incident - Below Ground Waste Water	0	1

3.5 Reported Incidents Summary

A summary of reported incidents is included below.

Table 3.5.1 - Summary of Incidents

Incident Type (e.g. Non-compliance, Emission, spillage, Emergency Overflow Activation)	Incident Description	Cause	No. of incidents	Corrective Action	Authorities Contacted Note 1	Reported to EPA (Yes/No)	Closed (Y/N)
Breach of ELV	ELV exceedance for parameter Ammonia as N	WWTP overloaded	2	Upgrading of Ennis North WWTP	No	Yes INCI012098 and CI000012	Yes
Breach of ELV	Ferric dosing pump overheated	Pump Overheated	1	Larger pump installed	Fisheries Ireland	Yes INCI013222	Yes
Uncontrolled release	Surcharging Sewer	Blocked sewer	1	Jetted and unblocked		Yes INCI-12104	Yes
Non-compliance	Belt press auger broke	Equipment breakdown at plant	1	Repair undertaken		Yes INCI012830	Yes
Breach of ELV	Biological sludge issue	Electrical power drop	1	Re-set all pumps	Fisheries Ireland	Yes INCI013482	Yes

Note 1: For shellfish waters notify the Marine Institute (MI) Sea Fisheries Protection Authority (SFPA) Food Safety Authority (FSAI) and An Bord Iascaigh Mhara (BIM). This should also include any other authorities that should be contacted arising from the findings of any Licence Specific Reports also e.g. Drinking Water Abstraction Impact Risk Assessment, Fresh Water Pearl Mussel Impact Assessments etc.

Table 3.5.2 - Summary of Overall Incidents

Number of Incidents in 2017	6
Number of Incidents reported to the EPA via EDEN in 2017	6
Explanation of any discrepancies between the two numbers above	N/A

3.6 Sludge / Other inputs to the WWTP

'Other inputs' to the waste water treatment plant are summarised in Table 3.6 below.

Table 3.6 - Other Inputs[1,2]

Input type	m3/year	PE/year	% of load to WWTP	Included in Influent Monitoring (Y/N)?[3]	Is there a leachate/sludge acceptance procedure for the WWTP? (Y/N)	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
Domestic /Septic Tank Sludge	0	0	0	N/A	N/A	N/A
Industrial / Commercial Sludge	0	0	0	N/A	N/A	N/A
Landfill Leachate (delivered by tanker)	0	0	0	N/A	N/A	N/A
Landfill Leachate (delivered by sewer network)	0	0	0	N/A	N/A	N/A
Other (specify)	0	0	0	N/A	N/A	N/A

Notes:

1. Other Inputs include; septic tank sludge, industrial /commercial sludge, landfill leachate and any other sludge that is collected and added to the treatment plant.
2. Sludge that is added to a dedicated sludge reception facility at a waste water treatment plant **not** included in Table 3.6. Only include sludge which is added to the waste water treatment process stream. Enter zero where there are no inputs.
3. If any inputs were introduced **prior** to influent monitoring point and therefore already reported in S.2.1 *Influent Monitoring Summary*, then clarify this to avoid duplication and over-reporting of PE.

Section 4. Infrastructural Assessments and Programme of Improvements

4.1 Storm water overflow identification and inspection report

A full assessment of storm overflows, including the investigation, identification and assessment of storm water overflows as required under Condition 4.11 has not been undertaken. However, arising from the combined sewer network design within the Ennis North agglomeration, it is acknowledged that storm water management is a major contributor to the hydraulic load to both the collection system and the WWTP. Storm overflows from the sewer network take place from Francis Street and Tulla Road Pumping Stations. These overflows are both located upstream of the Ennis North discharge point. A storm overflow from the Ennis North WWTP is also located approximately 50 metres upstream of the treated wastewater discharge. Monitoring of the River Fergus downstream of these discharges provides information on impact of the discharges on the receiving waters.

Table 4.1.1 - SWO Identification and Inspection Summary Report

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow (High / Medium / Low)	Compliance with DoEHLG Criteria	No. of times activated in 2017 (No. of events)	Total volume discharged in 2017(m3)	Total volume discharged in 2017(P.E.)	Estimated /Measured data
SW2	E134859 N177469	No (in schedule A3)	Not yet assessed	Not yet assessed	Continuous	1,197,756	Unknown	Measured
SW3	E134355 N177744	Yes	Not yet assessed	Not yet assessed	Unknown	Unknown	Unknown	N/A
SW4	E134675 N178004	Yes	Not yet assessed	Not yet assessed	Unknown	Unknown	Unknown	N/A

Table 4.1.2 - SWO Identification and Inspection Summary Report

How much sewage was discharged via SWOs in the agglomeration in the year (m3/yr)?	Unknown
How much sewage was discharged via SWOs in the agglomeration in the year (p.e.)?	Unknown
What % of the total volume of sewage generated in the agglomeration was discharged via SWOs in the agglomeration in 2017?	Unknown
Is each SWO identified as non-compliant with DoEHLG Guidance included in the Programme of Improvements?	N/A
The SWO assessment includes the requirements of Schedule A3 & C3	N/A
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	N/A

4.2 Report on progress made and proposals being developed to meet the improvement programme requirements.

See Table 4.2.1 below for a progress summary on the improvement works specified under Schedules A3 and C of the WWDL.

Table 4.2.1 - Specified Improvement Programme Summary

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule (A or C)	Licence Completion Date	Date Expired? (N/Y)	Status of Works ((i) Not Started; (ii) At planning stage; (iii) Work ongoing on-site; (iv) Commissioning Phase; (v) Completed; (vi) Delayed;)	% Construction Work Completed	Timeframe for Completing the Work	Comments
Ennis North WWTP • Rehabilitation and capacity increase of storm balance tanks • Upgrade of inlet works • Upgrade of treatment capacity of current aeration tanks and new clarifier provided to cater for existing increase in wastewater loading. • Installation of tertiary treatment systems.	C A.3	31/12/2010	Yes	Works complete	100%	Completed Q1 2017	
Collection System • Upgrade of satellite pump station overflows	C A.3	31/12/2010	Yes	Not Started	0%	TBC	

• Separation of known surface water connections from the main combined sewer where feasible • Rehabilitation of sewers with high levels of infiltration							
Tulla Road & Francis St Pump Stations • Provided new grit removal system and repaired grit traps • Replacement of pumps and improving pump controls • Diversion of surface water flows away from pump stations • Upgrade of combined sewer overflow regime at pump stations.	C1	31/12/2010	Yes	Works ongoing Part completed Ennis Flood Relief Scheme Phases 1 and 2	100%	Dec 2017 TBC 2009 and 2014 TBC	VSDs installation underway. Foul pumps overhauled. Small sections of Ennis Town centre completed. CSO Pumps not yet upgraded.
SW2 discharge to be upgraded to SWO Discharge SW2 to revert to performance standards and comply with specifications for a Storm Water Overflow	A.2 A.3	01/01/2011	Yes	Works Complete	100%	Q4 2016	

Table 4.2.2 - Improvement Programme Summary

Improvement Identifier	Improvement Description	Improvement Source	Progress (% completed)	Expected Completion Date	Comments
N/A					

Table 4.2.3 - Sewer Integrity Risk Assessment Tool Summary

The Improvement Programme should include an assessment of the integrity of the existing wastewater works for the following:	*Risk Assessment Rating (High, Medium, Low)*	*Risk Assessment Score*	*Comment*
Hydraulic Risk Assessment Score	*High*	*150*	*Refer to 2014 AER*
Environmental Risk Assessment Score	*Low*	*115*	
Structural Risk Assessment Score	*High*	*150*	
Operation & Maintenance Risk Assessment Score	*High*	*200*	
Overall Risk Score for the agglomeration	*High*	*615*	*Scores may not be a true reflection of the agglomeration due absence of survey*

Section 5. Licence Specific Reports

Licence Specific Reports Summary Table

Licence Specific Report	Required in AER or outstanding from previous AER	Report Included in AER	*Reference to relevant section of AER (e.g. Appendix 2 Section4.*
Priority Substances Assessment	No	No	Already submitted as Attachment 4 of 2011 AER.
Drinking Water Abstraction Point Risk Assessment	No	No	N/A
Habitats Impact Assessment	No	No	Already submitted as Appendix 7.3 of 2015 AER.
Shellfish Impact Assessment	No	No	N/A
Pearl Mussel Report	No	No	N/A
Toxicity/Leachate Management	No	No	N/A
Toxicity of Final Effluent Report	No	No	N/A
Small Streams Risk Score	No	No	N/A

Licence Specific Reports Summary of Findings

Licence Specific Report	Recommendations in Report	Summary of Recommendations in Report
Priority Substances Assessment	Yes	None: Refer to attachment 4 of 2011 AER
Drinking Water Abstraction Point Risk Assessment	N/A	N/A
Habitats Impact Assessment	Yes	Ensure capacity of WWTP is not exceeded and continued monitoring of the WWTP.
Shellfish Impact Assessment	N/A	N/A
Pearl Mussel Report	N/A	N/A
Toxicity/Leachate Management	N/A	N/A
Toxicity of Final Effluent Report	N/A	N/A
Small Streams Risk Score	N/A	N/A

5.1 Priority Substances Assessment

A Priority Substances Assessment report is not required.

Table 5.1 - Priority Substance Assessment Summary

	Licensee self- assessment checks to determine whether all relevant information is included in the Assessment.
Does the assessment use the Desk Top Study Method or Screening Analysis to determine if the discharge contains the parameters in Appendix 1 of the EPA guidance	Desktop Study
Does the assessment include a review of Trade inputs to the works?	Yes
Does the assessment include a review of other inputs to the works?	Yes
Does the report include an assessment of the significance of the results where a listed material is present in the discharge? (e.g. impact on the relevant EQS standard for the receiving water)	Yes
Does the assessment identify that priority substances may be impacting the receiving water?	No
Does the Improvement Programme for the agglomeration include the elimination / reduction of all priority substances identified as having an impact on receiving water quality?	N/A

5.2 Habitats Impact Assessment Report

A Habitats Impact Assessment Report is not required in the AER. It was submitted as Appendix 7.3. as per 2015 AER.

Table 5.2 - Habitats Impact Assessment Summary

	Licensee self- assessment checks to determine whether all relevant information is included in the Assessment.
Is a Habitats Assessment required in the AER (includes outstanding assessments from previous years)?	No
Was the scope of the study agreed in advance with NPWS	N/A
Does the report include a Stage 1 screening assessment?	N/A
Does the screening identify that discharges are causing an impact on listed sites?	Potentially
Does the report require a Stage 2 Appropriate assessment?	Yes
Does the report identify any European Sites (e.g. SPA, SAC, NHA) that discharges from the works could have an impact on?	Yes – Lower River Shannon SAC
List European sites identified (insert a line for each site identified)	Lower River Shannon SAC River Shannon & River Fergus Estuary SPA
Does the report include mitigation measures for each identified impact?	Yes
Does each measure explain how the adverse impact will be avoided/reduced?	Yes
Does the Improvement Programme for the agglomeration include any procedural and/or infrastructural works to reduce the impacts of discharges on a listed site (NHA, SAC, SPA)?	Yes

Section 6. Certification and Sign Off

Table 6.1 - Summary of AER Contents

Does the AER include an Executive Summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for consideration of a Technical Amendment / Review of the licence?	No
List reason e.g. additional SWO identified *(insert lines as required)*	N/A
Is there a need to request/advise the EPA of any modifications to the existing WWDL? Refer to Condition 1.7 (changes to works/discharges) & Condition 4 (changes to monitoring location, frequency etc.)	Yes
List reason e.g. failure to complete specified works within dates specified in the licence, changes to monitoring requirements *(insert lines as required)*	Change to upstream ambient monitoring point
Have these processes commenced? (i.e. Request for Technical Amendment / Licence Review / Change Request)	Yes. Requested amendment to ambient monitoring locations. Awaiting response from the EPA.
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER?	No
List outstanding reports *(insert lines as required)*	N/A

Declaration by Irish Water

The AER contains the following;

- Introduction and background to 2017 AER
- Monitoring reports summary.
- Operational reports summary.
- Infrastructural Assessment and Programme of Improvements.
- Licence specific reports.
- Certification and Sign Off
- Appendices

I certify that the information given in this Annual Environmental Report is truthful, accurate and complete:

Signed: _____ Date: 21/02/2018

Michael O'Leary
Acting Head of Environmental Regulation

Section 7. Appendices

The following appendices are attached to this AER:

Appendix 7.1 - Annual Statement of Measures
Appendix 7.2 - Ambient monitoring summary

Appendix 7.1 Annual Statement of Measures

No additional measures have been taken in 2017 in relation to prevention of environmental damage. The need for measures to prevent environmental damage will be reviewed on an annual basis.

Appendix 7.2 Ambient Monitoring Summary

Ambient monitoring data for Ennis North WWTP (D0048-01) Year Jan - Dec 2017

Ennis North aSW3u **Club Bridge** E133876 N177677

SampleDate	NH3(N)	BOD	Do % Sat	DO (Meas)	Ortho-Phosphate (P)	pH	TN (N)	Total Phosphorus (P)	Comments
25-Jan-2017	0.023	1	95.3	10.74	0.011	7.81	0.65	< 0.05	None
15-Feb-2017	0.01	1	105	12.39	0.09	8.02	0.94	< 0.05	
14-Mar-2017	0.01	1	106.4	11.67	0.002	8.11	0.61	< 0.05	OK
20-Apr-2017	0.021	1	95.6	9.88	0.006	7.98	0.57	< 0.05	clear - low flow
17-May-2017	0.01	1	107.2	11.06	0.003	8.14	< 0.5	0.15	Clear
14-June-2017	0.01	1	108.2	10.89	0.008	8.02	0.55	< 0.05	Clear
19-July-2017	0.023	1	94.9	8.73	0.007	7.98	< 0.5	0.05	OK
9-Aug-2017	0.01	1	100.9	9.57	0.004	7.92	0.57	< 0.05	Clear
6-Sep-2017	0.026	1	93	9.35	0.021	7.98	0.55	< 0.05	Clear
11-Oct-2017	0.557	4.5	92.7	9.64	0.046	7.94	1.25	0.1	
15-Nov-2017	0.041	1	89.8	10.2	0.017	8.01	0.78	< 0.05	ok
Average	**0.067**	**1.3**	**99.0**	**10.4**	**0.020**	**8.0**	**0.7**	**0.1**	
95%ile	**0.299**	**2.8**	**107.7**	**12.0**	**0.068**	**8.1**	**1.1**	**0.1**	
	F	H	H		G				

Appendix 7.2 Ambient Monitoring Summary (continued)

Ambient monitoring data for Ennis North WWTP (D0048-01) Year Jan - Dec 2017
aSW1u &
aSW3d
Bridge near
Clonroad
House – 0700

E134520 N177880

SampleDate	NH3(N)	BOD (O2)	DO % Sat	DO (Meas)	Ortho-Phosphate (P)	pH	TN (N)	TP (P)	comments
25-Jan-2017	0.021	1	95	10.53	0.01	7.95	0.9	< 0.05	Clear
15-Feb-2017	0.01	1	107.3	12.82	0.09	7.96	0.9	0.05	
14-Mar-2017	0.01	1	105.6	11.61	0.002	8.11	0.65	< 0.05	OK
20-Apr-2017	0.01	1	101.9	10.01	0.005	8.02	0.55	< 0.05	clear
17-May-2017	0.01	1	99.1	10.22	0.005	8.07	< 0.5	0.06	Clear
14-June-2017	0.01	1	114	11.27	0.005	8.04	< 0.5	< 0.05	Clear
19-July-2017	0.028	1	90.7	8.33	0.009	7.77	< 0.5	< 0.05	OK
9-Aug-2017	0.037	1	100.6	9.58	0.003	8.02	0.52	< 0.05	Clear
6-Sep-2017	0.025	1	92.9	9.3	0.017	8.05	0.54	0.09	ok
11-Oct-2017	0.141	1	93.4	9.53	0.016	7.95	0.82	< 0.05	OK
15-Nov-2017	0.035	1	91.2	10.5	0.019	8.04	0.72	< 0.05	ok
Average	**0.031**	**1.0**	**99.25**	**10.34**	**0.016**	**8.00**	**0.70**	**0.07**	
95%ile	**0.089**	**1.0**	**110.65**	**12.22**	**0.055**	**8.09**	**0.9**	**0.087**	
	H	H	H		H				

Appendix 7.2 Ambient Monitoring Summary (continued)

Ambient monitoring data for Ennis North WWTP (D0048-01) Year Jan - Dec 2017

aSW1d Bridge S.W. of Doora -0720

E134888 N176809

SampleDate	NH3(N)	BOD (O2)	DO % Saturation	DO (Measurement)	Ortho-Phosphate (P)	pH	TN (N)	TP (P)	Comments
25-Jan-2017	0.074	1	90.9	10.08	0.03	7.9	1.13	0.06	None
15-Feb-2017	0.029	1	104.6	12.56	0.01	7.81	0.97	< 0.05	Clear
14-Mar-2017	0.033	1	100.4	11.1	0.005	8.05	0.78	< 0.05	OK
20-Apr-2017	0.038	1	94.6	10.02	0.012	8.01	0.62	< 0.05	clear
17-May-2017	0.088	1	102	10.39	0.034	8.09	0.69	0.06	Clear
14-June-2017	0.082	1	100	9.83	0.035	7.92	0.57	0.09	Clear
19-July-2017	0.154	1	89.5	8.19	0.106	8.04	1.09	0.12	ok
9-Aug-2017	0.024	1	97.2	9.56	0.015	8.06	0.53	< 0.05	OK
6-Sep-2017	0.01	6.5	93.1	8.99	0.053	8.02	0.62	0.07	Clear
11-Oct-2017	0.066	1	87.9	9.1	0.01	7.96	0.77	< 0.05	
15-Nov-2017	0.104	1	99	99	0.025	8.02	0.91	0.05	ok
Average	**0.064**	**1.5**	**96.3**	**18.07**	**0.030**	**7.99**	**0.79**	**0.08**	
95%ile	**0.129**	**3.8**	**103.3**	**55.78**	**0.080**	**8.08**	**1.11**	**0.11**	
	G	G	H		G				

Annual Environmental Report

2019

Ennis North

D0048-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2019 AER

This Annual Environmental Report has been prepared for D0048-01, Ennis North, in Clare in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports where relevant are included as an appendix to the AER.

1.1 ANNUAL STATEMENT OF MEASURES

A summary of any improvements undertaken is provided where applicable.

There was no major capital works or operational changes undertaken

1.2 TREATMENT SUMMARY

The agglomeration is served by a wastewater treatment plant(s)

- ENNIS NORTH WWTP with a Plant Capacity PE of 31500, the treatment type is 3P - Tertiary P removal

1.3 ELV OVERVIEW

The overall compliance of the final effluent with the Emission Limit Values (ELVs) is shown below. More detailed information on the below ELV's can be found in Section 2.

Discharge Point Reference	Treatment Plant	Discharge Type	Compliance Status	Parameters failing if relevant
TPEFF0300D0048SW001	ENNIS NORTH WWTP	Treated	Non-Compliant	BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l

1.4 LICENCE SPECIFIC REPORTING INCLUDED IN AER

Assessment / Report	Included in AER
There are no Licence Specific Reports included in the AER.	

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 ENNIS NORTH WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - ENNIS NORTH WWTP

A summary of influent monitoring for the treatment plant is presented below. This monitoring is primarily undertaken in order to determine the overall efficiency of the plant in removing pollutants from the raw wastewater.

Parameters	Number of Samples	Annual Max	Annual Mean
Total Phosphorus (as P) mg/l	12	9.05	3.45
COD-Cr mg/l	12	342	143.05
Total Nitrogen mg/l	12	53	19.73
Suspended Solids mg/l	12	227	69.83
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	144.6	53.19
Hydraulic Capacity	N/A	20495	13132

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 2.1.5 if applicable.

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity. Further details on the plant capacity and efficiency can be found under the sectional 'Operational Performance Summary'.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF0300D0048SW001

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	125	250	N/A	12	N/A	N/A	20.54	Pass
Suspended Solids mg/l	35	87.5	N/A	12	N/A	N/A	9.5	Pass
Temperature °C	25	N/A	N/A	12	N/A	N/A	6.58	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	10	20	N/A	12	1	1	5.8	Fail
pH pH units	9	9	N/A	12	N/A	N/A	7.65	Pass
Total Phosphorus (as P) mg/l	2	2.4	N/A	12	N/A	N/A	0.42	Pass
Ammonia-Total (as N) mg/l	1	1.2	N/A	12	N/A	N/A	0.14	Pass
ortho-Phosphate (as P) - unspecified mg/l	1	1.2	N/A	12	N/A	N/A	0.3	Pass
Conductivity @25°C µS/cm	N/A	N/A	N/A	12	N/A	N/A	620.55	

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Total Nitrogen mg/l	N/A	N/A	N/A	12	N/A	N/A	10.02	
Dissolved Inorganic Nitrogen (as N) mg/l	N/A	N/A	N/A	12	N/A	N/A	14.9	

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied

Cause of Exceedance(s):

No mechanical failures were noted on-site on the day and a follow up grab sample taken on the 6/11/19 demonstrates that the plant is back in compliance, result: <2mg/l. Upon investigation, the only change in operations is the increasing of flows through the plant during October, which may have had an impact on the cBOD levels. This increase was carried out in line with the on-going optimisation following the upgrade of the aeration system and clarifier.

Significance of Results:

The WWTP is not compliant with the ELVs set in the WWTP. Follow up samples for cBOD have indicated that this was a once off incident.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF0300D0048SW001

A summary of monitoring from ambient monitoring points associated with the wastewater discharge is provided in the sections below. For discharges to rivers upstream (U/S) and downstream (D/S) location data is provided. For other ambient points in lakes, coastal or transitional waters, monitoring data from the most appropriate monitoring station is selected.

The table below provides details of ambient monitoring locations and details of any designations as sensitive areas.

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
Upstream	134820, 177944	RS27F010710	No	No	No	No	Poor
Downstream	134888, 176818	RS27F010720	No	No	No	No	Poor

The results for ambient results and / or additional monitoring data sets are included in the **Appendix 7.1 - Ambient monitoring summary**

Significance of Results:

The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence.

The ambient monitoring results meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

The discharge from the wastewater treatment plant does not have an observable impact on the water quality.

The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

2.1.4 OPERATIONAL PERFORMANCE SUMMARY - ENNIS NORTH WWTP

2.1.4.1 Treatment Efficiency Report - ENNIS NORTH WWTP

Treatment efficiency is based on the removal of key pollutants from the influent wastewater by the treatment plant. In essence the calculation is based on the balance of load coming into the plant versus the load leaving the plant. The efficiency is presented as a percentage removal rate.

A summary presentation of the efficiency of the treatment process including information for all the parameters specified in the licence is included below:

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
COD	711707	74597	90
SS	347399	34500	90

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
cBOD	264637	21046	92
TP	17174	1539	91
TN	98139	36392	63

Note: The above data is based on sample results for the number of dates reported

2.1.4.2 Treatment Capacity Report Summary - ENNIS NORTH WWTP

Treatment capacity is an assessment of the hydraulic (flow) and organic (the amount of pollutants) load a treatment plant is designed to treat versus the current loading of that plant.

ENNIS NORTH WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	16272
DWF to the Treatment Plant (m^3/day)	6784
Current Hydraulic Loading - annual max (m^3/day)	20495
Average Hydraulic loading to the Treatment Plant (m^3/day)	13132
Organic Capacity (PE) - As Constructed	31500
Organic Capacity (PE) - Collected Load (peak week)Note1	23980
Organic Capacity (PE) - Remaining	7520
Will the capacity be exceeded in the next three years? (Yes/No)	No

Nominal design capacities can be based on conservative design principles. In some cases assessment of existing plants has shown organic capacities significantly higher than the nominal design capacity. Accordingly plants that appear to be overloaded when comparing a collected peak load with the nominal design capacity can be fully compliant due to the safety factors in the original design.

2.1.5 SLUDGE / OTHER INPUTS - ENNIS NORTH WWTP

'Other inputs' to the waste water treatment plant are summarised in table below

Input type	Quantity	Unit	P.E.	% of load to WWTP	Included in Influent Monitoring (Y/N)?	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
There is no Sludge and Other Input data for the Treatment Plant included in the AER.							

3 COMPLAINTS AND INCIDENTS

3.1 COMPLAINTS SUMMARY

A summary of complaints of an environmental nature is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
95	Blocked Sewer	0	95

3.2 REPORTED INCIDENTS SUMMARY

Environmental incidents that arise in an agglomeration are reported on an on-going basis in accordance with our waste water discharge licences. Where an incident occurs and it is reportable under the licence, it is reported to the Environmental Protection Agency through their Environmental Data Exchange Network, or in some instances by telephone. Some incidents which arise in the agglomeration are recorded by Irish Water but may not be reportable under our licence for example where the incident does not have an impact on environmental performance.

A summary of reported incidents is included below.

3.2.1 SUMMARY OF INCIDENTS

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Breach of ELV	WWTP biological sludge issue	1	No	Yes
Abatement Equipment offline	Plant or equipment breakdown at WWTP	1	No	Yes
Abatement Equipment offline	Plant or equipment maintenance at WWTP	1	No	Yes

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Abatement Equipment offline	Plant or equipment maintenance at WWTP	1	No	Yes
Breach of ELV	Other	1	No	No

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2019	5
Number of Incidents reported to the EPA via EDEN in 2019	5
Explanation of any discrepancies between the two numbers above	N/A

4 INFRASTRUCTURAL ASSESSMENTS AND PROGRAMME OF IMPROVEMENTS

4.1 STORM WATER OVERFLOW IDENTIFICATION AND INSPECTION REPORT

A summary of the operation of the storm water overflows and their significance where known is included below:

4.1.1 SWO IDENTIFICATION

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2019 (No. of events)	Total volume discharged in 2019 (m3)	Monitoring Status
SW4	134675, 178004	Yes	Unknown	Meeting	Unknown	Unknown	Not Monitored
SW3	134355, 177744	Yes	Low	Meeting	Unknown	Unknown	Not Monitored
TBC	134439, 180542	No	Unknown	Not Meeting	Unknown	Unknown	Monitored
TBC	134855, 177389	No	High	Not Meeting	Unknown	Unknown	Unknown
TBC	TBC	No	Unknown	Not yet Assessed	Unknown	Unknown	Unknown
TBC	134859, 177469	No	High	Not Meeting	Unknown	Unknown	Not Monitored

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	Unknown
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	Yes
The SWO Assessment included the requirements of relevant of WWDL schedules?	Yes
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	No

4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS.

4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides list of the various reports required for this agglomeration and a brief summary of their recommendations.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0048-SIP:02	Clonroadmore WWTP rehabilitation of the storm/balance tanks	C	31/12/2010	Yes	Works Completed		
D0048-SIP:03	Clonroadmore WWTP upgrade of the inlet works	C	31/12/2010	Yes	Works Completed		

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0048-SIP:06	collection systems: rehabilitation of sewers with high levels of infiltration.	C	31/12/2010	Yes	Not Started		The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis
D0048-SIP:08	collection systems: upgrade of satellite pump station overflows	C	31/12/2010	Yes	Not Started		SWO Assessment Programme to assess performance against DoECLG criteri
D0048-SIP:11	Tulla road and Francis st pump stations: repair of grit traps	C	31/12/2010	Yes	Works Completed		
D0048-SIP:01	Clonroadmore WWTP installation of tertiary treatment system.	C	31/12/2010	Yes	Works Completed		
D0048-SIP:04	Clonroadmore WWTP upgrade of the sludge handling facilities	C	31/12/2010	Yes	Not Started		The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis
D0048-SIP:05	Clonroadmore WWTP upgrade of the treatment	C	31/12/2010	Yes	Works Completed		

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
	capacity of the current aerator and clarifier tanks to cater for the existing and the short term increase in wastewater loading						
D0048-SIP:07	collection systems: separation of known surface water connections from the main combined sewer where feasible.	C	31/12/2010	Yes	Not Started		The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis
D0048-SIP:09	Secondary discharge from SW2 to be upgraded to a SWO, as defined in DoEHLG 'Procedures & criteria in relation to SWOs'	A	31/01/2011	Yes	Works Completed		
D0048-SIP:10	Tulla road and Francis st pump stations: diversion of surface water away from pump stations	C	31/12/2010	Yes	Not Started		The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis
D0048-SIP:12	Tulla road and Francis st pump stations: replacement	C	31/12/2010	Yes	Not Started		SWO Assessment Programme to assess

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
	of pumps and improving the pump controls						performance against DoECLG criteri
D0048-SIP:13	Tulla road and Francis st pump stations: upgrade of the combined sewer overflow regime at the pump stations	C	31/12/2010	Yes	Not Started		SWO Assessment Programme to assess performance against DoECLG criteri

A summary of the status of any improvements identified by under Condition 5.2 is included below.

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
There are no Improvements Programme for this Agglomeration.				

4.2.3 SEWER INTEGRITY RISK ASSESSMENT

The utilisation of multiple capital maintenance programmes and the outputs of the workshops with the Local Authority Operations Staff held under the programme can be used to satisfy the requirements of Condition 5 regarding network integrity. Improvement works identified by way of these programmes and workshops will be included in the Improvements Summary Table.

5 LICENCE SPECIFIC REPORTS

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides list of the various reports required for this agglomeration and a brief summary of their recommendations.

5.a Licence Specific Reports Summary Table

Licence Specific Report	Required by licence	Year included in AER	Included in this AER	Reference to relevant section of AER
There is no Licence Specific Report Required in this AER Annual Review.				

6 CERTIFICATION AND SIGN OFF

6.1 SUMMARY OF AER CONTENTS

Parameter	Answer
Does the AER include an Executive Summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for consideration of a Technical Amendment/ Review of the licence?	Yes
List reason e.g. additional SWO identified	pH range clerical error
Is there a need to request/advise the EPA of any modification to the existing WWDL with respect to condition 4 changes to monitoring location, frequency etc	Yes
List reason e.g. changes to monitoring requirements	Change to Ambient monitoring locations: Upstream & Downstream
Have these processes commenced?	Yes
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	Yes

I certify that the information given in this Annual Environmental Report is truthful, accurate and complete:

Signed: Date: 23/04/2020

This AER has been produced by Irish Water's Environmental Information System (EIMS) and has been electronically signed off in that system for and on behalf of ,

Katherine Walshe

Acting Head of Environmental Regulation.

7 APPENDIX

Appendix
Appendix 7.1 - Ambient monitoring summary

D0048-01 Ennis North
SW3 Club Bridge

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish National Grid Reference (Easting, Northing)	EPA Feature Coding Tool code	Receiving Waters Designation (Yes/No)				Current WFD Status	Mean (mg/l)		
			Bathing Water	Drinking Water	FWPM	Shellfish		cBOD	o-Phosphate (as P)	Ammonia (as N)
Upstream Monitoring Point	133906, 177700	RS27F010680					Poor	2.000	0.025	0.093
Downstream Monitoring Point	134888, 176809	RS27F010720	No	No	No	No	Poor	2.050	0.019	0.048
Difference								*0.050*	*-0.006*	*-0.045*
EQS								1.500	0.035	0.065
% of EQS								3.333%	-17.143%	-69.231%

D0048-01 Ennis North
SW01 Clonroad Bridge

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish National Grid Reference (Easting, Northing)	EPA Feature Coding Tool code	Receiving Waters Designation (Yes/No)				Current WFD Status	Mean (mg/l)		
			Bathing Water	Drinking Water	FWPM	Shellfish		cBOD	o-Phosphate (as P)	Ammonia (as N)
Upstream Monitoring Point	134520, 177880	RS27F010700					Poor	2.600	0.027	0.046
Downstream Monitoring Point	134888, 176809	RS27F010720	No	No	No	No	Poor	2.050	0.019	0.048
Difference								*-0.550*	*-0.008*	*0.002*
EQS								1.500	0.035	0.065
% of EQS								-36.667%	-22.857%	3.077%

Ennis North Ambient 2019

Club Bridge (U/S Francis St)
aSW3u

Station	Laboratory	Station Reference	Sample Reference	Sample Date	Comments	Analyst Conclusion	Ammonia N	Dissolved Oxygen % Saturation	Dissolved Oxygen	Temperature	Total Nitrogen N	Biological Oxygen Demand	Ortho-Phosphate P	pH	Total Phosphorus P	Suspended Solids	Visual Inspection
Parameter							Ammonia N	Dissolved Oxygen % Saturation	Dissolved Oxygen	Temperature	Total Nitrogen N	Biological Oxygen Demand	Ortho-Phosphate P	pH	Total Phosphorus P	Suspended Solids	Visual Inspection
Max.							--	120	--	--	--	--	--	9	--	--	--
Min.							--	80	--	--	--	--	--	6	--	--	--
							mg/l	% O2	mg/l	Degrees C	mg/l	mg/l	mg/l	pH units	mg/l	mg/l	Descriptive
Club Bridge (U/S Francis St Pump St.)	Clare Co Co New Rd	RS27F010680	19-0089	16-Jan-2019	-	-	0.081	88.9	10.29	8.6	1.4	< 2	0.027	7.85	< 0.12		Clear
Club Bridge (U/S Francis St Pump St.)	Clare Co Co New Rd	RS27F010680	19-0244	13-Feb-2019	-	-	< 0.02	95.1	11.16	8.8	1.5	< 2	< 0.01	7.96	< 0.12	2.4	Clear
Club Bridge (U/S Francis St Pump St.)	Clare Co Co New Rd	RS27F010680	19-0452	13-Mar-2019	-	-	0.047	97.1	11.23	9.2	1.3	< 2	< 0.01	8.14	< 0.12		Clear
Club Bridge (U/S Francis St Pump St.)	Clare Co Co New Rd	RS27F010680	19-0710	10-Apr-2019	-	-	0.029	91.2	10.17	11	1	< 2	< 0.01	8.07	< 0.12	2.8	Clear
Club Bridge (U/S Francis St Pump St.)	Clare Co Co New Rd	RS27F010680	19-0915	15-May-2019	-	-	0.044	95.1	9.87	14.2	0.7	< 2	0.01	8.34	< 0.12	< 2	Clear
Club Bridge (U/S Francis St Pump St.)	Clare Co Co New Rd	RS27F010680	19-1199	26-June-2019	-	-	0.524	108.8	10.42	18.4	0.6	< 2	0.028	8.16	< 0.12	2	Clear
Club Bridge (U/S Francis St Pump St.)	Clare Co Co New Rd	RS27F010680	19-1337	24-July-2019	-	-	0.054	95.1	8.72	19.2	0.9	< 2	0.022	8.09	< 0.12	3.2	Clear
Club Bridge (U/S Francis St Pump St.)	Clare Co Co New Rd	RS27F010680	19-1541	21-Aug-2019	-	-	0.045	84.7	8.47	15.9	0.8	< 2	0.022	7.9	< 0.12	< 2	Clear
Club Bridge (U/S Francis St Pump St.)	Clare Co Co New Rd	RS27F010680	19-1800	18-Sep-2019	-	-	0.07	77.7	8.02	15	0.6	< 2	0.032	7.97	< 0.12	< 2	Clear
Club Bridge (U/S Francis St Pump St.)	Clare Co Co New Rd	RS27F010680	19-1991	16-Oct-2019	-	-	0.04	79.9	8.58	11.5	0.7	< 2	0.016	7.81	< 0.12	< 2	Clear
Club Bridge (U/S Francis St Pump St.)	Clare Co Co New Rd	RS27F010680	19-2190	13-Nov-2019	-	-	0.072	84.7	10.09	7	1	< 2	0.093	8.04	< 0.12	< 2	Clear

Br Near Clonroad House
aSW1u & aSW3d

Station	Laboratory	Station Reference	Sample Reference	Sample Date	Comments	Analyst Conclusion	Ammonia N	Dissolved Oxygen % Saturation	Dissolved Oxygen	Temperature	Total Nitrogen N	Biological Oxygen Demand	Ortho-Phosphate P	pH	Total Phosphorus P	Suspended Solids	Visual Inspection
Parameter							Ammonia N	Dissolved Oxygen % Saturation	Dissolved Oxygen	Temperature	Total Nitrogen N	Biological Oxygen Demand	Ortho-Phosphate P	pH	Total Phosphorus P	Suspended Solids	Visual Inspection
Max.							--	120	--	--	--	--	--	9	--	--	--
Min.							--	80	--	--	--	--	--	6	--	--	--
							mg/l	% O2	mg/l	Degrees C	mg/l	mg/l	mg/l	pH units	mg/l	mg/l	Descriptive
Bridge Near Clonroad House - 0700	Clare Co Co New Rd	RS27F010700	19-0092	16-Jan-2019	-	-	0.024	84.9	9.84	8.6	1.2	< 2	0.02	7.88	< 0.12		Clear
Bridge Near Clonroad House - 0700	Clare Co Co New Rd	RS27F010700	19-0247	13-Feb-2019	-	-	< 0.02	94.2	11.11	8.6	1.4	< 2	< 0.01	7.99	< 0.12	< 2	Clear
Bridge Near Clonroad House - 0700	Clare Co Co New Rd	RS27F010700	19-0453	13-Mar-2019	-	-	< 0.02	98.2	11.4	9	1.2	< 2	< 0.01	8.17	< 0.12		Clear
Bridge Near Clonroad House - 0700	Clare Co Co New Rd	RS27F010700	19-0701	10-Apr-2019	-	-	0.102	92.9	10.49	10.5	0.7	< 2	0.017	8.09	< 0.12	< 2	Clear
Bridge Near Clonroad House - 0700	Clare Co Co New Rd	RS27F010700	19-0916	15-May-2019	-	-	0.029	105.5	10.73	15.1	0.7	< 2		8.34	< 0.12	< 2	Clear
Bridge Near Clonroad House - 0700	Clare Co Co New Rd	RS27F010700	19-1200	26-June-2019	-	-	0.06	109.6	8.5	18.4	< 0.2	< 2	< 0.01	8.19	< 0.12	< 2	Clear
Bridge Near Clonroad House - 0700	Clare Co Co New Rd	RS27F010700	19-1336	24-July-2019	-	-	0.099	89.9	8.27	19	0.5	< 2	0.065	8.06	< 0.12	< 2	Clear
Bridge Near Clonroad House - 0700	Clare Co Co New Rd	RS27F010700	19-1542	21-Aug-2019	-	-	0.034	85.4	8.49	16.1	0.8	< 2	0.011	7.92	< 0.12	< 2	Clear
Bridge Near Clonroad House - 0700	Clare Co Co New Rd	RS27F010700	19-1801	18-Sep-2019	-	-	0.049	81.5	8.4	14.9	0.6	< 2	0.102	7.96	< 0.12	< 2	Clear
Bridge Near Clonroad House - 0700	Clare Co Co New Rd	RS27F010700	19-1992	16-Oct-2019	-	-	0.036	82.1	8.75	11.9	0.7	8.4	0.015	7.81	< 0.12	< 2	Clear
Bridge Near Clonroad House - 0700	Clare Co Co New Rd	RS27F010700	19-2191	13-Nov-2019	-	-	0.036	84.6	10.06	7.1	0.9	< 2	0.014	8.07	< 0.12	< 2	Clear

Br. S.W. Of Doora
aSW1d

Station	Laboratory	Station Reference	Sample Reference	Sample Date	Comments	Analyst Conclusion	Ammonia N	Dissolved Oxygen % Saturation	Dissolved Oxygen	Temperature	Total Nitrogen N	Biological Oxygen Demand	Ortho-Phosphate P	pH	Total Phosphorus P	Suspended Solids	Visual Inspection
Parameter							Ammonia N	Dissolved Oxygen % Saturation	Dissolved Oxygen	Temperature	Total Nitrogen N	Biological Oxygen Demand	Ortho-Phosphate P	pH	Total Phosphorus P	Suspended Solids	Visual Inspection
Max.							--	120	--	--	--	--	--	9	--	--	--
Min.							--	80	--	--	--	--	--	6	--	--	--
							mg/l	% O2	mg/l	Degrees C	mg/l	mg/l	mg/l	pH units	mg/l	mg/l	Descriptive
Bridge S.W. Of Doora -0720	Clare Co Co New Rd	RS27F010720	19-0091	16-Jan-2019	-	-	0.05	87.2	10.07	8.7	1.3	< 2	0.026	7.88	< 0.12		Clear
Bridge S.W. Of Doora -0720	Clare Co Co New Rd	RS27F010720	19-0246	13-Feb-2019	-	-	0.032	92.4	10.93	8.5	1.5	< 2	< 0.01	7.97	< 0.12	4	ok
Bridge S.W. Of Doora -0720	Clare Co Co New Rd	RS27F010720	19-0454	13-Mar-2019	-	-	0.052	96.5	11.07	9.4	1.1	< 2	< 0.01	8.14	< 0.12		Clear
Bridge S.W. Of Doora -0720	Clare Co Co New Rd	RS27F010720	19-0702	10-Apr-2019	-	-	0.06	86.5	9.65	11	1.5	< 2	0.014	7.95	< 0.12	< 2	Surface particles
Bridge S.W. Of Doora -0720	Clare Co Co New Rd	RS27F010720	19-0917	15-May-2019	-	-	0.033	84.8	8.72	14.7	1	< 2	0.011	8.14	< 0.12	< 2	Clear
Bridge S.W. Of Doora -0720	Clare Co Co New Rd	RS27F010720	19-1201	26-June-2019	-	-	0.056	87.3	8.5	17.6	2.3	< 2	0.019	7.91	< 0.12	< 2	Clear
Bridge S.W. Of Doora -0720	Clare Co Co New Rd	RS27F010720	19-1338	24-July-2019	-	-	0.079	71.2	6.56	19	1.5	2.6	0.044	7.79	< 0.12	5.6	Clear
Bridge S.W. Of Doora -0720	Clare Co Co New Rd	RS27F010720	19-1543	21-Aug-2019	-	-	0.042	81.9	8.23	15.7	0.8	< 2	0.013	7.88	< 0.12	2.8	Clear
Bridge S.W. Of Doora -0720	Clare Co Co New Rd	RS27F010720	19-1802	18-Sep-2019	-	-	0.041	73.3	7.64	14.4	0.8	< 2	0.026	7.92	< 0.12	< 2	Clear
Bridge S.W. Of Doora -0720	Clare Co Co New Rd	RS27F010720	19-1993	16-Oct-2019	-	-	0.044	81.1	8.57	12.2	1.2	< 2	0.018	7.84	< 0.12	2	Clear
Bridge S.W. Of Doora -0720	Clare Co Co New Rd	RS27F010720	19-2192	13-Nov-2019	-	-	0.041	83.4	9.95	6.9	0.9	< 2	0.018	8.03	< 0.12	< 2	Clear

Annual Environmental Report

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Ennis North

D0048-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2020 AER

This Annual Environmental Report has been prepared for D0048-01, Ennis North, in Clare in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports where relevant are included as an appendix to the AER.

1.1 ANNUAL STATEMENT OF MEASURES

A summary of any improvements undertaken is provided where applicable.

1.2 TREATMENT SUMMARY

The agglomeration is served by a wastewater treatment plant(s)

- ENNIS NORTH WWTP - 2020 with a Plant Capacity PE of 31500, the treatment type is 3P - Tertiary P removal

1.3 ELV OVERVIEW

The overall compliance of the final effluent with the Emission Limit Values (ELVs) is shown below. More detailed information on the below ELV's can be found in Section 2.

Discharge Point Reference	Treatment Plant	Discharge Type	Compliance Status	Parameters failing if relevant
TPEFF0300D0048SW001	ENNIS NORTH WWTP - 2020	Treated	Compliant	N/A

1.4 LICENCE SPECIFIC REPORTING INCLUDED IN AER

Assessment / Report	Included in AER
There are no Licence Specific Reports included in the AER.	

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 ENNIS NORTH WWTP - 2020 - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - ENNIS NORTH WWTP - 2020

A summary of influent monitoring for the treatment plant is presented below. This monitoring is primarily undertaken in order to determine the overall efficiency of the plant in removing pollutants from the raw wastewater.

Parameters	Number of Samples	Annual Max	Annual Mean
Total Nitrogen mg/l	13	51.2	0
Suspended Solids mg/l	12	208	0
COD-Cr mg/l	12	396	0
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	208	0
Total Phosphorus (as P) mg/l	12	5.62	0
Hydraulic Capacity	N/A	23467	12516

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 2.1.5 if applicable.

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity. Further details on the plant capacity and efficiency can be found under the sectional 'Operational Performance Summary'.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF0300D0048SW001

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	125	250	N/A	12	N/A	N/A	22.8	Pass
Suspended Solids mg/l	35	87.5	N/A	12	N/A	N/A	8.88	Pass
Temperature °C	25	25	N/A	12	N/A	N/A	5.4	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	10	20	N/A	12	N/A	N/A	3.67	Pass
pH pH units	9	9	N/A	12	N/A	N/A	7.52	Pass
Total Phosphorus (as P) mg/l	2	2.4	N/A	12	N/A	N/A	0.58	Pass
Ammonia-Total (as N) mg/l	1	1.2	N/A	12	N/A	N/A	0.21	Pass
ortho-Phosphate (as P) - unspecified mg/l	1	1.2	N/A	12	N/A	N/A	0.42	Pass
Dissolved Inorganic Nitrogen (as N) mg/l	N/A	N/A	N/A	12	N/A	N/A	10.7	

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Conductivity @25°C µS/cm	N/A	N/A	N/A	12	N/A	N/A	638.78	
Total Nitrogen mg/l	N/A	N/A	N/A	13	N/A	N/A	12.08	

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied

Cause of Exceedance(s):

Not applicable

Significance of Results:

The WWTP is compliant with the ELV's set in the Wastewater Discharge Licence.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF0300D0048SW001

A summary of monitoring from ambient monitoring points associated with the wastewater discharge is provided in the sections below. For discharges to rivers upstream (U/S) and downstream (D/S) location data is provided. For other ambient points in lakes, coastal or transitional waters, monitoring data from the most appropriate monitoring station is selected.

The table below provides details of ambient monitoring locations and details of any designations as sensitive areas.

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
Upstream	133905, 177699	RS27F010680	No	No	No	No	Poor
Upstream	134524, 177884	RS27F010700	No	No	No	No	Poor
Upstream	134820, 177944	RS27F010710	No	No	No	No	Poor
Downstream	134888, 176818	RS27F010720	No	No	No	No	Poor

The table below provides a summary of monitoring results for designated ambient monitoring points. The upstream and downstream annual mean values are shown (mg/l), and the difference between both monitoring stations is given as a percentage of the Environmental Quality Standard (EQS) where relevant.

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Ammonia-Total (as N) mg/l	RS27F010700	0.026	RS27F010720	0.068	0.065	64.7
ortho-Phosphate (as P) - unspecified mg/l	RS27F010700	0.016	RS27F010720	0.039	0.035	66.4
Calcium - unspecified mg/l	RS27F010700	59.833	RS27F010720			
BOD - 5 days (Total) mg/l	RS27F010700	1.045	RS27F010720	1.76		
Nitrite (as N) µg/l	RS27F010700	4.176	RS27F010720	9.84		
Mercury - unspecified µg/l	RS27F010700	0.016	RS27F010720			
pH pH units	RS27F010700	7.942	RS27F010720	7.66		

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Thallium - unspecified µg/l	RS27F010700	0.141	RS27F010720			
Manganese - unspecified µg/l	RS27F010700	18.708	RS27F010720			
Selenium - unspecified µg/l	RS27F010700	0.882	RS27F010720			
Vanadium - unspecified µg/l	RS27F010700	0.707	RS27F010720			
Zinc - unspecified µg/l	RS27F010700	2.509	RS27F010720			
True Colour mg/litre Pt Co	RS27F010700	33.083	RS27F010720	69.6		
Alkalinity-total (as CaCO3) mg/l	RS27F010700	164.917	RS27F010720	153.6		
Total Phosphorus (as P) mg/l	RS27F010700	0.034	RS27F010720			
Cadmium - unspecified µg/l	RS27F010700	0.018	RS27F010720			
Antimony - unspecified µg/l	RS27F010700	0.707	RS27F010720			
Boron - unspecified µg/l	RS27F010700	9.208	RS27F010720			

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Barium - unspecified µg/l	RS27F010700	8.767	RS27F010720			
Dissolved Organic Carbon mg/l	RS27F010700	6.05	RS27F010720			
Chromium - unspecified µg/l	RS27F010700	0.707	RS27F010720			
Dissolved Oxygen mg/l	RS27F010700	9.625	RS27F010720	9.08		
Beryllium - unfiltered µg/l	RS27F010700	0.707	RS27F010720			
Dissolved Oxygen % Saturation	RS27F010700	88.667	RS27F010720	87.6		
Copper - unspecified µg/l	RS27F010700	4.701	RS27F010720			
Conductivity @25°C µS/cm	RS27F010700	402	RS27F010720	4239.4		
Chloride mg/l	RS27F010700	23.108	RS27F010720	1228.28		
Iron - unspecified µg/l	RS27F010700	106.917	RS27F010720			
Arsenic - unspecified µg/l	RS27F010700	0.707	RS27F010720			
Cobalt - unspecified µg/l	RS27F010700	0.707	RS27F010720			

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Aluminium - unspecified µg/l	RS27F010700	20.05	RS27F010720			
Sodium - unspecified mg/l	RS27F010700	11.733	RS27F010720			
Nitrate (as N) mg/l	RS27F010700	0.377	RS27F010720	0.714		
Potassium - unspecified mg/l	RS27F010700	1.667	RS27F010720			
Total Hardness (as CaCO3) mg/l	RS27F010700	190.5	RS27F010720	591.4		
Total Oxidised Nitrogen (as N) mg/l	RS27F010700	0.385	RS27F010720	0.72		
Suspended Solids mg/l	RS27F010700	4	RS27F010720			
Total Nitrogen mg/l	RS27F010700	0.869	RS27F010720			
Temperature °C	RS27F010700	11.508	RS27F010720	13		
Strontium - unfiltered µg/l	RS27F010700	84.167	RS27F010720			
Nickel - unspecified µg/l	RS27F010700	1.111	RS27F010720			
Molybdenum - unspecified µg/l	RS27F010700	0.707	RS27F010720			

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Magnesium - unspecified mg/l	RS27F010700	4.392	RS27F010720			
Uranium - unfiltered µg/l	RS27F010700	0.508	RS27F010720			
Lead - unspecified µg/l	RS27F010700	0.147	RS27F010720			

Significance of Results:

The WWTP discharge was compliant with the ELV's set in the wastewater discharge licence.

The ambient monitoring results meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

Based on ambient monitoring results a deterioration in , concentrations downstream of the effluent discharge is noted.

A deterioration in water quality has been identified, however it is not known if it or is not caused by the WWTP.

Other causes of deterioration in water quality in the area are unknown.

The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

2.1.4 OPERATIONAL PERFORMANCE SUMMARY - ENNIS NORTH WWTP - 2020

2.1.4.1 Treatment Efficiency Report - ENNIS NORTH WWTP - 2020

Treatment efficiency is based on the removal of key pollutants from the influent wastewater by the treatment plant. In essence the calculation is based on the balance of load coming into the plant versus the load leaving the plant. The efficiency is presented as a percentage removal rate.

A summary presentation of the efficiency of the treatment process including information for all the parameters specified in the licence is included below:

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
SS	N/A	35911	N/A
cBOD	N/A	14856	N/A
TN	N/A	48872	N/A
COD	N/A	92233	N/A
TP	N/A	2360	N/A

Note: The above data is based on sample results for the number of dates reported

2.1.4.2 Treatment Capacity Report Summary - ENNIS NORTH WWTP - 2020

Treatment capacity is an assessment of the hydraulic (flow) and organic (the amount of pollutants) load a treatment plant is designed to treat versus the current loading of that plant.

ENNIS NORTH WWTP - 2020	
Peak Hydraulic Capacity (m^3/day) - As Constructed	16272
DWF to the Treatment Plant (m^3/day)	6784
Current Hydraulic Loading - annual max (m^3/day)	23467
Average Hydraulic loading to the Treatment Plant (m^3/day)	12516
Organic Capacity (PE) - As Constructed	31500
Organic Capacity (PE) - Collected Load (peak week)Note1	24178
Organic Capacity (PE) - Remaining	7322
Will the capacity be exceeded in the next three years? (Yes/No)	No

Already hydraulically overloaded.

Nominal design capacities can be based on conservative design principles. In some cases assessment of existing plants has shown organic capacities significantly higher than the nominal design capacity. Accordingly plants that appear to be overloaded when comparing a collected peak load with the nominal design capacity can be fully compliant due to the safety factors in the original design.

2.1.5 SLUDGE / OTHER INPUTS - ENNIS NORTH WWTP - 2020

'Other inputs' to the waste water treatment plant are summarised in table below

Input type	Quantity	Unit	P.E.	% of load to WWTP	Included in Influent Monitoring (Y/N)?	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
There is no Sludge and Other Input data for the Treatment Plant included in the AER.							

3 COMPLAINTS AND INCIDENTS

3.1 COMPLAINTS SUMMARY

A summary of complaints of an environmental nature is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
There were no relevant environmental complaints in 2020.			

3.2 REPORTED INCIDENTS SUMMARY

Environmental incidents that arise in an agglomeration are reported on an on-going basis in accordance with our waste water discharge licences. Where an incident occurs and it is reportable under the licence, it is reported to the Environmental Protection Agency through their Environmental Data Exchange Network, or in some instances by telephone. Some incidents which arise in the agglomeration are recorded by Irish Water but may not be reportable under our licence for example where the incident does not have an impact on environmental performance.

A summary of reported incidents is included below.

3.2.1 SUMMARY OF INCIDENTS

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
There were no reportable incidents in 2020.				

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2020	1
Number of Incidents reported to the EPA via EDEN in 2020	1
Explanation of any discrepancies between the two numbers above	N/A

4 INFRASTRUCTURAL ASSESSMENTS AND PROGRAMME OF IMPROVEMENTS

4.1 STORM WATER OVERFLOW IDENTIFICATION AND INSPECTION REPORT

A summary of the operation of the storm water overflows and their significance where known is included below:

4.1.1 SWO IDENTIFICATION

SW002 was claimed to be measured in 2017

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2020 (No. of events)	Total volume discharged in 2020 (m3)	Monitoring Status
SW002	134850, 177465	No	High	Not Meeting	Unknown	Unknown	Not Monitored
SW3	134353, 177743	Yes	High	Not Meeting	Unknown	Unknown	Not Monitored
SW4	134682, 177994	Yes	High	Not Meeting	Unknown	Unknown	Monitored
TBC	134439, 180542	No	Medium	Not Meeting	Unknown	Unknown	Monitored
TBC	134859, 177466	No	High	Not Meeting	Unknown	Unknown	Unknown
TBC	134350, 177741	No	Medium	Not Meeting	Unknown	Unknown	Unknown

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	Unknown
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	Yes
The SWO Assessment included the requirements of relevant of WWDL schedules?	Yes
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	No

4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS.

4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides list of the various reports required for this agglomeration and a brief summary of their recommendations.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0048-SIP:01	Clonroadmore WWTP installation of tertiary treatment system.	C	31/12/2010	Yes	Works Completed		

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0048-SIP:02	Clonroadmore WWTP rehabilitation of the storm/balance tanks	C	31/12/2010	Yes	Works Completed		
D0048-SIP:03	Clonroadmore WWTP upgrade of the inlet works	C	31/12/2010	Yes	Works Completed		
D0048-SIP:04	Clonroadmore WWTP upgrade of the sludge handling facilities	C	31/12/2010	Yes	Works Completed		
D0048-SIP:05	Clonroadmore WWTP upgrade of the treatment capacity of the current aerator and clarifier tanks to cater for the existing and the short term increase in wastewater loading	C	31/12/2010	Yes	Works Completed		
D0048-SIP:06	collection systems: rehabilitation of sewers with high levels of infiltration.	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0048-SIP:07	collection systems: separation of known surface water connections from the main combined sewer where feasible.	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.
D0048-SIP:08	collection systems: upgrade of satellite pump station overflows	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.
D0048-SIP:09	Secondary discharge from SW2 to be upgraded to a SWO, as defined in DoEHLG 'Procedures & criteria in relation to SWOs'	A	01/01/2011	Yes	Works Completed		not momitored
D0048-SIP:10	Tulla road and Francis st pump stations: diversion of surface water away from pump stations	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0048-SIP:11	Tulla road and Francis st pump stations: repair of grit traps	C	31/12/2010	Yes	Works Completed		
D0048-SIP:12	Tulla road and Francis st pump stations: replacement of pumps and improving the pump controls	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.
D0048-SIP:13	Tulla road and Francis st pump stations: upgrade of the combined sewer overflow regime at the pump stations	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.

A summary of the status of any improvements identified by under Condition 5.2 is included below.

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
There are no Improvements Programme for this Agglomeration.				

4.2.3 SEWER INTEGRITY RISK ASSESSMENT

The utilisation of multiple capital maintenance programmes and the outputs of the workshops with the Local Authority Operations Staff held under the programme can be used to satisfy the requirements of Condition 5 regarding network integrity. Improvement works identified by way of these programmes and workshops will be included in the Improvements Summary Table.

5 LICENCE SPECIFIC REPORTS

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides list of the various reports required for this agglomeration and a brief summary of their recommendations.

5.a Licence Specific Reports Summary Table

Licence Specific Report	Required by licence	Year included in AER	Included in this AER	Reference to relevant section of AER
There is no Licence Specific Report Required in this AER Annual Review.				

6 CERTIFICATION AND SIGN OFF

6.1 SUMMARY OF AER CONTENTS

Parameter	Answer
Does the AER include an Executive Summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for consideration of a Technical Amendment / Review of the licence?	Yes
List reason e.g. additional SWO identified	pH Range clerical error
Is there a need to request/advise the EPA of any modification to the existing WWDL with respect to condition 4 changes to monitoring location, frequency etc	Yes
List reason e.g. changes to monitoring requirements	Change to Ambient monitoring locations: Upstream & Downstream
Have these processes commenced?	No
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	Yes

I certify that the information given in this Annual Environmental Report is truthful, accurate and complete:

Signed: Date: 06/05/2021

This AER has been produced by Irish Water's Environmental Information System (EIMS) and has been electronically signed off in that system for and on behalf of ,

Katherine Walshe

Acting Head of Environmental Regulation.

7 APPENDIX

Appendix
Appendix 7.1 - Ambient monitoring summary

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	EPA Feature Coding Tool code	Receiving Waters Designation (Y/N)				WFD Status
			Bathing Water	Drinking Water	FWPM	Shellfish	
Upstream Monitoring Point (SW3) Club Bridge	133906, 177700	RS27F01680	No	No	No	No	Poor
Downstream Monitoring Point (SW3) Doora Bridge	134888, 1768090	RS27F010720	No	No	No	No	Poor

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	EPA Feature Coding Tool code	Receiving Waters Designation (Y/N)				WFD Status
			Bathing Water	Drinking Water	FWPM	Shellfish	
Upstream Monitoring Point (SW1) Clonroad Br	134520, 177880	RS27F01070D	No	No	No	No	Poor
Downstream Monitoring Point (SW3) Doora Bridge	134888, 1768090	RS27F010720	No	No	No	No	Poor

SW3

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	%EQS
cBOD mg/l	Club Bridge (SW3)	2	Doora Bridge (SW3)	2	0.00%
Ortho-Phosphate (as P) mg/l	Club Bridge (SW3)	0.061	Doora Bridge (SW3)	0.027	-45.33%
Ammonia (as N) mg/l	Club Bridge (SW3)	0.028	Doora Bridge (SW3)	0.0415	9.64%

SW1

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	%EQS
cBOD mg/l	Clonroad Bridge (SW1)	2	Doora Bridge (SW3)	2	0.00%
Ortho-Phosphate (as P) mg/l	Clonroad Bridge (SW1)	0.018	Doora Bridge (SW3)	0.027	12.00%
Ammonia (as N) mg/l	Clonroad Bridge (SW1)	0.057	Doora Bridge (SW3)	0.0415	-11.07%

		Parameter	Ammonia N	DO % SAT	DO mg/l	TEMP	TN	BOD	Ortho-P	pH	TP	COD	SS
		Max.	--	120	--	--	--	--	--	9	--	--	--
		Min.	--	80	--	--	--	--	--	6	--	--	--
		Test Method	--	--	--	--	--	--	--	--	--	--	--
Station Reference	Sample Date	Analyst Conclusion	mg/l	% O2	mg/l	Degrees C	mg/l	mg/l	mg/l	pH units	mg/l	mg/l	mg/l
RS27F010720	15-Jan-2020	-	0.04	86.7	10.63	6.7	0.9	< 2	0.01	7.83	< 0.12	16	4.4
RS27F010720	5-Feb-2020	-	0.059	91.6	11.63	6.3	0.8	< 2	0.02	7.95	< 0.12		2.8
RS27F010720	18-Mar-2020	-	0.04	92.7	10.99	8.4	0.7	< 2	< 0.01	7.98	< 0.12		< 2
RS27F010720	6-May-2020	-	0.024	87.5	9.05	14.1	0.4	< 2	0.014	8.02	< 0.12		< 2
RS27F010720	20-May-2020	-	0.053	93.9	9.33	16	< 0.2	< 2	0.036	8.06	< 0.12		< 2
RS27F010720	17-June-2020	-	0.074	73.3	7.23	16.1	1.3	< 2	0.038	7.74	< 0.12		5.6
RS27F010720	8-July-2020	-	0.023	88.2	8.78	15.5		< 2	0.016	7.57	< 0.12		4.8
RS27F010720	19-Aug-2020	-	0.067	75.1	7.05	17.7	1.55	< 2	0.027	7.52	< 0.12		6.4
RS27F010720	15-Sep-2020	-	0.024	80	7.98	15.7	0.3	< 2	0.08	7.81	< 0.12		
RS27F010720	14-Oct-2020	-	0.03	83.7	9.33	11.2	0.99	< 2	0.025	7.81	0.13		2.4
RS27F010720	4-Nov-2020	-	0.036	77.5	9.26	8.7	0.41	< 2	0.014	7.8	0.15		2
RS27F010720	2-Dec-2020	-	0.03	83.1	9.82	8.6	< 1	< 2	0.02	7.85	0.04		< 2
RS27F010720	8-Dec-2020	-					< 1						

		Parameter	Ammonia N	DO % SAT	DO mg/l	TEMP	TN	BOD	Ortho-P	pH	TP	COD	SS
		Max.	--	120	--	--	--	--	--	9	--	--	--
		Min.	--	80	--	--	--	--	--	6	--	--	--
		Test Method	--	--	--	--	--	--	--	--	--	--	--
Station Reference	Sample Date	Analyst Conclusion	mg/l	% O2	mg/l	Degrees C	mg/l	mg/l	mg/l	pH units	mg/l	mg/l	mg/l
RS27F010680	15-Jan-2020	-	0.05	90.9	11.13	6.7	0.8	< 2	< 0.01	7.87	< 0.12	15	
RS27F010680	5-Feb-2020	-	< 0.02	91.9	11.56	6.7	0.8	< 2	0.013	7.96	< 0.12		2
RS27F010680	18-Mar-2020	-	0.028	93.6	11.08	8.4	0.5	< 2	< 0.01	7.98	< 0.12		< 2
RS27F010680	6-May-2020	-	0.035	102.8	10.62	14.2	0.3	< 2	0.045	8.14	< 0.12		< 2
RS27F010680	20-May-2020	-	< 0.02	121.5	12.04	16.1	0.2	< 2	0.012	8.42	< 0.12		2
RS27F010680	17-June-2020	-	0.19	87.2	8.66	15.9	0.4	< 2	0.045	7.91	< 0.12		< 2
RS27F010680	8-July-2020	-	0.031	90.7	9.08	15.3		< 2	0.025	7.7	< 0.12		4.4
RS27F010680	19-Aug-2020	-	0.069	74.7	7	17.9	1.71	< 2	0.034	7.56	< 0.12		3.2
RS27F010680	15-Sep-2020	-	0.099	80	7.96	15.7	0.24	< 2	0.041	7.79	< 0.12		
RS27F010680	14-Oct-2020	-	0.046	88.1	9.73	11.6	1.1	< 2	0.028	7.85	0.16		< 2
RS27F010680	4-Nov-2020	-	0.024	75.4	9.06	8.5	0.34	< 2	0.013	7.79	0.06		< 2
RS27F010680	2-Dec-2020	-	0.04	83.4	9.79	8.7	< 1	< 2	0.02	7.84	0.02		3
RS27F010680	8-Dec-2020	-					< 1						

		Parameter	Ammonia N	DO % SAT	DO mg/l	TEMP	TN	BOD	Ortho-P	pH	TP	COD	SS
		Max.	--	120	--	--	--	--	--	9	--	--	--
		Min.	--	80	--	--	--	--	--	6	--	--	--
		Test Method	--	--	--	--	--	--	--	--	--	--	--
Station Reference	Sample Date	Analyst Conclusion	mg/l	% O2	mg/l	Degrees C	mg/l	mg/l	mg/l	pH units	mg/l	mg/l	mg/l
RS27F010700	15-Jan-2020	-	0.06	91.4	11.18	6.3	0.7	< 2	< 0.01	7.86	< 0.12	15	2
RS27F010700	5-Feb-2020	-	0.064	93.2	11.76	6.6	0.8	< 2	0.015	7.98	< 0.12		< 2
RS27F010700	18-Mar-2020	-	0.042	93.7	11.02	8.7	0.6	< 2	< 0.01	8.02	< 0.12		< 2
RS27F010700	6-May-2020	-	< 0.02	109.1	11.28	14.1	0.3	< 2	< 0.01	8.24	< 0.12		< 2
RS27F010700	20-May-2020	-	< 0.02	128.8	12.77	16.1	0.3	< 2	< 0.01	8.48	< 0.12		< 2
RS27F010700	17-June-2020	-	0.063	87.2	8.66	15.9	1.8	< 2	0.01	7.92	< 0.12		< 2
RS27F010700	8-July-2020	-	< 0.02	92	9.22	15.2		< 2	0.013	7.68	< 0.12		6.8
RS27F010700	19-Aug-2020	-	0.118	74.6	6.98	17.9	2.65	< 2	0.033	7.55	< 0.12		4
RS27F010700	15-Sep-2020	-	0.078	82.1	8.25	15.4	0.42	< 2	0.024	7.82	< 0.12		
RS27F010700	14-Oct-2020	-	0.026	90.2	9.99	11.4	0.99	< 2	0.019	7.91	0.04		< 2
RS27F010700	4-Nov-2020	-	0.051	76.4	9.11	8.8	0.39	< 2	0.013	7.84	0.02		2.8
RS27F010700	2-Dec-2020	-	0.03	85.4	9.79	8.9	< 1	< 2	0.02	7.83	0.13		2
RS27F010700	8-Dec-2020	-					< 1						

Annual Environmental Report

2021

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WATER

Ennis North

D0048-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2021 AER

This Annual Environmental Report has been prepared for D0048-01, Ennis North, in Clare in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports where relevant are included as an appendix to the AER.

1.1 ANNUAL STATEMENT OF MEASURES

A summary of any improvements undertaken is provided where applicable.

1.2 TREATMENT SUMMARY

The agglomeration is served by a wastewater treatment plant(s)

- ENNIS NORTH WWTP with a Plant Capacity PE of 31500, the treatment type is 3P - Tertiary P removal

1.3 ELV OVERVIEW

The overall compliance of the final effluent with the Emission Limit Values (ELVs) is shown below. More detailed information on the below ELV's can be found in Section 2.

Discharge Point Reference	Treatment Plant	Discharge Type	Compliance Status	Parameters failing if relevant
TPEFF0300D0048SW001	ENNIS NORTH WWTP	Treated	Non-Compliant	Ammonia-Total (as N) mg/l ortho-Phosphate (as P) - unspecified mg/l

1.4 LICENCE SPECIFIC REPORTING

Assessment / Report
There are no Licence Specific Reports included in this AER.

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 ENNIS NORTH WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - ENNIS NORTH WWTP

A summary of influent monitoring for the treatment plant is presented below. This monitoring is primarily undertaken in order to determine the overall efficiency of the plant in removing pollutants from the raw wastewater.

Parameters	Number of Samples	Annual Max	Annual Mean
pH units	12	7.69	7.48
Total Nitrogen mg/l	12	37	20
Suspended Solids mg/l	12	186	58
Total Phosphorus (as P) mg/l	12	4.04	1.90
Ammonia-Total (as N) mg/l	12	30	14
COD-Cr mg/l	12	354	161
ortho-Phosphate (as P) - unspecified mg/l	12	4.77	1.77
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	264	73
Hydraulic Capacity	N/A	18748	10652

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 2.1.5 if applicable.

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity. Further details on the plant capacity and efficiency can be found under the sectional 'Operational Performance Summary'.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF0300D0048SW001

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	125	250	N/A	12	N/A	N/A	19	Pass
Suspended Solids mg/l	35	87.5	N/A	12	N/A	N/A	5.70	Pass
Temperature °C	25	25	N/A	12	N/A	N/A	6.77	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	10	20	N/A	12	N/A	N/A	3.68	Pass
pH units	9.00	9.00	N/A	12	N/A	N/A	7.39	Pass
Total Phosphorus (as P) mg/l	2.00	2.40	N/A	12	N/A	N/A	0.393	Pass
ortho-Phosphate (as P) - unspecified mg/l	1.00	1.20	N/A	13	1	1	0.503	Fail
Ammonia-Total (as N) mg/l	1.00	1.20	N/A	13	2	2	0.604	Fail

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Conductivity @25°C µS/cm	N/A	N/A	N/A	11	N/A	N/A	737	
Dissolved Inorganic Nitrogen (as N) mg/l	N/A	N/A	N/A	12	N/A	N/A	10	
Total Nitrogen mg/l	N/A	N/A	N/A	12	N/A	N/A	13	

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied
2 – For pH the WWDA specifies a range of pH 6 - 9

Cause of Exceedance(s):

Ammonia ELV Breach was due to changes in aeration levels. This was noticed and rectified immediately and the WWTP returned to full compliance.

Significance of Results:

The WWTP is not compliant with the ELV's set in the Wastewater Discharge Licence.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF0300D0048SW001

A summary of monitoring from ambient monitoring points associated with the wastewater discharge is provided in the sections below. For discharges to rivers upstream (U/S) and downstream (D/S) location data is provided. For other ambient points in lakes, coastal or transitional waters, monitoring data from the most appropriate monitoring station is selected.

The table below provides details of ambient monitoring locations and details of any designations as sensitive areas.

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Ecological Status
Upstream	133905, 177699	RS27F010680	No	No	No	No	Poor
Upstream	134524, 177884	RS27F010700	No	No	No	No	Poor
Upstream	134820, 177944	RS27F010710	No	No	No	No	Poor
Downstream	134888, 176818	RS27F010720	No	No	No	No	Poor

The table below provides a summary of monitoring results for designated ambient monitoring points. The upstream and downstream annual mean values are shown (mg/l), and the difference between both monitoring stations is given as a percentage of the Environmental Quality Standard (EQS) where relevant.

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
BOD - 5 days (Total) mg/l	RS27F010700	0.756	RS27F010720	0.964	1.50	
Ammonia-Total (as N) mg/l	RS27F010700	0.020	RS27F010720	0.057	0.065	57.8
ortho-Phosphate (as P) - unspecified mg/l	RS27F010700	0.014	RS27F010720	0.023	0.035	26.1
Dissolved Oxygen % Saturation	RS27F010700	93	RS27F010720	87	N/A	
Temperature °C	RS27F010700	12	RS27F010720	12	N/A	

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Total Oxidised Nitrogen (as N) mg/l	RS27F010700	0.338	RS27F010720	0.506	N/A	
Total Hardness (as CaCO3) mg/l	RS27F010700	178	RS27F010720	188	N/A	
Nitrate (as N) mg/l	RS27F010700	0.336	RS27F010720	0.498	N/A	
Total Phosphorus (as P) mg/l	RS27F010700	0.031	RS27F010720	N/A	N/A	
Total Nitrogen mg/l	RS27F010700	0.813	RS27F010720	N/A	N/A	
Nitrite (as N) µg/l	RS27F010700	3.08	RS27F010720	5.96	N/A	
pH units	RS27F010700	7.92	RS27F010720	7.78	N/A	
Suspended Solids mg/l	RS27F010700	3.27	RS27F010720	N/A	N/A	

Significance of Results:

The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence for the following: ortho-Phosphate (as P) - unspecified mg/l, Ammonia-Total (as N) mg/l.

The ambient monitoring results meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

The discharge from the wastewater treatment plant does not have an observable impact on the water quality.

A deterioration in water quality has been identified, however it is not known if it or is not caused by the WWTP.

Other causes of deterioration in water quality in the area are unknown.

The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

2.1.4 OPERATIONAL PERFORMANCE SUMMARY - ENNIS NORTH WWTP

2.1.4.1 Treatment Efficiency Report - ENNIS NORTH WWTP

Treatment efficiency is based on the removal of key pollutants from the influent wastewater by the treatment plant. In essence the calculation is based on the balance of load coming into the plant versus the load leaving the plant. The efficiency is presented as a percentage removal rate.

A summary presentation of the efficiency of the treatment process including information for all the parameters specified in the licence is included below:

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
SS	210738	19197	91
TN	74397	44505	40
cBOD	265091	12402	95
TP	6931	1325	81
COD	588242	63896	89

Note: The above data is based on sample results for the number of dates reported

2.1.4.2 Treatment Capacity Report Summary - ENNIS NORTH WWTP

Treatment capacity is an assessment of the hydraulic (flow) and organic (the amount of pollutants) load a treatment plant is designed to treat versus the current loading of that plant.

ENNIS NORTH WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	16272
DWF to the Treatment Plant (m^3/day)	6784
Current Hydraulic Loading - annual max (m^3/day)	18748

ENNIS NORTH WWTP	
Average Hydraulic loading to the Treatment Plant (m^3/day)	10652
Organic Capacity (PE) - As Constructed	31500
Organic Capacity (PE) - Collected Load (peak week)Note1	24303
Organic Capacity (PE) - Remaining	7197
Will the capacity be exceeded in the next three years? (Yes/No)	No

Nominal design capacities can be based on conservative design principles. In some cases assessment of existing plants has shown organic capacities significantly higher than the nominal design capacity. Accordingly plants that appear to be overloaded when comparing a collected peak load with the nominal design capacity can be fully compliant due to the safety factors in the original design.

2.1.5 SLUDGE / OTHER INPUTS - ENNIS NORTH WWTP

'Other inputs' to the waste water treatment plant are summarised in table below

Input type	Quantity	Unit	P.E.	% of load to WWTP	Included in Influent Monitoring (Y/N)?	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
There is no Sludge and Other Input data for the Treatment Plant included in the AER.							

3 COMPLAINTS AND INCIDENTS

3.1 COMPLAINTS SUMMARY

A summary of complaints of an environmental nature related to the discharge(s) to water from the WWTP and network is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
There were no relevant environmental complaints in 2021.			

3.2 REPORTED INCIDENTS SUMMARY

Environmental incidents that arise in an agglomeration are reported on an on-going basis in accordance with our waste water discharge licences. Where an incident occurs and it is reportable under the licence, it is reported to the Environmental Protection Agency through their Environmental Data Exchange Network, or in some instances by telephone. Some incidents which arise in the agglomeration are recorded by Irish Water but may not be reportable under our licence for example where the incident does not have an impact on environmental performance.

A summary of reported incidents is included below.

3.2.1 SUMMARY OF INCIDENTS

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
Breach of ELV	Other	1	No	Yes
Breach of ELV	Plant or equipment maintenance at WWTP	1	No	No
Uncontrolled release	EO caused by pump failure	1	No	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2021	3
Number of Incidents reported to the EPA via EDEN in 2021	3
Explanation of any discrepancies between the two numbers above	N/A

4 INFRASTRUCTURAL ASSESSMENTS AND PROGRAMME OF IMPROVEMENTS

4.1 STORM WATER OVERFLOW IDENTIFICATION AND INSPECTION REPORT

A summary of the operation of the storm water overflows and their significance where known is included below:

4.1.1 SWO IDENTIFICATION

WWDL Name / Code for Storm Water Overflow (chamber) where applicable	Irish Grid Ref. (outfall)	Included in Schedule of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2021 (No. of events)	Total volume discharged in 2021 (m3)	Monitoring Status
TBC	134436, 180553	No	Medium	Not Meeting	Unknown	Unknown	Monitored
TBC	134851, 177466	No	High	Not Meeting	Unknown	Unknown	Not Monitored
TBC	134350, 177741	No	Medium	Not Meeting	Unknown	Unknown	Not Monitored
SW002	134851, 177466	Yes	High	Not Meeting	Unknown	Unknown	Not Monitored
SW3	134354, 177744	Yes	High	Not Meeting	Unknown	Unknown	Not Monitored
SW4	134682, 177994	Yes	High	Not Meeting	Unknown	Unknown	Monitored

Any TBC SWO(s) were identified as part of the on-going National SWO programme and will be updated in subsequent AER(s) once the information is confirmed.

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	Unknown
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	No
The SWO Assessment included the requirements of relevant of WWDL schedules?	Yes
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	N/A

4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS.

4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides a list of the various reports required for this agglomeration and a brief summary of their recommendations.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0048-SIP:01	Clonroadmore WWTP installation of tertiary treatment system.	C	31/12/2010	Yes	Works Completed		
D0048-SIP:02	Clonroadmore WWTP rehabilitation of the storm/balance tanks	C	31/12/2010	Yes	Works Completed		

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0048-SIP:03	Clonroadmore WWTP upgrade of the inlet works	C	31/12/2010	Yes	Works Completed		
D0048-SIP:04	Clonroadmore WWTP upgrade of the sludge handling facilities	C	31/12/2010	Yes	Works Completed		
D0048-SIP:05	Clonroadmore WWTP upgrade of the treatment capacity of the current aerator and clarifier tanks to cater for the existing and the short term increase in wastewater loading	C	31/12/2010	Yes	Works Completed		
D0048-SIP:06	collection systems: rehabilitation of sewers with high levels of infiltration.	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.
D0048-SIP:07	collection systems: separation of known surface water connections from the main combined sewer where feasible.	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0048-SIP:08	collection systems: upgrade of satellite pump station overflows	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.
D0048-SIP:09	Secondary discharge from SW2 to be upgraded to a SWO, as defined in DoEHLG 'Procedures & criteria in relation to SWOs'	A	01/01/2011	Yes	Works Completed		
D0048-SIP:10	Tulla road and Francis st pump stations: diversion of surface water away from pump stations	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.
D0048-SIP:11	Tulla road and Francis st pump stations: repair of grit traps	C	31/12/2010	Yes	Works Completed		
D0048-SIP:12	Tulla road and Francis st pump stations: replacement of pumps and improving the pump controls	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
							2025-2029 investment period.
D0048-SIP:13	Tulla road and Francis st pump stations: upgrade of the combined sewer overflow regime at the pump stations	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.

A summary of the status of any other improvements identified by under Condition 5 assessments- is included below.

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
No additional improvements planned at this time.				

4.2.3 SEWER INTEGRITY RISK ASSESSMENT

The utilisation of multiple capital maintenance programmes and the outputs of the workshops with the Local Authority Operations Staff held under the programme can be used to satisfy the requirements of Condition 5 regarding network integrity. Improvement works identified by way of these programmes and workshops will be included in the Improvements Summary Tables 4.2.1 and 4.2.2.

5 LICENCE SPECIFIC REPORTS

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides a list of the various reports required for this agglomeration and a brief summary of their recommendations.

Licence Specific Report	Required by licence	Year included in AER	Included in this AER
There is no Licence Specific Report Required in this AER Annual Review.			

6 CERTIFICATION AND SIGN OFF

6.1 SUMMARY OF AER CONTENTS

Parameter	Answer
Does the AER include an Executive Summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Has a Technical amendment/licence review application been submitted to the Agency by IW?	No
List reason e.g. additional SWO identified	N/A
Is there a need to request/advise the EPA of any modification to the existing WWDL with respect to condition 4 changes to monitoring location, frequency etc	Yes
List reason e.g. changes to monitoring requirements	Ambient Monitoring Location Changes
Have these processes commenced?	No
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	N/A

I certify that the information given in this Annual Environmental Report is truthful, accurate and complete:

Signed: Date: 07/04/2022

This AER has been produced by Irish Water's Environmental Information System (EIMS) and has been electronically signed off in that system for and on behalf of ,

Katherine Walshe

Acting Head of Environmental Regulation.

7 APPENDIX

Appendix
Appendix 7.1 - Ambient monitoring summary

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	EPA Feature Coding Tool code	Receiving Waters Designation (Y/N)		
			Bathing Water	Drinking Water	FWPM
Upstream Monitoring Point (SW3) Club Bridge	133906, 177700	RS27F01680	No	No	No
Downstream Monitoring Point (SW3) Doora Bridge	134888, 1768090	RS27F010720	No	No	No

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	EPA Feature Coding Tool code	Receiving Waters Designation (Y/N)		
			Bathing Water	Drinking Water	FWPM
Upstream Monitoring Point (SW1) Clonroad Br	134520, 177880	RS27F010700	No	No	No
Downstream Monitoring Point (SW3) Doora Bridge	134888, 1768090	RS27F010720	No	No	No

SW3 Assessment

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% EQS
cBOD mg/l	RS27F01680	2.3	RS27F010720	2.4	1.50	6.67%
Ortho-Phosphate (as P) mg/l	RS27F01680	0.02	RS27F010720	0.04	0.035	57.14%
Ammonia (as N) mg/l	RS27F01680	0.07	RS27F010720	0.08	0.065	15.38%
Dissolved Oxygen (% SAT)	RS27F01680	93.15	RS27F010720	86.74		
Dissolved Oxygen (mg/l)	RS27F01680	10	RS27F010720	9.21		
Total Nitrogen (mg/l)	RS27F01680	0.97	RS27F010720	1.15		
Temperature (0C)	RS27F01680	12.77	RS27F010720	13.3		
Total Phosphorus (mg/l)	RS27F01680	0.06	RS27F010720	0.1		
pH (pH units)	RS27F01680	7.89	RS27F010720	7.81		

SW1 Assessment

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% EQS
cBOD mg/l	RS27F010700	2.35	RS27F010720	2.4	1.50	3.33%
Ortho-Phosphate (as P) mg/l	RS27F010700	0.02	RS27F010720	0.04	0.035	57.14%
Ammonia (as N) mg/l	RS27F010700	0.04	RS27F010720	0.08	0.065	61.54%
Dissolved Oxygen (% SAT)	RS27F010700	89.68	RS27F010720	86.74		
Dissolved Oxygen (mg/l)	RS27F010700	9.49	RS27F010720	9.21		
Total Nitrogen (mg/l)	RS27F010700	0.94	RS27F010720	1.15		
Temperature (0C)	RS27F010700	13.49	RS27F010720	13.3		
Total Phosphorus (mg/l)	RS27F010700	0.08	RS27F010720	0.1		
pH (pH units)	RS27F010700	7.86	RS27F010720	7.81		

Annual Environmental Report

2022

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Ennis North

D0048-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2022 AER

This Annual Environmental Report has been prepared for D0048-01, Ennis North, in Clare in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports where relevant are included as an appendix to the AER.

1.1 ANNUAL STATEMENT OF MEASURES

A summary of any improvements undertaken is provided where applicable.

Ennis DAP project commenced

1.2 TREATMENT SUMMARY

The agglomeration is served by a wastewater treatment plant(s)

- Ennis North WWTP with a Plant Capacity PE of 31500, the treatment type is 3P - Tertiary P removal .

1.3 ELV OVERVIEW

The overall compliance of the final effluent with the Emission Limit Values (ELVs) is shown below. More detailed information on the below ELV's can be found in Section 2.

Discharge Point Reference	Treatment Plant	Discharge Type	Compliance Status	Parameters failing if relevant
TPEFF0300D0048SW001	Ennis North WWTP	Treated	Non-Compliant	Ammonia-Total (as N) mg/l

1.4 LICENCE SPECIFIC REPORTING

Assessment / Report
There are no Licence Specific Reports included in this AER.

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 ENNIS NORTH WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - ENNIS NORTH WWTP

A summary of influent monitoring for the treatment plant is presented below. This monitoring is primarily undertaken in order to determine the overall efficiency of the plant in removing pollutants from the raw wastewater.

Parameters	Number of Samples	Annual Max	Annual Mean
pH pH units	12	8.39	7.54
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	169	75
ortho-Phosphate (as P) - unspecified mg/l	12	4.10	2.24
Total Nitrogen mg/l	12	66	27
Total Phosphorus (as P) mg/l	12	12	3.22
COD-Cr mg/l	12	294	164
Ammonia-Total (as N) mg/l	12	33	21
Suspended Solids mg/l	12	216	70
Hydraulic Capacity	N/A	18520	11366

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 2.1.5 if applicable.

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity. Further details on the plant capacity and efficiency can be found under the sectional 'Operational Performance Summary'. The design of the wastewater treatment plant allows for peak values and therefore the peak loads have not impacted on compliance with Emission Limit Values.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF0300D0048SW001

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	125	250	N/A	12	N/A	N/A	21	Pass
Suspended Solids mg/l	35	87.5	N/A	12	N/A	N/A	3.49	Pass
Temperature °C	25	25	N/A	12	N/A	N/A	6.11	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	10	20	N/A	12	N/A	N/A	3.15	Pass
pH pH units	9	9	N/A	12	N/A	N/A	7.46	Pass
Total Phosphorus (as P) mg/l	2	2.4	N/A	12	N/A	N/A	0.385	Pass
ortho-Phosphate (as P) - unspecified mg/l	1	1.2	N/A	12	N/A	N/A	0.406	Pass

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Ammonia-Total (as N) mg/l	1	1.2	N/A	12	1	1	0.339	Fail
Total Nitrogen mg/l	N/A	N/A	N/A	12	N/A	N/A	16	
Conductivity @25°C µS/cm	N/A	N/A	N/A	12	N/A	N/A	696	
Dissolved Inorganic Nitrogen (as N) mg/l	N/A	N/A	N/A	12	N/A	N/A	13	

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied
2 – For pH the WWDA specifies a range of pH 6 - 9

Cause of Exceedance(s):

Refer to incident section of the report

Significance of Results:

The WWTP is not compliant with the ELV's set in the Wastewater Discharge License.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF0300D0048SW001

A summary of monitoring from ambient monitoring points associated with the wastewater discharge is provided in the sections below. For discharges to rivers upstream (U/S) and downstream (D/S) location data is provided. For other ambient points in lakes, coastal or transitional waters, monitoring data from the most appropriate monitoring station is selected.

The table below provides details of ambient monitoring locations and details of any designations as sensitive areas.

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Ecological Status
Upstream	133905, 177699	RS27F010680	No	No	No	No	Moderate
Upstream	134524, 177884	RS27F010700	No	No	No	No	Moderate
Downstream	134888, 176818	RS27F010720	No	No	No	No	Moderate

The table below provides a summary of monitoring results for designated ambient monitoring points. The upstream and downstream annual mean values are shown (mg/l), and the difference between both monitoring stations is given as a percentage of the Environmental Quality Standard (EQS) where relevant.

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
BOD - 5 days (Total) mg/l	RS27F010700	1.61	RS27F010720	1.79	1.50	12.3
Ammonia-Total (as N) mg/l	RS27F010700	0.028	RS27F010720	0.049	0.065	33.1
ortho-Phosphate (as P) - unspecified mg/l	RS27F010700	0.013	RS27F010720	0.018	0.035	14.3

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Dissolved Organic Carbon mg/l	RS27F010700	6.94	RS27F010720	N/A	N/A	
Boron - unspecified µg/l	RS27F010700	9.44	RS27F010720	N/A	N/A	
Aluminium - unspecified µg/l	RS27F010700	19	RS27F010720	N/A	N/A	
Calcium - unspecified mg/l	RS27F010700	60	RS27F010720	N/A	N/A	
Arsenic - unspecified µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Copper - unspecified µg/l	RS27F010700	1.62	RS27F010720	N/A	N/A	
Lead - unspecified µg/l	RS27F010700	0.141	RS27F010720	N/A	N/A	
Sodium - unspecified mg/l	RS27F010700	11	RS27F010720	N/A	N/A	
Manganese - unspecified µg/l	RS27F010700	23	RS27F010720	N/A	N/A	
Molybdenum - unspecified µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Nickel - unspecified µg/l	RS27F010700	0.930	RS27F010720	N/A	N/A	
Potassium - unspecified mg/l	RS27F010700	1.58	RS27F010720	N/A	N/A	

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Iron - unspecified µg/l	RS27F010700	93	RS27F010720	N/A	N/A	
Nitrite (as N) µg/l	RS27F010700	3.01	RS27F010720	5.84	N/A	
Selenium - unspecified µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Dissolved Oxygen % Saturation	RS27F010700	97	RS27F010720	90	N/A	
Dissolved Oxygen % O2	RS27F010700	91	RS27F010720	88	N/A	
Mercury - unspecified µg/l	RS27F010700	0.015	RS27F010720	N/A	N/A	
Total Nitrogen mg/l	RS27F010700	0.958	RS27F010720	1.40	N/A	
Vanadium - unspecified µg/l	RS27F010700	0.823	RS27F010720	N/A	N/A	
Temperature °C	RS27F010700	12	RS27F010720	12	N/A	
Total Phosphorus (as P) mg/l	RS27F010700	0.055	RS27F010720	0.065	N/A	
Strontium - unfiltered µg/l	RS27F010700	85	RS27F010720	N/A	N/A	
Cadmium - unspecified µg/l	RS27F010700	0.029	RS27F010720	N/A	N/A	

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Alkalinity-total (as CaCO3) mg/l	RS27F010700	164	RS27F010720	165	N/A	
Chromium - unspecified µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Conductivity @25°C µS/cm	RS27F010700	409	RS27F010720	549	N/A	
Barium - unspecified µg/l	RS27F010700	9.65	RS27F010720	N/A	N/A	
Chloride mg/l	RS27F010700	25	RS27F010720	62	N/A	
Antimony - unspecified µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Beryllium - unfiltered µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Cobalt - unspecified µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
pH pH units	RS27F010700	7.90	RS27F010720	7.85	N/A	
Nitrate (as N) mg/l	RS27F010700	0.466	RS27F010720	0.644	N/A	
Dissolved Oxygen mg/l	RS27F010700	10	RS27F010720	9.51	N/A	
Magnesium - unspecified mg/l	RS27F010700	4.46	RS27F010720	N/A	N/A	
Zinc - unspecified µg/l	RS27F010700	3.90	RS27F010720	N/A	N/A	

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
True Colour mg/litre Pt Co	RS27F010700	28	RS27F010720	44	N/A	
Uranium - unfiltered µg/l	RS27F010700	0.503	RS27F010720	N/A	N/A	
Total Hardness (as CaCO3) mg/l	RS27F010700	189	RS27F010720	202	N/A	
Thallium - unspecified µg/l	RS27F010700	0.141	RS27F010720	N/A	N/A	
Suspended Solids mg/l	RS27F010700	3.46	RS27F010720	N/A	N/A	
Total Oxidised Nitrogen (as N) mg/l	RS27F010700	0.467	RS27F010720	0.646	N/A	

Significance of Results:

The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence for the following: Ammonia-Total (as N) mg/l.

The ambient monitoring results do not meet the required EQS at the upstream and the downstream monitoring locations. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

Based on ambient monitoring results a deterioration in Ammonia and BOD. , concentrations downstream of the effluent discharge is noted.

A deterioration in water quality has been identified, however it is not known if it is or is not caused by the WWTP.

Other causes of deterioration in water quality in the area are unknown.

The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

2.1.4 OPERATIONAL PERFORMANCE SUMMARY - ENNIS NORTH WWTP

2.1.4.1 Treatment Efficiency Report - Ennis North WWTP

Treatment efficiency is based on the removal of key pollutants from the influent wastewater by the treatment plant. In essence the calculation is based on the balance of load coming into the plant versus the load leaving the plant. The efficiency is presented as a percentage removal rate.

A summary presentation of the efficiency of the treatment process including information for all the parameters specified in the licence is included below:

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
TP	11400	1179	90
TN	96399	49113	49
SS	246900	10689	96
cBOD	266232	9630	96
COD	582855	64374	89

Note: The above data is based on sample results for the number of dates reported

2.1.4.2 Treatment Capacity Report Summary - Ennis North WWTP

Treatment capacity is an assessment of the hydraulic (flow) and organic (the amount of pollutants) load a treatment plant is designed to treat versus the current loading of that plant.

Ennis North WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	16272
DWF to the Treatment Plant (m^3/day)	6784
Current Hydraulic Loading - annual max (m^3/day)	18520

Ennis North WWTP	
Average Hydraulic loading to the Treatment Plant (m^3/day)	11366
Organic Capacity (PE) - As Constructed	31500
Organic Capacity (PE) - Collected Load (peak week)[Note1]	24632
Organic Capacity (PE) - Remaining	6868
Will the capacity be exceeded in the next three years? (Yes/No)	No

Nominal design capacities can be based on conservative design principles. In some cases assessment of existing plants has shown organic capacities significantly higher than the nominal design capacity. Accordingly plants that appear to be overloaded when comparing a collected peak load with the nominal design capacity can be fully compliant due to the safety factors in the original design.

2.1.5 SLUDGE / OTHER INPUTS - ENNIS NORTH WWTP

'Other inputs' to the waste water treatment plant are summarised in table below

Input type	Quantity	Unit	P.E.	% of load to WWTP	Included in Influent Monitoring (Y/N)?	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
There is no Sludge and Other Input data for the Treatment Plant included in the AER.							

3 COMPLAINTS AND INCIDENTS

3.1 COMPLAINTS SUMMARY

A summary of complaints of an environmental nature related to the discharge(s) to water from the WWTP and network is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
There were no relevant environmental complaints in 2022.			

3.2 REPORTED INCIDENTS SUMMARY

Environmental incidents that arise in an agglomeration are reported on an on-going basis in accordance with our waste water discharge licences. Where an incident occurs and it is reportable under the licence, it is reported to the Environmental Protection Agency through their Environmental Data Exchange Network, or in some instances by telephone. Some incidents which arise in the agglomeration are recorded by Uisce Éireann but may not be reportable under our licence for example where the incident does not have an impact on environmental performance.

A summary of reported incidents is included below.

3.2.1 SUMMARY OF INCIDENTS

Incident Type	Cause	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
There were no reportable incidents in 2022.				

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2022	0
Number of Incidents reported to the EPA via EDEN in 2022	0
Explanation of any discrepancies between the two numbers above	N/A

4 INFRASTRUCTURAL ASSESSMENTS AND PROGRAMME OF IMPROVEMENTS

4.1 STORM WATER OVERFLOW IDENTIFICATION AND INSPECTION REPORT

A summary of the operation of the storm water overflows and their significance where known is included below:

4.1.1 SWO IDENTIFICATION

WWDL Name / Code for Storm Water Overflow (chamber) where applicable	Irish Grid Ref. (outfall)	Included in Schedule of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2022 (No. of events)	Total volume discharged in 2022 (m3)	Monitoring Status
TBC	134436,180553	No	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
SW002	134851,177466	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	Not Monitored
SW3	134354,177744	Yes	High Significance	Not Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	134851,177466	No	High Significance	Not Meeting Criteria	Unknown	Unknown	TBC
TBC	134350,177741	No	Low Significance	Not Meeting Criteria	Unknown	Unknown	TBC
SW4	134682,177994	Yes	High Significance	Not Meeting Criteria	Unknown	458391	Monitored

Any TBC SWO(s) were identified as part of the on-going National SWO programme and will be updated in subsequent AER(s) once the information is confirmed.

SWO Summary	
How much sewage was discharged via monitored SWOs in the agglomeration in the year (m3)?	458391
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	No
The SWO Assessment included the requirements of relevant of WWDL schedules?	Yes
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	N/A

4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS.

4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides a list of the various reports required for this agglomeration and a brief summary of their recommendations.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0048-SIP:01	Clonroadmore WWTP installation of tertiary treatment system.	C	31/12/2010	Yes	Works Completed		

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0048-SIP:02	Clonroadmore WWTP rehabilitation of the storm/balance tanks	C	31/12/2010	Yes	Works Completed		
D0048-SIP:03	Clonroadmore WWTP upgrade of the inlet works	C	31/12/2010	Yes	Works Completed		
D0048-SIP:04	Clonroadmore WWTP upgrade of the sludge handling facilities	C	31/12/2010	Yes	Works Completed		
D0048-SIP:05	Clonroadmore WWTP upgrade of the treatment capacity of the current aerator and clarifier tanks to cater for the existing and the short term increase in wastewater loading	C	31/12/2010	Yes	Works Completed		
D0048-SIP:06	collection systems: rehabilitation of sewers with high levels of infiltration.	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0048-SIP:07	collection systems: separation of known surface water connections from the main combined sewer where feasible.	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.
D0048-SIP:08	collection systems: upgrade of satellite pump station overflows	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.
D0048-SIP:09	Secondary discharge from SW2 to be upgraded to a SWO, as defined in DoEHLG 'Procedures & criteria in relation to SWOs'	A	01/01/2011	Yes	Works Completed		
D0048-SIP:10	Tulla road and Francis st pump stations: diversion of surface water away from pump stations	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0048-SIP:11	Tulla road and Francis st pump stations: repair of grit traps	C	31/12/2010	Yes	Works Completed		
D0048-SIP:12	Tulla road and Francis st pump stations: replacement of pumps and improving the pump controls	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.
D0048-SIP:13	Tulla road and Francis st pump stations: upgrade of the combined sewer overflow regime at the pump stations	C	31/12/2010	Yes	Not Started		Capital works not funded in RC3. Capital works funding post 2024 will be contingent on the project being included in the 2025-2029 investment period.

A summary of the status of any other improvements identified by under Condition 5 assessments- is included below.

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
No additional improvements planned at this time.				

4.2.3 SEWER INTEGRITY RISK ASSESSMENT

The utilisation of multiple capital maintenance programmes and the outputs of the workshops with the Local Authority Operations Staff held under the programme can be used to satisfy the requirements of Condition 5 regarding network integrity. Improvement works identified by way of these programmes and workshops will be included in the Improvements Summary Tables 4.2.1 and 4.2.2.

5 LICENCE SPECIFIC REPORTS

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides a list of the various reports required for this agglomeration and a brief summary of their recommendations.

Licence Specific Report	Required by licence	Year included in AER	Included in this AER
There is no Licence Specific Report Required in this AER Annual Review.			

6 CERTIFICATION AND SIGN OFF

6.1 SUMMARY OF AER CONTENTS

Parameter	Answer
Does the AER include an Executive Summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for Consideration of a Technical Amendment/Review of the Licence?	No
List reason e.g. additional SWO identified	N/A
Is there a need to request/advise the EPA of any modification to the existing WWDL with respect to condition 4 changes to monitoring location, frequency etc	Yes
List reason e.g. changes to monitoring requirements	Ambient Monitoring Location Changes
Have these processes commenced?	No
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	N/A

I certify that the information given in this Annual Environmental Report is truthful, accurate and complete:

Signed: Date: 07/06/2023

This AER has been produced by Uisce Éireann's Environmental Information System (EIMS) and has been electronically signed off in that system for and on behalf of ,

Eleanor Roche

Acting Head of Environmental Regulation.

7 APPENDIX

There are no Appendices included

Annual Environmental Report

2023

Uisce Éireann
Irish Water

Ennis North

D0048-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2023 AER

This Annual Environmental Report has been prepared for D0048-01, Ennis North, in Clare in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports where relevant are included as an appendix to the AER.

1.1 ANNUAL STATEMENT OF MEASURES

A summary of any improvements undertaken is provided where applicable.

1.2 TREATMENT SUMMARY

The agglomeration is served by a wastewater treatment plant(s)

- Ennis North WWTP with a Plant Capacity PE of 31500, the treatment type is 3P - Tertiary P removal .

1.3 ELV OVERVIEW

The overall compliance of the final effluent with the Emission Limit Values (ELVs) is shown below. More detailed information on the below ELV's can be found in Section 2.

Discharge Point Reference	Treatment Plant	Discharge Type	Compliance Status	Parameters failing if relevant
TPEFF0300D0048SW001	Ennis North WWTP	Treated	Non-Compliant	Ammonia-Total (as N) mg/l

1.4 LICENCE SPECIFIC REPORTING

Assessment / Report
There are no Licence Specific Reports included in this AER.

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 ENNIS NORTH WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - ENNIS NORTH WWTP

A summary of influent monitoring for the treatment plant is presented below. This monitoring is primarily undertaken in order to determine the overall efficiency of the plant in removing pollutants from the raw wastewater.

Parameters	Number of Samples	Annual Max	Annual Mean
COD-Cr mg/l	12	346	126
pH pH units	12	7.69	7.50
BOD, 5 days with Inhibition (Carbonaceo mg/l	12	115	46
Total Phosphorus (as P) mg/l	12	5.25	1.88
Ammonia-Total (as N) mg/l	12	43	17
Total Nitrogen mg/l	12	34	19
ortho-Phosphate (as P) - unspecified mg/l	12	2.73	1.47
Suspended Solids mg/l	12	180	37
Hydraulic Capacity	N/A	11996	10557

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 2.1.5 if applicable.

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is less than the peak Treatment Plant Capacity. Further details on the plant capacity and efficiency can be found under the sectional 'Operational Performance Summary'. The design of the wastewater treatment plant allows for peak values and therefore the peak loads have not impacted on compliance with Emission Limit Values.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF0300D0048SW001

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	125	250	N/A	12	N/A	N/A	18	Pass
Suspended Solids mg/l	35	87.5	N/A	12	N/A	N/A	5.35	Pass
Temperature °C	25	25	N/A	12	N/A	N/A	5.67	Pass
BOD, 5 days with Inhibition (Carbonaceo mg/l	10	20	N/A	12	N/A	N/A	1.41	Pass
pH pH units	9	9	N/A	12	N/A	N/A	7.54	Pass
Total Phosphorus (as P) mg/l	2	2.4	N/A	12	N/A	N/A	0.493	Pass

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
ortho-Phosphate (as P) - unspecified mg/l	1	1.2	N/A	14	N/A	N/A	0.314	Pass
Ammonia-Total (as N) mg/l	1	1.2	N/A	14	2	2	0.570	Fail
Conductivity @25°C µS/cm	N/A	N/A	N/A	12	N/A	N/A	670	
Dissolved Inorganic Nitrogen (as N) mg/l	N/A	N/A	N/A	12	N/A	N/A	8.78	
Total Nitrogen mg/l	N/A	N/A	N/A	12	N/A	N/A	11	

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied
2 – For pH the WWDA specifies a range of pH 6 - 9

Cause of Exceedance(s):

Refer to incidence section of this report

Significance of Results:

The WWTP is not in compliance with the ELV, as set out in the WWDL. The impact on receiving waters is assessed further in section 2.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF0300D0048SW001

A summary of monitoring from ambient monitoring points associated with the wastewater discharge is provided in the sections below. For discharges to rivers upstream (U/S) and downstream (D/S) location data is provided. For other ambient points in lakes, coastal or transitional waters, monitoring data from the most appropriate monitoring station is selected.

The table below provides details of ambient monitoring locations and details of any designations as sensitive areas.

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Ecological Status
Upstream	133905, 177699	RS27F010680	No	No	No	No	Moderate
Upstream	134524, 177884	RS27F010700	No	No	No	No	Moderate
Downstream	134888, 176818	RS27F010720	No	No	No	No	Moderate

The table below provides a summary of monitoring results for designated ambient monitoring points. The upstream and downstream annual mean values are shown (mg/l), and the difference between both monitoring stations is given as a percentage of the Environmental Quality Standard (EQS) where relevant.

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
BOD - 5 days (Total) mg/l	RS27F010700	1.57	RS27F010720	1.54	1.50	-2.1
BOD - 5 days (Total) mg/l	RS27F010680	1.89	RS27F010720	1.54	1.50	-23.2
Ammonia-Total (as N) mg/l	RS27F010680	0.117	RS27F010720	0.070	0.065	-72
Ammonia-Total (as N) mg/l	RS27F010700	0.041	RS27F010720	0.070	0.065	44.5

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
ortho-Phosphate (as P) - unspecified mg/l	RS27F010680	0.037	RS27F010720	0.019	0.035	-51.9
ortho-Phosphate (as P) - unspecified mg/l	RS27F010700	0.015	RS27F010720	0.019	0.035	11.7
Total Nitrogen mg/l	RS27F010680	1.00	RS27F010720	1.17	N/A	
Total Nitrogen mg/l	RS27F010700	1.04	RS27F010720	1.17	N/A	
Strontium - unfiltered µg/l	RS27F010700	78	RS27F010720	N/A	N/A	
Uranium - filtered µg/l	RS27F010700	0.555	RS27F010720	N/A	N/A	
True Colour mg/litre Pt Co	RS27F010700	37	RS27F010720	N/A	N/A	
Total Phosphorus (as P) mg/l	RS27F010680	0.101	RS27F010720	0.103	N/A	
Arsenic - filtered µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Aluminium - filtered µg/l	RS27F010700	21	RS27F010720	N/A	N/A	
Barium - filtered µg/l	RS27F010700	8.66	RS27F010720	N/A	N/A	
Cobalt - unspecified µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Boron - unspecified µg/l	RS27F010700	7.73	RS27F010720	N/A	N/A	
Copper - unspecified µg/l	RS27F010700	2.56	RS27F010720	N/A	N/A	

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Dissolved Oxygen mg/l	RS27F010680	9.71	RS27F010720	9.07	N/A	
Manganese - filtered µg/l	RS27F010700	15	RS27F010720	N/A	N/A	
Iron - unspecified µg/l	RS27F010700	169	RS27F010720	N/A	N/A	
Lead - filtered µg/l	RS27F010700	0.151	RS27F010720	N/A	N/A	
Copper - filtered µg/l	RS27F010700	2.60	RS27F010720	N/A	N/A	
Strontium - filtered µg/l	RS27F010700	78	RS27F010720	N/A	N/A	
Calculated Hardness (CaCO3) mg/l	RS27F010700	176	RS27F010720	N/A	N/A	
Selenium - filtered µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Thallium - filtered µg/l	RS27F010700	0.141	RS27F010720	N/A	N/A	
Vanadium - filtered µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Total Oxidised Nitrogen (as N) mg/l	RS27F010700	0.581	RS27F010720	N/A	N/A	
Thallium - unspecified µg/l	RS27F010700	0.141	RS27F010720	N/A	N/A	
Temperature °C	RS27F010680	12	RS27F010720	13	N/A	
Uranium - unfiltered µg/l	RS27F010700	0.557	RS27F010720	N/A	N/A	
Suspended Solids mg/l	RS27F010700	5.11	RS27F010720	N/A	N/A	

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Antimony - filtered µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
BOD, 5 days with Inhibition (Carbonaceo mg/l	RS27F010700	1.41	RS27F010720	1.41	N/A	
Zinc - filtered µg/l	RS27F010700	4.58	RS27F010720	N/A	N/A	
Antimony - unspecified µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Cobalt - filtered µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
BOD, 5 days with Inhibition (Carbonaceo mg/l	RS27F010680	1.41	RS27F010720	1.41	N/A	
Chromium - unspecified µg/l	RS27F010700	0.740	RS27F010720	N/A	N/A	
COD-Cr mg/l	RS27F010680	17	RS27F010720	18	N/A	
Total Phosphorus (as P) mg/l	RS27F010700	0.117	RS27F010720	0.103	N/A	
Magnesium - unspecified mg/l	RS27F010700	4.19	RS27F010720	N/A	N/A	
pH pH units	RS27F010680	7.95	RS27F010720	7.89	N/A	
COD-Cr mg/l	RS27F010700	19	RS27F010720	18	N/A	

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Beryllium - unfiltered µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Mercury - unspecified µg/l	RS27F010700	0.014	RS27F010720	N/A	N/A	
Selenium - unspecified µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Nickel - filtered µg/l	RS27F010700	1.00	RS27F010720	N/A	N/A	
pH pH units	RS27F010700	7.87	RS27F010720	7.89	N/A	
Lead - unspecified µg/l	RS27F010700	0.151	RS27F010720	N/A	N/A	
Alkalinity-total (as CaCO3) mg/l	RS27F010700	165	RS27F010720	N/A	N/A	
Cadmium - filtered µg/l	RS27F010700	0.014	RS27F010720	N/A	N/A	
Cadmium - unspecified µg/l	RS27F010700	0.016	RS27F010720	N/A	N/A	
Silica (as SiO2) mg/l	RS27F010700	2.39	RS27F010720	N/A	N/A	
Sodium - filtered mg/l	RS27F010700	11	RS27F010720	N/A	N/A	
Total Hardness (as CaCO3) mg/l	RS27F010700	161	RS27F010720	N/A	N/A	
Temperature °C	RS27F010700	12	RS27F010720	13	N/A	

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Vanadium - unspecified µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Arsenic - unspecified µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Aluminium - unspecified µg/l	RS27F010700	35	RS27F010720	N/A	N/A	
Dissolved Oxygen % O2	RS27F010700	88	RS27F010720	86	N/A	
Chromium - filtered µg/l	RS27F010700	0.732	RS27F010720	N/A	N/A	
Barium - unspecified µg/l	RS27F010700	8.96	RS27F010720	N/A	N/A	
Chloride mg/l	RS27F010700	19	RS27F010720	N/A	N/A	
Beryllium - filtered µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Calcium - filtered mg/l	RS27F010700	58	RS27F010720	N/A	N/A	
Boron - filtered µg/l	RS27F010700	8.14	RS27F010720	N/A	N/A	
Dissolved Organic Carbon mg/l	RS27F010700	6.46	RS27F010720	N/A	N/A	
Mercury - filtered µg/l	RS27F010700	0.014	RS27F010720	N/A	N/A	
Calcium - unspecified mg/l	RS27F010700	58	RS27F010720	N/A	N/A	
Magnesium - filtered mg/l	RS27F010700	4.16	RS27F010720	N/A	N/A	

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Manganese - unspecified µg/l	RS27F010700	25	RS27F010720	N/A	N/A	
Dissolved Oxygen % Saturation	RS27F010700	89	RS27F010720	N/A	N/A	
Nickel - unspecified µg/l	RS27F010700	1.13	RS27F010720	N/A	N/A	
Potassium - filtered mg/l	RS27F010700	1.73	RS27F010720	N/A	N/A	
Conductivity @25°C µS/cm	RS27F010700	393	RS27F010720	N/A	N/A	
Molybdenum - unspecified µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Sodium - unspecified mg/l	RS27F010700	11	RS27F010720	N/A	N/A	
Zinc - unspecified µg/l	RS27F010700	4.24	RS27F010720	N/A	N/A	
Dissolved Oxygen % O2	RS27F010680	92	RS27F010720	86	N/A	
Molybdenum - filtered µg/l	RS27F010700	0.707	RS27F010720	N/A	N/A	
Dissolved Oxygen mg/l	RS27F010700	9.41	RS27F010720	9.07	N/A	
Potassium - unspecified mg/l	RS27F010700	1.68	RS27F010720	N/A	N/A	
Iron - filtered µg/l	RS27F010700	102	RS27F010720	N/A	N/A	

Significance of Results:

The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence for the following: Ammonia-Total (as N) mg/l.

The ambient monitoring results do not meet the required EQS at the upstream and the downstream monitoring locations. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

Based on ambient monitoring results a deterioration in ortho-Phosphate, concentrations downstream of the effluent discharge is noted.

A deterioration in water quality has been identified, however it is not known if it or is not caused by the WWTP.

Other causes of deterioration in water quality in the area are unknown.

The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

2.1.4 OPERATIONAL PERFORMANCE SUMMARY - ENNIS NORTH WWTP

2.1.4.1 Treatment Efficiency Report - Ennis North WWTP

Treatment efficiency is based on the removal of key pollutants from the influent wastewater by the treatment plant. In essence the calculation is based on the balance of load coming into the plant versus the load leaving the plant. The efficiency is presented as a percentage removal rate.

A summary presentation of the efficiency of the treatment process including information for all the parameters specified in the licence is included below:

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
SS	173770	18908	89
TP	8804	1742	80
TN	90317	37422	59
COD	592203	65334	89
cBOD	213909	5000	98

Note: The above data is based on sample results for the number of dates reported

2.1.4.2 Treatment Capacity Report Summary - Ennis North WWTP

Treatment capacity is an assessment of the hydraulic (flow) and organic (the amount of pollutants) load a treatment plant is designed to treat versus the current loading of that plant.

Ennis North WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	16272
DWF to the Treatment Plant (m^3/day)	6784
Current Hydraulic Loading - annual max (m^3/day)	11996
Average Hydraulic loading to the Treatment Plant (m^3/day)	10557.1
Organic Capacity (PE) - As Constructed	31500
Organic Capacity (PE) - Collected Load (peak week)[Note1]	24659
Organic Capacity (PE) - Remaining	6841
Will the capacity be exceeded in the next three years? (Yes/No)	No

Nominal design capacities can be based on conservative design principles. In some cases assessment of existing plants has shown organic capacities significantly higher than the nominal design capacity. Accordingly plants that appear to be overloaded when comparing a collected peak load with the nominal design capacity can be fully compliant due to the safety factors in the original design.

2.1.5 SLUDGE / OTHER INPUTS - ENNIS NORTH WWTP

'Other inputs' to the waste water treatment plant are summarised in table below

Input type	Quantity	Unit	P.E.	% of load to WWTP	Included in Influent Monitoring (Y/N)?	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
There is no Sludge and Other Input data for the Treatment Plant included in the AER.							

3 COMPLAINTS AND INCIDENTS

3.1 COMPLAINTS SUMMARY

A summary of complaints of an environmental nature related to the discharge(s) to water from the WWTP and network is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
There were no relevant environmental complaints in 2023.			

3.2 REPORTED INCIDENTS SUMMARY

Environmental incidents that arise in an agglomeration are reported on an on-going basis in accordance with our waste water discharge licences. Where an incident occurs and it is reportable under the licence, it is reported to the Environmental Protection Agency through their Environmental Data Exchange Network, or in some instances by telephone. Some incidents which arise in the agglomeration are recorded by Uisce Éireann but may not be reportable under our licence for example where the incident does not have an impact on environmental performance.

A summary of reported incidents is included below.

3.2.1 SUMMARY OF INCIDENTS

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Spillage	Network Infrastructure	No	Yes
Uncontrolled release	Broken Sewer Pipe	No	Yes
Breach of ELV	Plant or equipment calibration at WWTP	Yes	Yes

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Abatement Equipment offline	Plant or equipment breakdown at WWTP	No	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2023	4
Number of Incidents reported to the EPA via EDEN in 2023	4
Explanation of any discrepancies between the two numbers above	N/A

4 INFRASTRUCTURAL ASSESSMENTS AND PROGRAMME OF IMPROVEMENTS

4.1 STORM WATER OVERFLOW IDENTIFICATION AND INSPECTION REPORT

A summary of the operation of the storm water overflows and their significance where known is included below:

4.1.1 SWO IDENTIFICATION

WWDL Name / Code for Storm Water Overflow (chamber) where applicable	Irish Grid Ref. (outfall)	Included in Schedule of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2023 (No. of events)	Total volume discharged in 2023 (m3)	Monitoring Status
TBC	134436,180553	No	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored
SW2	134851,177466	Yes	Low Significance	Not Meeting Criteria	Unknown	741496	Monitored
TBC	134350,177741	No	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW3	134354,177744	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
SW4	134682,177994	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored

Any TBC SWO(s) were identified as part of the on-going National SWO programme and will be updated in subsequent AER(s) once the information is confirmed.

SWO Summary	
How much wastewater discharge by metered SWOs during the year (m3)?	741,496
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	No
The SWO Assessment included the requirements of relevant of WWDL schedules?	Yes
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	N/A

4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS.

4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides a list of the various reports required for this agglomeration and a brief summary of their recommendations.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0048-SIP:01	Clonroadmore WWTP installation of tertiary treatment system.	C	31/12/2010	Yes	Works Completed		
D0048-SIP:02	Clonroadmore WWTP rehabilitation of the storm/balance tanks	C	31/12/2010	Yes	Works Completed		

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0048-SIP:03	Clonroadmore WWTP upgrade of the inlet works	C	31/12/2010	Yes	Works Completed		
D0048-SIP:04	Clonroadmore WWTP upgrade of the sludge handling facilities	C	31/12/2010	Yes	Works Completed		
D0048-SIP:05	Clonroadmore WWTP upgrade of the treatment capacity of the current aerator and clarifier tanks to cater for the existing and the short term increase in wastewater loading	C	31/12/2010	Yes	Works Completed		
D0048-SIP:06	collection systems: rehabilitation of sewers with high levels of infiltration.	C	31/12/2010	Yes	At Planning Stage	2037	Ennis DAP ongoing
D0048-SIP:07	collection systems: separation of known surface water connections from the main combined sewer where feasible.	C	31/12/2010	Yes	At Planning Stage	2037	Ennis DAP ongoing
D0048-SIP:08	collection systems: upgrade of satellite pump station overflows	C	31/12/2010	Yes	At Planning Stage	2037	Ennis DAP ongoing
D0048-SIP:09	Secondary discharge from SW2 to be upgraded to a SWO, as defined in DoEHLG 'Procedures & criteria in relation to SWOs'	A	01/01/2011	Yes	Works Completed		

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
D0048-SIP:10	Tulla road and Francis st pump stations: diversion of surface water away from pump stations	C	31/12/2010	Yes	At Planning Stage	2037	Ennis DAP ongoing
D0048-SIP:11	Tulla road and Francis st pump stations: repair of grit traps	C	31/12/2010	Yes	Works Completed		
D0048-SIP:12	Tulla road and Francis st pump stations: replacement of pumps and improving the pump controls	C	31/12/2010	Yes	At Planning Stage	2037	Ennis DAP ongoing
D0048-SIP:13	Tulla road and Francis st pump stations: upgrade of the combined sewer overflow regime at the pump stations	C	31/12/2010	Yes	At Planning Stage	2037	Ennis DAP ongoing

A summary of the status of any other improvements identified by under Condition 5 assessments- is included below.

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
No additional improvements planned at this time.				

4.2.3 SEWER INTEGRITY RISK ASSESSMENT

The utilisation of multiple capital maintenance programmes and the outputs of the workshops with the Local Authority Operations Staff held under the programme can be used to satisfy the requirements of Condition 5 regarding network integrity. Improvement works identified by way of these programmes and workshops will be included in the Improvements Summary Tables 4.2.1 and 4.2.2.

5 LICENCE SPECIFIC REPORTS

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides a list of the various reports required for this agglomeration and a brief summary of their recommendations.

Licence Specific Report	Required by licence	Included in this AER
There is no Licence Specific Report Required in this AER Annual Review.		

6 CERTIFICATION AND SIGN OFF

6.1 SUMMARY OF AER CONTENTS

Parameter	Answer
Does the AER include an Executive Summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for Consideration of a Technical Amendment/Review of the Licence?	N/A
List reason e.g. additional SWO identified	N/A
Is there a need to request/advise the EPA of any modification to the existing WWDL with respect to condition 4 changes to monitoring location, frequency etc	Yes
List reason e.g. changes to monitoring requirements	Ambient Monitoring Location Changes
Have these processes commenced?	No
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	No

I certify that the information given in this Annual Environmental Report is truthful, accurate and complete:

Signed: Date: 13/11/2024

This AER has been produced by Uisce Éireann's Environmental Information System (EIMS) and has been electronically signed off in that system for and on behalf of ,

Eleanor Roche

Head of Environmental Regulation.

7 APPENDIX

There are no Appendices included

Site Visit Report

The site visit process is a sample on a particular day of an installation's compliance with some of its licence conditions. Where non-compliance against a particular condition has not been reported, this should not be construed to mean that there is full compliance with that condition of the licence.

Instructions and actions arising from the visit shall be addressed, or where applicable noted, by the licensee in order to ensure compliance, to improve the environmental performance of the installation and to provide clarification on certain issues.

The licensee shall take the actions specified to close out the non-compliances and observations raised in this Site Visit Report.

Licensee

Name of Installation	Ennis North
Licensee	Irish Water
Licence Register No.	D0048-01
CRO Number	
Site Address	Clare
Site Visit Reference No.	SV15690

Report Detail

Issue Date	16/07/2018
Prepared By	David O'Connor

Site Visit Detail

Date Of Inspection	19/06/2018	**Announced**	Yes
Time In	11:45	**Time Out**	14:45
Agency Personnel On Site	David O'Connor		
Licensee Personnel and Role	Brian Cleary (Clare Co. Co. under SLA with IW) Martin Gardiner (Clare Co. Co. under SLA with IW) Sile Murphy (Clare Co. Co. under SLA with IW) Maurice Hourigan (IW) Valerie Hannon (IW) Seamus Walsh (IW) Gerard Kett (Clare Co. Co. under SLA with IW)		

Photo Taken	Yes	**Samples Taken**	No	**Video Taken**	No
Odour Assessment	No				

Scope

To check licence compliance and assess the actions taken by Irish Water to identify and resolve a recent incident at the waste water treatment plant.

Media

- Surface water.
- Waste water.

Site Areas Inspected

- Waste water treatment plant.

Documents Inspected

- 2017 & 2018 Final effluent monitoring results.
- 2018 Ambient monitoring results.

1. General

		Answer	Condition Number	Non Compliance	Observation
1.1	Have you recorded emission limit value breaches to date in the current year?	Yes			
	Comment / Corrective Action				
	Emission limit value (ELV) breaches were recorded for BOD (16 mg/l), Suspended Solids (89 mg/l) and Total Phosphorus (2.23 mg/l) on 15/05/2018.				

		Answer	Condition Number	Non Compliance	Observation
1.2	Has an Irish Water process optimisation visit been completed at this plant?	Yes			

		Answer	Condition Number	Non Compliance	Observation
1.3	Is landfill leachate accepted at the plant?	No			

		Answer	Condition Number	Non Compliance	Observation
1.4	Is there a significant discharge from industry into the plant?	No			

		Answer	Condition Number	Non Compliance	Observation
1.5	Is the plant overloaded?	Yes			
	Comment / Corrective Action				
	The WWTP is hydraulically overloaded.				

		Answer	Condition Number	Non Compliance	Observation
1.6	Is the plant oversized for the amount of influent coming into the plant?	No			

		Answer	Condition Number	Non Compliance	Observation
1.7	Are critical spare parts and equipment readily available?	Yes			
	Comment / Corrective Action				
	Critical spare parts and equipment are retained onsite.				

		Answer	Condition Number	Non Compliance	Observation
1.8	In the event of a power-cut, is there a contingency plan in place at the plant?	Yes			
	Comment / Corrective Action				

A back up diesel generator is maintained onsite.

		Answer	Condition Number	Non Compliance	Observation
1.9	Is the composite sampler operational at all times the discharge is taking place?	No			

Comment / Corrective Action

The composite sampler was not functioning on the day of the site visit.

Corrective Action Required

Irish Water shall ensure that the composite sampler is operational as per the Licence requirements.

		Answer	Condition Number	Non Compliance	Observation
1.10	Is there visual evidence of pollution at, or downstream of, the discharge point to the receiving water?	Not Checked			

Comment / Corrective Action

The discharge point into the River Fergus was not accessible on the day of the site visit.

2. Inlet Works

		Answer	Condition Number	Non Compliance	Observation
2.1	Is there screening in place at the inlet works?	Yes			
	Comment / Corrective Action				
	Screening takes place at the two main pumping stations that feed the WWTP.				

		Answer	Condition Number	Non Compliance	Observation
2.2	Is the screening system at the plant inlet working adequately?	No			
	Comment / Corrective Action				
	The plant operator stated that there has been issues of screen blinding. The issue is being managed and the pumping stations are checked twice a day. Irish Water is engaging with a Contractor to resolve these issues.				

		Answer	Condition Number	Non Compliance	Observation
2.3	Is the screening system at the plant inlet being inspected and maintained?	Yes			
	Comment / Corrective Action				
	The screens are checked twice a day.				

		Answer	Condition Number	Non Compliance	Observation
2.4	Is there grit removal at the inlet works?	Yes			
	Comment / Corrective Action				
	Grit removal takes place at the two main pumping stations that feed the WWTP.				

		Answer	Condition Number	Non Compliance	Observation
2.5	Is there visual evidence of surcharging at the inlet?	No			

3. Aeration Basin

		Answer	Condition Number	Non Compliance	Observation
3.1	Is there good evidence of mixing in the aeration basin?	Yes			

		Answer	Condition Number	Non Compliance	Observation
3.2	Is the appearance of the mixed liquor satisfactory?	Yes			

		Answer	Condition Number	Non Compliance	Observation
3.3	Is the dissolved oxygen probe cleaned and maintained?	Yes			

Comment / Corrective Action

The dissolved oxygen probes are cleaned once a week.

		Answer	Condition Number	Non Compliance	Observation
3.4	Does the operator monitor the mixed liquor suspended solids/cone level at the plant?	Yes			

		Answer	Condition Number	Non Compliance	Observation
3.5	What is the target mixed liquor suspended solids/cone at the plant?	Yes			

Comment / Corrective Action

The target MLSS is 3,500 mg/l (Summer) and 4,500 mg/l (Winter).

		Answer	Condition Number	Non Compliance	Observation
3.6	From review of records for mixed liquor suspended solids/cone at the plant, do the records show variations outside the target range and was corrective action taken as required?	Yes			

		Answer	Condition Number	Non Compliance	Observation
3.7	Is the return sludge pump operating?	Yes			

		Answer	Condition Number	Non Compliance	Observation
3.8	Does the operator know the sludge return rate from the clarifier to the aeration basin?	Yes			

	Answer	Condition Number	Non Compliance	Observation

3.9	Is the operator aware of the target optimum sludge age?	Yes			

		Answer	Condition Number	Non Compliance	Observation
3.10	Is there any evidence of operational problems?	No			

4. Phosphate Treatment

		Answer	Condition Number	Non Compliance	Observation
4.1	Is there dosing for phosphate removal at the plant?	Yes			

		Answer	Condition Number	Non Compliance	Observation
4.2	Is the dosing rate for phosphate removal at the plant known?	No			

		Answer	Condition Number	Non Compliance	Observation
4.3	Is the dosing rate for phosphate removal adjusted?	No			

		Answer	Condition Number	Non Compliance	Observation
	Is the dosing for phosphate removal at the plant regulated by flow?	No			

		Answer	Condition Number	Non Compliance	Observation
4.5	Is there duty/standby pump(s) in operation?	No			

Comment / Corrective Action

It was noted during the site visit that the ferric dosing system does not have a standby pump in place.

Corrective Action Required

Irish Water should install a standby pump with an automatic switchover on the ferric dosing system.

		Answer	Condition Number	Non Compliance	Observation
	Is pump maintenance completed on a regular basis?	Yes			

		Answer	Condition Number	Non Compliance	Observation
4.7	Is there automatic switchover between duty and standby pumps?	Not Applicable			

5. Settling Tank/Final Clarifier

		Answer	Condition Number	Non Compliance	Observation
5.1	Are the overflow weirs in good condition?	Yes			

		Answer	Condition Number	Non Compliance	Observation
5.2	Are the tiles/overflow channel clean?	Yes			

		Answer	Condition Number	Non Compliance	Observation
5.3	Is the bridge wheel in good condition?	Yes			

		Answer	Condition Number	Non Compliance	Observation
5.4	Is there any evidence of operational problems?	Yes			

Comment / Corrective Action

Significant foam was noted in both clarifiers (see photograph 1). On the day of the site visit, the foam was being contained behind the scum baffle, however there is a risk that this foam may carryover into the final effluent, especially during high wind conditions.

Sludge management issues were also noted during the site visit. The sludge belt press at the WWTP was not upgraded as part of the WWTP upgrade and does not have the capacity to adequately manage the volumes of sludge being wasted from the system.

Corrective Action required

Irish Water is required to take all steps to reduce the foam volume in the clarifiers.

Irish Water is required to implement measures at the WWTP to improve sludge management.

6. Site Specific Issues

		Answer	Condition Number	Non Compliance	Observation
6.1	Aeration failure incident.	Checked			

Comment / Corrective Action

An incident notification ref. no. INCI014561 was reported to the EPA on 22/06/2018, which reported that a blower at the WWTP failed. As a result of the aeration failure, the dissolved oxygen (DO) in aeration tank no. 1, significantly dropped which ultimately led to ELV breaches at the WWTP. At the time of the incident the SCADA system indicated that the blower for the tank was active. Upon further investigation, Irish Water later determined that the blower had failed and that there was an issue with the SCADA system.

Corrective Action Required

Irish Water shall ensure that all relevant staff are fully trained in the use of all instrumentation at the WWTP, including all relevant functionality of the SCADA system.

Photographs

Photograph 1: Thick foam observed on clarifier no. 1.

Summary

The Ennis North WWTP was upgraded in 2016 and was initially under the operation of the design build contractor until March 2018, when it was handed over to Clare Co. Co. The new WWTP is fitted with modern instrumentation and is heavily automated and alarmed. Irish Water is required to ensure that all relevant staff are fully trained and competent in the use of all relevant onsite instrumentation.

The EPA is also concerned with the volume of foaming observed in both clarifiers of the WWTP on the day of the site visit. This foaming needs to be addressed by Irish Water.

FOLLOW-UP ACTIONS

You are required to complete the instructions and actions, as outlined in this report, within the specified timeframe. Where required, you shall respond to actions specified in Compliance Investigations within the required timeframe.The licensee shall maintain documentary evidence, for review by the EPA, that the prescribed corrective actions were completed within the required timeframe.

(i) Compliance Investigations

You are not required to respond directly to items contained in this EPA site visit report; where an issue requires a direct response, the EPA will generate a Compliance Investigation through the EDEN system. You will receive notification when a Compliance Investigation instruction or action is generated.

(ii) Publication of reports and licensee response.

Please note that this Site Visit Report will be made available for public viewing via the EPA's Licence Enforcement Access Portal within one day of the issue date and will be published on the Licence Details Page of the EPA's website, www.epa.ie, that relates to your licence 60 calendar days after the issue date.

You may if you choose submit, within 45 calendar days of the issue date of this Site Visit Report, a Licensee Public Response that will be published alongside the Site Visit Report. This Response, should you wish to avail of it, provides you with an opportunity to inform the public about how you are implementing the actions set out in the report, activities underway, timescales and target completion dates. Please be aware that the content of your Licensee Public Response must be factual and should not breach the EPAs stated online publication standards.

If you wish to submit a Licensee Public Response to an EPA Site Visit Report, you should do this by clicking on the 'Make a Response' link on the Site Visits page in EDEN. A .pdf document containing your response can be attached and submitted from here.

(iii) Response to Site visit report

Where you do wish to respond directly to a site visit report, you should do this by generating a 'Licensee Return' of the type 'Site Updates/Notifications' and the sub-type 'Response to EPA Report' in EDEN.

Please note that you are required to comply with the conditions of your licence at all times, and where noncompliance occurs you must restore compliance within the shortest possible time. These actions will be verified during subsequent EPA visits.

Please quote the above Inspection Reference Number in any future correspondence in relation to this Report.

Site Visit Report

The site visit process is a sample on a particular day of an installation's compliance with some of its licence conditions. Where non-compliance against a particular condition has not been reported, this should not be construed to mean that there is full compliance with that condition of the licence.

Instructions and actions arising from the visit shall be addressed, or where applicable noted, by the licensee in order to ensure compliance, to improve the environmental performance of the installation and to provide clarification on certain issues.

The licensee shall take the actions specified to close out the non-compliances and observations raised in this Site Visit Report.

Licensee

Name of Installation	Ennis North
Licensee	Irish Water
Licence Register No.	D0048-01
CRO Number	
Site Address	Clare
Site Visit Reference No.	SV17528

Report Detail

Issue Date	05/06/2019
Prepared By	David O'Connor

Site Visit Detail

Date Of Inspection	09/05/2019	**Announced**	Yes
Time In	10:00	**Time Out**	13:00
Agency Personnel On Site	David O'Connor		
Licensee Personnel and Role	Valerie Hannon (IW) Triona Acheson (Clare Co. Co. under SLA to IW) Sinead McDonnell (Clare Co. Co. under SLA to IW) Ger Kett (Clare Co. Co. under SLA to IW) Maurice Hourigan (IW) Ann O'Sullivan (Clare Co. Co. under SLA to IW) Noel Clery (Clare Co. Co. under SLA to IW)		

Photo Taken	Yes	**Samples Taken**	No	**Video Taken**	No
Odour Assessment	No				

Scope

To review the operation and management of the Ennis North waste water treatment plant (WWTP) and progress with the open Compliance Investigation (ref. no. CI000012).

Media

- Surface water.
- waste water.

Site Areas Inspected

- Waste water treatment plant (WWTP)
- Tulla road pump station.

Documents Inspected

- 2018 & 2019 final effluent monitoring results.
- 2018 & 2019 ambient monitoring results.
- Instrumentation calibration records.

1. General

		Answer	Condition Number	Non Compliance	Observation
1.1	Have you recorded emission limit value breaches to date in the current year?	Yes			

Comment / Corrective Action

Emission limit value breaches were recorded for ammonia in March and April 2019. These breaches were due to a mechanical failure at the WWTP which was reported to the EPA under Incident Ref. No. INCI016229.

		Answer	Condition Number	Non Compliance	Observation
1.2	Is the plant overloaded?	Yes			

Comment / Corrective Action

It was noted during the site visit that the WWTP becomes hydraulically overloaded during heavy rainfall events. This is due to water ingress issues within the network.

		Answer	Condition Number	Non Compliance	Observation
1.3	Has an Irish Water process optimisation visit been completed at this plant?	Yes			

		Answer	Condition Number	Non Compliance	Observation
1.4	Are there any measures in place to address the operational issues identified during the process optimisation visit?	Yes			

Comment / Corrective Action

Irish Water have implemented a number of measures at the WWTP to address the issues at the plant. Irish Water are in the process of carrying out further site improvements such as:

- Refurbishment of clarifier No. 2.
- Spray bars in both clarifiers to reduce foam volumes.

2. Aeration Basin

		Answer	Condition Number	Non Compliance	Observation
2.1	Is the operator aware of the target optimum sludge age?	Yes			

Comment / Corrective Action

The optimum sludge age for the WWTP is 9-10 day. The current sludge age is 30 days due to the limitations on sludge wasting.

		Answer	Condition Number	Non Compliance	Observation
2.2	Is there any evidence of operational problems?	Yes			

Comment / Corrective Action

Excessive foam attributed to Nocardia bacteria, was noted in both aeration tanks at the WWTP (see photograph 1). Irish Water stated that due to the limited sludge treatment capacity at the site, Irish Water are not able to waste the appropriate sludge volume to optimise the performance of the WWTP.

Corrective Action required

Irish Water are required to implement measures at the WWTP to ensure that the appropriate volume of sludge can be removed from the system to optimise the performance of the WWTP. In the interim, Irish Water need to consider short-term measures such as tankering, until the sludge management facilities have been upgraded.

3. Settling Tank/Final Clarifier

		Answer	Condition Number	Non Compliance	Observation
3.1	Is there any evidence of operational problems?	Yes			

Comment / Corrective Action

During the site visit, sludge was observed overflowing from clarifier No. 2 and into the overflow channel (see photograph 2).

Corrective Action Required

Irish Water shall implement mitigation measures at the WWTP to prevent sludge carryover into the final effluent.

4. Pump Station

		Answer	Condition Number	Non Compliance	Observation
4.1	Is the Pump Station designed as a Storm Water Overflow (SWO)?	Yes			

Comment / Corrective Action

It was noted during the site visit, that numerous overflows occurred during the month of April 2019. These overflows have been largely attributed to the ingress issues within the network.

Corrective Action Required

Irish Water is required to ensure that the storm water overflows associated with the Tulla road and Francis street pumping stations, comply with the criteria set out in the Department of the Environments publications entitled, *"Procedures and criteria in relation to storm water overflows"*.

		Answer	Condition Number	Non Compliance	Observation
4.2	Were there any breakdowns at any of the pumping stations on the network in the past 12 months?	Yes			

Comment / Corrective Action

One of the two screens was not in operation on the day of the site visit due to mechanical failure. Irish Water stated that the screens serving both the Tulla road and Francis street pumping stations regularly breakdown. Irish Water are engaging with the supplier to address the issue.

		Answer	Condition Number	Non Compliance	Observation
4.3	Is there a screen at the pumping station?	Yes			

Photographs

Photograph 1: Excessive foaming observed in aeration tank 1.

Photograph 2: Sludge carryover observed in clarifier No. 1.

Summary

The primary issue identified during the site visit is the sludge management issues.

Irish Water is required to complete the corrective action raised in this site visit report.

FOLLOW-UP ACTIONS

You are required to complete the instructions and actions, as outlined in this report, within the specified timeframe. Where required, you shall respond to actions specified in Compliance Investigations within the required timeframe.The licensee shall maintain documentary evidence, for review by the EPA, that the prescribed corrective actions were completed within the required timeframe.

(i) Compliance Investigations

You are not required to respond directly to items contained in this EPA site visit report; where an issue requires a direct response, the EPA will generate a Compliance Investigation through the EDEN system. You will receive notification when a Compliance Investigation instruction or action is generated.

(ii) Publication of reports and licensee response.

Please note that this Site Visit Report will be made available for public viewing via the EPA's Licence Enforcement Access Portal within one day of the issue date and will be published on the Licence Details Page of the EPA's website, www.epa.ie, that relates to your licence 60 calendar days after the issue date.

You may if you choose submit, within 45 calendar days of the issue date of this Site Visit Report, a Licensee Public Response that will be published alongside the Site Visit Report. This Response, should you wish to avail of it, provides you with an opportunity to inform the public about how you are implementing the actions set out in the report, activities underway, timescales and target completion dates. Please be aware that the content of your Licensee Public Response must be factual and should not breach the EPAs stated online publication standards.

If you wish to submit a Licensee Public Response to an EPA Site Visit Report, you should do this by clicking on the 'Make a Response' link on the Site Visits page in EDEN. A .pdf document containing your response can be attached and submitted from here.

(iii) Response to Site visit report

Where you do wish to respond directly to a site visit report, you should do this by generating a 'Licensee Return' of the type 'Site Updates/Notifications' and the sub-type 'Response to EPA Report' in EDEN.

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Please quote the above Inspection Reference Number in any future correspondence in relation to this Report.

Site Visit Report

The site visit process is a sample on a particular day of an installation's compliance with some of its licence conditions. Where non-compliance against a particular condition has not been reported, this should not be construed to mean that there is full compliance with that condition of the licence.

Instructions and actions arising from the visit shall be addressed, or where applicable noted, by the licensee in order to ensure compliance, to improve the environmental performance of the installation and to provide clarification on certain issues.

The licensee shall take the actions specified to close out the non-compliances and observations raised in this Site Visit Report.

The licensee may also be requested to provide a response to the Environmental Protection Agency (hereafter referred to as the Agency) in relation to the site visit report findings.

Licensee

Name of Installation	Ennis North
Licensee	Uisce Éireann
Licence Register No.	D0048-01
CRO Number	530363
Site Address	Clare
Site Visit Reference No.	SV27319

Report Detail

Issue Date	04/08/2023
Prepared By	Michael McDonagh

Site Visit Detail

Date Of Inspection	13/07/2023		
Time In	10:30	**Time Out**	14:15
EPA Inspector(s)	Michael McDonagh		
Additional Visitors			
Licensee Personnel and Role	Representing Uisce Éireann: Mr. Nemy Achionye, Mr. Brian Murphy Mr. Ronan O'Shea Representing Clare County Council (working in partnership with Uisce Éireann): Mr Noel Cleary, Mr Gerard Kett, Mr Colm Clohessy and Ms. Sinead McDonnell.		

Summary

This site visit was to primarily to review the network of the Ennis agglomeration and also included a visit to the waste water treatment plant. Uisce Éireann need to establish if the plant is being desludged at an appropriate frequency.

Waste water discharges from Ennis North were identified during the characterisation for the third cycle of Ireland's River Basin Management Plan as a significant pressure on the Fergus putting it at risk of not meeting its environmental objective of good status. Discharges from storm water overflow outlets on the collecting system are a significant pressure and adversely impacting the Fergus as identified in the Water Framework Directive Characterisation Assessment.

Storm water overflows are a significant pressure impacting this receiving water. There is a lack of information on the frequency of discharge of many of the overflows in this agglomeration. There are also outstanding specified improvements in relation to the rehabilitation of the sewer network.

Uisce Éireann are required to complete all the corrective actions as set out in this site visit report.

Site Areas Inspected

Waste water treatment plant.

Primary Discharge Point

Pump Stations

Storm Water Overflows

Documents Inspected

The following documentation were submitted by Uisce Éireann on 10 July 2023.

- Effluent monitoring results 2022 and 2023 to date;
- Ambient monitoring results 2022 and 2023 to date;

The following information was requested of Uisce Éireann and where available was assessed prior to the visit:

- Annual Environmental Report 2022.
- Information on the SWOs in the Ennis North network.
- Drawings of the SWOs/CSOs on the Network in Ennis North and schematics of the type of SWO or overflow mechanisms
- 2022 Event Duration Monitoring data for Ballyallia Main PS, Francis St PS and Tulla Road PS.
- Data on Flow to treatment, flow to storm tank(s) and effluent flow values for 2021 and 2022.
- Details of the SWO assessments to meet Department Criteria (e.g. formula A calculations and storage information).
- Co-ordinates for ENNIS NORTH - BALLYALLIA MAIN PS.
- monitoring data and calculations to support the reported 458,391 m3 of sewage was discharged via monitored SWOs in the agglomeration in the year (2022 AER).

The following additional information was submitted after the site visit:

- Desludging records for 2022 and 2023 to date; and
- SVI and Cone data for 2022 and 2023 to date.

1. General

		Answer	Condition Number	Non Compliance	Observation
1.1	Have you had any emission limit value breaches in the past 12 months?	Checked			

Comment / Action Required

One breach of ammonia emission limit value (ELV)(2.381mg/l vs ELV 1mg/l) was recorded in December 2022.

Corrective Action Required:

Uisce Éireann shall investigate the causes of this ELV breach and implement measures to ensure that the final effluent complies with the ELVs in the licence at all times.

2. Inlet Works

		Answer	Condition Number	Non Compliance	Observation
2.1	Are there overflows at the plant?	Yes			

Comment / Action Required

There are two storm tanks at the Inlet to the plant. On the day of the inspection, both storm tanks were almost full (see photograph 1). The capacity of untreated waste water in the storm tanks is reported as 766m3 per tank.

Discharges of untreated effluent occur frequently from the storm tanks via SW2. It should be noted that SW2 was a secondary discharge and was required to be upgraded to a storm water overflow by 1 January 2011.

The 2022 Ennis North AER indicates that none of the SWOs meet the Department criteria for SWOs. There is no safe and permanent access to SW2 and on the day of the inspection the SW2 outfall point was not accessible.

Based on the data submitted by Uisce Éireann prior to the site visit for 2022, for 133 of the 360 days reported, there was a storm water discharge via SW2. The 2022 AER reports that a total of 458,391 m3 discharged via SW2 in 2022. From the data, it is clear that this SWO discharges untreated effluent almost daily in the winter.

Actions Required

Uisce Éireann are required to:

1. Reassess SW2 against Department criteria and clarify why it is failing the criteria.

2. Provide safe access to SW2 outfall point as required by Condition 4.6 of the WWDL for this agglomeration.

3. Aeration Basin

		Answer	Condition Number	Non Compliance	Observation
3.1	Is there any evidence of operational problems?	Checked			

Comment / Action Required

There were some localised areas of aeration tank no. 1 with what appeared to be Nocarrdia bacteria type scum which had crusted over (see photograph no. 2) and this indicates operational problems. The Dissolved Oxygen (D.O.) level in aeration tank no. 1 was found to be reading 2.57mg/l and 1.13mg/l in aeration tank no. 2.

Action required:

Uisce Éireann are required to:

1. Investigate the cause of the excess foam on the surface in the aeration tank and put in place appropriate measures to manage it;

2. Complete a profile of the dissolved oxygen levels across both aeration tanks to establish if the oxygen delivery system is operating adequately;

3. Ensure that there are appropriate levels of oxygen in the aeration basins at all times.

4. Clarify whether the plant is being desludged at the appropriate rates and whether there is any limiting factor preventing this from occurring.

4. Phosphate Treatment

		Answer	Condition Number	Non Compliance	Observation
4.1	Is there dosing for phosphate removal at the plant?	Yes			

Comment / Action Required

It is noted that the last site visit report (SV23807) stated that the dosing pumps were scheduled for replacement end of Q3 of 2022. However, these works have not been completed. Uisce Éireann personnel stated that there is a planned upgrade to the phosphate system planned within the next two months. This upgrade is to include the installation of an additional two pumps to allow for four pumps (one duty/standby for each stream).

Action required:

Uisce Éireann are required to give this greater priority and to revert with a timeframe by which this will be completed.

5. Settling Tank/Final Clarifier

		Answer	Condition Number	Non Compliance	Observation
5.1	Is there any evidence of operational problems?	Checked			

Comment / Action Required

The V-notch weirs in the clarifier No. 1 appeared to be flooded on the day of the inspection with high flow going through the plant. Some 'pin floc' solids were observed overflowing the v-notch weirs and discharging on the date of this site visit (see photograph no.3). This may be evidence of denitrification occurring in the clarifier and can lead to sludge carryover and suspended solids being an issue in the final effluent.

Uisce Éireann are required to:

1. Establish if the desludging arrangements at this plant are adequate and appropriate.

2. Review the control of flows through the plant to ensure that it is not overloaded.

3. Investigate what is giving rise to the 'pin floc' carry over.

4. Increase the frequency of effluent sampling to weekly until this brought under control.

6. Pump Station

		Answer	Condition Number	Non Compliance	Observation
6.1	Is the Pump Station designed as a Storm Water Overflow (SWO)?	Yes			

Comment / Action Required

Tulla Road Pump Station

The The Tulla road pump station was visited as part of the site inspection. This pump station has two screens and operates with three foul pumps and three storm pumps, which operate on different cycles. There is a flow monitor at the inlet to the main WWTP and this informs what volume is coming from the Tulla Road Pump station. There is no monitor on the pump station itself. Uisce Éireann stated that flow from the Tulla road pump station can vary between 4,000-5,000 m3/day.

	Answer	Condition Number	Non Compliance	Observation
Is the Pump Station designed as an Emergency Overflow (EO)?	Yes			

Comment / Action Required

1. The Ballyallia pump station was inspected. It is designed as an Emergency Overflow. This station is in place approximately twenty years. It also acts as an emergency overflow. No flow monitoring of storm water takes place at the outfall point. it was highlighted that any overflow here would likely be storm water only.

2. The Francis Street pump station also acts as an Emergency overflow. It has three foul pumps. There are four storm pumps at this station. There is no flow monitoring on what volume of combined sewer overflow is going to storm water overflow point.

		Answer	Condition Number	Non Compliance	Observation
6.3	Is there a screen at the pumping station?	Checked			

Comment / Action Required

Uisce Éireann confirmed that there are screens in situ for the main pumping stations. There are two screens at the Francis Street Pump station. It was confirmed that one of these screens was broken down and in need of repair on the day of the inspection.

Action required:

Uisce Éireann are required to revert with timeframes to repair the damaged screen at the Francis Street pump station.

7. Water Framework Directive

		Answer	Condition Number	Non Compliance	Observation
7.1	Is the agglomeration categorised as a significant pressure under the Water Framework Directive?	Yes			

Comment / Action Required

Waste water discharges from Ennis North were identified during the characterisation for the third cycle of Ireland's River Basin Management Plan as a significant pressure on the Fergus putting it at risk of not meeting its environmental objective of good status. Storm water overflows were identified as the significant pressure impacting this water body.

		Answer	Condition Number	Non Compliance	Observation
7.2	Is the significant pressure due to the plant or network/SWO or both?	Checked			

Comment / Action Required

The Ennis North network is identified as significant pressures on the Fergus river under the Water Framework Directive.

		Answer	Condition Number	Non Compliance	Observation
7.3	Are the issues that gave rise to the agglomeration been categorised as a significant pressure still ongoing?	Yes			

Comment / Action Required

During the site visit an inspection of the outfall from SW3 was conducted. It was found that access was poor. There was an old spill boom in the river (adjacent to SW3 outfall). At 13:37 there was a stormwater overflow occurred, which continued for approximately 1 minute.

Uisce Éireann should examine the feasibility of installing a flow monitor or events monitor on this outfall point at SW4 to determine the volume being discharged at this point.

		Answer	Condition Number	Non Compliance	Observation
7.4	Are corrective actions being progressed to address the significant pressure?	Yes			

Comment / Action Required

Uisce Éireann's representatives advised that a drainage area plan (DAP) to assess the waste water collecting system is underway. This DAP will inform improvements needed to the collecting system.

Action required:

Uisce Éireann are requested to revert with timeframes by which the DAP will be completed for Ennis North.

8. Site Specific Issues

		Answer	Condition Number	Non Compliance	Observation
8.1	Storm Water Overflow	Checked			

Comment / Action Required

No flow meters exist on any SWO outfalls apart from SW2 which is located at the WWTP.

Action required:

Uisce Éireann should look at the feasibility of installing a flow meter or events monitor on all SWO outfall points (even temporarily) to accurately determine volumes of untreated discharges and overflow events across the network.

		Answer	Condition Number	Non Compliance	Observation
8.2	AER reported mointoring on SWOs	Checked			

Comment / Action Required

The Licensee reported a volume of 458,391 m3 of sewage discharged via monitored SWOs in the agglomeration for 2022, in the 2022 AER. This volume is for SW2 only as no other SWOs within the agglomeration are monitored.

The table in Section 4.1.1 of the 2022 AER reported the monitoring status and reports monitoring status as ' Monitored' for TBC and SW4. Subsequent data submitted prior to the inspection reported that 'Events duration' monitoring is in place for SWO locations: TBC, SW3 and SW4. Neither of these are accurate or reflective of what was observed on the day of the visit and as pointed out by licensee representatives.

Action required:

UE are required to check what is reported in AERs and ensure that it is accurate and reflects practices on the ground. The licensee should ensure that SWO reporting in the AERs is corrected and reported accurately going forward.

		Answer	Condition Number	Non Compliance	Observation
8.3	SWOs not meeting DoEHLG Criteria	Checked			

Comment / Action Required

All Storm Water Overflows in the agglomeration are reported in the 2022 AER as not meeting DoEHLG criteria.

Action Required:

Uisce Éireann are requested to clarify what works are required at each Storm Water Overflow so that they can meet the DoEHLG criteria.

		Answer	Condition Number	Non Compliance	Observation
8.4	Control and Monitoring	Checked			

Comment / Action Required

No sign was visible at the licensed primary waste water discharge monitoring point at the WWTP on the day of the visit. Condition 4.6 of the Licence requires that the licensee clearly labels and provides safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency.

Uisce Éireann are required to ensure that there is full compliance with the above mentioned Condition of the Licence.

		Answer	Condition Number	Non Compliance	Observation
8.5	Presence of pin floc in the weir of Clarifier No.1	Checked			

Comment / Action Required

During the site visit pin floc was noted flowing over the v-notch weirs of Clarifier No.1.

Action required:

Uisce Éireann are required to investigate the cause of pin floc evident in the Clarifier no. 1 and put in place necessary measures to prevent its reoccurrence.

		Answer	Condition Number	Non Compliance	Observation
8.6	MLSS and SVI data for July 2023	Checked			

Comment / Action Required

A review of the MLSS and SVI results provided following the site visit on the 18 July 2023 showed that side 1 had an elevated MLSS result of 6,464mg/l and a low SVI of 54 for 12 July 2023. Side 1 has reported fluctuations in MLSS from 8 July to 17 July that varied from 1,937mg/l on 8 July to 6,464mg/l on 12 July 2023. Both Side 1 and Side 2 have low SVI reported on 12 July and 13 July at 54 and 68 (Side 1) and 71 and 73 (side 2) respectively. These low levels potentially indicate that the activated sludge may be not as healthy.

Side 1 has reported SVI results of >200 for the period 13 May 2023 to 31 May 2023. These high SVI levels would indicate sludge bulking.

Action required:

Uisce Éireann are required to:

1. Review the desludging of the plant and ensure that it is adequately desludged at all times.

2. Investigate the cause of the low SVI and elevated MLSS in Side 1 on the 12 July 2023 and put in place necessary measures to prevent its reoccurrence.

Photographs

Photograph 1: View of Storm tank at Ennis North Waste Water Treatment Plant (D0048-01)

Photograph 2: View of Aeration basin no. 1 at Ennis North Waste Water Treatment Plant (D0048-01)

Photograph 3: View of Clarifier no. 1 at Ennis North Waste Water Treatment Plant (D0048-01)

FOLLOW-UP ACTIONS

The licensee is required to complete the actions outlined in this site visit report within the specified timeframes. Where required, the licensee shall also respond to actions specified in Compliance Investigations and/or submit a response to this site visit report via the EDEN system. The licensee shall maintain a documentary evidence, for review by the Agency, that the prescribed actions were completed within the required timeframe.

(i) Compliance Investigations

The Agency may generate a Compliance Investigation through the EDEN system and issue instructions and actions to the licensee. The licensee will receive notification when an instruction or action is issued and the licensee must respond to the actions within the Compliance Investigation within the specified timeframe.

(ii) Response to Site Visit Report

Where the licensee is requested to (or wishes to) respond to the Agency in relation to this site visit report, the licensee may select the 'Make a Response' link on the Site Visits page in EDEN where a .pdf document containing the response can be attached and submitted. The response should include details of the actions taken by the licensee to address the issues raised in this site visit report and the target completion dates. This Licensee Public Response provides the licensee with an opportunity to inform both the Agency and the public about the implementing of actions set out in the Agency site visit report. The response must be submitted **within 21 calendar days** of the issue date of this site visit report.

(iii) Publication of Reports

This site visit report will be published on the EPA's website, www.epa.ie, 30 calendar days after the site visit report issue date.

Any licensee response to this site visit report will be published on the EPA's website simultaneously (i.e. 30 calendar days after the site visit report issue date).

Please note that licensees are required to comply with the conditions of the licence at all times, and where non-compliance occurs, compliance must be restored within the shortest possible time. These actions will be verified during subsequent Agency visits. Please quote the above Inspection Reference Number in any correspondence in relation this Report.

Electronic Copy

Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

Clare County Council
Environment Section

8 January 2024 Reg. No.: D0048-01

Notice for the purposes of Regulation 14(5) of the European Union (Waste Water Discharge) Regulations 2007 to 2020, as amended - Review by the Agency of a licence issued to Uisce Éireann

Dear Sir/Madam

We advise, in accordance with Regulation 14(5), the Agency intends to conduct a review of waste water discharge licence, Register Number: D0048-01 for the agglomeration named Ennis North.

We will notify you again, in accordance with Regulation 21(1), when the Agency receives the application for the review of the above referenced licence. Submissions relating to the proposed review may be made in writing to the Agency at its headquarters within 5 weeks of receipt of the fee and completed application form, and the Agency shall not make a decision on the review before the expiry of the said period.

Please note that there is no requirement for you to acknowledge receipt of this notice.

Yours faithfully

Environmental Licensing Programme
Office of Environmental Sustainability
Tel: 053 – 9160600

Electronic Copy

Ken Conroy
IWLicensingSourthern
On behalf of Uisce Éireann

8 January 2024 Reg. No.: D0048-01

Notice for the purposes of Regulation 14(5) of the European Union (Waste Water Discharge) Regulations 2007 to 2020, as amended - Review by the Agency of a licence

Dear Sir/Madam

We advise, in accordance with Regulation 14(5), the Agency intends to conduct a review of your existing licence, Register Number: D0048-01 for the agglomeration named Ennis North.

The grounds for the review are set out in the Regulation 14(1) Examination Report https://epawebapp.epa.ie/terminalfour/wwda/wwda-view-filter.jsp?regno=D0048-01&filter=c&docfilter=go which is available on the Agency's website.

In accordance with the provisions of Regulation 14(7), you are required, for the purposes of the review of your licence, to submit within 6 months of the date of this notice via the 'review authorisation' function on the EDEN Online Portal the following:

a) A completed application form and associated templates available on the EDEN portal and
b) Fee as is appropriate having regard to the provisions of Regulation 39.

Guidance on how to make an application and completing the application form is available on the Agency's website https://www.epa.ie/publications/licensing--permitting/waste-water/waste-water-discharge-application--guidance-document.php. It should be noted that failure to comply with the above requirements is an offence.

In accordance with Regulation 14(3) the Agency will publish a notice on its website stating that the EPA is conducting a review of your licence.

In accordance with Regulation 14(7)(b) submissions relating to the proposed review may be made in writing to the Agency at its headquarters within 5 weeks of receipt of the fee and completed application form, and the Agency shall not make a decision on the review before the expiry of the said period.

If you have any further queries, please contact licensing@epa.ie.

Yours faithfully

Environmental Licensing Programme
Office of Environmental Sustainability
Tel: 053 – 9160600

Eve O'Sullivan

From: Sheelagh Flanagan <sheelaghflanagan@water.ie>
Sent: Thursday 18 July 2024 12:20
To: Licensing Staff
Subject: EPA Initiated Review - Update
Attachments: unsolicited Response Virginia .pdf; unsolicited Response Ennis North .pdf; unsolicited Response Dromcollagher Town and Environs-pdf.pdf; unsolicited Response Ballysadare.pdf; unsolicited Response Derrinturn.pdf

Dear Licensing Staff,

Please see attached update on EPA initiated Reviews for Virginia, Ennis North, Dromcollagher, Ballysdare, Derrinturn

Kind Regards

Sheelagh Flanagan
Discharge Authorisation Technical Manager

Uisce Éireann
Teach Colvill, 24-26 Sráid Thalbóid, Baile Átha Cliath 1, D01 NP86, Éire
Irish Water
Colvill House, 24-26 Talbot Street, Dublin 1, D01 NP86, Ireland

Thank you for your attention.

Uisce Éireann
Irish Water

Environmental Licensing Programme
Office of Environmental Sustainability
Environmental Protection Agency
PO Box 3000
Johnstown Castle Estate
Wexford

Uisce Éireann
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24-26 Sráid Thalbóid
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Ireland

T: +353 1 89 25000
F: +353 1 89 25001
www.water.ie

17/07/2024

UÉ ref: LT0758

Dear Inspector,

Re: Ennis North - Waste Water Discharge Authorisation Application

Further to Regulation 14(5) notice dated 8th January 2024 requesting UÉ to submit a licence review application within 6 months.

Uisce Éireann has engaged an Engineer Service Provides (ESP) to complete the WWDA application form and prepare the necessary supporting documentation. The ESP commenced preparation of water quality assessment to support the licence review application. UÉ wishes to advise the Agency that additional time is required to prepare and submit a complete application.

Uisce Éireann proposes to submit the completed application and supporting technical documentation Q1 2025

Yours sincerely,
Sheelagh Flanagan

Sheelagh Flanagan
Wastewater Strategy

Clare County Council

Application for waste water discharge licence for Clonroadmore treatment plant

In accordance with Waste Water Discharge (Authorisation) Regulations, S.I. 684 of 2007

Section A: Non- technical summary

1. Introduction

Clare County Council is required to make an application to the Environmental Protection Agency (E.P.A) for a licence to discharge treated wastewater from the wastewater treatment plant at Clonroadmore, serving the Ennis town agglomeration, in accordance with Article 5 of the *Wastewater Discharge (Authorisation) Regulations 2007, (S.I No 684 of 2007)*, on or before 14th December 2007. The E. P. A. prepared a standard application form and guidance notes for the completion of this form. The contents of this application follow the format provided by the E.P.A. with the necessary attachments to indicate the quantity and quality of wastewater discharges from the Ennis town agglomeration, and to provide details of the impacts associated with the town's discharges on the receiving waters of the River Fergus. The application was prepared for Clare County Council by Burke Environmental Services.

2. Description of Clonroadmore WWTP catchment

Ennis is the county town of Clare, located on the N18, some 24 miles north of Limerick City and 40 miles south of Galway City. The town is mainly concentrated in an area of low ground, generally below 10mOD, in the lower catchment of the River Fergus, within the tidally affected reaches of the river. Ennis town has experienced steady growth during recent years, with the level of housing development in line with national trends, and due to its proximity to Shannon, Limerick and Galway. The Claureen/Inch River is tributary of the Fergus and joins the Fergus on the Western side of the town. Upstream of this confluence, the Fergus River branches into two parts. The major branch flows through the town centre. The minor branch flows in an easterly direction, rejoining the main river just downstream of the Clonroad bridge.

The topography of the town has shaped the development of the sewerage system into four sub-catchments, namely Tulla Road, Francis Street, Clareabbey and Clarecastle, with each sub-catchment draining to a main pumping station. (See Map 1, Attachment A1). Foul flows from the Tulla Road and Francis Street pumping stations are directed to the Clonroadmore WWTP, via rising mains. Clare Marts discharge approximately 14m^3/day of effluent on two/three days per week.

The total existing resident population of the town is approximately 23,500, but it should be noted that numerous older houses in the town are not connected to the foul sewer network. The town is well served by schools, commercial premises, retail outlets, hospitals and small and medium sized industrial enterprises.

3. Description of wastewater treatment works

Clonroadmore wastewater treatment plant (WWTP) provides treatment for the bulk of foul effluent arising in Ennis town. The WWTP is located between the railway line and the River Fergus, with the access road to the plant off the Quin Road and sharing this access with Clare Marts. The original plant on the site was constructed in the early 1970s and expanded over the years to the present treatment capacity of 17,000-population equivalent. (See aerial photograph of the location of the plant, and associated outfall locations, Attachments A2 and A3)

The Clonroadmore plant receives wastewater from two pumping stations, namely the Francis Street pumping station and the Tulla Road pumping station. These stations service two large sub-catchment, which will be referred to hereafter as the Francis Street sub-catchment and Tulla Road sub-catchment (see Attachment B1, for map indicating total area served). Both

pumping stations were fitted with grit/rag removal at their inception, but the equipment is currently being upgraded with conditioning screening units- details of this upgrade will be provided under proposed upgrades in Section 6 of this report.

The WWTP uses an extended aeration activated sludge treatment process. The inlet pipes from Francis Street and Tulla Road pumping stations and Clare Marts feed to a single distribution chamber. Two treatment channels carry wastewater from this area to the aeration stage in the treatment. Each channel is fitted with two adjustable penstocks to control the flow through the treatment works, and the surplus flow to the storm overflow tanks. A venturi flow measurement flume is located on each inflowing treatment channel.

The aeration tanks, each of 2530m^3 volume, are fitted with surface aerators, centrally located in each tank. Effluent from the aeration tanks feeds to the final settlement tanks. The settlement tanks constructed on the site in the 1970s consist of rectangular concrete tanks (each 6.1m side length), with sludge collection hoppers. There are no scrapers in these tanks. The settlement tank provided in the 1980s is a circular tank, of 18m internal diameter. The side wall has a graded slope, with a central sludge collection hopper. This tank is fitted with a scraper for sludge removal.

The effluent from the final settlement tanks is directed by gravity outfall to the River Fergus, which is located due East of the treatment works. A site lay-out map is provided as Attachment B2 and a map indicating the main discharge points to surface water is provided as Attachment B3. The treated wastewater discharge is the primary discharge, and is designated SW1 on the maps accompanying the application.

The distribution channel at the inlet to the WWTP is also connected to two flat-bottomed, storm tanks, with internal diameter of 22.8m x 11.45m. The

tanks provide primary settlement treatment only. Overflow from these units is directed to the River Fergus, with the outfall pipe located approximately 80 metres upstream of the treated wastewater outfall pipe. Given the nature of a combined sewer system, the inflow volumes vary significantly with weather. The overflow pipe discharge is designated as SW2 in the maps accompanying this application. As the treated wastewater discharge pipe from the WWTP is located within 80 metres of the storm tank overflow pipe, the impact of the discharge from the treatment plant is assessed on the basis of the combined loading to waters at this location.

Waste sludge is directed from the central hopper in the settlement tanks to the sludge holding tank. The sludge de-watering building houses a single belt thickener for sludge dewatering and polyelectrolyte tanks. This thickener achieves 18% dry solids in the final product. Sludge is removed off site to Cremins Farm Compost Ltd., Coolaleen, Broadford, Charleville, Co Limerick (Waste Permit Number WPLK 23A). A temporary thermal drying plant was operated on the site in the past, but this unit is no longer in use.

Control of the extended aeration treatment process is important to maintain dissolved oxygen levels in the aeration tanks, regulate the amount of activated sludge in the process (by controlling the amount of return activated sludge), and controlling the amount of activated sludge wasted from the process. In-process monitoring and final effluent monitoring is undertaken on twice monthly basis at the plant, to provide appropriate control of the facility performance. The WWTP is manned by two full time operatives and an environmental technician on a full time basis (Monday to Friday) and a part-time basis at the weekends.

4. Wastewater sources

The domestic, commercial and industrial sources of wastewater were surveyed in 1997, during a water audit survey. The details of this survey are provided as Attachment A4. However, there has been significant additional residential development in the town since this survey. Flow rates and wastewater characteristics vary on a day to day basis (based on varying activities e.g. Clare Marts on Tuesday and Thursday) and on a seasonal basis due to the combined nature of the sewer in the older areas of the collection system. The 1997 survey was cross checked to identify any facility liable to generate substances listed in Annex X of the Water Framework Directive (2000/60/EC) or relevant pollutants listed in Annex VIII of the Water Framework Directive. Monitoring for these substances was undertaken on November 28th 2007, and results on this monitoring will be submitted on their receipt.

The total hydraulic load arriving at the Clonroadmore WWTP was calculated by measurement of dry weather flow on a number of days in November 2007, and this measurement was used to estimate the final population equivalent, based on the average influent BOD values for the period January - October 2007. The estimated flow value arriving at the treatment works is 11,232 litres per day, with an average BOD of 134.5mg O_2/litre. The population equivalent for this loading is 25,189. This approach to estimation of population equivalent is in accordance with the definition provided in the Waste Water Discharge (Authorisation) Regulations, 2007 ("population equivalent" is a measurement of organic biodegradable load and a population equivalent of 1 (1 p.e.) means the organic biodegradable load having a five-day biochemical oxygen demand (BOD5) of 60g of oxygen per day; the load being calculated on the basis of the maximum average weekly load entering the waste water works during the year, excluding unusual situations such as those due to heavy rain).

Combined storm overflows

The two main pumping stations serving the Francis Street and Tulla Road sub-catchments appear to be designed to provide for 3DWF, with no storm water storage capacity. Surveys on the flow volumes in both sub-catchments were undertaken for the Ennis Main Drainage and Flooding Study in 2002. An additional study of live planning applications was also undertaken to provide projected loadings. This projected loading study is used for this application to indicate the likely dry weather flow volumes handled by both pumping stations. Copies of this study is appended in Attachment C2, indicating the dry weather flow and projected development dry weather flow for both pumping stations. A revised study of the catchments has not been undertaken for this application.

On the basis of the studies undertaken the estimated dry weather flow at Francis Street station is likely to be of the order of 60.6 litres per second. With a 3DWF design of 182 litres per second, this suggests that the station is operating at the design capacity. Signficant rainfall events will give rise to storm overflows.

equates to5,270m3/d. On what basis is the capacity calculated?

On the basis of studies undertaken the estimated dry weather flow at Tulla Road station is likely to be of the order of 31.5 litres per second. There is no storm water storage capacity at the pumping station and significant rainfall events will give rise to storm overflows. The design capacity of this station appears to be based on 180 litres/sec, which appears to indicate that the system is currently operating within the 6DWF capacity (even though the design was probably based on 3DWF). On this basis the storm overflow for the Tulla Road station is indicated as a storm overflow, rather than a secondary discharge point in the application.

Figures don't add up. Francis St. = 5,270m3/d and Tulla Rd =2,721 m3/d. Stated loading at 11,232m3/d. only these two pump stations supply the plant. There is 3,242m3/d missing.

5. Impact of emissions from the Clonroadmore WWTP on River Fergus

The impact of discharges from the Clonroadmore WWTP on the receiving waters of the River Fergus is considered under a number of headings:

5.1 Description of receiving waters
5.2 Estimation of dilution/assimilative capacity of the receiving waters
5.3 Total maximum nutrient load discharging to receiving waters
5.4 Monitoring undertaken on receiving waters
5.5 Statutory designations of receiving waters
5.6 Impact of combined storm overflows to River Fergus

5.1 Description of receiving waters

The Fergus is one of the main tributaries of the River Shannon, and is included in the catchment of the Shannon River Basin . The Fergus River rises to the northwest of Corofin village. The river is 59 kilometres long and has a catchment area of 1043 km^2. The upper reaches of the catchment are primarily well draining agricultural lands. The Clonroadmore WWTP discharge takes place approximately 500 metres upstream of Doora Bridge. Flow in the lower catchment of the Fergus River, in the vicinity of the WWTP discharge is controlled by a tidal barrage, located just upstream of Clarecastle Bridge. The barrage was installed in 1954 to control flooding above Clarecastle. The barrage consists of a number of sluice gates, which open and close with outgoing and incoming tides.

5.2 Assimilative capacity of receiving waters

An Foras Forbartha between 1972 and 1977 undertook flow monitoring of the River Fergus in the Ennis town catchment (see Attachment A5. Mean flow values for each month, in m^3/sec, is provided in Table 1.

Table 1: River Fergus Flow Data (An Foras Forbartha 1972-77) in m³/sec

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
12.02	19.06	24.81	25.83	23.12	11.83	7.58	5.62	1.42	2.07	3.88	10.93

Estimates of total effluent discharge volumes and associated nutrient loads are used to assess the likely impact of the discharge from the Clonroadmore WWTP on the river water quality in the Fergus.

Based on the low flow rates provided in Table 1 above (June 1.42 m^3/day) and the maximum discharge volume recorded (to date) at the waste water treatment plant, (11,232 m^3/day), a 10 fold dilution of the discharge is likely to be provided in the receiving waters at lowest flow volumes.

5.3 *Total maximum nutrient load discharging to River Fergus*

Analytical data for the wastewater discharge from the Clonroadmore WWTP is available on a bi-monthly basis for several years, up to an including August 2007. The influent and effluent streams are monitored in the laboratory on the site of the treatment plant for biochemical oxygen demand (BOD), chemical oxygen demand (COD), and suspended solids (SS). Monitoring for total nitrogen (TN) and total phosphorus (TP) is undertaken on a once per month basis, with analysis undertaken at an external laboratory (City Analysts, Limerick). Results up to August 2007 are used for this application.

The volume of *treated* wastewater discharged from the WWTP is recorded daily at the WWTP. No flow monitoring is routinely undertaken on the influent volumes, so that the volume of wastewater discharged from the primary settlement tanks (storm tanks) was estimated. This was undertaken by directing all the influent flow through the treatment channels for 30-minute periods over a number of consecutive dry days. The daily flow records for treated flow at the plant do not indicate significant diurnal variation in flow volumes. The *estimated* total flow, based on the dry weather influent volumes recorded on a number of dates in November 2007 is 11,232

m^3/day. As the outfall of treated wastewater from the Clonroadmore plant is located approximately 80 metres downstream of the storm overflow from the plant, the combined loadings of the treated and overflow waste streams is used to assess the impact of the discharge on the receiving waters for biochemical oxygen demand (BOD) chemical oxygen demand (COD), suspended solids (SS) total nitrogen (TN) and total phosphorus (TP), to waters. The nutrient discharge load is synopsised in Table 2, based on estimated flow readings and mean analytical values for the dates presented.

Table 2: Estimated nutrient load from Clonroadmore WWTP to Fergus River

Date	Treated flow (m^3/day)	Storm overflow (m^3/day)	BOD Kgs/ day	COD Kgs/ day	SS Kgs/ day	TN Kgs/ day	TP Kgs/ day
22/02/07	3485	7747	682.3	1351.1	792.5	169.6	22.5
18/04/07	4045	7187	1168.7	2744.3	1920.9	298.7	24.7
14/08/07	2898	8334	599.4	2382.2	1031.2	329.5	54.4

5.4 *Monitoring undertaken on receiving waters*

Clare County Council undertakes monitoring of the River Fergus under a number of statutory codes, as set out hereunder:

a) Monitoring in accordance with the *European Communities (Quality of Salmonid Waters) Regulations, S.I. 293 of 1988-* as the Fergus River is designated water under this statute. Results of monitoring at Clonroad Bridge (upstream of the WWTP discharge) and Doora Bridge (downstream of the WWTP discharge) for 2007 are set out in Table 3. All results are expressed in milligrams per litre, unless otherwise indicated. Abbreviations used refer to biochemical oxygen demand (BOD), dissolved oxygen (DO), nitrate (NO_3-N), nitrite (NO_2-N)d molybdate reactive phosphate (MRP) and ammonium (NH_4-N).

Table 3: River Fergus Monitoring (Salmonid Water Regulations)

Date	Station	BOD	DO % sat	NO_3-N	NO_2-N	MRP	NH_4-N
17/01/07	Clonroad	<3	109	1.33	<0.013	0.026	<0.007
	Doora	<3	100	1.19	0.015	0.033	<0.007
14/02/07	Clonroad	<2	121	0.93	<0.013	0.013	0.015
	Doora	<2	118	1.02	0.02	<0.01	0.549
14/03/07	Clonroad	No result	127	0.83	<0.013	<0.009	0.054
	Doora	No result	130	0.88	<0.013	<0.009	0.117
11/04/07	Clonroad	<2	128	0.58	<0.013	<0.019	0.036
	Doora	2	108	0.9	0.014	<0.019	0.166
16/05/07	Clonroad	<2	115	0.35	0.015	0.068	0.024
	Doora	2	100	0.53	0.022	0.066	0.301
12/06/07	Clonroad	1.2	131	0.186	0.006	0.006	0.012
	Doora	2.4	57	0.231	0.023	0.078	0.35
10/07/07	Clonroad	No result	99	0.251	0.006	0.012	0.006
	Doora	No result	89	0.318	0.008	0.03	0.131
Limit values	S.I 293 of 1988	<5	50% ≥ 9 mg/litre	Not defined	<0.05	Not defined	<0.82

The results indicate no breach in the standards prescribed under the Salmonid Regulations in 2007. There is a slight increase in the concentration of ammonium (NH_4-N) and molybdate reactive phosphate (MRP) in the waters, at Doora Bridge, downstream of the discharge from the Clonroadmore WWTP. This bridge is also downstream of the site of the dis-used (unlined) landfill at Doora. The potential contribution from the dis-used landfill is discussed in Section 5.4 (b) hereunder. Ammonium in water can be associated with the breakdown of discharges from sewage treatment works, stormwater overflows, agricultural run off or landfill discharges. Taking account of the high volume of wastewater discharges from the stormwater tanks at the treatment plant, and the volumes of agricultural effluent arriving at the plant on (at least) three days per week, some elevation in ammonium levels in the receiving waters is to be expected. While the increase is evident

in the receiving waters, there is no breach in a standard set under the European Communities (Quality of Salmonid Waters) Regulations. Quality standards for surface waters are likely to be updated in the near future, to provide for compliance with the Water Framework Directive, (2000/60/EC, implemented in Ireland by the Water Policy Regulations, S.I. 722 of 2003). This will provide an integrated approach to the protection and improvement of the ecological status, ecological potential and chemical status of surface waters.

b) Monitoring in compliance with a waste licence, *(WL 031-1)* granted to the now dis-used landfill facility at Doora (downstream of the WWTP). The monitoring stations are located at Clonroad Bridge, upstream of WWTP discharge, approximately 50 metres downstream of WWTP discharge, but upstream of potential landfill discharge and at Doora Bridge, downstream of both the WWTP and landfill. Results of this monitoring are set out in Table 4. All results are expressed in milligrams per litre, unless otherwise stated.

The increase in the concentration of ammonium in the river water, downstream of the treatment plant discharge can be identified in these results. A low dissolved oxygen level was recorded on 6th July 2006, during warm weather. The sampling point downstream of the WWTP is located on the riverbank, with mud flats and vegetation, and the mid-river channel is unlikely to experience the low level of dissolved oxygen indicated in this sample. Concentrations of dissolved oxygen in water decrease as the temperature increases. During warm dry weather, the risk of pollution of waters is greatest, with oxygen depletion taking place when a pollutant load enters the waters. Care must be taken during warm weather to reduce the discharge volume from the storm water tanks at the treatment plant, during low tide

Table 4: River Fergus Monitoring (Waste Licence WL031-1)

Date	Station	BOD	DO ppm	NH_4-N
04/07/07	Clonroad Bridge, upstream of WWTP	4.8	6.2	0.019
	River bank, downstream of WWTP, upstream of landfill	<2	6.2	<0.013
	Doora Bridge, downstream of WWTP + landfill	2.6	5.2	<0.013
07/02/07	Clonroad Bridge, upstream of WWTP	<2	8.1	0.015
	River bank, downstream of WWTP, upstream of landfill	2	7.4	0.52
06/09/06	Clonroad Bridge, upstream of WWTP	2.4	9.2	0.11
	River bank, downstream of WWTP, upstream of landfill	4	9.4	0.69
	Doora Bridge, downstream of WWTP + landfill	4.1	6.7	0.97
06/07/06	Clonroad Bridge, upstream of WWTP	<2	8.0	0.049
	River bank, downstream of WWTP, upstream of landfill (Water temperature during sampling 20.5°C)	<2	3.2	0.824
12/04/06	Clonroad Bridge, upstream of WWTP	<2	9.2	0.03
	River bank, downstream of WWTP, upstream of landfill	<2	8.2	0.19

c) Biological quality monitoring in accordance with the *Local Government (Water Pollution) Act 1977 Water Quality Standards for Phosphorous Regulations 1998* is undertaken on a national basis by the E.P.A. Clare County Council also commission Conservation Services to undertake more frequent biological monitoring of surface waters in the vicinity of the dis-used landfill, in accordance with WL 031-1. Results of all monitoring between 1988 and 2006 are set out in Table 5. The results are expressed as Q values or biotic indices for the quoted sites, with Q5 representing a pristine, unpolluted watercourse,

and Q1 representing a grossly polluted watercourse. The sampling method is based on kick sampling for macro-invertebrates. Biological sampling of the sites downstream of the Clonroadmore WWTP and at Doora Bridge were sampled by boat. The ratings assigned to these sites are described as "tentative", due to the sampling methodology, the occasional (twice-daily) saline nature of the waters and the mud substrate.

The quality ratings assigned to the River Fergus show no discernible difference in water quality at the monitoring stations upstream and downstream of the discharge from the treatment plant. There is evidence of deterioration in water quality in the River Fergus upstream of the Ennis town catchment in recent years (see Drehidnagower results in Table 5), and this trend (if not reversed) will limit the assimilative capacity of these waters.

Table 5: Biological monitoring on Fergus river stations.

Site name	Sampling undertaken in Summer of year indicated					
	1988	1991	1996	1998	2001	2006
Clonroad Bridge	4	4	3-4	3-4	3-4	3
Drehidnagower	4	4	4	4	4	3-4
Corrovorrin Bridge		3	3	2-3	3	3
Claureen Bridge	4	4	4	4	4	3
	Sampling undertaken in Summer of year indicated					
Year of testing	2002	2003	2004	2005	2006	2007
SW5[1]	3	3	3	3	3	3
Doora Bridge	3	3	3	3	3	3

Note 1: Site downstream of WWTP, upstream of landfill

d) The E.P.A has published monitoring data for the Shannon and Fergus estuaries, in the "Water Quality in Ireland 2001-2003" publication. Extracts referring to the Fergus estuary from this publication are provided in Attachment A6. Salinity values determine the acceptable levels of dissolved

inorganic nitrogen (sum of nitrate, nitrite and ammonium) and molybdate reactive phosphate (MRP) to prevent nutrient enrichment in partially saline waters. Using these limit values (calculation of limit values is provided in the EPA report), the lower Fergus River is compliant with limits for dissolved inorganic nitrogen and MRP, and is deemed unpolluted. Using these limit values for dissolved inorganic nitrogen and MRP, the Fergus Estuary is deemed intermediate status .

The monitoring programs described provide a good overview of the water quality status in the River Fergus, both upstream and downstream of the WWTP discharge. In conclusion, there is no indication of deterioration in biological quality status of the Fergus River downstream of the discharge from the treatment plant. There are already signs of enrichment in the river waters at Drehidnagower (Fergus River)) and Claureen (Claureen/Inch River) –both upstream of the town, which reduces the assimilative capacity of the river for any discharges from the urban area. There is a discernible increase in ammoniacal nitrogen in the river water downstream of the town catchment, which may be exacerbated during low flow periods. The impact of tidal flows reduces the overall impact of low flows in the river, in the vicinity of the wastewater treatment plant outfall.

5.5 *Statutory designations of River Fergus*

There is no downstream abstraction of water for potable supplies or for agricultural purposes. The river waters are brackish and unsuitable for abstraction at any point downstream of the discharge from the wastewater treatment plant. There are three other discharges downstream of the Clonroadmore WWTP discharge- Clareabbey and Clarecastle (both will be subject to separate applications for licensing under the *Wastewater Discharge (Authorisation) Regulations 2007, (S.I No 684 of 2007)* and Roche Ireland Ltd discharge. The discharge from the Roche plant is licensed by the

Environmental Protection Agency, Integrated Pollution Control Licence (Revised in 2001) - Licence Register No 547

The Fergus Estuary, downstream of the Clarecastle barrage forms part of the estuarine complex named "River Shannon and River Fergus Estuaries Special Protection Area, Site Code 004077", designated under *The European Communities (Conservation of Wild Birds) (Amendment) Regulations 1997.* The site is an important coastal wetland site for wintering waterfowl, with several significant populations of wild birds over wintering at the site (See Attachment A7).

The main channel of the River Fergus is designated "salmonid" water, under the *European Communities (Quality of Salmonid Waters) Regulations, S.I. 293 of 1988.* Breaches in limit values set in these regulations have not been identified in 2007. Details of previous breaches in limit values for nitrite (NO_2) are provided in the extract from the EPA publication "Water Quality in Ireland 2001-2003" (Attachment A6)

5.6 *Impact of combined storm overflows to River Fergus*

Two combined storm overflows are located in the Ennis town catchment, associated with the main pumping stations serving the Francis Street and Tulla Road sub-catchments. During prolonged wet weather, the configuration at these pumping stations is such that there is surcharging in the upstream sewer, resulting in the overflow of untreated combined storm and wastewater to the river. The discharges from the Francis Street Pumping Station have been the subject of complaint from adjacent residents. Details of these complaints are included in Attachment B11 of this application, together with hours of operation of the storm overflow pumps for the period January-August 2007. No overflow was observed between November 9th-28th 2007, during the preparation of this application.

Discharges from the Tulla Road pumping station also take place, but these discharges take place adjacent to the railway bridge and are not visible. No complaints have been recorded in relation to these discharges.

Monitoring of the Fergus River, downstream of the Francis Street pumping station, takes place at Clonroad Bridge. Details of physico-chemical and biological monitoring of this station, and comments on the results are included in Section 5.4 (b) above.

6. Proposed technology for preventing or reducing emissions from WWTP

The proposals for upgrading of the wastewater treatment facilities for the Ennis town catchment and the associated pumping stations, to cater for the existing and projected loading arising in the agglomeration are set out under the following headings:

6.1 Short-medium term measures to address infrastructural deficiencies

6.2 Long term measures to address infrastructural deficiencies

6.3 Short and long term measures to address pumping facilities

6.4 Consolidation of wastewater treatment works for Ennis and environs at new wastewater treatment facility

6.1 Short-medium term measures to address infrastructural deficiencies

The original wastewater treatment plant on the Clonroadmore site was constructed in the early 1970s and expanded over the years to the present treatment capacity of 17,000-population equivalent. The flow measurements presenting during the monitoring period (mid-November 2007) show daily discharge values of the order of 12,000 cubic metres, with an associated mean B.O.D loading of 134.5 mg/litre (based on 2007 influent load monitoring). Incidental monitoring of the receiving waters shows that the impact of the discharge is likely to be most significant during low flow periods in these waters, and at low tide levels. The discharge location is impacted by tidal

events, which limits the risk of significant pollution events. Taking account of the projected re-location of the treatment facility- (described under Section 6.2) - it is not considered that the existing facility would merit major investment. Short term, low cost measures could be taken to reduce the impact of the discharge and provide for reduction in the level of ammoniacal nitrogen and phosphate in the final discharge. These measures include

- Reduction of storm overflow volumes, by directing an increased loading through the secondary treatment unit. This requires careful management, to prevent sludge overflow. It is estimated that approximately 5000 cubic metres per day could be treated via the aeration system on the site, without detrimental impact arising in the system.
- Direction of flow through the secondary treatment system during hours of low flow levels in the river, coincident with low tides. This would reduce the risk period for the receiving waters, associated with the storm overflow discharge at these times. This would probably require the full flow through the WWTP for a period of 2 hours, at least once per day.
- Improved inlet flow control and screening

These short term measures will be required to meet the needs of the Ennis town development over a period of 5 years, pending the construction of a new treatment works.

6.2 *Long term measures to address existing infrastructural deficiencies*

Section 5 of this report dealt with the existing flows from the Clonroadmore WWTP, and the associated nutrient loading. The impact on the receiving waters was discussed in Section 5. The existing discharge volumes and associated nutrient loads present a limited risk of pollution to water quality in the Fergus River. Taking account of the projected increase in the population of the agglomeration, the typical cost of nutrient reduction in wastewater treatment plants, and the land footprint available for expansion of the

Clonroadmore plant- the proposal is to provide a new 50,000 capacity treatment works at the site of the existing Clareabbey waste water treatment plant. The site for the proposed treatment works has already been acquired by the Council. A brief to facilitate the appointment of consultants- proceeding to the full design stage- is currently being considered by the Department of Environment, Heritage and Local Government (DoEHLG). A preliminary report on the scheme was already approved by the DoEHLG. The time frame for full completion of the design is likely to be towards the end of 2008. This will require the approval of the Do EHLG and a further tendering process for appointment of contractors . A completion date for the upgraded works is likely to be in 2012.

The Fergus River upstream of the Clarecastle barrage will not provide adequate assimilative capacity for the treated effluent from a 50,000 capacity treatment plant. Studies have been undertaken on the Upper Fergus Estuary , downstream of the Clarecastle barrage. A 2D hydrodynamic model was constructed for the Hydro Environmental Ltd study "Fergus Estuary Water Quality Model Study- Outfall Site Selection" was assembled in 2002. This predictive model was used to assess a range of options for discharge of treated wastewater from the Ennis agglomeration. The model considered a B.O.D load from 50,000 population equivalent, (@ 25mg/litre) providing 281 kgs/day to the Fergus estuary, discharged via a diffuser arrangement. This load combined with the Roche Ireland Ltd load of 200 kgs/day would be within the assimilative capacity of the estuary, which is thought to be circa 500 kgs/day. It was further considered that the Fergus estuary would be able to assimilate the total nitrogen load from the 50,000-population equivalent (circa 115 kgs/day). Phosphorus loading was not considered in this exercise due to the tidal nature of the estuary.

6.2 *Short and long term measures to address pumping facilities*

The existing combined foul sewer network comprises four separate sub-catchments in the Ennis catchment, namely Franics Street, Tulla Road, Clareabbey and Clarecastle. Of these only Francis Street and Tulla Road are the subject of this application. Tulla Road and Francis Street pumping stations deliver wastewater to the Clonroadmore plant by rising main. These pumping stations were constructed in the early 1970s.

Francis Street Pumping Station: The pumping station accommodates foul and storm water from the Francis Street sub-catchment (see Attachment A1). A total of 7 pumps are installed in the station. Three pumps (two duty and one standby) deal with foul flows and four pumps (three duty and one standby) deal with storm flows. The foul pumps transfer wastewater to the Clonroadmore WWTP. The storm pumps only operate when the combined foul and storm loads entering the pumping station cannot be fully catered for by the foul pumps. Storm overflow is directed to the Fergus River. A mechanically raked screen protects the pumps at Francis Street pumping station. The grit trap originally installed is no longer functional. There is a high level emergency overflow located immediately upstream of the screen, and this overflows by gravity to the River Fergus. There is also a pumped overflow from the overflow chamber to the River Fergus. Flow monitoring was installed in late 2006 at the pumping station to monitor flows to the Clonroadmore WWTP. The pumping station is subject to daily inspection, recording of pump flows, and, general maintenance.

Records of hours of operation of storm overflow pumps for the period January –August 2007 are included in Attachment B11 to this application. Records of pumping hours for storm water pumps present a reasonable indication of the flow volumes discharged to the river during heavy storm flows. The storm pumping facility is only used to deal with significant storm

flow volumes, or during power outages to prevent flooding of the pumping station.

In the short term (early 2008), the pumping station will be equipped with new control panels and a conditioning screening unit. This screening removes and shreds rags in the system. The shredded rags will be pressed and landfilled, with eluate being returned to the wastewater collection system.

In the long term (together with the provision of the new treatment facility) Francis Street pumping station will be re-equipped and re-designed with the full upgrading of the sewer network. The sewer collection infrastructure will be upgraded to provide for increased sewer pipe sizes and separation of foul and storm flow in a number of areas. This will reduce surcharging on the pumping station and very significantly reduce the frequency of storm overflows at the station. The storm pumps will be of sufficient size to cater for a sufficiently large flood return period event without causing excess surcharging of the upstream system.

Tulla Road Pumping Station: This pumping station is located to the east of the town centre behind the Fergus Lawn Housing Estate. It was constructed in the mid 1970s and serves the northern area of Ennis receiving both combined and foul flows. A new conditioning screening unit is installed at the site. This removes and shreds rags in the system. The shredded rags are be pressed and landfilled, with eluate being returned to the wastewater collection system. The station is subject to daily inspection, record keeping and maintenance.

Stormwater storage is not provided at the pumping station and there are periodic overflows to the river. The storm overflow is located adjacent to the railway bridge, just downstream of Clonroad Bridge. The Fergus Minor joins the river below this point. Access to the river downstream of the discharge is

difficult, and no observation was made of discharges from this location during the preparation of the licence application.

The sewer network, the operation of the treatment plant and the assimilative capacity of the Fergus River were reviewed in 2000 during the *Ennis Main Drainage & Flooding Study*. The design flows for the upgraded sewer network are set out in the Ennis/Clarecastle Main Drainage Preliminary Report.

7. Measures planned to monitor emissions into the environment

Provisions for monitoring emissions from the wastewater treatment plant are in place at the Clonroadmore WWTP. A full time laboratory technician is employed at the treatment plant. Monitoring of influent and effluent waste water streams, and receiving waters is undertaken on a bi-monthly basis for the parameters biochemical oxygen demand (BOD), chemical oxygen demand (COD) and suspended solids (SS). Total nitrogen (TN) and total phosphorus (TP) measurements are undertaken on the influent and effluent streams on a monthly basis. Methods of analysis and sampling procedures are provided in Attachment E 2 of this application.

Sampling is currently undertaken as grab samples, but it is anticipated that composite samplers will be used on all influent and effluent streams in the near future.

DISCLAIMER PAGE

This licence D0048-01 was amended on 2nd December 2021 under Regulation 33 of the European Union (Waste Water Discharge) Regulations 2007 to 2020. The details of **Amendment D** must be read in conjunction with this licence. The amendment document is entitled **"Technical Amendment D"**

Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

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Ireland

This licence was amended on 19 December 2016, 29 June 2017 and 4 August 2020 under Regulation 33 of the Waste Water Discharge (Authorisation) Regulations 2007, as amended. The details of Amendment A, B and C must be read in conjunction with this licence. The amendment documents are entitled "Technical Amendment A", "Technical Amendment B" and "Technical Amendment C".

Environmental Protection Agency
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WASTE WATER DISCHARGE LICENCE

Licence Register Number:	D0048-01
Licensee:	Clare County Council New Road Ennis County Clare
Agglomeration:	Ennis North

INTRODUCTION

This introduction is not part of the licence and does not purport to be a legal interpretation of the licence.

This licence relates to the Ennis North agglomeration. The design capacity of the wastewater treatment plant (WWTP) located at Clonroadmore was 17,000 population equivalent (p.e.). The organic load entering the WWTP at Clonroadmore is estimated at 27,650 p.e. at present. The plant has not been upgraded to facilitate this load, therefore, the plant is operating over its treatment capacity. The long term plan for urban waste water treatment in Ennis is to build a new plant with 50,000 p.e. An interim programme of improvements is in place to ensure the discharge does not cause environmental pollution.

The treatment plant is a two-stream activated sludge plant, without primary sedimentation.

The primary discharge from the WWTP discharges into the lower River Fergus. As the receiving water body would suggest, the discharge location is impacted by tidal influences. The primary discharge from Clonroadmore WWTP takes place approximately 500 metres upstream of Doora Bridge (EPA Hydrometric Station number 27060).

There is one secondary discharge point from the plant and two storm water overflows. The secondary discharge point is an open ended single pipe discharge to the River Fergus, approximately 80 metres upstream of the primary discharge from the Clonroadmore WWTP.

The stormwater overflows are located at the Tulla Road and Francis Street pumping stations. There are eight satellite pump-stations within the Tulla Road pump station catchment and three satellite pump-stations within the Francis Street pump station catchment. There are a total of nine emergency overflows in the system.

The licence requires appropriate remedial action, within specified timeframes, to be undertaken in order to address each of the discharge locations within the agglomeration. This remedial action will ensure that appropriate protection is afforded to the receiving water environment.

The licence sets out in detail the conditions under which Clare County Council will control and manage the waste water discharges from the agglomeration covered by this licence.

The legislation governing this licence relates specifically to, and is restricted to, the regulation and control of waste water discharges from the agglomeration. Therefore any odour or noise issue that may be associated with the waste water works including the treatment plant cannot be addressed by this licence.

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Glossary of Terms

All terms in this licence should be interpreted in accordance with the definitions in the Waste Water Discharge (Authorisation) Regulations, 2007, unless otherwise defined in this section.

AER	Annual Environmental Report.
Agglomeration	An area where the population or economic activities or both are sufficiently concentrated for a waste water works to have been put in place.
Agreement	Agreement in writing.
Annually	At least one measurement in any one year.
Application	The application for this licence.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of the licence application.
Biannually	All or part of a period of six consecutive months.
Biennially	Once every two years.
BOD	5 day Biochemical Oxygen Demand (without nitrification suppression).
CEN	Comité Européen De Normalisation – European Committee for Standardisation.
CBOD	5 day Carbonaceous Biochemical Oxygen Demand (with nitrification suppression).
COD	Chemical Oxygen Demand.
Combined approach	In relation to a waste water works, means the control of discharges and emissions to waters whereby the emission limits for the discharge are established on the basis of the stricter of either or both, the limits and controls required under the Urban Waste Water Regulations, and the limits determined under statute or Directive for the purpose of achieving the environmental objectives established for surface waters, groundwater or protected areas for the water body into which the discharge is made.
Daily	During all days when discharges are taking place; with at least one measurement per day.
Day	Any 24 hour period.
Discharge limits	Those limits, specified for a particular parameter in *Schedule A: Discharges* of this licence.
Discharge Point	The point from which a waste water discharge occurs.
DO	Dissolved oxygen.

Documentation	Any report, record, result, data, drawing, proposal, interpretation or other document, in written or electronic form, that is required by this licence.
Domestic Waste Water	Waste water from residential settlements and services that originates predominantly from human metabolism and from household activities.
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
EMP	Environmental Management Programme.
Environmental damage	As defined in Directive 2004/35/EC.
EPA	Environmental Protection Agency.
Fortnightly	A minimum of 24 times per year, at approximately two week intervals.
GC/MS	Gas chromatography/mass spectroscopy.
ICP	Inductively coupled plasma spectroscopy.
Incident	The following shall constitute an incident for the purposes of this licence: (i) any discharge that does not comply with the requirements of this licence; (ii) any incident with the potential for environmental contamination of surface water or groundwater, or posing an environmental threat to land, or requiring an emergency response by the relevant Water Services Authority.
Industrial waste water	Any waste water that is discharged from premises used for carrying on any trade or industry or other non-domestic use and excludes run-off rain water.
Licensee	Clare County Council, New Road, Ennis, County Clare.
Licensing Regulations	Waste Water Discharge (Authorisation) Regulations 2007 (S.I. No. 684 of 2007).
Local Authority	Clare County Council.
Maintain	Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to perform its function.
Mass flow limit	An emission limit value expressed as the maximum mass of a substance that can be emitted per unit time.
Mass flow threshold	A mass flow rate above which a concentration limit applies.
Monthly	A minimum of 12 times per year, at intervals of approximately one month.

National Environmental Complaints Procedure	As established under the National Environmental Enforcement Network.
Population Equivalent	A measurement of organic biodegradable load and a population equivalent of 1 (1 p.e.) means the organic biodegradable load having a five-day biochemical oxygen demand (BOD_5) of 60g of oxygen per day; the load being calculated on the basis of the maximum average weekly load entering the waste water works during the year, excluding unusual situations such as those due to heavy rain.
Primary Discharge	The discharge with the largest volume being discharged from the waste water works.
PRTR	Pollutant Release and Transfer Register.
Quarterly	All or part of a period of three consecutive months beginning on the first day of January, April, July or October.
Regional Fisheries Board	Shannon Regional Fisheries Board.
Sample(s)	Unless the context of this licence indicates to the contrary, the term samples shall include measurements taken by electronic instruments.
Secondary Discharge	A potential, occasional or continuous discharge from the waste water works other than a primary discharge or a storm water overflow.
SSRS	Small Stream Risk Score.
Specified discharges	Those discharges listed in *Schedule A: Discharges* of this licence.
Standard method	A National, European or internationally recognised procedure (e.g., I.S. EN, ISO, CEN, BS or equivalent); or an in-house documented procedure based on the above references; a procedure as detailed in the current edition of "Standard Methods for the Examination of Water and Wastewater" (prepared and published jointly by A.P.H.A., A.W.W.A. & W.E.F.), American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA; or an alternative method as may be agreed by the Agency.
Storm water overflow	A structure or device on a sewerage system designed and constructed for the purpose of relieving the system of excess flows that arise as a result of rain water or melting snow in the sewered catchment, the excess flow being discharged to receiving waters.
The Agency	Environmental Protection Agency.
Waste Water	Domestic waste water or the mixture of domestic waste water with industrial waste water.
Waste Water	Sewers and their accessories (or any part thereof) and all associated

Works	structural devices, including waste water treatment plants, which are owned by, vested in, controlled or used by a water services authority for the collection, storage, treatment or discharge of waste water.
Water Services Authority	Clare County Council.
Weekly	During all weeks when discharges are taking place; with at least one measurement in any one week.
WSIP	Water Services Investment Programme.
WWTP	Waste water treatment plant.

Decision & Reasons for the Decision

The Environmental Protection Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of this licence, any discharges from the agglomeration served by the waste water works will comply with and will not contravene any of the requirements of Regulation 6 of the Waste Water Discharge (Authorisation) Regulations, 2007.

In reaching this decision the Environmental Protection Agency has had regard to the requirements and objectives of Regulation 6 of the Regulations and has considered the application and supporting documentation received from the applicant and the report of its inspector.

Part I Schedule of Discharges Licensed

In pursuance of the powers conferred on it by the Waste Water Discharge (Authorisation) Regulations, 2007, the Environmental Protection Agency (the Agency), under Regulation 28(1) of the said Regulations grants this Waste Water Discharge Licence to Clare County Council, New Road, Ennis, County Clare. The licence authorises the discharge of waste water from the waste water works servicing the Ennis North agglomeration described below, subject to conditions listed in Part II, with the reasons therefor and the associated schedules attached thereto.

Licensed Discharges, in accordance with the Second Schedule of the Waste Water Discharge (Authorisation) Regulations, 2007

Discharges from agglomerations with a population equivalent of more than 10,000

Part II Conditions

Condition 1. Scope

1.1 Statutory Obligations

1.1.1 This licence is for the purposes of Waste Water Discharge licensing under the Waste Water Discharge (Authorisation) Regulations, 2007, only and nothing in this licence shall be construed as negating the licensee's statutory obligations or requirements under any other enactments or regulations.

1.1.2 This licence shall be technically amended, as and when considered by the Agency, to ensure compliance with such environmental quality standard as may be prescribed for surface water classification of the receiving water body.

1.2 The agglomeration is the area outlined in red on "*Map B1 Showing Agglomeration Catchment served by wastewater treatment plant at Clonroadmore*" of the application. Any reference in this licence to agglomeration shall mean the area thus outlined in red.

1.3 The primary and secondary discharge to waters from the waste water works shall be restricted to those listed and described in *Schedule A: Discharges* of this licence, and shall be as set out in the licence application or as modified under Condition 1.6 of this licence and subject to the conditions of this licence.

1.4 The discharges to waters from the waste water works shall be controlled and managed and shall take place as set out in this licence. All programmes required to be carried out under the terms of this licence become part of this licence.

1.5 For the purposes of this licence, the locations of the waste water discharge(s) authorised by this licence is/are as presented on "*Map B3 Showing primary and secondary discharge point for Ennis agglomeration*" of the application.

1.6 No alteration to the waste water works or any part thereof that would, or is likely to, result in a material change to or increase in discharges sufficient to represent a risk of causing a breach of emission standards specified in the licence shall be carried out or commenced without prior notice to, and without the agreement of, the Agency.

1.7 Treatment Capacities

1.7.1 The licensee shall, on an annual basis, undertake an assessment of the remaining organic and hydraulic treatment capacities within the waste water works (design capacity of plant, less flow-load calculation for representative period).

1.7.2 The licensee shall maintain such available capacity within the waste water works as is necessary to ensure that there is no environmental risk posed to the receiving water environment as a result of the discharges.

1.7.3 Where the licensee determines, as part of those assessments undertaken in Condition 1.7.1 above, that the remaining treatment capacity will be exceeded within the ensuing three year period, the licensee shall notify the Agency and seek a licence review, as appropriate.

Reason: To clarify the scope of this licence.

Condition 2. Interpretation

2.1 Emission limit values for discharges to waters in this licence shall be interpreted in the following way:

2.1.1 Continuous Monitoring

(i) No pH value shall deviate from the specified range.

(ii) No temperature value shall exceed the limit value.

(iii) No other parameter that is continuously monitored shall exceed the limit value.

2.1.2 Composite Sampling

(i) No pH value shall deviate from the specified range.

(ii) For cBOD and COD, no more than the relevant number of samples specified in *Schedule B3: Interpretation of Discharge Monitoring Results* of this licence – Column 2 shall exceed the concentration Emission Limit Value based on the number of samples taken as listed in *Schedule B3: Interpretation of Discharge Monitoring Results* of this licence – Column 1. No individual result similarly calculated shall exceed the emission limit value by more than 100%.

(iii) For Suspended Solids, no more than the relevant number of samples specified in *Schedule B3: Interpretation of Discharge Monitoring Results* of this licence – Column 2 shall exceed the concentration Emission Limit Value based on the number of samples taken as listed in *Schedule B3: Interpretation of Discharge Monitoring Results* of this licence – Column 1. No individual result similarly calculated shall exceed the emission limit value by more than 150%.

(iv) For parameters other than pH, flow, cBOD, COD & Suspended Solids eight out of ten consecutive composite results shall not exceed the emission limit value. No individual result similarly calculated shall exceed the emission limit value by more than 20%.

(v) No mass emission limit values for parameters specified in *Schedule A: Discharge* of this licence shall be exceeded.

2.1.3 Discrete Sampling

For parameters other than pH and temperature, no grab sample value shall exceed the emission limit value by more than 150%.

Reason: To clarify the interpretation of limit values fixed under the licence.

Condition 3. Discharges

3.1 Where discharges from the waste water works are required to comply with Emission Limit Values by a date specified in *Schedule A: Discharges* of this licence, the Water Services Authority shall, prior to this date, take such measures as are necessary to ensure that environmental pollution is not caused as a result of the discharge.

3.2 No specified discharge from the waste water works shall exceed the emission limit values set out in *Schedule A: Discharges* of this licence, subject to the requirements of Condition 2 above.

3.3 The Water Services Authority shall take such measures as are necessary to ensure that no deterioration in the quality of the receiving waters shall occur as a result of the discharge.

3.4 Storm water overflows shall be as specified in *Schedule A.4: Storm Water Overflows* of this licence.

3.5 The licensee shall ensure that all or any of the following:

- Gross solids
- Litter

associated with discharges from the waste water works do not result in an impairment of, or an interference with, amenities or the environment.

Reason:	*To provide for the protection of the receiving environment by way of control and limitation of discharges to the River Fergus Estuary.*

Condition 4. Control and Monitoring

4.1 The licensee shall carry out such sampling, analyses, measurements, examinations, maintenance and calibrations as set out below and in accordance with *Schedule B: Monitoring* of this licence.

4.1.1 Analyses shall be undertaken by competent staff in accordance with documented operating procedures.

4.1.2 Such procedures shall be assessed for their suitability for the test matrix and performance characteristics shall be determined.

4.1.3 Such procedures shall be subject to a programme of Analytical Quality Control verified by a competent third party using control standards with evaluation of test responses.

4.1.4 Where any analysis is sub-contracted it shall be to a competent laboratory.

4.2 The licensee shall ensure that:

(i) Sampling and analysis for all parameters listed in the Schedules to this licence, and

(ii) Any reference measurement methods to calibrate automated measurement system shall be carried out in accordance with CEN standards. If CEN standards are not available, ISO, national or international standards that will ensure the provision of data of an equivalent scientific quality shall apply.

4.3 The licensee shall install on all emission points such sampling points or equipment, including any data-logging or other electronic communication equipment, as may be required by the Agency. All such equipment shall be consistent with the safe operation of all sampling and monitoring systems.

4.4 All automatic monitors and samplers shall be functioning at all times (except during maintenance and calibration) when the discharges are being made unless alternative sampling or monitoring has been agreed in writing by the Agency for a limited period. In the event of the malfunction of any continuous monitor, the licensee shall contact the Agency as soon as practicable and alternative sampling and monitoring facilities shall be put in place. Agreement for the use of alternative equipment, other than in emergency situations, shall be obtained from the Agency.

4.5 Monitoring and analysis equipment shall be operated and maintained as necessary so that monitoring accurately reflects the discharge (or ambient conditions where that is the monitoring objective).

4.6 The licensee shall clearly label and provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency.

4.7 The licensee shall establish and maintain corrective action procedures and shall take corrective action should the specified requirements of this licence not be fulfilled. The responsibility and authority for persons initiating further investigation and corrective action in the event of a reported non-conformity with this licence shall be defined by the licensee.

4.8 The licensee shall establish and maintain a programme for maintenance and operation of all plant and equipment to ensure that no unauthorised waste water discharges take place. This programme shall be based on the instructions issued by the manufacturer/supplier or installer of the equipment. Appropriate record keeping and diagnostic testing shall support this maintenance programme. The licensee shall clearly allocate responsibility for the planning, management and execution of all aspects of this programme to appropriate personnel.

4.9 The location, frequency, methods and scope of monitoring, sampling and analyses, as set out in this licence, may be amended with the agreement of the Agency following evaluation of test results.

4.10 Dangerous Substances

4.10.1 A representative sample of effluent from the primary discharge point and each secondary discharge point shall be screened for the presence of organic compounds and metals within six months of the date of grant of this licence. The list of parameters for analysis shall include, as a minimum, those organic compounds and metals identified as relevant having regard to the Water Policy Regulations 2003 and amendments (S.I. No. 722 of 2003 and amendments) and any other relevant legislation. Such screening shall be repeated at intervals as requested by the Agency thereafter.

4.10.2 The licensee shall, within twelve months of the date of grant of this licence, investigate the sources of dangerous substances detected during the monitoring of the primary and secondary discharges and take such measures as are necessary to comply with the limits set in the Environmental Quality Objectives (Surface Water) Regulations, S.I. 272 of 2009) for the discharge of such substances from the waste water works. A report on the investigation and measures identified, including timeframe for implementation, shall be included in the AER.

4.11 Storm water overflows

4.11.1 The licensee shall, prior to the date for submission of the second AER (required under Condition 6.10), carry out an investigation for the identification and assessment of storm water overflows. A report on the storm water overflows shall be submitted to the Agency as part of the second AER. The assessment shall include a determination of compliance with the criteria for storm water overflows, as set out in the DoEHLG '*Procedures and Criteria in Relation to Storm Water Overflows*', 1995 and any other guidance as may be specified by the Agency.

4.11.2 The licensee shall carry out an assessment of storm water overflows at least once every three years thereafter and report to the Agency on each occasion as part of the AER. The assessment shall include a determination of compliance with the criteria for storm water overflows, as set out in the DoEHLG '*Procedures and Criteria in Relation to Storm Water Overflows*', 1995 and any other guidance as may be specified by the Agency. The licensee shall maintain a written record of all assessments and remedial measures arising from the assessment.

4.12 The licensee shall prepare a PRTR report for the primary and secondary discharges. The substances to be included in the PRTR shall be as agreed by the Agency each year by reference to EC Regulation No. 166/2006 concerning the establishment of the European Pollutant and Transfer Register and amending Council Directives 91/689/EEC and 96/61/EC. The PRTR shall be prepared in accordance with any relevant guidelines issued by the Agency and shall be submitted electronically in specified format and as part of the AER.

4.13 The licensee shall, within six months of the date of grant of this licence, develop and establish a Data Management System for collation, archiving, assessing and graphically presenting the monitoring data generated as a result of this licence.

4.14 The licensee shall carry out monthly monitoring of the influent stream to the waste water treatment plant for cBOD, COD, Suspended Solids, Total Nitrogen and Total Phosphorus in order to measure the mass loadings and removal efficiencies within the treatment plant.

4.15 Habitats

The licensee shall, within twelve months of the date of grant of this licence, undertake an ecological assessment of the predicted impacts of the discharges from the agglomeration. The assessment shall be submitted as part of the AER.

4.16 Prior to submitting ambient monitoring data, the licensee must consult with the Agency with regard to the appropriate format for submittal.

Reason:	*To provide for the protection of the environment by way of control and monitoring of discharges.*

Condition 5. Programmes of Improvements

5.1 The licensee shall, as a part of the second AER (required under Condition 6.10), prepare and submit to the Agency a programme of infrastructural improvements to maximise the effectiveness and efficiency of the waste water works in order to:

a) achieve improvements in the quality of all discharges from the works;

b) meet the emission limit values specified in *Schedule A: Discharges*, of this licence;

c) give effect to Regulation 2 of the Waste Water Discharge (Authorisation) Regulations 2007 (S.I. No. 684 of 2007).

d) reduce P loadings in the discharge to the maximum practicable extent;

e) meet the obligations of Condition 1.

f) reduce N loadings in the discharge to the maximum practical extent.

5.2 The programme of infrastructural improvements referred to in Condition 5.1 shall include an assessment of:

a) the waste water treatment plant, having regard to the effectiveness of the treatment provided by reference to the following:

(i) the existing level of treatment, capacity of treatment plant and associated equipment;

(ii) the emission limit values specified in *Schedule A: Discharges*, of this licence;

(iii) designations of the receiving water body;

(iv) downstream abstractions and uses of water;

(v) water quality objective for the receiving water body;

(vi) the standards and volumetric limitations applied to any industrial waste water that is licensed to discharge to the waste water works.

b) the integrity of the waste water works having regard to:

(i) capacity of the waste water works;

(ii) leaks from the waste water works;

(iii) misconnections between foul sewers and surface water drainage network;

(iv) infiltration by surface water;

(v) infiltration by groundwater;

(vi) such other aspects of the works as may be specified by the Agency.

c) each secondary discharge from the waste water works to evaluate options for the discontinuation of discharges or the provision of treatment to improve discharge quality. The assessment shall include a detailed quantification of the impact of the discharge on:

(i) designations of the receiving water body;

(ii) down stream abstractions and uses of water;

(iii) water quality objective for the receiving water body.

d) all storm water overflows associated with the waste water works to determine the effectiveness of their operation and in particular to identify improvements necessary to comply with the requirements of this licence.

5.3 The programme of infrastructural improvements shall include a plan for implementation for each individual improvement identified. The plan for implementation shall:

a) in the case of the assessment carried out under Conditions 5.2(a) (waste water treatment plant), 5.2(c) (secondary discharges) and 5.2(d) (storm water overflows):

(i) clearly identify and describe the improvement and the timeframe for implementation;

(ii) specify the parametric emission(s) that will be affected by the implementation of the improvement;

(iii) estimate the costs and sources of funding required to implement the improvement including, where appropriate, details of submissions made to the Department of the Environment, Heritage and Local Government and sanctions received;

(iv) identify the anticipated improvements in the quality of the receiving waters as a result of the implementation of the improvement.

b) in the case of the assessment carried out under Condition 5.2(b) (waste water works):

(i) identify, evaluate and describe the infrastructural works necessary to implement those works listed under *Schedule C: Specified Improvement Programme* of this licence;

(ii) clearly identify and describe the improvement and the timeframe for its implementation;

(iii) estimate the costs and sources of funding required to implement the improvement including, where appropriate, details of submissions made to the Department of the Environment, Heritage and Local Government and sanctions received.

5.4 The licensee shall complete the improvements as set out in *Schedule C: Specified Improvement Programme* of this licence by 31st December 2010 in order to ensure compliance with the emission limit values as set out in *Schedule A: Discharges* of this licence.

5.5 The licensee shall put in place a programme of measures for the gathering, recording and retention of information in relation to the infrastructural components of the waste water works. This information shall be in the form of 'As-Constructed' drawings and electronic mapping tools, or in any other format as required by the Agency.

5.6 Discharges from SW2 shall comply with the definition of Storm Water Overflows as defined in '*Procedures and Criteria in Relation to Storm Water Overflows*' published by the Department of the Environment, Heritage and Local Government (1995) by 1st January 2011 at the latest.

Reason:	*To provide for the improvement of the waste water works on a planned basis having regard to the need for ongoing assessment, recording and reporting of matters affecting the receiving water environment.*

Condition 6. Notifications, Records and Reports

6.1 The licensee, shall notify the Agency by both telephone and facsimile, to the Agency's headquarters in Wexford, or to such other Agency office as may be specified by the Agency, as soon as practicable after the occurrence of any incident (as defined in this licence). The licensee shall include as part of the notification, date and time of the incident, summary details of the occurrence, and where available, the steps taken to minimise any discharges.

6.2 In the case of any incident relating to a discharge to water, the licensee shall notify the Shannon Regional Fisheries Board and the relevant downstream water services authority, as soon as practicable after such an incident.

6.3 The licensee shall notify the Agency, as soon as is practicable, where a discharge from the waste water works has ceased permanently.

6.4 The licensee shall make a record of any incident. This record shall include details of the nature, extent, and impact of, and circumstances giving rise to, the incident. The record shall include all corrective actions taken to manage the incident, to minimise the effect on the environment, and to avoid recurrence. The licensee shall, as soon as practicable following incident notification, submit to the Agency the incident record including clean up and recurrence prevention measures.

6.5 The licensee shall record all complaints of an environmental nature related to the discharge(s) to waters from the waste water works in accordance with the national environmental complaints procedure. Each such record shall give details of the date and time of the complaint, the name of the complainant (if provided), and the nature of the complaint. A record shall also be kept of the response made in the case of each complaint.

6.6 The licensee shall record all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence.

6.7 The licensee shall as a minimum keep the following documents at the headquarters of the licensee or such office as may be agreed by the Agency:

(i) the licence application and all associated documentation;

(ii) the licence(s) relating to the discharge(s) to waters from the waste water works;

(iii) the previous year's AER;

(iv) records of all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence;

(v) relevant correspondence with the Agency;

(vi) up to date drawings/plans showing the location of key process and environmental infrastructure, including monitoring locations and discharge points;

(vii) up to date operational procedures for all monitoring and control equipment necessary to give effect to this licence.

This documentation shall be available to the Agency for inspection at all reasonable times.

6.8 The licensee shall establish and maintain a Public Awareness and Communications Programme to ensure that members of the public can obtain, at all reasonable times, environmental information relating to the discharge.

6.9 Unless otherwise agreed by the Agency, all reports and notifications submitted to the Agency shall:

(i) be sent to Administration, Office of Environmental Enforcement (OEE) at the Agency's Headquarters or to such other Agency office agreed by the Agency;

(ii) comprise one original and two copies unless additional copies are required by Agency;

(iii) be formatted in accordance with any written instruction or guidance issued by the Agency;

(iv) include whatever information may be required by the Agency;

(v) be identified by a unique code, indicate any modification or amendment, and be correctly dated to reflect any such modification or amendment;

(vi) be accompanied by a written interpretation setting out their significance in the case of all monitoring data; and

(vii) be transferred electronically to the Agency's computer system if required by the Agency.

6.10 The licensee shall submit to the Agency, by the 28th February of each year, an AER covering the previous calendar year. This report, which shall be to the satisfaction of the Agency, shall include as a minimum the information specified in *Schedule D: Annual Environmental Report* of this licence and shall be prepared in accordance with any relevant guidelines issued by the Agency.

6.11 All reports shall be certified accurate and representative by the Director of Services or a nominated, suitably qualified and experienced deputy.

6.12 The licensee shall, within six months of date of grant of this licence, ensure that a documented Emergency Response Procedure is in place, that addresses any emergency situation that may originate on-site. This procedure shall include provision for minimising the effects of any emergency on the environment. This procedure shall be reviewed annually and updated as necessary.

Reason:	*To provide for the collection and reporting of adequate information on the activity.*

Condition 7. Financial Charges and Provisions

7.1 Agency Charges

7.1.1 The licensee shall pay to the Agency an annual contribution of €7,118, or such sum, as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the discharge as the Agency considers necessary for the performance of its functions under the Waste Water Discharge (Authorisation) Regulations 2007. The first payment shall be a pro-rata amount for the period from the date of this licence to the 31st day of December, and shall be paid to the Agency within one month from the date of the licence. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Waste Water Discharge (Authorisation) Regulations 2007 and all such payments shall be made within one month of the date upon which demanded by the Agency.

7.1.2 In the event that the frequency or extent of monitoring, investigations or other functions carried out by the Agency needs to be increased, the licensee shall contribute such sums as determined by the Agency to defray its costs in regard to items not covered by the said annual contribution.

7.2 Environmental Liabilities

7.2.1 The licensee shall as part of the AER provide an annual statement as to the measures taken or adopted in relation to the prevention of environmental damage, and the financial provisions in place in relation to the underwriting of costs for remedial actions following anticipated events (including closure) or accidents/incidents, as may be associated with discharges or overflows from the waste water works.

7.2.2 The licensee shall arrange for the completion, by an independent and appropriately qualified consultant, of a comprehensive and fully costed Environmental Liabilities Risk Assessment (ELRA) to address the liabilities from present or planned discharges. A report on this assessment shall be submitted to the Agency for agreement within twelve months of the date of grant of this licence. The ELRA shall be reviewed as necessary to reflect any significant change to the volume or character of effluent discharged, and in any case every three years following initial agreement (the results of the review shall be notified as part of the AER).

7.2.3 As part of the measures identified in Condition 7.2.1 the licensee shall, to the satisfaction of the Agency, make financial provision to cover any liabilities identified in Condition 7.2.2. The amount of indemnity held shall be reviewed and revised as necessary, but at least triennially. Proof of renewal or revision of such financial indemnity shall be included in the annual 'Statement of Measures' report identified in Condition 7.2.1.

7.2.4 The licensee shall have regard to the Environmental Protection Agency Guidance on Environmental Liability Risk Assessment, Residuals

Management Plans and Financial Provision when implementing Conditions 7.2.1, 7.2.2 and 7.2.3 above.

Reason:	*To provide for adequate financing for monitoring and financial provisions for measures to protect the environment.*

SCHEDULE A: Discharges

A.1 Primary Waste Water Discharge

Primary Discharge Point Code: SW1

Name of Receiving Waters: River Fergus (SH_27_1122)

Location: E 134855, N 177389

Parameter	Emission Limit Value	
pH	7 - 9	
Temperature	25°C (max)	
	mg/l	
COD	125	
Suspended Solids	35	
Orthophosphate	1	
Total Nitrogen (as N)	15	
Total Phosphorous	2	
	mg/l Note 1	mg/l Note 2
cBOD	20	10
Ammonia (as N)	6	1

Note 1: The emission limit values shall apply until 31st December 2010.
Note 2: The emission limit values shall apply from 1st January 2011.

A.2 Secondary Waste Water Discharges

Discharges from SW2 shall comply with the specifications for a 'Storm Water Overflow' by 1st January 2011 in accordance with Condition 5.6 and *Schedule A.3 Secondary Discharges to be upgraded to Storm Water Overflows*, of this licence.

A.3. Secondary Discharges to be upgraded to Storm Water Overflows.

Discharge Point Code	Location	Name of Receiving Waters	Schedule for Upgrade
SW2	Overflow from storm water tanks located at the WWTP	River Fergus	Discharge shall revert to performance standards as required of a Storm Water Overflow by 1st January 2011 Note 1

Note 1: The licensee shall ensure that discharge from this emission point complies with the definition of a storm water overflow as defined in *'Procedures and Criteria in Relation to Storm Water Overflows'* as published by the Department of the Environment, Heritage and Local Government (1995)'.

A.4 Storm Water Overflows

Discharge Point Code	Location [Note 1]	Name of Receiving Waters
SW3	Storm overflow from Francis Street pumping station	River Fergus
SW4	Storm overflow from Tulla Road pumping station	River Fergus

Note 1: The licensee shall ensure that discharge from this emission point complies with the definition of a storm water overflow as defined in *'Procedures and Criteria in Relation to Storm Water Overflows'* as published by the Department of the Environment, Heritage and Local Government (1995)'.

SCHEDULE B: Monitoring

B.1 Monitoring of Primary Waste Water Discharge

Primary Discharge Point Code: SW1

Parameter	Monitoring Frequency	Analysis Method/Technique
Flow	Continuous Daily [Note 1]	On-line flow meter with recorder
Temperature	Daily	Temperature probe
pH	Daily	pH electrode/meter and recorder
Conductivity	Monthly	Conductivity Meter
Carbonaceous Biochemical Oxygen Demand	Monthly	Standard Method
Chemical Oxygen Demand	Monthly	Standard Method
Suspended Solids	Monthly	Standard Method
Total Nitrogen (as N)	Monthly	Standard Method
Dissolved Inorganic Nitrogen (DIN)	Monthly	Standard Method
Ammonia (as N)	Monthly	Standard Method
Total Phosphorus (as P)	Monthly	Standard Method
Orthophosphate (as P)	Monthly	Standard Method
Metals and Organic Compounds [Note 2]	As required	Standard Method
Visual Inspection	Daily	Sample and examine for colour and odour

Note 1: The licensee shall install a continuous flow meter and recorder within 3 months of the date of grant of this licence.
Note 2: Having identified the most relevant pollutants from screening (Condition 4.10.1), subsequent monitoring for these pollutants shall be carried out at a frequency agreed by the Agency.

B.3 Interpretation of Discharge Monitoring Results

No of samples taken in any one year [Note 1]	Maximum number of samples which may exceed ELV
4-7	1
8-16	2
17-28	3
29-40	4
41-53	5
54-67	6
68-81	7
82-95	8
96-110	9
111-125	10
126-140	11
141-155	12
156-171	13
172-187	14
188-203	15
204-219	16
220-235	17
236-251	18
252-268	19
269-284	20
285-300	21
301-317	22
318-334	23
335-350	24
351-365	25

Note 1: Where the licensee has taken samples which exceed the number specified in this Schedule, the licensee shall submit to the Agency all results of analysis.

B.4 Ambient Monitoring

Receiving Water Monitoring

Location:

aSW2u – E134892, N177632
aSW1d – E134844, N177308
aSW3u – E134355, N177744
aSW3d – E134530, N177892

Parameter	Monitoring Frequency [Note 1]	Analysis Method/Technique
pH	Ten samples/year	pH electrode/meter
DO	Ten samples/year	DO probe
BOD	Ten samples/year	Thermometer
Orthophosphate (as P)	Ten samples/year	Standard Method
Total Nitrogen (as N)	Ten samples/year	Standard Method
Total Phosphorous	Ten samples/year	Standard Method
Ammonia	Ten samples/year	Standard Method
Visual inspection	Weekly	Sample and examine for colour and odour

Note 1: Ambient monitoring to be submitted to the Agency in accordance with Condition 4.16 of this licence.

SCHEDULE C: Specified Improvement Programme

C.1 Improvement Programme for Primary Discharge

Specified Improvement	Completion Date
Clonroadmore WWTP ♦ Rehabilitation of the storm/balance tanks; ♦ Upgrade of the inlet works; ♦ Upgrade of the treatment capacity of the current aerator and clarifier tanks to cater for the existing and the short term increase in wastewater loading; ♦ Upgrade of the sludge handling facilities; ♦ Installation of tertiary treatment systems	31st December 2010
Collection System ♦ Upgrade of satellite pump station overflows; ♦ Separation of known surface water connections from the main combined sewer where feasible; ♦ Rehabilitation of sewers with high levels of infiltration.	31st December 2010
Tulla Road & Francis St Pump Stations ♦ Repair of grit traps; ♦ Replacement of pumps and improving the pump controls; ♦ Diversion of surface water flows away from pump stations; ♦ Upgrade of the combined sewer overflow regime at pump stations	31st December 2010
Any other works notified in writing by the Agency	As agreed

C.2 Improvement Programme for Secondary Discharge(s)

Specified Improvement	Completion Date
Any works notified in writing by the Agency	As agreed

C.3 Improvement Programme for Storm Water Overflows

Specified Improvement	Completion Date
Any works notified in writing by the Agency	As agreed

SCHEDULE D: Annual Environmental Report

Annual Environmental Report Content[Note 1]
Discharges from the agglomeration.
Summary report on monthly influent monitoring.
Report on Dangerous Substances in accordance with Condition 4.10.2.
Data collection and reporting requirements under the Urban Waste Water Treatment Directive.
Complaints summary.
Pollutant Release and Transfer Register - report for previous year.
Pollutant Release and Transfer Register - proposal for current year.
Ambient monitoring summary.
Storm water overflow identification and inspection report.
Reported incidents summary.
Report on progress made and proposals being developed to meet the improvement programme requirements. [Note 2]
Development/Infrastructural works summary (completed in previous year or prepared for current year).
Any other items specified by the Agency.

Note 1: Content may be revised subject to the agreement of the Agency.

Note 2: This summary report shall provide detail on all measures proposed and undertaken under the Water Services Investment Programme for the agglomeration, including progress reports on infrastructural works and a statement of compliance with timeframes set out in this licence.

Sealed by the seal of the Agency on this the 2nd day of September 2009.

PRESENT when the seal of the Agency was affixed hereto:

Ms Laura Burke Director/Authorised Person

JUDGMENT OF THE COURT (Tenth Chamber)

28 March 2019 (*)

Table of contents

(Failure of a Member State to fulfil obligations — Directive 91/271/EEC — Collection and treatment of urban waste water — Exceptional circumstances — Best technical knowledge not entailing excessive costs — Principle that the costs should be proportionate — Burden of proof — Means of proof)

In Case C-427/17,

ACTION under Article 258 TFEU for failure to fulfil obligations, brought on 14 July 2017,

European Commission, represented by K. Mifsud-Bonnici and E. Manhaeve, acting as Agents,

applicant,

v

Ireland, represented by J. Quaney, M. Browne and A. Joyce, acting as Agents, and by S. Kingston, Barrister-at-Law, C. Toland, Senior Counsel, and B. Murray, Senior Counsel,

defendant,

THE COURT (Tenth Chamber),

composed of K. Lenaerts, President of the Court, acting as President of the Tenth Chamber, F. Biltgen and E. Levits (Rapporteur), Judges,

Advocate General: N. Wahl,

Registrar: L. Hewlett, Principal Administrator,

having regard to the written procedure and further to the hearing on 19 September 2018,

having decided, after hearing the Advocate General, to proceed to judgment without an Opinion,

gives the following

Judgment

1 By its application, the European Commission requests the Court to declare that:

– by not ensuring that the waters collected in a combined urban waste water and rainwater system in the agglomerations of Athlone, Ballincollig New, Cavan, Cork City, Enniscorthy, Fermoy, Midleton, Osberstown, Mallow, Ringaskiddy (including within it the agglomeration of Carrigaline), Roscommon Town, Roscrea, Thurles and Gaoth Dobhair are retained and conducted for treatment in compliance with the requirements of Council Directive 91/271/EEC of 21 May

1991 concerning urban waste water treatment (OJ 1991 L 135, p. 40), as amended by Regulation (EC) No 1137/2008 of the European Parliament and of the Council of 22 October 2008 (OJ 2008 L 311, p. 1) ('Directive 91/271'), Ireland has failed to fulfil its obligations under Article 3(1) and (2) of that directive and section A and footnote 1 of Annex I thereto;

– by either not putting in place secondary or equivalent treatment or not providing sufficient evidence to demonstrate compliance in this respect with Directive 91/271 with regard to the agglomerations of Arklow, Athlone, Ballincollig New, Ballybofey/Stranorlar, Cavan, Cobh, Cork City, Enfield, Enniscorthy, Fermoy, Killybegs, Mallow, Midleton, Passage/Monkstown, Osberstown, Rathcormac, Ringaskiddy (including the flows from Carrigaline and Crosshaven), Ringsend, Roscommon Town, Roscrea, Shannon Town, Thurles, Tubbercurry, Youghal and Gaoth Dobhair, Ireland has failed to fulfil its obligations under Article 4(1) and (3) of that directive, read in conjunction with the requirements of Article 10 thereof and section B of Annex I thereto;

– by not ensuring that urban waste water entering collecting systems from the agglomerations of Athlone, Ballincollig New, Cavan, Cork City, Dundalk, Enniscorthy, Fermoy, Killarney, Killybegs, Longford, Mallow, Midleton, Navan, Nenagh, Osberstown, Portarlington, Ringsend, Roscrea, Thurles, Tralee and Waterford City be, before discharge into sensitive areas, made subject to treatment more stringent than that described in Article 4 of Directive 91/271 and in accordance with the requirements of section B of Annex I thereto, Ireland has failed to fulfil its obligations under Article 5(2) and (3) of that directive, read in conjunction with the requirements of Article 10 thereof and section B of Annex I thereto; and

– by not ensuring that the disposal of waste water from urban waste water treatment plants of the agglomerations of Arklow and Castlebridge is subject to prior regulations and/or specific authorisation, Ireland has failed to fulfil its obligations under Article 12 of Directive 91/271.

I. Legal context

2 The third recital of Directive 91/271 states:

'... to prevent the environment from being adversely affected by the disposal of insufficiently-treated urban waste water, there is a general need for secondary treatment of urban waste water'.

3 The eighth recital of Directive 91/271 states:

'... it is necessary to monitor treatment plants, receiving waters and the disposal of sludge to ensure that the environment is protected from the adverse effects of the discharge of waste waters'.

4 Article 2 of Directive 91/271 states:

'For the purposes of this Directive:

...

5. "collecting system" means a system of conduits which collects and conducts urban waste water;

6. "1 p.e. (population equivalent)" means the organic biodegradable load having a five-day biochemical oxygen demand (BOD5) of 60 g of oxygen per day;

...

11. "eutrophication" means the enrichment of water by nutrients, especially compounds of nitrogen and/or phosphorus, causing an accelerated growth of algae and higher forms of plant life to produce an undesirable disturbance to the balance of organisms present in the water and to the quality of the water concerned;

...'

5 Article 3 of Directive 91/271 provides:

'1. Member States shall ensure that all agglomerations are provided with collecting systems for urban waste water:

– at the latest by 31 December 2000 for those with a population equivalent (p.e.) of more than 15 000, and

– at the latest by 31 December 2005 for those with a p.e. of between 2 000 and 15 000.

For urban waste water discharging into receiving waters which are considered "sensitive areas" as defined under Article 5, Member States shall ensure that collection systems are provided at the latest by 31 December 1998 for agglomerations of more than 10 000 p.e.

Where the establishment of a collecting system is not justified either because it would produce no environmental benefit or because it would involve excessive cost, individual systems or other appropriate systems which achieve the same level of environmental protection shall be used.

2. Collecting systems described in paragraph 1 shall satisfy the requirements of section A of Annex I. ...'

Article 4 of Directive 91/271 provides:

'1. Member States shall ensure that urban waste water entering collecting systems shall before discharge be subject to secondary treatment or an equivalent treatment as follows:

– at the latest by 31 December 2000 for all discharges from agglomerations of more than 15 000 p.e.,

– at the latest by 31 December 2005 for all discharges from agglomerations of between 10 000 and 15 000 p.e.,

– at the latest by 31 December 2005 for discharges to fresh-water and estuaries from agglomerations of between 2 000 and 10 000 p.e.

...

3. Discharges from urban waste water treatment plants described in paragraphs 1 and 2 shall satisfy the relevant requirements of section B of Annex I. ...

4. The load expressed in p.e. shall be calculated on the basis of the maximum average weekly load entering the treatment plant during the year, excluding unusual situations such as those due to heavy rain.'

7 Article 5 of Directive 91/271 provides:

'1. For the purposes of paragraph 2, Member States shall by 31 December 1993 identify sensitive areas according to the criteria laid down in Annex II.

2. Member States shall ensure that urban waste water entering collecting systems shall before discharge into sensitive areas be subject to more stringent treatment than that described in Article 4, by 31 December 1998 at the latest for all discharges from agglomerations of more than 10 000 p.e.

3. Discharges from urban waste water treatment plants described in paragraph 2 shall satisfy the relevant requirements of section B of Annex I. ...

...

5. Discharges from urban waste water treatment plants which are situated in the relevant catchment areas of sensitive areas and which contribute to the pollution of these areas shall be subject to

paragraphs 2, 3 and 4.

...

6. Member States shall ensure that the identification of sensitive areas is reviewed at intervals of no more than four years.

7. Member States shall ensure that areas identified as sensitive following review under paragraph 6 shall within seven years meet the above requirements.

...'

8 Article 10 of Directive 91/271 states:

'Member States shall ensure that the urban waste water treatment plants built to comply with the requirements of Articles 4, 5, 6 and 7 are designed, constructed, operated and maintained to ensure sufficient performance under all normal local climatic conditions. When designing the plants, seasonal variations of the load shall be taken into account.'

9 Article 12 of Directive 91/271 states:

'1. Treated waste water shall be reused whenever appropriate. Disposal routes shall minimise the adverse effects on the environment.

2. Competent authorities or appropriate bodies shall ensure that the disposal of waste water from urban waste water treatment plants is subject to prior regulations and/or specific authorisation.

3. Prior regulations and/or specific authorisation of discharges from urban waste water treatment plants made pursuant to paragraph 2 within agglomerations of 2 000 to 10 000 p.e. in the case of discharges to fresh waters and estuaries, and within agglomerations of 10 000 p.e. or more in respect of all discharges, shall contain conditions to satisfy the relevant requirements of section B of Annex I. The Commission may amend those requirements. Those measures, designed to amend non-essential elements of this Directive, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 18(3).

4. Regulations and/or authorisation shall be reviewed and if necessary adapted at regular intervals.'

10 Annex I to Directive 91/271, entitled 'Requirements for urban waste water', provides in section A, headed 'Collecting systems':

'Collecting systems shall take into account waste water treatment requirements.

The design, construction and maintenance of collecting systems shall be undertaken in accordance with the best technical knowledge not entailing excessive costs, notably regarding:

– volume and characteristics of urban waste water,

– prevention of leaks,

– limitation of pollution of receiving waters due to storm water overflows.'

11 Section B — headed 'Discharge from urban waste water treatment plants to receiving waters' — of Annex I to Directive 91/271 states:

'1. Waste water treatment plants shall be designed or modified so that representative samples of the incoming waste water and of treated effluent can be obtained before discharge to receiving waters.

2. Discharges from urban waste water treatment plants subject to treatment in accordance with Articles 4 and 5 shall meet the requirements shown in Table 1.

3. Discharges from urban waste water treatment plants to those sensitive areas which are subject to eutrophication as identified in Annex II.A(a) shall in addition meet the requirements shown in Table 2 of this Annex.

...'

12 Footnote 1 of Annex I, which relates to sections A and B of the annex, is worded as follows:

'Given that it is not possible in practice to construct collecting systems and treatment plants in a way such that all waste water can be treated during situations such as unusually heavy rainfall, Member States shall decide on measures to limit pollution from storm water overflows. Such measures could be based on dilution rates or capacity in relation to dry weather flow, or could specify a certain acceptable number of overflows per year.'

13 Table 1 of Annex I to Directive 91/271 contains the requirements for discharges from urban waste water treatment plants subject to Articles 4 and 5 of the directive. It is as follows:

Parameters	Concentration	Minimum percentage of reduction [in relation to the load of the influent]	Reference method of measurement
Biochemical oxygen demand (BOD5 at 20 °C) without nitrification ...	25 mg/l O^2	70-90 40 under Article 4(2)	...
Chemical oxygen demand (COD)	125 mg/l O^2	75	...
Total suspended solids	35 mg/l ... 35 under Article 4(2) (more than 10 000 p.e.) 60 under Article 4(2) (2 000 to 10 000 p.e.)	90 ... 90 under Article 4(2) (more than 10 000 p.e.) 70 under Article 4(2) (2 000 to 10 000 p.e.)	...

14 Table 2 of Annex I to Directive 91/271 contains the requirements for discharges from urban waste water treatment plants to sensitive areas which are subject to eutrophication. It is as follows:

Parameters	Concentration	Minimum percentage of reduction …	Reference method of measurement
Total phosphorus	2 mg/l (10 000 - 100 000 p.e.) 1 mg/l (more than 100 000 p.e.)	80	…
Total nitrogen …	15 mg/l (10 000 - 100 000 p.e.) … 10 mg/l (more than 100 000 p.e.) …	70-80	…

15 Section A of Annex II to Directive 91/271 specifies the criteria for identification of sensitive areas.

II. Pre-litigation procedure and proceedings before the Court

16 By a letter of formal notice of 27 September 2013, the Commission raised with Ireland its concerns relating to compliance with Directive 91/271, taking the view that Ireland:

- had failed to ensure that waters collected in 40 agglomerations were retained and conducted for treatment in compliance with the requirements of Article 3 of Directive 91/271 and section A of Annex I thereto;
- had not put in place secondary or equivalent treatment for urban waste water discharges from 52 agglomerations, as provided for in Article 4 of Directive 91/271 and sections B and D of Annex I thereto;
- had failed to apply Article 5 of Directive 91/271 correctly in respect of 28 agglomerations; and
- had failed to apply Article 12 of Directive 91/271 in respect of 32 agglomerations.

17 By letters of 11 December 2013, 14 February 2014 and 8 April 2014, Ireland acknowledged the shortcomings regarding the system for collecting and treating urban waste water and stated that the numerous upgrading works would, in the coming years, enable that system to comply fully with Directive 91/271.

18 In the light of that information and following a meeting between the Irish authorities and Commission staff on 9 April 2014, the Commission sent Ireland an additional letter of formal notice dated 25 September 2015, replacing the previous one in full.

19 In the additional letter of formal notice, the Commission limited the first and fourth complaints to 12 and 27 agglomerations respectively, while extending the second and third complaints to 53 and 36 agglomerations respectively.

20 In its replies of 25 January and 29 July 2016, Ireland set out the advances in the programme for upgrading its system for collecting and treating urban waste water, whilst acknowledging that works were necessary in order to comply fully with Directive 91/271.

21 On the basis of the data submitted by Ireland in its replies, the Commission sent it a reasoned opinion dated 30 September 2016, calling upon it to take the measures necessary to comply with the reasoned opinion within two months of receipt thereof.

22 In the reasoned opinion, the Commission extended the first complaint to a total of 14 agglomerations, while the second, third and fourth complaints were limited to 28, 22 and 2 agglomerations respectively.

23 In its reply dated 28 November 2016, Ireland submitted new data disclosed by the Environmental Protection Agency (Ireland) on 8 November 2016. Referring to those data, Ireland stated, first, that some of the Commission's criticisms accordingly no longer had a basis. Second, Ireland specified the dates from which the works that were in progress would enable full compliance of the system for collecting and treating urban waste water with Directive 91/271 to be achieved.

24 Since the Commission was not fully satisfied with Ireland's responses to the reasoned opinion, it brought the present action.

III. Request seeking the production of evidence after the close of the written part of the procedure

25 After the close of the written procedure on 5 February 2018, Ireland requested leave, by a letter dated 17 September 2018, to produce new documents pursuant to Article 128(2) of the Rules of Procedure of the Court of Justice.

26 By decision of 18 September 2018, the President of the Chamber admitted those new documents as evidence in the examination of the present action for failure to fulfil obligations, while permitting the Commission to comment on them at the hearing.

IV. The action

A. Preliminary observations

27 The Commission's action is founded on four complaints, alleging, respectively: incorrect application of Article 3(1) and (2) of Directive 91/271 and section A and footnote 1 of Annex I thereto, in respect of 14 agglomerations; incorrect application of Article 4(1) and (3) of that directive, read in conjunction with Article 10 thereof and paragraph 2 of section B of Annex I thereto, in respect of 25 agglomerations; incorrect application of Article 5 of that directive, read in conjunction with Article 10 thereof and paragraph 3 of section B of Annex I thereto, in respect of 21 agglomerations; and incorrect application of Article 12 of that directive in respect of two agglomerations.

28 Ireland denies the alleged failure to fulfil obligations in two respects. First, it puts forward for the majority of the complaints, taken individually, arguments designed to call into question the fact that the Commission has placed before the Court all the information required to enable the Court to establish that there has been a failure to fulfil obligations as alleged. Second, relying on section A and footnote 1 of Annex I to Directive 91/271, Ireland submits, in respect of the whole of the present action, that the complaints put forward by the Commission must be analysed in the light of the exceptional

circumstances with which Ireland has been faced over the last two decades and having regard to the concept of 'best technical knowledge not entailing excessive costs'.

29 That being so, it is appropriate to note at the outset the requirements that must be met in order to rely upon the concept of 'best technical knowledge not entailing excessive costs', as well as the specific framework in which Directive 91/271 lays down the obligations owed by the Member States, before drawing the ensuing conclusions as to the burden of proof.

1. The concepts of 'unusually heavy rainfall' and 'best technical knowledge not entailing excessive costs'

30 Directive 91/271 refers, in section A of Annex I, to the concept of 'best technical knowledge not entailing excessive costs', which specifies, in essence, that the design, construction and maintenance of collecting systems for urban waste water are to be undertaken in accordance with such knowledge not entailing excessive costs. In addition, by footnote 1 of that annex, the EU legislature acknowledged that situations exist in which the urban waste water will not be capable of being collected or treated in its entirety. In particular, it stated that 'it is not possible in practice to construct collecting systems and treatment plants in a way such that all waste water can be treated' and it provided that failure to collect and treat waste water may be tolerated during 'situations such as unusually heavy rainfall'. However, in that case, Member States are to decide on 'measures to limit pollution from storm water overflows' (judgment of 18 October 2012, *Commission* v *United Kingdom*, C-301/10, EU:C:2012:633, paragraph 56).

31 First, as regards the term 'unusually heavy rainfall', that term is mentioned in footnote 1 of Annex I to Directive 91/271 by way of illustration only, since it is preceded by the words 'during situations such as'. Thus, failure to collect or treat waste water may also be allowed in other circumstances (judgment of 18 October 2012, *Commission* v *United Kingdom*, C-301/10, EU:C:2012:633, paragraph 57).

32 However, the objective pursued by Directive 91/271 does not permit the inference that it is normal and common for those other circumstances to arise, in particular as the word 'unusually' clearly indicates that failure to collect or treat waste water cannot occur in normal circumstances (judgment of 18 October 2012, *Commission* v *United Kingdom*, C-301/10, EU:C:2012:633, paragraph 58).

33 Furthermore, it should be pointed out that, where a Member State is faced with an exceptional situation not allowing it to collect or treat waste water, it remains obliged to adopt appropriate measures to limit pollution under footnote 1 of Annex I to Directive 91/271 (judgment of 18 October 2012, *Commission* v *United Kingdom*, C-301/10, EU:C:2012:633, paragraph 60).

34 Also, since the concept of 'unusually heavy rainfall' is not defined by Directive 91/271, it is legitimate for the Commission, in carrying out its supervision of compliance with EU law, to adopt guidelines and, as the Court does not have jurisdiction to define numerically obligations laid down by that directive, the concept of 'unusually heavy rainfall' must therefore be assessed in the light of all the criteria and conditions prescribed by the directive, in particular the concept of 'best technical knowledge not entailing excessive costs' (judgment of 18 October 2012, *Commission* v *United Kingdom*, C-301/10, EU:C:2012:633, paragraph 61).

35 Second, the concept of 'best technical knowledge not entailing excessive costs' must be examined in each specific case in the light of the objective of protecting the environment pursued by Directive 91/271, as it constitutes a concept inherent in all the provisions of that directive designed to secure such an objective whilst avoiding the imposition upon the Member States of unachievable obligations which they might not be able to fulfil, or only at disproportionate cost (see, to that effect, judgment of 18 October 2012, *Commission* v *United Kingdom*, C-301/10, EU:C:2012:633, paragraphs 62 to 64).

36 Thus, examination of that concept requires weighing the best technology and the costs envisaged against the benefits that a more effective water collection or treatment system may provide, so that the

costs incurred are not disproportionate to the benefits obtained (judgment of 18 October 2012, *Commission* v *United Kingdom*, C-301/10, EU:C:2012:633, paragraph 67).

37 Specifically, the Court has held that facilities cannot be regarded as complying with the concept of 'best technical knowledge not entailing excessive costs', within the meaning of section A of Annex I to Directive 91/271, where, first, a Member State has embarked upon a large programme of works proving that there are technological solutions in order to overcome the problem of excessive spills of waste water, but that they have not been applied, and second, such a Member State has decided to finance such works, so that the related costs cannot be regarded as excessive (see, to that effect, judgment of 4 May 2017, *Commission* v *United Kingdom*, C-502/15, not published, EU:C:2017:334, paragraph 44).

2. The burden of proof

38 It is settled case-law that, although, in proceedings brought under Article 258 TFEU for failure to fulfil obligations, it is for the Commission to prove the allegation that an obligation has not been fulfilled, by placing before the Court all the information required to enable the Court to establish that the obligation has not been fulfilled, without the Commission being entitled to rely on any presumption, account should be taken of the fact that, where it is a question of checking that the national provisions intended to ensure effective implementation of a directive are applied correctly in practice, the Commission, which does not have investigative powers of its own in this area, is largely reliant on the information provided by any complainants and by the Member State concerned (judgment of 28 January 2016, *Commission* v *Portugal*, C-398/14, EU:C:2016:61, paragraph 47).

39 It follows, inter alia, that, where the Commission has adduced sufficient evidence to establish that the national provisions transposing a directive are not applied correctly in practice in the territory of the defendant Member State, it is incumbent on the latter to challenge in substance and in detail the information produced and the inferences drawn (judgment of 28 January 2016, *Commission* v *Portugal*, C-398/14, EU:C:2016:61, paragraph 48).

40 In the more specific context of Directive 91/271, it is consequently incumbent on the Member State which seeks to rely on the concept of 'best technical knowledge not entailing excessive costs', with a view to justifying any divergence from the provisions of that directive, to submit to the Court the information enabling it to assess to what extent, in a specific case, the costs that a more effective water collection or treatment system involve would be disproportionate to the benefits obtained.

It should be noted that the EU legislature, conscious of the scope of the infrastructure works required for the application of Directive 91/271 and the costs of its full implementation, granted the Member States a period of several years to carry out their obligations (judgment of 4 May 2017, *Commission* v *United Kingdom*, C-502/15, not published, EU:C:2017:334, paragraph 48).

42 Furthermore, the question whether a Member State has failed to fulfil obligations must be determined by reference to the situation prevailing in the Member State at the end of the period laid down in the reasoned opinion and the Court cannot take account of any subsequent changes (judgment of 28 November 2018, *Commission* v *Slovenia*, C-506/17, not published, EU:C:2018:959, paragraph 50 and the case-law cited).

43 Since Ireland puts forward arguments in respect of each complaint in order to prove the compliance of the systems for collecting and treating urban waste water, and also relies, for the whole of the present action for failure to fulfil obligations, on exceptional circumstances and the concept of 'best technical knowledge not entailing excessive costs' to justify any divergence from the provisions of Directive 91/271, it is appropriate to examine the merits of each complaint put forward by the Commission, before assessing the matters advanced by Ireland to justify the cases in which the Court concludes that there are divergences from the directive's provisions, whilst, under the Court's case-law, even if the Member State concerned does not deny a failure to fulfil obligations, it is incumbent upon the Court, in

any event, to determine whether or not that alleged breach of obligations exists (see, to that effect, judgment of 14 September 2017, *Commission* v *Greece*, C-320/15, EU:C:2017:678, paragraph 21).

B. The first complaint

44 By its first complaint, the Commission contends that Ireland has failed to fulfil its obligations under Article 3(1) and (2) of Directive 91/271, read in conjunction with section A and footnote 1 of Annex I thereto, on the ground, first, that the combined systems for collecting urban waste water of 12 agglomerations do not satisfy the requirements of those provisions inasmuch as there are repeated and excessive spills from them and, second, such a system is entirely lacking in two agglomerations.

45 Ireland challenges in individual instances the data put forward by the Commission in support of its complaint and contests globally the infringement of Article 3 of Directive 91/271 by relying on exceptional circumstances and the concept of 'best technical knowledge not entailing excessive costs'.

46 Since exceptional circumstances and that concept are relied on in order to justify the situations in which a collecting system for urban waste water does not fulfil the requirements of Article 3 of Directive 91/271, it is appropriate first of all to determine whether the evidence submitted by the Commission is capable of proving the complaint as regards each of the agglomerations that the complaint covers.

1. The first part of the first complaint

47 The Commission submits that the collecting systems for urban waste water and rainwater of the agglomerations of Athlone, Ballincollig New, Cavan, Cork City, Enniscorthy, Fermoy, Mallow, Midleton, Osberstown, Roscommon Town, Roscrea and Thurles give rise to spills of untreated waters the frequency and quantity of which do not comply with Article 3(1) of Directive 91/271 and footnote 1 of Annex I thereto.

48 Prompted by information provided by Ireland in its defence, the Commission withdrew the first part of the first complaint so far as concerns the agglomeration of Ballincollig New and the townland of Killagoley in the agglomeration of Enniscorthy.

49 Following a question from the Court at the hearing, Ireland conceded, however, that, in the case of the agglomerations of Athlone, Cork City, Fermoy and Mallow, the data put forward by the Commission showed that the collecting systems for urban waste water did not comply with the requirements of Article 3 of Directive 91/271, while maintaining that the situations of non-compliance thereby admitted had to be assessed in the light of the concept of 'best technical knowledge not entailing excessive costs'.

50 In any event, as has been recalled in paragraph 43 above, it is incumbent upon the Court to determine whether or not the alleged failure to fulfil obligations exists, even in so far as Ireland does not deny the failure.

(a) The agglomeration of Athlone

51 In respect of the agglomeration of Athlone, it is apparent from the data forwarded to the Commission by Ireland in its reply of 11 December 2013 to the initial letter of formal notice of 27 September 2013 that more than 300 spills were recorded for 2011, equivalent to a volume of 144 294 m^3 of urban waste water discharged without prior treatment.

52 In the light of those data, it must be concluded that the collecting system for urban waste water of the agglomeration of Athlone does not comply with Article 3 of Directive 91/271.

(b) The agglomeration of Cavan

(1) Arguments of the parties

53 First, the Commission refers to the document of February 2012 entitled 'Cavan Sewerage Scheme and Treatment Works', annexed to Ireland's reply of 11 December 2013 to the initial letter of formal notice of 27 September 2013, which mentions one storm water overflow that did not comply with the national requirements for discharges from storm water overflows.

54 Second, the Commission refers to the report of the Environmental Protection Agency for 2016 entitled 'Urban Waste Water Treatment in 2016' ('the 2016 EPA Report') which itself refers to the information contained in the annual environmental report for the agglomeration of Cavan indicating the presence of 20 storm water overflows for the period that it covers, of which the status of 14 is unknown, the status of five is compliant with the national requirements transposing Directive 91/271 and the status of one is not compliant with those requirements.

55 Ireland submits, first, that the Commission cannot discharge the burden of proving the failure to fulfil obligations by relying on the fact that the 2016 EPA Report categorises the collecting system for urban waste water of the agglomeration of Cavan as not compliant with the national requirements transposing Directive 91/271, since the fact that that agglomeration is mentioned in the report results solely from the fact that it was included by the Commission in the procedure leading to the present action for failure to fulfil obligations. In any event, it is incumbent upon the Commission to rely on its own evidence and not on data from the Member State in question.

56 Second, Ireland puts forward the improvements in the aforesaid collecting system which have been reflected in a reduction in the number of storm water overflows present in that agglomeration.

(2) Findings of the Court

57 First of all, it is to be recalled that, although, in proceedings brought under Article 258 TFEU for failure to fulfil obligations, it is for the Commission to prove the allegation that an obligation has not been fulfilled, by placing before the Court all the information required to enable the Court to establish that the obligation has not been fulfilled, without the Commission being entitled to rely on any presumption, account should be taken of the fact that, where it is a question of checking that the national provisions intended to ensure effective implementation of a directive are applied correctly in practice, the Commission, which does not have investigative powers of its own in this area, is largely reliant on the information provided by any complainants and by the Member State concerned (judgment of 28 January 2016, *Commission* v *Portugal*, C-398/14, EU:C:2016:61, paragraph 47).

58 Therefore, the Commission cannot be criticised, as a matter of principle, for making use of the information that is made available to it in order to carry out its task, including information from the Member State concerned itself, where it enables the alleged failure to fulfil obligations to be proved.

59 However, as is apparent from the 2016 EPA Report, upon which, inter alia, the Commission bases the first part of the first complaint, the inclusion of the data relating to the agglomeration of Cavan was due to the fact that that agglomeration was covered by the present procedure for failure to fulfil obligations, irrespective of any assessment of whether its collecting system for urban waste water complies with Article 3 of Directive 91/271.

60 Accordingly, the Commission cannot conclude from the mere mention of the agglomeration of Cavan in the 2016 EPA Report that the collecting system for urban waste water of that agglomeration does not comply with that provision.

61 In the present instance, the Commission states that it is apparent from the document entitled 'Cavan Sewerage Scheme and Treatment Works' of February 2012 that one storm water overflow does not comply with the relevant national requirements. In its reply, the Commission identifies that overflow as being on Thomas Ashe Street and submits that the 2016 EPA Report, which refers to the information contained in the annual environmental report for that agglomeration, supports the conclusion that there is an overflow in the agglomeration that does not comply with those requirements.

62 However, Ireland observes in its rejoinder that that overflow was removed in 2015 and that the 225 mm sewer at that location has been replaced by a new 300 mm gravity sewer following works that

were completed in July 2016.

63 In the absence of additional data, it must be held that the Commission has not provided information allowing a determination that the complaint has been made out so far as concerns the agglomeration of Cavan.

(c) The agglomeration of Cork City

64 In respect of the agglomeration of Cork City, it is apparent from the data forwarded to the Commission by Ireland in its reply of 28 November 2016 to the reasoned opinion that 853 spills were counted for 2015, equivalent to a volume of 5 948 782 m^3 of urban waste water discharged without prior treatment.

65 In the light of those data, it must be concluded that the collecting system for urban waste water of the agglomeration of Cork City does not comply with Article 3 of Directive 91/271.

(d) The agglomeration of Enniscorthy

66 After taking note that, in the townland of Killagoley in the agglomeration of Enniscorthy, urban waste water is collected in compliance with Directive 91/271, the Commission indicates in its reply that the 2016 EPA Report refers to information contained in the annual environmental report for that agglomeration, which states that 1% of the total volume of waste water generated was discharged via storm water overflows.

67 In that regard, it is apparent from that report that, out of the six active storm water overflows for the agglomeration, one is considered not to comply with the national requirements transposing Directive 91/271. It was, moreover, activated 30 times in 2016.

68 Therefore, it must be held that the Commission has proved that the collecting system for urban waste water of the agglomeration of Enniscorthy, apart from the townland of Killagoley, does not meet, in part, the requirements of Article 3 of Directive 91/271.

(e) The agglomeration of Fermoy

69 In respect of the agglomeration of Fermoy, it is apparent from the data forwarded to the Commission by Ireland in its reply of 25 January 2016 to the additional letter of formal notice that 108 spills were counted for 2014, equivalent to a volume of 71 500 m^3 of urban waste water discharged without prior treatment, while 57 spills were recorded for 2015, equivalent to a volume of 35 337 m^3 of untreated urban waste water.

70 In the light of those data, it must be concluded that the collecting system for urban waste water of the agglomeration of Fermoy does not comply with Article 3 of Directive 91/271.

(f) The agglomeration of Mallow

71 In respect of the agglomeration of Mallow, it is apparent from the data forwarded to the Commission by Ireland in its reply of 25 January 2016 to the additional letter of formal notice that, for 2014, out of the eight active storm water overflows, the estimated number of spills for a single one of those overflows was 121, corresponding to a volume of 480 000 m^3 of untreated urban waste water.

72 In the light of those data, it must be concluded that the collecting system for urban waste water of the agglomeration of Mallow does not comply with Article 3 of Directive 91/271.

(g) The agglomeration of Midleton

(1) Arguments of the parties

73 As regards the agglomeration of Midleton, the Commission bases the first part of its first complaint on various reports and on a complaint sent to it in order to demonstrate that the collecting system for urban waste water of that agglomeration does not comply with Article 3 of Directive 91/271.

74 First, it relies on the data resulting fi the study by White Young Green on spillages in the agglomeration of Midleton in 2011 and 2012.

75 Second, the Commission refers to the report by WYG Engineering of November 2008 and the report by Mott MacDonald of August 2011, entitled 'Midleton Sewerage Scheme — Assessment of Pump Overflow', in order to prove that the treatment plant of the agglomeration of Midleton suffers from under-capacity in relation to the load to be treated and that the pumped flows and storage capacity must be increased considerably. Such a finding is, moreover, said to be confirmed by data communicated to the Commission following a complaint that was sent to it.

76 Third, the Commission sets out the data of the 2016 EPA Report for that agglomeration.

77 Ireland contends, as its principal submission, that that evidence is inadmissible, on the ground that it was not sent to it before the Commission brought the present action.

78 Ireland pleads that, in any event, the data upon which the Commission relies no longer reflect the current situation. Thus, only eight spills were recorded for 2015. Furthermore, the 'biochemical oxygen demand' ('BOD') and 'chemical oxygen demand' ('COD') standards prescribed in Article 4 of Directive 91/271, read in conjunction with Table 1 of Annex I thereto, were met for 2013 to 2016.

(2) Findings of the Court

79 As regards the admissibility of the evidence adduced by the Commission, it must be stated, first of all, that in its reply of 11 December 2013 to the initial letter of formal notice of 27 September 2013, Ireland itself referred to the study by White Young Green on spillages in 2011 and 2012.

80 Next, it is apparent from the case file that the WYG Engineering report of November 2008 was commissioned by Cork County Council.

81 As regards, finally, the Mott MacDonald report of August 2011 and the complaint sent to the Commission, those documents, like those cited in the preceding paragraphs, were mentioned in the additional letter of formal notice of 25 September 2015, before being annexed to the Commission's application.

82 Therefore, Ireland was able to obtain those documents directly or, at the very least, acting diligently, to ask the Commission to produce them at the appropriate time.

83 In any event, in order to guarantee the rights of defence of the Member State concerned, the subject matter of an action under Article 258 TFEU for failure to fulfil obligations is determined by the Commission's reasoned opinion, so that the action must be based on the same grounds and pleas as that opinion (judgment of 8 July 2010, *Commission* v *Portugal*, C-171/08, EU:C:2010:412, paragraph 25).

84 Here, Ireland does not dispute that the grounds and pleas of the Commission's reasoned opinion and application in the present proceedings are identical.

85 Consequently, the evidence upon which the Commission bases the first part of its first complaint as regards the agglomeration of Midleton must be declared admissible.

86 The Commission moreover relied on the 2016 EPA Report, which refers to the information contained in the annual environmental report for the agglomeration, from which it is apparent that four storm water overflows were active in 2016 and that there were 158 spills from them, equivalent to a volume of 561 679 m^3 of untreated urban waste water.

87 In that regard, first, Ireland cannot plead that these data from 2016 are old since it raises against them data from 2015 in order to challenge the matters put forward by the Commission.

88 Second, as Article 3 of Directive 91/271 lays down an obligation to collect all urban waste water, the fact that the prescribed water treatment standards in Article 4 of Directive 91/271, read in conjunction

with Table 1 of Annex I thereto, were met for 2013 to 2016 has no bearing on whether the collecting system for urban waste water complies with Article 3 of the directive.

89 In the light of those factors, it must be concluded that the collecting system for urban waste water of the agglomeration of Midleton does not comply with Article 3 of Directive 91/271.

(h) The agglomeration of Osberstown

90 As regards the agglomeration of Osberstown, the Commission notes the presence of 22 storm water overflows and points out that upgrade works are in progress.

91 Whilst the existence of storm water overflows and of ongoing upgrade works is an indication that the collecting system for urban waste water is liable, in certain circumstances, to give rise to spillages and discharges of untreated urban waste water, the fact remains that, in the absence of specific and precise data concerning the compliance of those overflows and their activity, the existence of the overflows and works amounts, at most, to only a presumption of non-compliance.

92 Furthermore, and as has been noted in paragraph 60 above, the mere fact that the agglomeration of Osberstown has been mentioned in the 2016 EPA Report cannot in itself suffice to conclude that the collecting system for urban waste water of that agglomeration does not comply with Article 3 of Directive 91/271. Moreover, as the Commission has observed in its reply, there does not seem to be a reference to the data relating to that agglomeration in the 2016 EPA Report.

93 In the absence of additional data, it must be held that the Commission has not provided information allowing a determination that the complaint has been made out so far as concerns the agglomeration of Osberstown.

(i) The agglomeration of Roscommon Town

94 It is apparent from Ireland's reply to the additional letter of formal notice that there are 10 storm water overflows in the agglomeration of Roscommon Town. Also, the 2016 EPA Report refers to the information contained in the annual environmental report for that agglomeration recording six storm water overflows, none of which complies with the national requirements transposing Directive 91/271.

95 In the light of those data, it must be concluded that the collecting system for urban waste water of the agglomeration of Roscommon Town does not comply with Article 3 of Directive 91/271.

(j) The agglomeration of Roscrea

96 As regards the agglomeration of Roscrea, the Commission notes the presence of four storm water overflows and points out that upgrade works are in progress. In that regard, the Commission refers to the 2016 EPA Report, which itself refers to the information contained in the annual environmental report for that agglomeration, but does not contain any particulars as to the compliance and activity of those overflows.

97 Whilst the existence of storm water overflows and of ongoing upgrade works is an indication that the collecting system is liable, in certain circumstances, to give rise to spillages and discharges of untreated urban waste water, the fact remains that, in the absence of specific and precise data concerning the compliance of those overflows and their activity, the existence of the overflows and works amounts, at most, to only a presumption of non-compliance.

98 Furthermore, and as has been noted in paragraph 60 above, the mere fact that the agglomeration of Roscrea has been mentioned in the 2016 EPA Report, which refers to the information contained in the annual environmental report for that agglomeration, cannot in itself suffice to conclude that the collecting system for urban waste water of that agglomeration does not comply with Article 3 of Directive 91/271.

99 In the absence of additional data, it must be held that the Commission has not provided information allowing a determination that the complaint has been made out so far as concerns the agglomeration of

Roscrea.

(k) The agglomeration of Thurles

100 The Commission notes the presence of four storm water overflows in the agglomeration of Thurles and points out that upgrade works are in progress. In that regard, the Commission refers to the 2016 EPA Report, which itself refers to the information contained in the annual environmental report for that agglomeration, but does not contain any particulars as to the compliance and activity of those overflows.

101 Whilst the existence of storm water overflows and of ongoing upgrade works is an indication that the collecting system is liable, in certain circumstances, to give rise to spillages and discharges of untreated urban waste water, the fact remains that, in the absence of specific and precise data concerning the compliance of those overflows and their activity, the existence of the overflows and works amounts, at most, to only a presumption of non-compliance.

102 Furthermore, and as has been noted in paragraph 60 above, the mere fact that the agglomeration of Thurles has been mentioned in the 2016 EPA Report, which refers to the information contained in the annual environmental report for that agglomeration, cannot in itself suffice to conclude that the collecting system for urban waste water of that agglomeration does not comply with Article 3 of Directive 91/271.

103 In the absence of additional data, it must be held that the Commission has not provided information allowing a determination that the complaint has been made out so far as concerns the agglomeration of Thurles.

2. The second part of the first complaint

(a) Arguments of the parties

104 The Commission submits that Ireland has not put in place appropriate collecting systems for urban waste water in the agglomerations of Ringaskiddy and Gaoth Dobhair.

105 However, prompted by information provided by Ireland in its defence, the Commission withdrew the second part of the first complaint so far as concerns the agglomeration of Gaoth Dobhair.

106 As regards the agglomeration of Ringaskiddy, the Commission states that the urban waste water, corresponding to a load of 116 982 p.e., is not collected.

107 Ireland states that 85% of the total load generated by that agglomeration comes from industrial activities that have their own treatment plants. Accordingly, only the loads of the towns of Carrigaline and Crosshaven should be taken into consideration for the purpose of assessing compliance with Article 3 of Directive 91/271.

108 After taking note in the reply that a load of 17 500 p.e. had to be adopted for the agglomeration of Ringaskiddy, the Commission, relying on the data submitted by Ireland in its reply of 25 January 2016 to the additional letter of formal notice, reiterates that no collecting system exists for that agglomeration.

(b) Findings of the Court

109 Since it is not disputed that no collecting system for urban waste water exists in respect of the load of 17 500 p.e. in the agglomeration of Ringaskiddy, it must be concluded that the collecting system for urban waste water of that agglomeration does not comply with Article 3 of Directive 91/271.

110 It follows from all those considerations that the collecting systems for urban waste water of the agglomerations of Athlone, Cork City, Enniscorthy apart from the townland of Killagoley, Fermoy, Mallow, Midleton, Ringaskiddy and Roscommon Town do not comply with Article 3 of Directive 91/271.

111 Since Ireland submits, however, that the compliance of the collecting systems for urban waste water in those agglomerations must be assessed in the light of section A and footnote 1 of Annex I to Directive 91/271 and application of the concept of 'best technical knowledge not entailing excessive costs' would therefore justify any partial divergence from Article 3 of that directive, the matters put forward by Ireland in that regard should be examined in the light of the principles noted in paragraphs 30 to 37 above.

3. Application of exceptional circumstances and of the concept of 'best technical knowledge not entailing excessive costs'

(a) Arguments of the parties

112 In general terms, Ireland notes the exceptional circumstances that it has faced in the past few decades in the sector of urban waste water management and treatment, stressing the initial effort necessary to render the network for collecting and treating Irish urban waste water compliant, the major reform undertaken in that sector and the effects of an economic crisis on the carrying out of that reform.

113 In particular, Ireland submits that the complaints put forward by the Commission must be analysed having regard to the investment made and works carried out by Ireland from 2000 to 2013, in the context of the fundamental reform of the system for treating urban waste water, a reform which was, however, profoundly affected by the economic crisis that Ireland suffered in 2008. Over that period, it was nevertheless possible to invest EUR 3.5 billion in order to upgrade the infrastructure for collecting and treating urban waste water.

114 In that context, Ireland states that there will be substantial investment in the short term in order to complete that upgrading. The investment amounts to EUR 2.7 billion for the period from 2014 to 2021 and will enable the system for collecting and treating urban waste water to be rendered fully compliant with Directive 91/271.

115 On a more individual level, Ireland notes, regarding certain agglomerations, the technical, legal or administrative difficulties which have been able to delay the carrying out of the necessary works.

116 Furthermore, Ireland maintains that, in view of the infrequency and limited size of the spills recorded in certain agglomerations, the individual instances of malfunction of the relevant collecting systems for urban waste water must be regarded as resulting from unusually heavy rainfall within the meaning of footnote 1 of Annex I to Directive 91/271.

117 The Commission notes that application of the concept of 'best technical knowledge not entailing excessive costs' is merely the expression of the principle of proportionality in connection with investment relating to infrastructure for collecting and treating waste water. In that context, Ireland fails to adduce any evidence proving that the costs necessary in order to render the systems for collecting and treating waste water compliant with Directive 91/271 are disproportionate to the environmental protection benefits.

(b) Findings of the Court

118 As has been recalled in paragraph 34 above, the concept of 'unusually heavy rainfall' must be assessed in the light of all the criteria and conditions prescribed by Directive 91/271, in particular the concept of 'best technical knowledge not entailing excessive costs'.

119 Application of the latter concept must be examined in each specific case and requires weighing the best technology and the costs envisaged against the benefits that a more effective system for collecting or treating urban waste water may provide, so that the costs incurred are not disproportionate to the benefits obtained.

120 In that regard, the Court has held that facilities cannot be regarded as complying with the concept of 'best technical knowledge not entailing excessive costs', within the meaning of section A of Annex I to Directive 91/271, where, first, a Member State has embarked upon a large programme of works proving that there are technological solutions in order to overcome the problem of excessive spills of

waste water, but that they have not been applied, and second, such a Member State has decided to finance such works, so that the related costs cannot be regarded as excessive (see, to that effect, judgment of 4 May 2017, *Commission* v *United Kingdom*, C-502/15, not published, EU:C:2017:334, paragraph 44).

121 Since Ireland states that it has embarked upon a programme of major reform of the system for collecting and treating urban waste water, it is proven, first, that there are technological solutions in order to overcome the problem of excessive spills before urban waste water is treated. Second, the costs of the works necessary for that purpose cannot be regarded as excessive, inasmuch as Ireland has decided to carry them out.

122 In this connection, it should be borne in mind that, in accordance with settled case-law, a Member State may not plead practical or administrative difficulties in order to justify non-compliance with the obligations and time limits laid down by a directive. The same holds true for financial difficulties, which it is for the Member States to overcome by adopting appropriate measures (see, to that effect, judgment of 18 October 2012, *Commission* v *United Kingdom*, C-301/10, EU:C:2012:633, paragraph 66 and the case-law cited).

123 Thus, mere general mention of the financial difficulties connected with the economic crisis cannot justify the fact that the collecting systems for urban waste water of the various agglomerations covered by the first complaint do not comply with Article 3 of Directive 91/271.

124 That having been said, as the Commission itself acknowledged at the hearing the existence of such an economic crisis could, for each specific case, be taken into account in the context of the balancing exercise referred to in paragraphs 36 and 119 above.

125 However, it must be stated that Ireland adduces nothing capable of proving that the costs to be incurred, in order to ensure that the collecting systems for urban waste water of the various agglomerations covered by the first complaint are compliant, are disproportionate to the resulting advantages.

126 Furthermore, mention of the works that remain to be carried out so far as concerns the collecting systems of each of the agglomerations covered by the first complaint attests the feasibility of putting in place the facilities necessary to render the systems compliant with Directive 91/271.

127 In that regard, it is to be borne in mind that the EU legislature, conscious of the scope of the infrastructure works that resulted from the transposition of Directive 91/271 and the costs of its full implementation, granted the Member States a period of several years to carry out their obligations (judgment of 4 May 2017, *Commission* v *United Kingdom*, C-502/15, not published, EU:C:2017:334, paragraph 48).

128 As regards, in particular, the agglomeration of Midleton, Ireland states that the frequency of spills is very low, so that they cannot be classified as usual events.

129 However, as the Commission submitted in its reply, the 2016 EPA Report refers to the information contained in the annual environmental report for that agglomeration, from which it is apparent that four storm water overflows were active in 2016 and that there were 158 spills from them, equivalent to a volume of 561 679 m³ of untreated urban waste water.

130 In the absence of further details as to the spills recorded in respect of the agglomeration of Midleton, Ireland cannot assert that those spills result from unusual meteorological events the taking account of which would entail costs disproportionate to the benefits obtained.

131 It follows from all those considerations that the collecting of urban waste water in the agglomerations of Athlone, Cork City, Enniscorthy apart from the townland of Killagoley, Fermoy, Mallow, Midleton, Ringaskiddy and Roscommon Town does not comply with Article 3(1) and (2) of Directive 91/271 and section A of Annex I thereto.

C. *The second complaint*

132 By its second complaint, the Commission contends that Ireland has failed to fulfil its obligations under Article 4(1) and (3) of Directive 91/271, read in conjunction with Article 10 thereof and section B of Annex I thereto, because, first, there is no treatment plant in six agglomerations, second, the treatment plants existing in seven agglomerations are unable to ensure compliance with the BOD and COD standards as prescribed in section B and Table 1 of Annex I to Directive 91/271 and, third, Article 3 of that directive is not complied with so far as concerns 12 agglomerations.

133 Ireland contests globally the infringement of Article 4 of Directive 91/271 by relying on application of the concept of 'best technical knowledge not entailing excessive costs' and challenges individually the data put forward by the Commission in support of this complaint as regards certain agglomerations.

134 Since exceptional circumstances and the concept of 'best technical knowledge not entailing excessive costs' are relied on in order to justify the situations in which a system for treating urban waste water does not fulfil the requirements of Article 4 of Directive 91/271, it is appropriate at the outset to determine whether the evidence submitted by the Commission is capable of justifying in law the second complaint as regards each of the agglomerations covered by it.

1. *The first part of the second complaint*

(a) *Arguments of the parties*

135 The Commission submits that the requirements of Article 4(1) and (3) of Directive 91/271 are not complied with on account of the absence of waste water treatment facilities for the agglomerations of Arklow, Cobh, Killybegs, Passage/Monkstown, Ringaskiddy and Youghal.

136 Ireland pleads, first, difficulties in planning and achieving the required facilities. It states, second, that the works enabling waste water to be treated in compliance with the requirements of Article 4(1) and (3) of Directive 91/271 are in the course of being completed or, at least, are planned.

(b) *Findings of the Court*

137 Article 4(1) of Directive 91/271 provides that all urban waste water entering collecting systems must before discharge be subject to secondary treatment or an equivalent treatment.

138 Under Article 4(3) of Directive 91/271, that secondary or equivalent treatment must be carried out by treatment plants the discharges of which satisfy the requirements of section B of Annex I to the directive.

139 As is apparent from Ireland's reply of 25 January 2016 to the additional letter of formal notice and its reply of 28 November 2016 to the reasoned opinion, urban waste water of the agglomerations of Arklow, Cobh, Killybegs, Passage/Monkstown, Ringaskiddy and Youghal is not treated before discharge, on account of the absence of facilities necessary for that purpose.

140 As the question whether a Member State has failed to fulfil obligations must be determined by reference to the situation prevailing in the Member State at the end of the period laid down in the reasoned opinion, the Court cannot take account, in that regard, of any subsequent changes (judgment of 28 January 2016, *Commission* v *Portugal*, C-398/14, EU:C:2016:61, paragraph 49).

141 Here, the reasoned opinion, dated 30 September 2016, set Ireland a period of two months from receipt thereof for complying with its obligations under Article 4 of Directive 91/271. The period granted for compliance thus expired on 30 November 2016.

142 As regards the agglomerations referred to in the first part of the second complaint, Ireland indicates in its defence that, on the date on which that pleading was lodged, works concerning the treatment plants were in progress or scheduled in order to meet the obligations under Article 4 of Directive 91/271. Accordingly, it is established that, at the end of the period laid down by the reasoned opinion, those

agglomerations did not comply with the obligations stemming from Article 4, since they did not have operational waste water treatment facilities.

143 Therefore, the second complaint must be considered well founded so far as concerns the agglomerations of Arklow, Cobh, Killybegs, Passage/Monkstown, Ringaskiddy and Youghal.

2. The second part of the second complaint

(a) Arguments of the parties

144 Relying on Ireland's reply of 25 January 2016 to the additional letter of formal notice, the Commission states that the capacity of the facilities of the agglomerations of Ballybofey/Stranorlar, Enfield, Enniscorthy, Ringsend, Shannon Town and Tubbercurry does not enable secondary or equivalent treatment of the loads of waste water to be ensured before discharge.

145 In addition, as regards the agglomeration of Rathcormac, the Commission states that the BOD/COD standards are not complied with.

146 As regards the agglomerations of Ballybofey/Stranorlar, Enniscorthy, Ringsend, Shannon Town and Tubbercurry, Ireland acknowledges the need to increase the capacity of the waste water treatment facilities. It states that works are in the course of being finalised in order to remedy those deficiencies.

147 As regards the agglomeration of Enfield, Ireland states that an assessment of the treatment plant's capacity is underway but that a capacity upgrade is not thought to be required as the BOD/COD standards are complied with.

148 As regards the agglomeration of Rathcormac, Ireland states that the non-compliance of the waste water treatment facility resulted from operational issues that were to be resolved at the end of 2017.

(b) Findings of the Court

149 In support of the second part of the second complaint, the Commission relies on the data dated 31 December 2014 which were disclosed to it by Ireland in Ireland's reply of 25 January 2016 to the additional letter of formal notice and in its reply of 28 November 2016 to the reasoned opinion.

150 First of all, it is apparent from those documents that:

- the load generated by the agglomeration of Ballybofey/Stranorlar is 5 532 p.e., the treatment capacity of the facilities is 4 000 p.e., and the BOD/COD standards were complied with so far as concerns 2013 to 2015;

- the load generated by the agglomeration of Enniscorthy as regards the secondary discharge was 2 107 p.e., the treatment capacity of the facilities was 1 000 p.e., and the BOD/COD standards were not complied with so far as concerns those years;

- the load generated by the agglomeration of Ringsend is 2 124 000 p.e., the treatment capacity of the facilities is 1 640 000 p.e., and the BOD/COD standards were not complied with so far as concerns those years;

- the load generated by the agglomeration of Shannon Town is 26 740 p.e., the treatment capacity of the facilities is 12 500 p.e., and the BOD/COD standards were not complied with so far as concerns those years; and

- the load generated by the agglomeration of Tubbercurry is 2 283 p.e., the treatment capacity of the facilities is 1 400 p.e., and the BOD/COD standards were not complied with so far as concerns those years.

151 Next, so far as concerns the agglomeration of Enfield, Ireland's reply to the reasoned opinion refers to a generated load of 5 873 p.e. for 2015, whereas the treatment capacity of the facilities is 3 500 p.e. It

is, however, also apparent from that reply that the BOD/COD standards had been complied with since 2013.

152 As Article 4(1) of Directive 91/271 contains an unconditional obligation requiring secondary or equivalent treatment of all urban waste water before discharge, it must be found that, in the light of the under-capacity of the facilities of the agglomerations of Ballybofey/Stranorlar and Enfield, the requirements of that provision are not complied with so far as concerns those agglomerations.

153 Even though the BOD/COD standards were complied with so far as concerns waters treated in the facilities of those agglomerations in respect of 2013 to 2015, the fact remains that a proportion of the urban waste water was not treated at all.

154 The Court has already held that, since discharges of waters that have not been treated at all do not satisfy the requirements of section B of Annex I to Directive 91/271, the treatment of urban waste water by facilities suffering from under-capacity cannot be regarded as complying with Article 4(3) of that directive (see, to that effect, judgment of 11 September 2008, *Commission* v *Ireland*, C-316/06, not published, EU:C:2008:487, paragraphs 12 and 22).

155 Regarding, finally, the agglomeration of Rathcormac, as is apparent from the data contained in Ireland's reply of 25 January 2016 to the additional letter of formal notice and in its reply of 28 November 2016 to the reasoned opinion, the load generated is 2 602 p.e, while the capacity of that agglomeration's facilities is 4 000 p.e. However, the BOD/COD standards prescribed in section B and Table 1 of Annex I to Directive 91/271 were not complied with in respect of 2014 to 2016.

156 Ireland states in its defence that the exceeding of those standards is the result of operational issues but does not provide further explanation.

157 That being so, it must be held that the waste water of the agglomeration of Rathcormac is not subject to appropriate treatment before discharge. The complaint alleging non-compliance with Article 4(3) of Directive 91/271, read in conjunction with section B and Table 1 of Annex I thereto, is accordingly well founded so far as concerns that agglomeration.

158 Therefore, treatment of the waters of the agglomerations of Ballybofey/Stranorlar, Enfield, Enniscorthy, Ringsend, Shannon Town and Tubbercurry does not comply with Article 4(1) and (3) of Directive 91/271, read in conjunction with Article 10 thereof and section B and Table 1 of Annex I thereto. Treatment of the waters of the agglomeration of Rathcormac does not comply with Article 4(3) of Directive 91/271, read in conjunction with Article 10 thereof and section B and Table 1 of Annex I thereto.

3. The third part of the second complaint

(a) Arguments of the parties

159 The Commission submits that Ireland has infringed Article 4(1) and (3) of Directive 91/271, read in conjunction with Article 10 thereof and section B of Annex I thereto, so far as concerns the agglomerations of Athlone, Ballincollig New, Cavan, Cork City, Fermoy, Mallow, Midleton, Osberstown, Roscommon Town, Roscrea, Thurles and Gaoth Dobhair.

160 Prompted by information provided by Ireland in its defence, the Commission withdrew the third part of the second complaint so far as concerns the agglomeration of Gaoth Dobhair.

161 The Commission justifies the infringement of Article 4(1) and (3) of Directive 91/271 on the basis of the infringement of Article 3 of that directive.

162 In addition to exceptional circumstances and application of the concept of 'best technical knowledge not entailing excessive costs', Ireland submits that appropriate treatment of waste water is ensured so far as concerns the agglomerations of Athlone, Ballincollig New, Cavan, Fermoy, Mallow, Midleton, Osberstown, Roscommon Town and Thurles and relies, in that regard, on the data contained in its reply

of 25 January 2016 to the additional letter of formal notice and in its reply of 28 November 2016 to the reasoned opinion.

(b) Findings of the Court

163 As the Commission bases the third part of the second complaint exclusively on the fact that the collecting systems for urban waste water in certain agglomerations do not comply with Article 3 of Directive 91/271, it should be noted, first, that, as is apparent from paragraphs 63, 93, 99 and 103 above, the Commission has not established that Ireland has failed to fulfil its obligations under Article 3 of Directive 91/271 so far as concerns the collecting systems for urban waste water of the agglomerations of Cavan, Osberstown, Roscrea and Thurles. In addition, the Commission withdrew the first part of the first complaint so far as concerns the agglomeration of Ballincollig New.

164 Therefore, on the basis of the Commission's line of argument, the third part of the second complaint can only concern the agglomerations of Athlone, Cork City, Fermoy, Mallow, Midleton and Roscommon Town.

165 First, under Article 4(1) of Directive 91/271, all urban waste water entering collecting systems must before discharge be subject to secondary treatment or an equivalent treatment.

166 Consequently, in so far as agglomerations are not equipped with a system enabling all their urban waste water to be collected in accordance with Article 3 of Directive 91/271, the obligation laid down in Article 4 of the directive to subject all discharges to secondary or equivalent treatment is a fortiori not fulfilled (judgment of 19 July 2012, *Commission* v *Italy*, C-565/10, not published, EU:C:2012:476, paragraph 34).

167 Second, pursuant to Article 4(3) of Directive 91/271, discharges from urban waste water treatment plants are to satisfy the requirements of section B of Annex I to the directive.

168 The third recital of Directive 91/271 explains that there is a general need for secondary treatment of urban waste water in order to prevent the environment from being adversely affected by its disposal.

169 Ireland states that, despite the lack of treatment plants and, consequently, of treatment of urban waste water in certain agglomerations, the BOD/COD standards are complied with.

170 It must be stated that, where the establishment of a collecting system for urban waste water has been considered to be justified in a given agglomeration, Article 4(1) of Directive 91/271 lays down an obligation of result so far as concerns treatment of the urban waste water by a treatment plant.

171 In addition, paragraph 1 of section B of Annex I to Directive 91/271 specifies that waste water treatment plants are to be designed or modified so that representative samples of the incoming waste water and of treated effluent can be obtained before discharge to receiving waters.

172 Therefore, the provisions of Directive 91/271 lay down treatment obligations designed to achieve systematic and lasting compliance with the standards that they establish so far as concerns waste water discharges. To that end, only the collection of all the waste water enables such compliance to be ensured. If there is no system enabling all urban waste water to be collected, any compliance with the BOD/COD standards that is recorded cannot be systematic in nature, since it may vary depending on factors connected with various circumstances, such as dilution of the waste water or the conduct of those emitting it.

173 In any event, paragraph 1 of section B of Annex I to Directive 91/271 lays down the obligation to take representative samples of waste water before it is discharged from treatment plants. In the absence of a reliable collecting system, the directive does not offer any other solution enabling compliance with the BOD/COD standards to be proved.

174 Consequently, it must be found that the treatment of urban waste water in the agglomerations of Athlone, Cork City, Fermoy, Mallow, Midleton and Roscommon Town does not comply with

Article 4(1) and (3) of Directive 91/271, read in conjunction with Article 10 thereof and section B of Annex I thereto.

4. Application of exceptional circumstances and of the concept of 'best technical knowledge not entailing excessive costs'

175 In addition to the general context, as noted in paragraphs 112 to 114 above, in which the programme for upgrading urban waste water management was initiated, Ireland pleads, in individual instances, legal problems that have led to the treatment of urban waste water not complying with Article 4 of Directive 91/271.

176 Ireland states, furthermore, that the completion in the near future of the works concerning the urban waste water management systems of certain agglomerations covered by the second complaint should within the short term enable the facilities concerned to be rendered compliant with Directive 91/271.

177 In the light of the considerations noted in paragraphs 118 to 121 above and the fact that Ireland has produced nothing capable of demonstrating that the costs of rendering compliant the facilities for treating urban waste water in the agglomerations covered by the second complaint are disproportionate, it must be concluded that the treatment of urban waste water in the agglomerations of Arklow, Athlone, Ballybofey/Stranorlar, Cobh, Cork City, Enfield, Enniscorthy, Fermoy, Killybegs, Mallow, Midleton, Passage/Monkstown, Rathcormac, Ringaskiddy, Ringsend, Roscommon Town, Shannon Town, Tubbercurry and Youghal does not comply with Article 4(1) and/or (3) of Directive 91/271, read in conjunction with Article 10 thereof and section B of Annex I thereto.

D. The third complaint

178 By its third complaint, the Commission submits that the more stringent treatment of urban waste water entering sensitive areas and the corresponding catchment areas, under Article 5(2) and (3) of Directive 91/271, is not carried out in the agglomerations of Athlone, Ballincollig New, Cavan, Cork City, Dundalk, Enniscorthy, Fermoy, Killarney, Killybegs, Longford, Mallow, Midleton, Navan, Nenagh, Osberstown, Portarlington, Ringsend, Roscrea, Thurles, Tralee and Waterford City. Prompted by information provided by Ireland in its defence, the Commission withdrew this complaint as regards the agglomeration of Waterford City.

179 First, the Commission pleads the non-compliance of the collecting systems for waste water of the agglomerations covered by the first complaint in the present action for failure to fulfil obligations in order to substantiate non-compliance of the treatment systems with Article 5 of Directive 91/271.

30 Second, the Commission relies in respect of the other agglomerations covered by the third complaint on the data that were submitted to it by Ireland in its replies to the additional letter of formal notice and the reasoned opinion.

1. The agglomerations whose collecting systems for urban waste water do not comply with Article 3 of Directive 91/271

181 Under Article 5(1) of Directive 91/271, Member States must identify sensitive areas on the basis of the criteria laid down in Annex II to the directive.

182 Article 5(2) and (3) of Directive 91/271 lays down an obligation to treat urban waste water before discharge into sensitive areas, in such a way that the standards prescribed in section B of Annex I to the directive are complied with. That urban waste water must be subjected to more stringent treatment than the treatment provided for in Article 4 of the directive.

183 Such an obligation also applies as regards discharges from treatment plants situated in the relevant catchment areas of sensitive areas, pursuant to Article 5(5) of Directive 91/271.

184 By analogy with what has been stated in paragraph 166 above, if the collecting system for urban waste water of an agglomeration does not comply with Article 3 of Directive 91/271, the view must a fortiori

be taken that the treatment of the urban waste water of that agglomeration that is discharged into a sensitive area cannot be ensured.

185 It is common ground that urban waste water of the agglomerations of Athlone, Cork City, Enniscorthy apart from the townland of Killagoley, Fermoy, Mallow and Midleton is discharged into areas that have been identified as sensitive in accordance with the criteria defined in Annex II to Directive 91/271 and that those agglomerations have a p.e. of more than 10 000.

186 Also, it is clear from paragraph 131 above that the collecting systems for urban waste water of those agglomerations do not comply with Article 3 of Directive 91/271.

187 Therefore, the treatment of urban waste water in those agglomerations cannot comply with Article 5 of Directive 91/271, read in conjunction with section B of Annex I thereto.

188 On the other hand, as is apparent from paragraphs 63, 93, 99 and 103 above, the Commission has not proved to the required legal standard that that the collecting systems for urban waste water of the agglomerations of Cavan, Osberstown, Roscrea and Thurles do not comply with Article 3 of Directive 91/271. It is also apparent from paragraph 48 above that the Commission withdrew the first part of the first complaint so far as concerns the agglomeration of Ballincollig New.

189 In the case of the agglomerations of Osberstown and Thurles, the Commission has not provided other material in support of the third complaint, which must be rejected in their regard. However, in the case of the treatment of urban waste water of the agglomerations of Ballincollig New, Cavan and Roscrea, the material provided by the Commission in support of this complaint will be examined in paragraphs 193 to 221 below.

2. The agglomerations of Dundalk, Killybegs, Portarlington, Ringsend and Tralee

190 The Commission relies on Ireland's replies to the additional letter of formal notice and reasoned opinion indicating that treatment of the waste water of the agglomerations of Dundalk, Killybegs, Portarlington, Ringsend and Tralee, which do not have any treatment plant or whose treatment is insufficient, would be compliant upon completion of the works in progress.

191 Ireland does not dispute that information, but states that the works in progress should enable compliance with the requirements of Article 5 of Directive 91/271 to be ensured:

- in respect of the agglomeration of Dundalk, in the third quarter of 2017;
- in respect of the agglomeration of Killybegs, on 1 January 2018;
- in respect of the agglomeration of Portarlington, in the second quarter of 2017;
- in respect of the agglomeration of Ringsend, in the second quarter of 2022; and
- in respect of the agglomeration of Tralee, in the fourth quarter of 2017.

192 Since it is undisputed that the question whether a Member State has failed to fulfil obligations must be determined by reference to the situation prevailing in the Member State at the end of the period laid down in the reasoned opinion and that, according to the information disclosed by Ireland, the works in progress will come to an end after 30 November 2016, the third complaint is well founded so far as concerns the agglomerations of Dundalk, Killybegs, Portarlington, Ringsend and Tralee.

3. The agglomerations of Ballincollig New, Cavan, Killarney, Longford, Navan, Nenagh and Roscrea

(a) Arguments of the parties

193 The Commission, relying on the data as resulting from Ireland's replies to the additional letter of formal notice and reasoned opinion, submits that urban waste water discharged into sensitive areas is not treated in accordance with the requirements of Article 5 of Directive 91/271, read in conjunction

with Article 10 thereof and section B and Table 2 of Annex I thereto, so far as concerns the agglomerations of Ballincollig New, Cavan, Killarney, Longford, Navan, Nenagh and Roscrea. More specifically, the Commission submits that, even assuming that the treatment complies with those provisions in the case of phosphorus as regards the agglomerations of Cavan, Killarney, Longford, Navan, Nenagh and Roscrea, nitrogen reduction is not carried out although nitrogen is declared as a limiting nutrient for the sensitive areas into which the treatment plants of those agglomerations discharge waste water. In addition, the Commission observes in respect of the agglomeration of Ballincollig New that, following further assessments carried out by the Environmental Protection Agency, Ireland stated that nutrient removal is not required.

194 Ireland submits that the data put forward by the Commission have been updated, as is shown by the letter of 8 November 2016 from the Environmental Protection Agency to the Irish Minister for Housing, Planning, Community and Local Government, which it annexed to the reply to the reasoned opinion. Ireland states that it is clear from that document that it was concluded in respect of the agglomerations of Cavan, Killarney, Longford, Navan, Nenagh and Roscrea that a reduction of nitrogen as a limiting nutrient was no longer necessary so far as concerns discharges from those agglomerations' treatment plants into the sensitive areas concerned. As regards the agglomeration of Ballincollig New, Ireland states that that document concludes that the area into which the waters treated by that agglomeration's system is discharged is not sensitive.

195 The Commission observes that the documents submitted at the time of the Environmental Protection Agency's letter of 8 November 2016 amount to preliminary matters that call for additional decisions in order to alter the designation of the sensitive area concerned and the discharge licences and permits that relate thereto. It refers in that regard to the judgment of 4 May 2017, *Commission* v *United Kingdom* (C-502/15, not published, EU:C:2017:334).

196 Ireland submits that the conclusions which the findings of the Environmental Protection Agency reach are definitive and directly applicable, as the amendments to the register of sensitive areas and to the discharge licences amount only to technical implementing arrangements. It refers for this purpose to the judgment of 6 October 2009, *Commission* v *Sweden* (C-438/07, EU:C:2009:613).

197 In case it should be of use, Ireland annexed to its defence the decisions amending the licences for the treatment plants of certain agglomerations, including that of Killarney, which were adopted between 29 June and 7 July 2017.

(b) Findings of the Court

(1) The relevant data for examining the third complaint so far as concerns the agglomerations of Ballincollig New, Cavan, Killarney, Longford, Navan, Nenagh and Roscrea

198 It is not disputed that the agglomerations of Ballincollig New, Cavan, Killarney, Longford, Navan, Nenagh and Roscrea have a p.e. of more than 10 000.

199 Also, it is common ground that the urban waste water of those agglomerations is discharged into areas that have been identified as sensitive pursuant to the criteria defined in Annex II to Directive 91/271.

200 Whilst initially the sensitive waters into which discharges are made from the treatment plants of the agglomerations of Cavan, Killarney, Longford, Navan, Nenagh and Roscrea were identified as such on account of their sensitivity both to nitrogen and to phosphorus, Ireland informed the Commission in its reply to the reasoned opinion that, in the light of new data, treatment for nitrogen reduction was no longer necessary.

201 As regards the area of discharge of waters treated by the system of the agglomeration of Ballincollig New, Ireland states that, under the conclusions of the letter of 8 November 2016, no evidence of eutrophication had been found and that all biological and nutrient conditions were below threshold levels between 2010 and 2015. That said, Ireland does not dispute the fact that that area is still designated as sensitive.

202 At the outset, it should be recalled that the question whether a Member State has failed to fulfil obligations must be determined by reference to the situation prevailing in the Member State at the end of the period laid down in the reasoned opinion and the Court cannot take account of any subsequent changes (judgment of 28 November 2018, *Commission* v *Slovenia*, C-506/17, not published, EU:C:2018:959, paragraph 50 and the case-law cited).

203 The data to which the parties refer come, first, from Ireland's reply to the additional letter of formal notice and, second, from its reply to the reasoned opinion. The letter of 8 November 2016 from the Environmental Protection Agency to the Irish Minister for Housing, Planning, Community and Local Government was annexed to Ireland's reply to the reasoned opinion. That letter in return refers to the review of sensitive areas which was carried out by the Environmental Protection Agency in 2016 on the basis of data collected between 2010 and 2015 ('the 2016 EPA Review'). That review forms Appendix 1 to the letter.

204 It is apparent from those data that in the case of the agglomerations of Killarney, Longford, Navan, Nenagh and Roscrea, Ireland did not carry out nitrogen reduction complying with Directive 91/271, although nitrogen is declared as a limiting nutrient for the sensitive areas into which the treatment plants of those agglomerations discharge the treated waters.

205 On the other hand, it is not apparent from those data that that is so in the case of the agglomeration of Cavan. Therefore, in the absence of additional data, it must be held that the Commission has not provided information allowing a determination that the complaint has been made out so far as concerns that agglomeration.

206 As regards the agglomeration of Ballincollig New, it is apparent from the 2016 EPA Review that no evidence of eutrophication had been found and that all biological and nutrient conditions were below threshold levels between 2010 and 2015. In Ireland's submission, it follows that there is no obligation to remove the nutrients and, therefore, no infringement of Article 5 of Directive 91/271.

207 However, irrespective of whether or not there is such an obligation, it is to be noted that, according to Ireland's reply to the additional letter of formal notice, in respect of 2013 to 2015 nutrients were removed pursuant to Article 5 of Directive 91/271, in terms of both phosphorus and nitrogen reduction. In the absence of additional data, it must be held that the Commission has not provided information allowing a determination that the complaint has been made out so far as concerns the agglomeration of Ballincollig New.

208 As regards the data which are derived from the assessments forwarded by the Environmental Protection Agency in its letter of 8 November 2016 annexed to Ireland's reply to the reasoned opinion, data upon which Ireland relies in order to assert that inadequate treatment of nitrogen, or of phosphorus and nitrogen, is no longer relevant for the purpose of establishing the treatment's compliance with Article 5 of Directive 91/271, it is to be noted that it is indicated on page 2 of the 2016 EPA Review that any change in the designation of a sensitive area will necessitate further analyses.

209 Ireland maintains, however, that such a necessity concerns only the areas that the 2016 EPA Review recommends be designated for the first time as sensitive.

210 In that regard, it must be stated, first, that the 2016 EPA Review specifies that the results collected so far as concerns, inter alia, the agglomeration of Longford require confirmation by further analyses, even though the discharge areas for that agglomeration's treatment plants were designated as sensitive before 8 November 2016.

211 Second, as the Environmental Protection Agency itself acknowledges in its letter of 8 November 2016, the findings and conclusions mentioned in the 2016 EPA Review are liable to have consequences for the designation of a sensitive area and for the discharge licences of the treatment plants concerned. Thus, in that letter, the Environmental Protection Agency states that the 2016 EPA Review will be followed by the adoption of recommendations and the amendment of statutory instruments. It is thus those amendments that enable compliance with the requirements of Table 2 of Annex I to Directive 91/271 to be prescribed.

212 In this respect, it should be noted that Article 12(2) of Directive 91/271 imposes on the Member States the obligation to ensure that the disposal of waste water from urban waste water treatment plants is subject to prior regulations and/or specific authorisation. Under Article 12(3), such instruments are to contain conditions to satisfy the requirements of section B of Annex I to the directive.

213 Whilst it is true that the findings and conclusions mentioned in the 2016 EPA Review concern not only amendments in the identification of the nutrients to be treated, but also the need to designate new sensitive areas, the fact remains that the identification of a nutrient responsible for the eutrophication of the waters of a discharge area is what determines its designation as a sensitive area.

214 Thus, the waters of an area may be sensitive to phosphorus or nitrogen, or to both those nutrients.

215 Therefore, Ireland cannot assert that, inasmuch as the 2016 EPA Review advocates only limiting the sensitivity to phosphorus of the areas into which the treatment plants of the agglomerations of Killarney, Longford, Navan, Nenagh and Roscrea discharge the treated waters, the amendments which stem therefrom consist only of technical arrangements.

216 In fact, it is to be noted that Ireland annexed to its defence the decisions amending the licences for the treatment plants of certain agglomerations covered by the third complaint, which were adopted between 29 June and 7 July 2017.

217 However, as the period set by the reasoned opinion expired on 30 November 2016, the Court cannot take account of such documents for the purpose of determining whether the failure to fulfil obligations that is alleged by the Commission has taken place.

218 It is therefore on the basis of the data put forward by the Commission that the Court should examine whether the discharges from the treatment plants of the agglomerations concerned are compliant.

(2) The agglomerations concerned

219 As is apparent from Ireland's reply to the additional letter of formal notice, the discharges from the treatment plants of the agglomerations of Killarney, Longford, Navan, Nenagh and Roscrea do not comply with the requirements of Table 2 of Annex I to Directive 91/271 so far as concerns the reduction of nitrogen.

220 For the reasons given in paragraphs 209 to 217 above, the data resulting from the letter of the Environmental Protection Agency of 8 November 2016 and from the 2016 EPA Review annexed thereto cannot be regarded as evidence capable of calling into question the data put forward by the Commission.

221 Therefore, it must be held that the treatment of urban waste water of the agglomerations of Killarney, Longford, Navan, Nenagh and Roscrea does not comply with Article 5 of Directive 91/271.

4. Application of exceptional circumstances and of the concept of 'best technical knowledge not entailing excessive costs'

222 In addition to the general context, as noted in paragraphs 112 to 114 above, in which the programme for upgrading urban waste water management was initiated, Ireland pleads, in individual instances, legal problems that have led to the treatment of urban waste water not complying with Article 5 of Directive 91/271.

223 Ireland states, furthermore, that the completion in the near future of the works concerning the systems for treating urban waste water of certain agglomerations covered by the third complaint should within the short term enable the facilities to be rendered compliant with Directive 91/271.

224 In the light of the considerations noted in paragraphs 118 to 121 above and the fact that Ireland has produced nothing capable of demonstrating that the costs of rendering compliant the facilities for treating urban waste water in the agglomerations covered by the third complaint are disproportionate, it must be concluded that the treatment of urban waste water in the agglomerations of Athlone, Cork

City, Dundalk, Enniscorthy apart from the townland of Killagoley, Fermoy, Killarney, Killybegs, Longford, Mallow, Midleton, Navan, Nenagh, Portarlington, Ringsend, Roscrea and Tralee does not comply with Article 5(2) and (3) of Directive 91/271, read in conjunction with Article 10 thereof and section B of Annex I thereto.

E. The fourth complaint

225 By its fourth complaint, the Commission submits that no prior regulations and/or specific authorisations are provided for relating to the discharges from waste water treatment plants, in accordance with Article 12(2) and (3) of Directive 91/271, as regards the agglomerations of Arklow and Castlebridge.

226 In the case of the agglomeration of Arklow, Ireland highlights the legal difficulties connected with establishing a treatment plant which have not allowed the necessary authorisation procedure to be initiated.

227 In the case of the agglomeration of Castlebridge, the waste water is stated to be conveyed to a larger agglomeration for which examination of a revised licence is underway.

228 In any event, Ireland submits that the exceptional circumstances that it has faced warrant dismissal of the fourth complaint.

229 Since Ireland does not dispute that, on the date on which the period set by the reasoned opinion expired, that is to say, 30 November 2016, the treatment plants of the agglomerations of Arklow and Castlebridge did not have valid discharge licences, it must be held that the treatment plants of those agglomerations do not comply with Article 12 of Directive 91/271.

230 Moreover, as Ireland failed to produce anything capable of demonstrating that the costs of rendering compliant the facilities for treating urban waste water in the agglomerations covered by the fourth complaint are disproportionate, it must be concluded that the systems for treating urban waste water of the agglomerations of Arklow and Castlebridge do not comply with Article 12 of Directive 91/271.

F. Conclusion

231 In the light of all the foregoing considerations, it must be held that Ireland has failed to fulfil its obligations:

- under Article 3(1) and (2) of Directive 91/271 and section A and footnote 1 of Annex I thereto by not ensuring that the waters collected in a combined urban waste water and rainwater system are retained and conducted for treatment in compliance with the requirements of that directive so far as concerns the agglomerations of Athlone, Cork City, Enniscorthy apart from the townland of Killagoley, Fermoy, Mallow, Midleton, Ringaskiddy and Roscommon Town;

- under Article 4(1) and/or (3) of Directive 91/271, read in conjunction with Article 10 thereof and section B of Annex I thereto, by not putting in place secondary or equivalent treatment so far as concerns the agglomerations of Arklow, Athlone, Ballybofey/Stranorlar, Cobh, Cork City, Enfield, Enniscorthy, Fermoy, Killybegs, Mallow, Midleton, Passage/Monkstown, Rathcormac, Ringaskiddy, Ringsend, Roscommon Town, Shannon Town, Tubbercurry and Youghal;

- under Article 5(2) and (3) of Directive 91/271, read in conjunction with Article 10 thereof and section B of Annex I thereto, by not ensuring that urban waste water entering collecting systems from the agglomerations of Athlone, Cork City, Dundalk, Enniscorthy apart from the townland of Killagoley, Fermoy, Killarney, Killybegs, Longford, Mallow, Midleton, Navan, Nenagh, Portarlington, Ringsend, Roscrea and Tralee be, before discharge into sensitive areas, made subject to treatment more stringent than that described in Article 4 of that directive and in accordance with the requirements of section B of Annex I thereto; and

- under Article 12 of Directive 91/271, by not ensuring that the disposal of waste water from urban waste water treatment plants of the agglomerations of Arklow and Castlebridge is subject to prior

regulations and/or specific authorisation.

232 The action is dismissed as to the remainder.

V. Costs

233 Under Article 138(1) of the Rules of Procedure, the unsuccessful party is to be ordered to pay the costs if they have been applied for in the successful party's pleadings. Since the Commission has applied for costs and Ireland's failure to fulfil obligations has essentially been established, Ireland must be ordered to pay the costs.

On those grounds, the Court (Tenth Chamber) hereby:

1. Declares that Ireland has failed to fulfil its obligations:

– under Article 3(1) and (2) of Council Directive 91/271/EEC of 21 May 1991 concerning urban waste water treatment, as amended by Regulation (EC) No 1137/2008 of the European Parliament and of the Council of 22 October 2008, and section A and footnote 1 of Annex I thereto by not ensuring that the waters collected in a combined urban waste water and rainwater system are retained and conducted for treatment in compliance with the requirements of that directive, as amended, so far as concerns the agglomerations of Athlone, Cork City, Enniscorthy apart from the townland of Killagoley, Fermoy, Mallow, Midleton, Ringaskiddy and Roscommon Town;

– under Article 4(1) and/or (3) of Directive 91/271 as amended by Regulation No 1137/2008, read in conjunction with Article 10 thereof and section B of Annex I thereto, by not putting in place secondary or equivalent treatment so far as concerns the agglomerations of Arklow, Athlone, Ballybofey/Stranorlar, Cobh, Cork City, Enfield, Enniscorthy, Fermoy, Killybegs, Mallow, Midleton, Passage/Monkstown, Rathcormac, Ringaskiddy, Ringsend, Roscommon Town, Shannon Town, Tubbercurry and Youghal;

– under Article 5(2) and (3) of Directive 91/271 as amended by Regulation No 1137/2008, read in conjunction with Article 10 thereof and section B of Annex I thereto, by not ensuring that urban waste water entering collecting systems from the agglomerations of Athlone, Cork City, Dundalk, Enniscorthy apart from the townland of Killagoley, Fermoy, Killarney, Killybegs, Longford, Mallow, Midleton, Navan, Nenagh, Portarlington, Ringsend, Roscrea and Tralee be, before discharge into sensitive areas, made subject to treatment more stringent than that described in Article 4 of that directive, as amended, and in accordance with the requirements of section B of Annex I thereto; and

– under Article 12 of Directive 91/271, as amended by Regulation No 1137/2008, by not ensuring that the disposal of waste water from urban waste water treatment plants of the agglomerations of Arklow and Castlebridge is subject to prior regulations and/or specific authorisation;

2. Dismisses the action as to the remainder;

3. Orders Ireland to pay the costs.

Lenaerts Biltgen Levits

Delivered in open court in Luxembourg on 28 March 2019.

A. Calot Escobar K. Lenaerts

Registrar President

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* Language of the case: English.

JUDGMENT OF THE COURT (First Chamber)

18 October 2012 (*)

(Failure of a Member State to fulfil obligations — Pollution and nuisance — Urban waste water treatment — Directive 91/271/EEC — Articles 3, 4 and 10 — Annex I(A) and (B))

In Case C-301/10,

ACTION under Article 258 TFEU for failure to fulfil obligations, brought on 16 June 2010,

European Commission, represented by S. Pardo Quintillán, A.-A. Gilly and A. Demeneix, acting as Agents,

applicant,

v

United Kingdom of Great Britain and Northern Ireland, represented by L. Seeboruth, acting as Agent, D. Anderson QC, and S. Ford and B. McGurk, Barristers,

defendant,

THE COURT (First Chamber),

composed of A. Tizzano, acting as President of the First Chamber, A. Borg Barthet (Rapporteur), M. Ilešič, J.-J. Kasel and M. Berger, Judges,

Advocate General: P. Mengozzi,

Registrar: K. Sztranc-Sławiczek, Administrator,

having regard to the written procedure and further to the hearing on 10 November 2011,

after hearing the Opinion of the Advocate General at the sitting on 26 January 2012,

gives the following

Judgment

1 By its application, the European Commission requests the Court to declare that, by failing to ensure that appropriate collecting systems pursuant to Article 3(1) and (2) of, and Annex I(A) to, Council Directive 91/271/EEC of 21 May 1991 concerning urban waste water treatment (OJ 1991 L 135, p. 40) are in place in Whitburn and at Beckton and Crossness in London and that appropriate treatment is provided with regard to waste waters from the Beckton, Crossness and Mogden treatment plants in London pursuant to Article 4(1) and (3) and Article 10 of, and Annex I(B) to, Directive 91/271, the United Kingdom of Great Britain and Northern Ireland has failed to comply with its obligations under those provisions.

Legal context

2 According to Article 1 thereof, Directive 91/271 concerns the collection, treatment and discharge of urban waste water and the treatment and discharge of waste water from certain industrial sectors. Its objective is to protect the environment from the adverse effects of waste water discharges.

3 Article 2 of Directive 91/271 states:

'For the purpose of this Directive:

1. "urban waste water" means domestic waste water or the mixture of domestic waste water with industrial waste water and/or run-off rain water;

...

5. "collecting system" means a system of conduits which collects and conducts urban waste water;

6. "1 p.e. (population equivalent)" means the organic biodegradable load having a five-day biochemical oxygen demand (BOD5) of 60 g of oxygen per day;

...'

4 Article 3 of Directive 91/271 provides:

'1. Member States shall ensure that all agglomerations are provided with collecting systems for urban waste water,

– at the latest by 31 December 2000 for those with a population equivalent (p.e.) of more than 15 000 ...

2. Collecting systems described in paragraph 1 shall satisfy the requirements of Annex I(A). ...'

5 As set out in Article 4 of Directive 91/271:

'1. Member States shall ensure that urban waste water entering collecting systems shall before discharge be subject to secondary treatment or an equivalent treatment as follows:

– at the latest by 31 December 2000 for all discharges from agglomerations of more than 15 000 p.e.,

...

3. Discharges from urban waste water treatment plants described in paragraphs 1 and 2 shall satisfy the relevant requirements of Annex I(B). ...

4. The load expressed in p.e. shall be calculated on the basis of the maximum average weekly load entering the treatment plant during the year, excluding unusual situations such as those due to heavy rain.'

6 Article 10 of Directive 91/271 provides:

'Member States shall ensure that the urban waste water treatment plants built to comply with the requirements of Articles 4, 5, 6 and 7 are designed, constructed, operated and maintained to ensure sufficient performance under all normal local climatic conditions. When designing the plants, seasonal variations of the load shall be taken into account.'

7 Annex I to Directive 91/271, entitled 'Requirements for urban waste water', provides in Section A, headed 'Collecting systems':

'Collecting systems shall take into account waste water treatment requirements.

The design, construction and maintenance of collecting systems shall be undertaken in accordance with the best technical knowledge not entailing excessive costs, notably regarding:

– volume and characteristics of urban waste water,

– prevention of leaks,

– limitation of pollution of receiving waters due to storm water overflows.'

8 Footnote 1 to Annex I(A) to Directive 91/271, placed at the heading 'Collecting systems', is worded as follows:

'Given that it is not possible in practice to construct collecting systems and treatment plants in a way such that all waste water can be treated during situations such as unusually heavy rainfall, Member States shall decide on measures to limit pollution from storm water overflows. Such measures could be based on dilution rates or capacity in relation to dry weather flow, or could specify a certain acceptable number of overflows per year.'

9 Annex I(B) to Directive 91/271, headed 'Discharge from urban waste water treatment plants to receiving waters', sets the requirements that must be satisfied by discharges from urban waste water treatment plants into receiving waters. The footnote to Annex I(A) to the directive, cited in the preceding paragraph, is reproduced in Annex I(B).

Pre-litigation procedure

10 The Commission received a complaint concerning the Whitburn Steel pumping station and other complaints regarding excessive storm water overflows in other parts of the United Kingdom.

11 On 3 April 2003 the Commission sent a letter of formal notice to the United Kingdom in which it stated that the Whitburn Steel pumping station failed to comply with the urban waste water collecting obligations imposed by Article 3(1) and (2) of, and Annex I(A) to, Directive 91/271.

12 In its reply of 3 June 2003, the United Kingdom stated that the agglomeration in question met the collecting obligations set out in Article 3 of Directive 91/271. However, it accepted that, following further investigations of the collecting system in the area, it was necessary to improve the pass forward flow in that system. Moreover, the United Kingdom explained that the discharge consent conditions under which the water company was operating the Whitburn Steel sewage pumping station had been changed, as a result of which fewer discharges were to be expected. Those improvements were expected to be completed by 31 March 2004 at the latest.

13 On 21 March 2005 the Commission sent a second letter of formal notice to the United Kingdom in which it stated that the urban waste water collecting and treatment systems in the London area failed to comply with the obligations on the collecting and treatment of urban waste water imposed by Article 3(1), Article 4(1) and (3) and Article 10 of, and Annex I(A) and (B) to, Directive 91/271. The Commission stated that untreated waste water was being discharged into the River Thames, even in moderate rainfall conditions, and that no immediate measure was foreseen to resolve that problem, which would therefore persist and even grow worse.

14 In its reply of 20 May 2005, the United Kingdom explained that the waste water collecting system for London was a combined system that collected and conveyed domestic and industrial waste water and run-off rainwater from a catchment of 557 km^2 for secondary treatment at the Beckton, Mogden, Crossness, Long Reach and Riverside treatment plants prior to discharge into the River Thames. However, it accepted that there were problems related to the volume, load and frequency of wet weather discharges resulting from overflows in announcing its decision to establish the Thames Tideway Strategic Study ('the TTSS') to assess the environmental impact of such discharges.

15 With regard to its obligations to provide adequate treatment of urban waste waters, the United Kingdom stated that, while improvements would be completed as soon as possible, the treatment plants serving the London agglomeration had been compliant with the requirements in Directive 91/271 since 31 December 2000. Also, the United Kingdom explained that the discharges of August 2004 occurred due to unusually heavy rainfall.

16 Since the Commission was not satisfied with the United Kingdom's response, by letter of 10 April 2006 it sent a reasoned opinion to the United Kingdom stating that, in its view, the United Kingdom had failed to fulfil its obligations under Article 3(1) and (2) of, and Annex I(A) to, Directive 91/271 in relation to Whitburn and its obligations under Article 3(1), Article 4(1) and (3) and Article 10 of, and Annex I(A) and (B) to, Directive 91/271 in relation to the nine treatment plants serving the Greater London area.

17 In reply to the reasoned opinion, the United Kingdom, by letter of 15 June 2006, stated that the whole collecting system and the treatment plants serving Whitburn and the metropolitan agglomeration of Sunderland were in compliance with Directive 91/271.

18 Following a meeting on 6 July 2007 between representatives of the Commission and of the United Kingdom, the latter provided clarification on that issue by letter of 23 October 2007.

19 In relation to the situation in London, the United Kingdom replied that, while improvements needed to be made to the treatment plants at Beckton, Crossness and Mogden, that did not mean that those treatment plants were in breach of Directive 91/271. The United Kingdom, in accepting the need for those improvements, was simply showing its desire to provide a higher level of environmental protection.

20 At a meeting on 26 January 2007, representatives of the Commission and the United Kingdom discussed the two possible options for London, which had been suggested by the TTTS report, and the United Kingdom decided to opt for the single 30 km tunnel along the length of the River Thames and the separate tunnel for its tributary, the River Lee. The whole project was to be completed by 2020.

21 Following two further letters of 29 June 2007 and 4 February 2008 sent by the United Kingdom, the Commission, which was still not satisfied with the replies provided by the United Kingdom, issued by letter of 1 December 2008 an additional reasoned opinion in which it clarified its interpretation of Directive 91/271 in relation to the obligations on Member States to control the release of urban waste waters through storm water overflows. It also confirmed its concerns in relation to the inadequacy of the collecting system put in place around Whitburn, of the collecting systems of Beckton and Crossness, and of the treatment plants at Mogden, Beckton and Crossness.

22 However, the Commission decided not to pursue the case further with regard to the collecting systems and the treatment plants in Beddington, Esher, Crawley, Deephams, Hogsmill, Long Reach and Riverside. The Commission thus called upon the United Kingdom to take the necessary measures to comply with the additional reasoned opinion within two months of receipt thereof.

Exchanges of correspondence and meetings between the Commission and the United Kingdom then ensued, but did not result in a solution.

24 Since the Commission was still not satisfied with the response provided by the United Kingdom, it decided to bring the present action.

The action

Arguments of the parties

25 The principal points of disagreement between the Commission and the United Kingdom concern the interpretation of Directive 91/271.

26 In the Commission's view, Member States are obliged to ensure that a collecting system is designed and built so as to collect all the urban waste water generated by the agglomeration it serves and that that waste water is conducted for treatment. The capacity of the collecting system must therefore be able to take into account natural climatic conditions (dry weather, wet weather, even stormy weather) as well as seasonal variations, such as non-residential populations, tourists and seasonal economic activities.

27 It submits that 'storm water overflows', referred to in Annex I(A) to Directive 91/271, are a part of urban waste water collecting systems and treatment facilities. The directive must be interpreted as providing for an absolute obligation to avoid spills from storm water overflows save for exceptional circumstances. That reasoning is reflected in footnote 1 to Annex I(A) to Directive 91/271 which provides that in practice it is not possible to collect and treat all waste waters 'during situations such as unusually heavy rainfall'.

28 The Commission puts forward factors such as the frequency and the volume of the overflows to show that there has been a failure to fulfil obligations under Directive 91/271. Contrary to what the United Kingdom fears, it does not propose a strict 20 spill rule but points out that, the more an overflow spills, particularly during periods when there is only moderate rainfall, the more likely it is that the overflow's operation is not in compliance with Directive 91/271.

29 The Commission and the United Kingdom also disagree in relation to the significance that must be attributed to the concept of 'best technical knowledge not entailing excessive costs' ('BTKNEEC') which is prescribed in Annex I(A) to Directive 91/271.

30 The Commission submits that that concept must be read in the context of Directive 91/271, of its aims and of its objectives, namely to protect the environment from the adverse effects of waste water discharges.

31 It submits that the concept of BTKNEEC allows Member States to choose between several solutions that promote compliance with both the provisions and the objective of Directive 91/271, such as building new or increased storage facilities or diverting rainwater before it can enter the collecting systems.

32 In the United Kingdom's view, Directive 91/271 must be interpreted as leaving it to Member States to determine the manner in which urban waste water should be collected and treated in order to realise the directive's objective, which is to protect the environment from the adverse effects of waste water discharges.

33 The United Kingdom considers that Directive 91/271 must be interpreted by reference in particular to the environmental impact of discharges on receiving waters.

34 So far as concerns the concept of 'unusually heavy rainfall', the United Kingdom considers that the fact that footnote 1 to Annex I(A) to Directive 91/271 expressly acknowledges that it will not be possible to avoid discharges in particular circumstances, notably when there is unusually heavy rainfall, does not impose an absolute obligation to avoid discharges in other circumstances. It considers that whether discharges are appropriate in other circumstances is to be determined by application of the concept of BTKNEEC and an assessment of the environmental impact of the discharges on receiving waters.

35 In the view of the United Kingdom, Directive 91/271 does not lay down requirements regarding the circumstances in which or the frequency with which discharges into receiving waters may occur. To evaluate whether collecting systems or treatment plants conform with Directive 91/271, a detailed assessment of the performance of the collecting system or the treatment plant concerned must be carried out by reference to the environmental impact of the discharges on receiving waters.

36 The concept of 'sufficient performance' provided for in Article 10 of Directive 91/271 must also be assessed in light of the objective of protection of the environment as set out in Article 1 of the directive and therefore by reference to the impact on receiving waters.

37 While the Commission does not take issue with the United Kingdom's methodology for calculating what constitutes a single spill event, that does not, in the United Kingdom's submission, resolve the problem linked to the fact that the definition of a spill event may differ from one Member State to another. There would therefore be no guarantee of consistency of approach across Member States if compliance with Directive 91/271 were to be determined by reference to the occurrence and frequency of spills.

38 The United Kingdom also submits that the Commission errs by basing the determination that collecting systems and treatment plants are compliant with Directive 91/271 on the volume of spills.

39 So far as concerns, more specifically, the agglomeration of Sunderland (Whitburn), the Commission complains that, at the date of the expiry of the deadline fixed in the additional reasoned opinion, excessive storm water overflows from the Whitburn leg of the Sunderland collecting system were still occurring and that that system was therefore not compliant with Article 3 of, and Annex I(A) to, Directive 91/271.

40 While the frequency of the spills has been reduced (in the years 2002 to 2004, between 56 and 91 spills per year and annual volumes of untreated urban waste water discharges of between 359 640 m^3 and 529 290 m^3), the collecting system is still not compliant with the requirements of Directive 91/271, particularly given the close vicinity of the bathing waters in Whitburn and Seaham and the numerous complaints received by the Commission concerning debris on the beaches around Whitburn.

41 The United Kingdom considers that those storm water overflows are compliant with Directive 91/271.

42 The United Kingdom also submits that the bathing waters around Whitburn have been found compliant with Council Directive 76/160/EEC of 8 December 1975 concerning the quality of bathing water (OJ 1975 L 31, p. 1) and that they are thus compliant with Directive 91/271. Furthermore, it is unlikely that the debris comes from Whitburn, but rather from the Tyne where the overflow channels were not equipped with screens until the end of March 2010.

43 As regards the agglomeration of London, the Commission alleges that the frequency and quantity of discharges of untreated waste water from the Beckton and Crossness collecting systems and the Beckton, Crossness and Mogden treatment plants are of such a magnitude as to constitute a breach of Articles 3 and 4 of, and Annex I(A) to, Directive 91/271, in particular given that those spills occur even during times of moderate rainfall.

44 Also, it submits that Article 10 of Directive 91/271 requires urban waste water treatment plants built to comply with the requirements of Article 4 of the directive to be designed, constructed, operated and maintained to ensure sufficient performance under all normal local climatic conditions.

45 The United Kingdom considers that those treatment plants satisfy the provisions of Directive 91/271.

46 It also notes that the London sewerage network is very old and has been progressively upgraded since 1875. Improvements have been examined and carried out since the adoption of Directive 91/271. Furthermore, the scale and exceptional nature of the works that are being carried out on the River Thames, at a cost of GBP 4.4 billion, mean that they require a lot of time. It submits that it cannot be penalised for implementing, in the long term, an ambitious solution.

Findings of the Court

Interpretation of Directive 91/271

47 As stated in the second paragraph of Article 1, the objective of Directive 91/271 is to protect the environment from the adverse effects of urban waste water discharges (see, inter alia, Case C-280/02 *Commission* v *France* [2004] ECR I-8573, paragraph 13).

48 The objective pursued by Directive 91/271 goes beyond the mere protection of aquatic ecosystems and seeks to conserve man, fauna, flora, soil, water, air and landscapes from any significant adverse effects of the accelerated growth of algae and higher forms of plant life that results from discharges of urban waste water (*Commission* v *France*, paragraph 16).

49 The concepts of 'sufficient performance' appearing in Article 10 of Directive 91/271, 'unusually heavy rainfall' mentioned in footnote 1 of Annex I to the directive and 'best technical knowledge not entailing excessive costs' (BTKNEEC) referred to in Annex I(A) to the directive should be interpreted in the light of that objective, but also of Article 191 TFEU.

50 First, the concept of 'sufficient performance', which concerns only treatment plants, does not have its scope defined numerically, as Article 10 of Directive 91/271 provides only that treatment plants must ensure 'sufficient performance under all normal local climatic conditions' and taking account of seasonal variations of the load when those plants are designed.

51 In this connection, the Court has already found a failure to fulfil obligations in cases where the collection or treatment rate for urban waste water amounted to 80% or even 90% of the existing load (judgments of 7 May 2009 in Case C-530/07 *Commission* v *Portugal*, paragraphs 28 and 53, and 14 April 2011 in Case C-343/10 *Commission* v *Spain*, paragraphs 56 and 62).

52 Indeed, given the objective pursued by Directive 91/271, recalled in paragraphs 47 and 48 of the present judgment, failure to treat urban waste water cannot be accepted under usual climatic and seasonal conditions, as otherwise Directive 91/271 would be rendered meaningless.

53 Thus, it is established that, in order to meet the objective of protecting the environment, the concept of 'sufficient performance', although not defined numerically, must be understood as meaning that, under usual climatic conditions and account being taken of seasonal variations, all urban waste water must be collected and treated.

54 Consequently, failure to treat urban waste water can be tolerated only where the circumstances are out of the ordinary, and it would run counter to Directive 91/271 if overflows of untreated urban waste water occurred regularly.

55 Second, the concept of 'unusually heavy rainfall' in footnote 1 of Annex I to Directive 91/271 applies to the collecting systems provided for in Article 3 of the directive and to the treatment plants provided for in Article 4.

56 By that footnote, the European Union legislature acknowledged that situations exist in which all the urban waste water will not be capable of being collected or treated. In particular, it stated that 'it is not possible in practice to construct collecting systems and treatment plants in a way such that all waste water can be treated' and it provided that failure to collect and treat waste water may be tolerated during 'situations such as unusually heavy rainfall'. However, in that case, Member States are to decide on 'measures to limit pollution from storm water overflows'.

57 It is clear that the term 'unusually heavy rainfall' is mentioned in footnote 1 of Annex I to Directive 91/271 by way of illustration only, since the term is preceded by the words 'during situations such as'. Thus, failure to collect or treat waste water may also be allowed in other circumstances.

58 However, contrary to the United Kingdom's assertions, the objective pursued by Directive 91/271 does not permit the inference that it is normal and common for those other circumstances to arise, in particular as the word 'unusually' clearly indicates that failure to collect or treat waste water cannot occur in normal circumstances.

59 The United Kingdom's line of argument seeking acceptance that discharges might take place even outside exceptional situations cannot therefore be upheld.

60 Furthermore, it should be pointed out that, where a Member State is faced with an exceptional situation not allowing it to collect or treat waste water, it remains obliged to adopt appropriate measures to limit pollution under footnote 1 of Annex I to Directive 91/271.

61 Also, since the concept of 'unusually heavy rainfall' is not defined by Directive 91/271, it is legitimate for the Commission, in carrying out its supervision of compliance with European Union law, to adopt guidelines and, as the Court does not have jurisdiction to define numerically obligations laid down by that directive, the concept of 'unusually heavy rainfall' must therefore be assessed in the light of all the criteria and conditions prescribed by the directive, in particular the concept of BTKNEEC.

62 Third, the concept of BTKNEEC, which is mentioned in Annex I(A) to Directive 91/271, must, like the other concepts referred to by Directive 91/271 that have already been elaborated upon, be examined

in the light of the objective of protecting the environment. Also, it is to be noted that the obligations of that directive which require the collection and treatment of all waste water, except in the case of exceptional or unforeseeable events, must be complied with at the date laid down by the directive.

63 Although the concept of BTKNEEC appears in Annex I(A) to Directive 91/271 only in relation to collecting systems, it nevertheless constitutes a concept inherent in all the provisions of Directive 91/271 designed to secure its objective of protecting the environment whilst avoiding too strict an application of the rules laid down. Thus, that concept is also to be extended to treatment plants in so far as in certain cases it allows discharges of untreated waste water even though the latter has adverse effects on the environment.

64 The concept of BTKNEEC thus enables compliance with the obligations of Directive 91/271 to be secured without imposing upon the Member States unachievable obligations which they might not be able to fulfil, or only at disproportionate cost.

65 However, in order not to undermine the principle set out in paragraph 53 of the present judgment that all waste water must be collected and treated, the Member States must invoke disproportionate costs of that kind by way of exception only.

66 In this connection, it should be borne in mind that, in accordance with settled case-law, a Member State may not plead practical or administrative difficulties in order to justify non-compliance with the obligations and time-limits laid down by a directive. The same holds true of financial difficulties, which it is for the Member States to overcome by adopting appropriate measures (judgment of 30 November 2006 in Case C-293/05 *Commission* v *Italy*, paragraph 35 and the case-law cited).

67 The concept of BTKNEEC must be examined by weighing the best technology and the costs envisaged against the benefits that a more effective water collection or treatment system may provide. Within this framework, the costs incurred cannot be disproportionate to the benefits obtained.

68 In that context, account will have to be taken, as the United Kingdom submits, of the effects of the discharges of untreated waste water on the environment and in particular on the receiving waters. The consequences that those discharges have for the environment would thus enable examination as to whether or not the costs that must be incurred to carry out the works necessary in order for all urban waste water to be treated are proportionate to the benefit that that would yield for the environment.

69 Should it prove impossible or very difficult to collect and treat all the waste water, it will be for the Member State concerned to demonstrate that the conditions for applying the concept of BTKNEEC are met.

70 It is true that the Court's case-law provides that in proceedings under Article 258 TFEU for failure to fulfil obligations it is for the Commission to prove the allegation that the obligation has not been fulfilled. It is therefore the Commission's responsibility to place before the Court the information needed to enable the Court to establish that the obligation has not been fulfilled, and in so doing the Commission may not rely on any presumptions (see, inter alia, Case C-494/01 *Commission* v *Ireland* [2005] ECR I-3331, paragraph 41; *Commission* v *Portugal*, paragraph 32; Case C-335/07 *Commission* v *Finland* [2009] ECR I-9459, paragraph 46; and the judgment of 10 December 2009 in Case C-390/07 *Commission* v *United Kingdom*, paragraph 43).

71 The Member States are nevertheless required, under Article 4(3) TEU, to facilitate the achievement of the Commission's tasks, which consist inter alia, pursuant to Article 17(1) TEU, in ensuring that the provisions of the FEU Treaty and the measures taken by the institutions pursuant thereto are applied. In particular, account should be taken of the fact that, where it is a question of checking that the national provisions intended to ensure effective implementation of a directive are applied correctly in practice, the Commission, which does not have investigative powers of its own in the matter, is largely reliant on the information provided by any complainants and by the Member State concerned (see, inter alia, *Commission* v *Ireland*, paragraphs 42 and 43, and *Commission* v *United Kingdom*, paragraph 44).

72 It follows in particular that, where the Commission has adduced sufficient evidence of certain matters in the territory of the defendant Member State, it is incumbent on the latter to challenge in substance and in detail the information produced and the consequences flowing therefrom (see, inter alia, *Commission* v *Ireland*, paragraph 44 and the case-law cited, and *Commission* v *United Kingdom*, paragraph 45).

73 Accordingly, for the purpose of examining the present action, the Court must, first of all, examine whether the discharges from the collecting systems or the treatment plants of the various agglomerations in the United Kingdom are due to circumstances of an exceptional nature, and then, if that is not the case, establish whether the United Kingdom has been able to demonstrate that the conditions for applying the concept of BTKNEEC were met.

Whitburn

74 With regard to the obligation to have a collecting system as referred to in Article 3(1) of Directive 91/271, it should be recalled first of all, that, according to settled case-law, the question whether a Member State has failed to fulfil its obligations must be determined by reference to the situation prevailing in that Member State at the end of the period laid down in the reasoned opinion and the Court cannot take account of any subsequent changes (see, inter alia, *Commission* v *United Kingdom*, paragraph 50, and *Commission* v *Spain*, paragraph 54).

75 The additional reasoned opinion dated 1 December 2008 prescribed a period of two months from receipt thereof for the United Kingdom to comply with its obligations resulting from Directive 91/271. On the date set in the reasoned opinion, untreated urban waste water was still being discharged through storm water overflows. The number of discharges and their volume are not contested by the United Kingdom: it merely submits that, contrary to what is put forward by the Commission, the debris found on the beaches around Whitburn cannot come from the Whitburn collecting system given that the sea outfall used for the discharge of waste water is equipped with 6 mm screens, and the debris is probably from the Tyne where the overflows were not equipped with screens until the end of March 2010.

76 In order to establish whether, as the Commission submits in its complaint, the United Kingdom has failed to fulfil its obligations arising from Article 3 of, and Annex I(A) to, Directive 91/271, the examination set out in paragraph 73 of the present judgment should be carried out.

77 It must be stated, first, that, in accordance with the letter of 2 March 2005 sent by the United Kingdom to the Commission, the number of waste water discharges indicated for 2001 was 310 with an annual volume of 561 240 m^3 and that, during the period covering the years from 2002 to 2004, that number varied between 56 and 91 with volumes between 359 640 m^3 and 529 290 m^3. Also, it should be noted that, between 2006 and 2008, the number of waste water discharges per year varied between 25 and 47 with a volume from 248 130 m^3 to 732 150 m^3, while the volume for 2009 was 762 300 m^3. The Commission, basing its observations on the frequency of those discharges and their intensity, has clearly demonstrated that, both before and after the expiry of the period laid down by the additional reasoned opinion, they were a normal occurrence, as such a number of discharges cannot be linked to exceptional circumstances. Indeed, the United Kingdom does not contend in its observations that those discharges are exceptional in nature.

78 Second, it is to be noted that according to a study carried out in 2010 it would be possible, from a technological point of view, to reduce the number of waste water discharges from the Whitburn collecting system by enlarging the interceptor tunnel that already exists, a fact which has not been contested by the United Kingdom.

79 So far as concerns the costs required to be incurred and the benefits obtained, that study shows that an improvement of 0.3% in respect of the quality of the receiving waters could be achieved by the tunnel enlargement works, on the basis of 20 discharges per year.

80 Although the improvement in water quality appears marginal and, as the United Kingdom contends, Directive 76/160 is complied with, a fact which can be taken into account in the general examination of the conditions for applying the concept of BTKNEEC, it must be stated that the costs of such an

enlargement of the tunnel are not mentioned at any time, either in the observations of the parties or in the reports and studies carried out.

81 Thus, the Court is not in a position to examine whether the costs of such works are excessive and disproportionate to the environmental benefit obtained.

82 It follows that the United Kingdom has not demonstrated to the required legal standard that the costs of works to increase the capacity of the collecting system were disproportionate to the improvement in the state of the environment.

83 Accordingly, the Commission was right in finding that the collecting system put in place in Whitburn does not meet the obligations laid down in Article 3 of, and Annex I(A) to, Directive 91/271.

London

84 In the case of the agglomeration of London, it is not in dispute, in accordance with the contentions of the United Kingdom itself, that, at the end of the period laid down in the additional reasoned opinion, that agglomeration had neither treatment plants at Beckton, Crossness and Mogden performing the secondary treatment of all the urban waste water entering the collecting system, in accordance with Articles 4(1) and 10 of Directive 91/271, and guaranteeing that the discharges from them satisfied the requirements of Annex I(B) thereto nor collecting systems at Beckton and Crossness with a sufficient capacity, in accordance with Article 3 of the directive.

85 The Commission, relying on a TTSS report of February 2005, observes that there were approximately 60 waste water discharges from storm water overflows in London per year, even in periods of moderate rainfall; untreated water having a volume of several million tonnes was thus discharged into the River Thames every year.

86 So far as concerns the treatment plants of the collecting system for London, that report shows that their capacity is sufficient in dry weather, but not sufficient in the slightest in the case of rainfall.

87 The United Kingdom does not dispute the facts relied upon by the Commission and observes that a project is in fact underway for the construction of a new 30 km long tunnel under the tidal part of the River Thames to intercept collecting system overflow discharges and convey them for treatment at the Beckton treatment plant. Also, it is proposed to construct another tunnel, the Lee Tunnel, with the aim of reducing overflow discharges from the Beckton and Crossness collecting systems. Finally, improvement works are taking place to install extra capacity at the Beckton, Crossness and Mogden treatment plants.

88 In order to establish whether, as the Commission submits in its complaint, the United Kingdom has failed to fulfil its obligations arising from Articles 3, 4 and 10 of, and Annex I(A) to, Directive 91/271, the examination envisaged in paragraph 73 of the present judgment should again be carried out.

89 It must be stated that the Commission, in reliance upon the TTSS report mentioned in paragraph 85 of the present judgment, which is not disputed by the United Kingdom and which indicates that the frequency and volume of the discharges come about in the case not only of exceptional events but also of moderate rainfall, has demonstrated clearly the normality of the waste water discharges into the River Thames.

90 As regards whether it is technologically impossible to reduce the number of waste water discharges from the collecting system for London and whether the costs are disproportionate to the environmental benefit obtained, it is to be noted that the United Kingdom decided, in April 2007, to carry out the works proposed by the TTSS report of November 2005 consisting in particular in the construction of a new underground tunnel. Thus, technological solutions to the problem of the collecting system for London exist and their costs cannot be regarded as disproportionate given that the United Kingdom has already taken the decision to implement them.

91 So far as concerns the United Kingdom's argument that it cannot be found to have failed to fulfil its obligations given that projects designed to ensure compliance with Directive 91/271 were examined as

soon as the directive entered into force and the works decided upon are costly and achievable only over a number of years, it should be recalled that the question whether the defendant Member State has failed to fulfil its obligations must be determined by reference to the situation prevailing in that Member State at the end of the period laid down in the additional reasoned opinion and that a Member State cannot secure dismissal of the action merely because the activities and works which will, in future, cure the failure to fulfil obligations are underway. Unless a directive has been amended by the European Union legislature for the purpose of extending the periods prescribed for implementation, the Member States are required to comply with the periods originally laid down (see the judgment of 8 July 2004 in Case C-27/03 *Commission* v *Belgium*, paragraph 39).

92 It was therefore incumbent upon the United Kingdom to initiate in good time the procedures necessary for implementing Directive 91/271 in the national legal order, so that those procedures were completed within the time-limit prescribed in the first indent of Article 3(1) and the first indent of Article 4(1) of that directive, namely 31 December 2000.

93 Accordingly, the Commission was right in finding that the collecting system put in place in London (Beckton and Crossness) does not meet the obligations laid down in Article 3 of, and Annex I(A) to, Directive 91/271 and that, by failing to make urban waste water from the agglomeration of London (Beckton, Crossness and Mogden) subject to secondary treatment or an equivalent treatment, in accordance with Article 4 of that directive, the United Kingdom has failed to fulfil its obligations under the directive.

94 It follows from the foregoing that the failure on the part of the United Kingdom to fulfil its obligations that is alleged by the Commission has been established for each agglomeration referred to in the application.

95 Consequently, it must be held that, by failing to ensure:

– appropriate collection of the urban waste water of the agglomerations with a p.e. of more than 15 000 of Sunderland (Whitburn) and London (Beckton and Crossness collecting systems), in accordance with Article 3(1) and (2) of, and Annex I(A) to, Directive 91/271, and

– appropriate treatment of the urban waste water of the agglomeration with a p.e. of more than 15 000 of London (Beckton, Crossness and Mogden treatment plants), in accordance with Article 4(1) and (3) and Article 10 of, and Annex I(B) to, Directive 91/271,

the United Kingdom has failed to fulfil its obligations under that directive.

Costs

96 Under Article 69(2) of the Rules of Procedure, the unsuccessful party is to be ordered to pay the costs if they have been applied for in the successful party's pleadings. Since the Commission has applied for costs and the United Kingdom has been unsuccessful, the latter must be ordered to pay the costs.

On those grounds, the Court (First Chamber) hereby:

1. Declares that, by failing to ensure:

– **appropriate collection of the urban waste water of the agglomerations, with a population equivalent of more than 15 000, of Sunderland (Whitburn) and London (Beckton and Crossness collecting systems), in accordance with Article 3(1) and (2) of, and Annex I(A) to, Council Directive 91/271/EEC of 21 May 1991 concerning urban waste water treatment, and**

– **appropriate treatment of the urban waste water of the agglomeration, with a population equivalent of more than 15 000, of London (Beckton, Crossness and**

Mogden treatment plants), in accordance with Article 4(1) and (3) and Article 10 of, and Annex I(B) to, Directive 91/271,

the United Kingdom has failed to fulfil its obligations under that directive;

2. Orders the United Kingdom to pay the costs.

[Signatures]

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* Language of the case: English.

Provisional text

JUDGMENT OF THE COURT (Ninth Chamber)

4 May 2017 (*)

(Failure of a Member State to fulfil obligations — Directive 91/271/EEC — Articles 3 to 5 and 10 — Annex I, Sections A, B and D — Urban waste-water treatment — Collecting systems — Secondary or equivalent treatment — More stringent treatment of discharges into sensitive areas)

In Case C-502/15,

ACTION for failure to fulfil obligations under Article 258 TFEU, brought on 22 September 2015,

European Commission, represented by K. Mifsud-Bonnici and E. Manhaeve, acting as Agents,

applicant,

v

United Kingdom of Great Britain and Northern Ireland, represented by J. Kraehling, acting as Agent, and by S. Ford, Barrister,

defendant,

THE COURT (Ninth Chamber),

composed of E. Juhász, President of the Chamber, C. Vajda and C. Lycourgos (Rapporteur), Judges,

Advocate General : M. Bobek,

Registrar: A. Calot Escobar,

having regard to the written procedure,

having decided, after hearing the Advocate General, to proceed to judgment without an Opinion,

gives the following

Judgment

1 By its action, the European Commission asks the Court to declare that:

– by not ensuring that the waters collected in a combined urban waste waters and rainwater system in the Gowerton and Llanelli agglomerations are retained and conducted for treatment, in compliance with the requirements of Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment (OJ 1991 L 135, p. 40), the United Kingdom of Great Britain and Northern Ireland ('the United Kingdom') has failed to fulfil its obligations under Articles 3, 4 and 10 of, and Sections A and B of Annex I to, that directive;

– by either not putting in place secondary or equivalent treatment or not providing sufficient evidence to demonstrate compliance in this respect with Directive 91/271 with regard to the Banchory, Stranraer and Ballycastle agglomerations as well as by not subjecting the urban waste

water in the Gibraltar agglomeration to any treatment, the United Kingdom has failed to fulfil its obligations under Article 4 of, and Sections B and D of Annex I to, Directive 91/271; and

– by not ensuring that urban waste water entering collecting systems from the Tiverton, Durham (Barkers Haugh), Chester-le-Street, Islip, Broughton Astley, Chilton, Witham and Chelmsford agglomerations, before discharge into sensitive areas, be subject to more stringent treatment than that described in Article 4 of Directive 91/271, in accordance with the requirements of Section B of Annex I to that directive, the United Kingdom has failed to fulfil its obligations under Article 5 of, and Sections B and D of Annex I to, Directive 91/271.

Legal context

2 The eighth recital of Directive 91/271 states, '…it is necessary to monitor treatment plants, receiving waters and the disposal of sludge to ensure that the environment is protected from the adverse effects of the discharge of waste waters …'.

3 Article 3 of that directive provides:

'1. Member States shall ensure that all agglomerations are provided with collecting systems for urban waste water,

– at the latest by 31 December 2000 for those with a population equivalent (p.e.) of more than 15 000, and

– at the latest by 31 December 2005 for those with a p.e. of between 2 000 and 15 000.

For urban waste water discharging into receiving waters which are considered "sensitive areas" as defined under Article 5, Member States shall ensure that collection systems are provided at the latest by 31 December 1998 for agglomerations of more than 10 000 p.e.

Where the establishment of a collecting system is not justified either because it would produce no environmental benefit or because it would involve excessive cost, individual systems or other appropriate systems which achieve the same level of environmental protection shall be used.

...

2. Collecting systems described in paragraph 1 shall satisfy the requirements of Annex I(A). …

…'

4 Article 4 of Directive 91/271 states:

'1. Member States shall ensure that urban waste water entering collecting systems shall before discharge be subject to secondary treatment or an equivalent treatment as follows:

– at the latest by 31 December 2000 for all discharges from agglomerations of more than 15 000 p.e.,

– at the latest by 31 December 2005 for all discharges from agglomerations of between 10 000 and 15 000 p.e.,

– at the latest by 31 December 2005 for discharges to fresh-water and estuaries from agglomerations of between 2 000 and 10 000 p.e.

...

3. Discharges from urban waste water treatment plants described in paragraphs 1 and 2 shall satisfy the relevant requirements of Annex I.B. …

4. The load expressed in p.e. shall be calculated on the basis of the maximum average weekly load entering the treatment plant during the year, excluding unusual situations such as those due to heavy rain.'

5 Article 5 of that directive provides:

'1. For the purposes of paragraph 2, Member States shall by 31 December 1993 identify sensitive areas according to the criteria laid down in Annex II.

2. Member States shall ensure that urban waste water entering collecting systems shall before discharge into sensitive areas be subject to more stringent treatment than that described in Article 4, by 31 December 1998 at the latest for all discharges from agglomerations of more than 10 000 p.e.

...

3. Discharges from urban waste water treatment plants described in paragraph 2 shall satisfy the relevant requirements of Annex I B. ...

...

5. Discharges from urban waste water treatment plants which are situated in the relevant catchment areas of sensitive areas and which contribute to the pollution of these areas shall be subject to paragraphs 2, 3 and 4.

...

6. Member States shall ensure that the identification of sensitive areas is reviewed at intervals of no more than four years.

7. Member States shall ensure that areas identified as sensitive following review under paragraph 6 shall within seven years meet the above requirements.

...'

6 Article 10 of Directive 91/271 provides:

'Member States shall ensure that the urban waste water treatment plants built to comply with the requirements of Articles 4, 5, 6 and 7 are designed, constructed, operated and maintained to ensure sufficient performance under all normal local climatic conditions. When designing the plants, seasonal variations of the load shall be taken into account.'

7 Article 15 of that directive lays down the monitoring requirements for the competent authorities or appropriate bodies in respect of discharges from urban waste water treatment plants, which must comply with the control procedures laid down in Section D of Annex I to Directive 91/271.

8 Annex I to that directive, entitled, 'Requirements for urban waste water', provides, in Section A, entitled 'Collecting systems':

'Collecting systems shall take into account waste water treatment requirements.

The design, construction and maintenance of collecting systems shall be undertaken in accordance with the best technical knowledge not entailing excessive costs, notably regarding:

– volume and characteristics of urban waste water,

– prevention of leaks,

– limitation of pollution of receiving waters due to storm water overflows.'

9 Section B of Annex I to Directive 91/271, entitled 'Discharge from urban waste water treatment plants to receiving waters', sets the requirements that must be satisfied by discharges from urban waste water treatment plants into receiving waters.

10 Section D of Annex I to Directive 91/271 lays down the procedures for monitoring the waste water discharges. Point 3 of Section D provides that samples must be collected at regular intervals during the year, that is 12 samples during the first year in agglomerations with a p.e. from 2 000 to 9 999, and four samples in subsequent years, if it can be shown that the water during the first year complies with the provisions of that directive. If one sample of the four fails, 12 samples must be taken in the year that follows. For agglomerations with a p.e. from 10 000 to 49 999, 12 samples per year must be taken.

Pre-litigation procedure

Letters of formal notice

11 In the first place, following various citizens' complaints, the Commission sent a letter of formal notice, on 26 June 2009, to the United Kingdom concerning its obligation to ensure the collection and treatment of urban waste water in the Gowerton and Llanelli agglomerations. The Commission took the view that the United Kingdom had failed to ensure that the waters collected in a combined urban waste waters and rainwater system in those two agglomerations were retained and conducted for treatment in compliance with the requirements of Articles 3 to 5 and 10 of, and Sections A and B of Annex I to, Directive 91/271.

12 The United Kingdom replied by a letter dated 28 September 2009 in which it acknowledged that the collecting systems serving those agglomerations were not performing as intended in relation to the number of spills occurring at certain overflows. The United Kingdom stated in that letter that, first, its authorities were conducting investigations to establish the cause of the underperformance of those systems and, secondly, they were progressing enforcement action against the sewerage undertaker under the United Kingdom's domestic controls.

13 By letters of 21 May 2010, 4 February 2011, 16 February 2012 and 13 September 2012, the United Kingdom set out the measures which it was taking to address that situation.

14 In a letter dated 12 September 2013, the United Kingdom provided updated figures for recorded spills at modelled assets in the Gowerton and Llanelli agglomerations since 2010 and also described predicted spills based on a programme of works to secure compliance with Directive 91/271 by 2025. In January 2014, the United Kingdom stated to the Commission that full compliance with that directive was envisaged rather in 2020.

15 In the second place, the Commission sent the United Kingdom a letter of formal notice on 21 June 2013, by which it complained that the United Kingdom had failed to provide secondary or equivalent treatment, as required under Article 4 of Directive 91/271, for the urban waste water discharges emanating from 26 agglomerations. In that letter, the Commission also contended that the situation in Gibraltar did not comply with Article 4 of that directive and requested clarification and information concerning the United Kingdom's application of Article 5 of that directive with regard to a large number of agglomerations.

16 The United Kingdom replied by letter dated 18 October 2013. The Commission assessed that reply and considered that the United Kingdom remained in breach of Article 4 of Directive 91/271 in respect of four of the agglomerations listed in the letter of formal notice of 21 June 2013. The Commission also noted that there was no urban waste water treatment plant in Gibraltar and that Gibraltar did not, therefore, comply with Article 4.

17 In addition, the United Kingdom explained that the reporting exercise on which the letter of formal notice was based contained wrong data regarding designation of the sensitive areas for 92 out of the 127 agglomerations indicated as non-compliant. The United Kingdom also stated that there had been errors in data regarding other agglomerations and that certain agglomerations were compliant with

Directive 91/271. Having assessed the data provided, the Commission considered that the United Kingdom was still in breach of Article 5 of that directive in respect of 24 agglomerations.

The reasoned opinion

18 By a letter dated 10 July 2014, received on 11 July 2014 by the United Kingdom, the Commission sent a reasoned opinion under Article 258 TFEU. According to that opinion (i) the United Kingdom had failed to comply with Articles 3, 4 and 10 of, and Sections A and B of Annex I to, Directive 91/271, as regards the Gowerton and Llanelli agglomerations, (ii) it had failed to apply correctly Article 4 of, and Sections B and D of Annex I to, that directive, as regards four agglomerations and Gibraltar and (iii) it failed to apply correctly Article 5 of, and Sections B and D of Annex I, to that directive, as regards 24 agglomerations. The Commission called on the United Kingdom to take the necessary measures to comply with the reasoned opinion within two months of receipt.

19 In its reply to the reasoned opinion, sent on 11 September 2014, and in an additional reply of 27 April 2015, the United Kingdom, first, acknowledged that the urban waste water treatment systems in the Gowerton and Llanelli agglomerations had not performed as intended and stated that compliance with Directive 91/271 would not be fully achieved until the end of 2020. Secondly, as regards the other sites, which, according to the Commission, did not comply with Article 4 of that directive, the United Kingdom either set out the works undertaken in order to comply with Directive 91/271 or provided the date on which data relating to a full year of analyses would be available. Thirdly, for the 24 agglomerations designated as not complying with Article 5 of Directive 91/271, the United Kingdom explained the nature of the works undertaken in order to comply and set out the date on which data relating to a full year of analyses would be available. In addition, it stated that, as regards the Witham and Chelmsford agglomerations, the boundary of the sensitive area was incorrectly drawn.

20 Since it was not satisfied with the United Kingdom's replies to that reasoned opinion, the Commission brought the present action.

The request seeking the production of evidence after the closure of the written part of the procedure

21 After the closure of the written procedure on 7 March 2016, the United Kingdom sought leave, by a letter dated 1 February 2017, to produce new documents pursuant to Article 128(2) of the Rules of Procedure of the Court. A time limit was prescribed within which the Commission could comment on those documents, which it did on 21 February 2017.

22 By decision of 28 February 2017, the President of the Chamber admitted those new documents as evidence in the examination of the present action for failure to fulfil obligations.

The action

Preliminary observations

23 It must be recalled that although in proceedings brought under Article 258 TFEU for failure to fulfil obligations it is for the Commission to prove the allegation that an obligation has not been fulfilled, by placing before the Court all the information required to enable it to establish that the obligation has not been fulfilled, without the Commission being entitled to rely on any presumption, account should be taken of the fact that, where it is a question of checking that the national provisions intended to ensure effective implementation of a directive are applied correctly in practice, the Commission, which does not have investigative powers of its own in this area, is largely reliant on the information provided by complainants or by the Member State concerned (judgment of 2 December 2010, *Commission* v *Portugal*, C-526/09, not published, EU:C:2010:734, paragraph 21 and the case-law cited).

24 It follows, inter alia, that, where the Commission has adduced sufficient evidence to establish that the national provisions transposing a directive are not applied correctly in practice in the territory of the defendant Member State, it is for the latter to challenge in substance and in detail the information

produced and the inferences drawn (judgment of 2 December 2010, *Commission* v *Portugal*, C-526/09, not published, EU:C:2010:734, paragraph 22 and the case-law cited).

25 In addition, it is for the Court to determine whether or not the alleged breach of obligations exists, even if the State concerned does not deny the breach (see, in particular, judgment of 23 February 2006, *Commission* v *Germany*, C-43/05, not published, EU:C:2006:145, paragraph 11).

26 It should also be borne in mind that the question whether a Member State has failed to fulfil obligations must be determined by reference to the situation prevailing in the Member State at the end of the period laid down in the reasoned opinion and the Court cannot take account of any subsequent changes (see, in particular, judgment of 16 June 2005, *Commission* v *France*, C-191/04, not published, EU:C:2005:393, paragraph 17).

27 In the present case, the reasoned opinion dated 10 July 2014, received by the United Kingdom on 11 July 2014, set the latter a two-month period for complying with the obligations stemming from Directive 91/271. Consequently, the existence of the alleged failure to fulfil obligations must be assessed as at 11 September 2014.

28 The present action must be examined in the light of those considerations.

The first complaint, alleging the failure to apply correctly Articles 3, 4 and 10 of, and Sections A and B of Annex I to, Directive 91/271, as regards the Gowerton and Llanelli agglomerations

Arguments of the parties

29 The Commission complains that the United Kingdom has failed to fulfil its obligations under Articles 3, 4 and 10 of, and Sections A and B of Annex I to, Directive 91/271 by not ensuring that the waters collected in a combined urban waste waters and rainwater system in the Gowerton and Llanelli agglomerations are retained and conducted for treatment, in compliance with the requirements of that directive.

30 According to the Commission, the pre-litigation procedure disclosed that there were a high number of spills before treatment throughout the collecting systems, in waters designated for numerous interests, in particular, under Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (OJ 2010 L 20, p. 7) and Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (OJ 1992 L 206, p. 7).

31 The Commission observes, in particular, that the waters within the Burry Inlet, which receive those spills, were designated on 11 October 1999 as 'shellfish waters' under Council Directive 79/923/EEC of 30 October 1979 on the quality required of shellfish waters (OJ 1979 L 281, p. 47) and that those waters remain protected areas under Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ 2000 L 327, p. 1), which repealed Directive 79/923. According to the Commission, it is clear that the spills from the Gowerton and Llanelli agglomerations contribute to the deterioration of the quality of those waters.

32 The Commission states that the quality of the water and the E. colilevels within shellfish are monitored in those protected areas for the placing of the harvested shellfish on the market. It observes in that regard that the decline in cockle numbers and their contamination has had a negative economic impact on local shellfisheries and an impact on some of the bird species that depend on that species for food. The Commission mentions that elevated E. colilevels, leading to the closure of shellfisheries, appear to be linked to faecal contamination, which emanates from a combination of urban waste water and agricultural run-off linked to livestock.

33 The Commission acknowledges, in respect of the works underway at those sites, that the recourse to the 'sustainable drainage systems' ('SuDS'), advanced by the United Kingdom, is an innovative solution which seeks to remove surface water from collecting systems where possible. Nevertheless, it

stresses that works to start implementing the solution proposed by the United Kingdom were undertaken too late, which is the reason why compliance is not due before the year 2020.

34 The Commission submits that the United Kingdom's argument that the development of SuDS was the only solution which would be in line with the 'best technical knowledge not entailing excessive costs … concept', referred to in Section A of Annex I to Directive 91/271, cannot be accepted in the present case. In any event, the Commission expresses the view that the United Kingdom has failed to establish that the costs of achieving a greater reduction in spill frequencies and volumes would be disproportionate to the benefits for the environment.

35 The United Kingdom acknowledges that the Gowerton and Llanelli agglomerations do not satisfy the requirements of Directive 91/271 and states that the current level of spills arises because of the volume of surface water, which is not effluent, being generated within the catchment and entering the system.

36 The United Kingdom emphasises that it has embarked upon a programme of works in those two agglomerations which will make it possible to ensure that they comply with Directive 91/271 by the year 2020, by significantly reducing spill frequencies and volumes from the collecting system prior to treatment. It states that that programme is focused on the retro-fitting of SuDS, complemented by optimisation of existing assets and the installation of some small storage tanks.

37 The United Kingdom contends that those works are consistent with the concept of 'best technical knowledge not entailing excessive costs', referred to in Section A of Annex I to Directive 91/271, and that it would not be consistent with that concept to go beyond the measures it plans to take, given the minimal environmental impact and excessive and progressively increasing costs entailed in so doing. In that regard, the United Kingdom states, in particular, that the predicted reduction in spill levels will be unlikely to achieve the total absence of faecal coliforms in shellfish flesh, since microbial inputs to the estuary arise from a number of sources, including intensive grazing.

38 The United Kingdom also disputes the Commission's argument that the cockle numbers in the Burry Inlet have drastically declined due in part to elevated E. coli levels, because studies have confirmed that cockle mortalities in that area were primarily to be linked to biological factors, including natural population dynamics. The United Kingdom states that, nevertheless, the SuDS programme will contribute to a reduction in the average concentration of bacteria, including E. coli, in shellfish waters.

39 The United Kingdom further contends that, first, the completion of the works involves particular challenges which have been encountered at those sites, some of which only became evident over time and, secondly, that the initial assessments of the performance of the SuDS indicate that the schemes are significantly outperforming expectations, and that asset performance continues to improve over time.

Findings of the Court

40 First of all, it must be pointed out that it is common ground that the Gowerton and Llanelli agglomerations have a p.e. of more than 15 000.

41 In accordance with Article 3(1) and (2) of Directive 91/271, read in conjunction with Section A of Annex I to that directive, agglomerations must be provided with collecting systems for urban waste water, the design, construction and maintenance of which must be undertaken in accordance with the 'best technical knowledge not entailing excessive costs', notably regarding volume and characteristics of urban waste water, prevention of leaks and limitation of pollution of receiving waters due to storm water overflows.

42 In its reply dated 11 September 2014 to the reasoned opinion, the United Kingdom contends that the number of spills exceeds that which was anticipated when the collection systems were designed, with the result that those systems do not allow the waters either to be retained or to be conducted for treatment. The United Kingdom states that, as at that date, an ambitious programme of works had been embarked upon in order to bring the situation of the Gowerton and Llanelli agglomerations into compliance with Directive 91/271 by the year 2020, which it confirms in its defence and in a letter sent to the Commission on 31 January 2017, forwarded to the Court.

43 It follows that the United Kingdom does not deny that, as at the date on which the period specified in the reasoned opinion expired, the situation of those agglomerations did not comply with the obligations stemming from Article 3 of Directive 91/271, read in conjunction with Section A of Annex I to that directive.

44 Since the alleged infringement must be examined as at 11 September 2014, it must be found that the Gowerton and Llanelli collecting systems could not be considered installations complying with the concept of 'best technical knowledge not entailing excessive costs', within the meaning of Section A of Annex I to Directive 91/271. The fact that the United Kingdom embarked upon a large programme of works proves that there were technological solutions in order to overcome the problem of excessive spills before treatment, into waters having numerous interests, of waste waters from the Gowerton and Llanelli agglomerations, but that they had not been applied. In addition, the costs of those works cannot be regarded as excessive given that the United Kingdom has taken the decision to implement them (see, by analogy, judgment of 18 October 2012, *Commission* v *United Kingdom*, C-301/10, EU:C:2012:633, paragraph 90).

45 It should be borne in mind that, under Article 4 of Directive 91/271, the agglomerations concerned must subject urban waste water entering their collecting systems to secondary treatment or an equivalent treatment enabling those waters to be discharged while satisfying the requirements of Section B of Annex I to that directive and, in accordance with Article 10 of Directive 91/271, they must be equipped with treatment plants designed, constructed, operated and maintained to ensure sufficient performance under all normal local climatic conditions.

46 Since, on the expiry of the period specified in the reasoned opinion, the Gowerton and Llanelli agglomerations did not have collection systems allowing all the urban waste waters to be retained and conducted for treatment, the obligation to subject all those waters to secondary or equivalent treatment, as provided for in Articles 4 and 10 of Directive 91/271, was not, therefore, a fortiori complied with (see, by analogy, judgment of 25 October 2007, *Commission* v *Greece*, C-440/06, not published, EU:C:2007:642, paragraph 25).

47 Furthermore, the arguments relied on by the United Kingdom in order to justify the failure to fulfil its obligations under Directive 91/271 cannot succeed.

48 It must be noted that the EU legislature, conscious of the scope of the infrastructure work required for the application of Directive 91/271 and the costs of its full implementation, granted the Member States a period of several years to carry out their obligations. In any event, according to the settled case-law of the Court, a Member State cannot plead difficulties in its domestic legal order to justify a failure to observe obligations arising under EU law (judgment of 6 November 2014, *Commission* v *Belgium*, C-395/13, EU:C:2014:2347, paragraph 51).

49 In the light of the foregoing considerations, it must be found that by not ensuring that the waters collected in a combined urban waste waters and rainwater system in the Gowerton and Llanelli agglomerations are retained and conducted for treatment, in compliance with the requirements of Directive 91/271, the United Kingdom has failed to fulfil its obligations under Articles 3, 4 and 10 of, and Sections A and B of Annex I to, that directive.

The second complaint, alleging a failure to fulfil the obligations stemming from Article 4 of, and Sections B and D of Annex I to, Directive 91/271, as regards the Ballycastle and Gibraltar agglomerations

Arguments of the parties

50 The Commission submits that the United Kingdom has failed to fulfil its obligations under Article 4 of, and Sections B and D of Annex I to, Directive 91/271 by either not putting in place secondary or equivalent treatment or not providing sufficient evidence to demonstrate the compliance of the installations of the Ballycastle agglomeration with that directive, and by not subjecting the urban waste water in the Gibraltar agglomeration to any treatment.

51 In its application, the Commission also submitted that the United Kingdom had failed to fulfil its obligations as regards the Banchory and Stranraer agglomerations. However, after obtaining from the United Kingdom data for a calendar year of samples, the Commission decided in its reply to withdraw the complaints against those two agglomerations in the context of the present action.

52 As regards the Ballycastle agglomeration, which should have been brought into compliance with Directive 91/271 by 31 December 2005 at the latest, the Commission observes that, in its reply of 11 September 2014 to the reasoned opinion, the United Kingdom states that the works in order to bring the agglomeration into compliance with that directive would be completed for September 2017.

53 The Commission also submits that the United Kingdom failed to fulfil its obligations under Directive 91/271, since Gibraltar has no urban waste water treatment plant, while the deadline for compliance with the directive was 31 December 2000. The Commission emphasises that, in its reply of 11 September 2014 to the reasoned opinion, the United Kingdom contended that a treatment plant was expected to be in operation in Gibraltar by late 2016 at the latest.

54 The United Kingdom states, first, that Gibraltar does not discharge its urban waste waters into fresh water and estuaries, as the Commission submits in its application, but into coastal waters. Secondly, the United Kingdom accepts that the Ballycastle and Gibraltar agglomerations will satisfy the requirements of Directive 91/271 only by late 2017. In a letter sent to the Commission on 31 January 2017 forwarded to the Court, the United Kingdom states that Gibraltar is scheduled to be compliant by the end of 2018.

55 As regards the Ballycastle agglomeration, the United Kingdom explains that the purchase of land required for the upgrade of the Ballycastle treatment works has been problematic and confirms that measures have been adopted to ensure that that installation is compliant by late 2017.

56 As regards the situation of Gibraltar, the United Kingdom emphasises that issues attributed to Gibraltar's distinctive geographical features, exceptionally high population density, requiring the reclamation of land from the sea, and uncommon use of sea water for sanitary purposes, have delayed the start of the works. It maintains that the requirements of Article 4 of Directive 91/271 and those of Section B of Annex I to that directive will be fully complied with by late 2017. The United Kingdom adds that the Gibraltar competent authority will then be able, in accordance with the requirements of Article 15 of that directive, to monitor discharges from its plant to verify compliance with the requirements of Section B of Annex I to Directive 91/271, in accordance with the control procedures laid out in Section D of Annex I to that directive.

57 In that regard, the United Kingdom observes, in respect of both the Ballycastle and Gibraltar agglomerations, that the fact that it had not collected monitoring data at regular intervals as required under Section D of Annex I to Directive 91/271 constitutes an infringement not of Article 4 of that directive, but of Article 15 which has not, however, been alleged by the Commission in its application.

Findings of the Court

58 The Court points out that, during the written procedure before it, the Commission withdrew the forms of order sought in its application with regard to the Banchory and Stranraer agglomerations. It maintained, by contrast, its action as regards the Ballycastle and Gibraltar agglomerations, which have a p.e. of more than 10 000 and 15 000, respectively.

59 Article 4 of Directive 91/271 requires Member States to ensure that, within the periods specified in that article, the agglomerations concerned make urban waste water, entering the collecting systems provided to agglomerations in accordance with Article 3 of that directive, subject to appropriate treatment and that such discharges satisfy the requirements of Section B of Annex I to the directive. Section D of Annex I to that directive sets out the minimum requirements to be met by the water monitoring method adopted by the Member States.

60 As regards the Ballycastle and Gibraltar agglomerations, the United Kingdom does not deny that, at the end of the period specified in the reasoned opinion, the respective situations of those

agglomerations did not comply with Directive 91/271, but it puts forward certain practical difficulties in order to justify the delay in the works necessary to remedy that failure to comply.

61 It is indeed apparent from the documents before the Court that, on 11 September 2014, the date on which the period specified in the reasoned opinion expired, first, the Ballycastle treatment plant needed upgrading because secondary treatment had not been put in place there and, secondly, that there was no treatment plant in Gibraltar. It must, therefore, be found that the situation of those two agglomerations did not comply, as at that date, with Article 4 of, and Section B of Annex I to, Directive 91/271. The United Kingdom's argument that the failure to comply with its obligations is linked to difficulties in its domestic legal order cannot succeed for the same reasons as those set out in paragraph 48 above.

62 As regards the alleged infringement of Section D of Annex I to Directive 91/271, the Commission states, in paragraphs 42 and 50 of its application, that the control procedures referred to in that provision are linked to Article 15 of that directive, which sets out the monitoring requirements for discharges from urban waste water treatment plants.

63 It must be pointed out in that regard that the Court has held, in paragraph 40 of its judgment of 28 January 2016, *Commission* v *Portugal* (C-398/14, EU:C:2016:61), that the obligation in Article 4 of Directive 91/271 — according to which discharges of urban waste waters must be subject to treatment satisfying the requirements of Section B of Annex I to that directive — is secured over time through the monitoring of discharges from treatment plants, as provided for in the first indent of Article 15(1) of that directive, which makes express reference to Section D of Annex I thereto. Consequently, the failure to comply with Section D of Annex I to that directive may be examined only in conjunction with the allegation of the infringement of Article 15 of that directive.

64 The second complaint must, therefore, be rejected in so far as it relates to an infringement of the control procedures laid down in Section D of Annex I to Directive 91/271, since, in its application, the Commission does not claim that the Court should declare that there has been an infringement of the monitoring obligation under Article 15 of that directive.

65 In the light of the foregoing considerations, it must be found that by not putting in place secondary treatment for the urban waste water in the Ballycastle agglomeration and by not subjecting the urban waste water in the Gibraltar agglomeration to any treatment, the United Kingdom has failed to fulfil its obligations under Article 4 of, and Section B of Annex I to, Directive 91/271. The second complaint must be rejected as to the remainder.

The third complaint, alleging a failure to fulfil the obligations stemming from Article 5 of, and Sections B and D of Annex I to, Directive 91/271, as regards the Tiverton, Durham (Barkers Haugh), Chester-le-Street, Islip, Broughton Astley, Chilton, Witham and Chelmsford agglomerations

Arguments of the parties

66 The Commission submits that the United Kingdom has failed to fulfil its obligations under Article 5 of, and Sections B and D of Annex I to, Directive 91/271, by not ensuring that urban waste water entering collecting systems from the Durham (Barkers Haugh), Chester-le-Street, Chilton, Tiverton, Broughton Astley, Islip, Witham and Chelmsford agglomerations, before discharge into sensitive areas, be subject to more stringent treatment than that described in Article 4 of that directive.

67 The Commission states that those eight agglomerations discharge their waters into areas designated as sensitive under Directive 91/271 and require the installation of tertiary treatment designed to remove any phosphorus from those urban waste waters.

68 The Commission states, in particular, that the Durham (Barkers Haugh) and Chester-le-Street agglomerations discharge their waste waters into the river Wear, whereas the Tiverton, Broughton Astley, Islip and Chilton agglomerations discharge their waste waters into the Rivers Creedy, Soar, Nene and Skerne (Tees), respectively.

69 The Commission states that although the United Kingdom contends that the works required to ensure compliance with Article 5 of Directive 91/271 are planned or underway at Tiverton and Broughton Astley, until the works are completed and a full year's data showing compliance with the requirements of that directive is provided, the situation in those agglomerations does not comply with that directive.

70 Similarly, the Commission submits that, even if the installation of tertiary treatment works serving the Durham (Barkers Haugh), Chester-le-Street, Islip and Chilton agglomerations were complete, as the United Kingdom contends, the situation of those agglomerations may not be regarded as complying with the requirements of Directive 91/271 in the absence of a full year's data.

71 In that regard, the Commission submits that the fact that a treatment plant exists and its operation has been established by means of a sampling listing, the specific values of which are in compliance with the requirements of Table 1 of Annex I to Directive 91/271, is not sufficient to demonstrate that the treatment of urban waste water satisfies the requirements of that directive. Only the taking of a minimum of 12 samples would enable the proper functioning of treatment plants to be checked. It emphasises that the Court validated that point of view in paragraph 48 of the judgment of 15 October 2015, *Commission* v *Greece* (C-167/14, not published, EU:C:2015:684).

72 As regards the Witham and Chelmsford agglomerations, it is apparent from the United Kingdom's letters of 11 September 2014 and 27 April 2015 that the discharges into a sensitive area from those two agglomerations allegedly result from an error in mapping the boundary of the Rivers Can, Wid and Chelmer Sensitive Area, designated as such on 30 July 1998. While the Commission understands that that infringement of Directive 91/271 may be caused by a mapping error, it considers that, at the time of lodging its application, that error was not rectified and that the discharges into a sensitive area are ongoing whereas the deadline for compliance was 30 July 2005.

73 The United Kingdom states that tertiary treatment had been installed in December 2015 in the Tiverton and Broughton Astley agglomerations and that the first samples produced results which were below the maximum permitted level in Directive 91/271, thereby showing their compliance with Article 5 of that directive.

74 As regards the Durham (Barkers Haugh), Chester-Le-Street and Chilton agglomerations, the United Kingdom concedes that, on 11 September 2014, the situation in those agglomerations did not comply with Article 5 of Directive 91/271, but contends that that is no longer the case now. In that regard, it states that improvement works were completed at Durham (Barkers Haugh) and at Chester-le-Street by 31 December 2014 and at Chilton by 31 March 2015. The United Kingdom adds, in its rejoinder, that samples taken show that the installations in those agglomerations have complied with the requirements of Directive 91/271 in the field, in the case of the Durham (Barkers Haugh) agglomeration since January 2015, the Chester-le-Street agglomeration since November 2014 and the Chilton agglomeration since May 2015.

75 The United Kingdom contends, in addition, that the situation in the Islip agglomeration complied with the requirements of Directive 91/271 as at 11 September 2014. The United Kingdom submits, in its defence, the results of seven samples showing, in its view, compliance with the parameters laid down by that directive and, to that end, includes further samples in annex to its rejoinder. In that regard, the United Kingdom contends that the Commission wrongly conflates a Member State's obligation to ensure compliance with Articles 4 and 5 of, and Section B of Annex I to, Directive 91/271 with the separate obligation to monitor discharges in order to verify compliance under Article 15 of, and Section D of Annex I to, that directive. The United Kingdom also disputes the Commission's reading of the judgment of 15 October 2015, *Commission* v *Greece* (C-167/14, not published, EU:C:2015:684).

76 As regards the Witham and Chelmsford agglomerations, the United Kingdom relies on a mapping error in the boundary of the Rivers Can, Wid and Chelmer Sensitive Area, and contends that those two agglomerations never discharged into sensitive waters, so that more stringent treatment was not required. In its rejoinder, the United Kingdom states that that error was formally corrected with effect from 29 January 2016.

Findings of the Court

77 First of all, the Court points out that it is common ground that the eight agglomerations concerned by the third complaint have a p.e. of more than 10 000.

78 In accordance with Article 5(2) and (3) of Directive 91/271, for agglomerations of more than 10 000 p.e., apart from exceptions which are not applicable to the present case, first, urban waste water entering collecting systems must, before discharge into sensitive areas, be subject to more stringent treatment than that described in Article 4 of that directive and, secondly, those discharges must satisfy the relevant requirements of Section B of Annex I to that directive.

79 As regards Section D of Annex I to Directive 91/271, which in the context of its third complaint also the Commission alleges has been infringed, it should be recalled, as is apparent from paragraph 62 above, that the requirements set out in that provision are linked to the monitoring obligation referred to in Article 15 of that directive. Since the Commission does not ask the Court, in the context of its third complaint, to find that Article 15 has been infringed, the third complaint must be rejected in so far as it refers to Section D of Annex I to Directive 91/271.

80 As regards the Durham (Barkers Haugh), Chester-le-Street, Chilton, Tiverton and Broughton Astley agglomerations, the United Kingdom acknowledges that the situation of those agglomerations did not satisfy the requirements of Article 5 of, and Section B of Annex I to, Directive 91/271, when the period specified in the reasoned opinion expired. It is indeed apparent from the letter in reply to the reasoned opinion, dated 11 September 2014, that works were needed in those five agglomerations to install tertiary treatment in order to comply with the provisions of Directive 91/271.

81 By contrast, the United Kingdom denies infringement as regards the Islip, Witham and Chelmsford agglomerations.

82 First, the United Kingdom contends that improvement works at Islip were completed on 31 March 2014, and that that agglomeration complied with Directive 91/271 on 11 September 2014.

83 As regards the bringing of the Islip agglomeration's installations into compliance with the requirements of Directive 91/271, it is apparent from the documents before the Court, in particular from Annex B.10 to the United Kingdom's defence, that the oldest sample referred to in order to prove such compliance dates from 14 April 2015. It must, therefore, be found that it is not established that the treatment of the Islip agglomeration's waste water complied with the requirements of Directive 91/271 as at 11 September 2014.

84 Secondly, as regards the Witham and Chelmsford agglomerations, the United Kingdom has referred, since the pre-litigation stage, to a mapping error in the boundary of the Rivers Can, Wid and Chelmer Sensitive Area, into which the discharges from those agglomerations flow. The United Kingdom contends, therefore, that those agglomerations should never have been subject to the obligations of Article 5 of Directive 91/271.

85 The United Kingdom does not, however, deny that the territory of the Rivers Can, Wid and Chelmer was designated a sensitive area by it on 30 July 1998, and that that designation was revised only on 29 January 2016. In addition, the evidence submitted to the Court shows unequivocally that, on 11 September 2014, that territory formed part of the areas designated as sensitive by the United Kingdom and that the urban waste waters of the Witham and Chelmsford agglomerations flowing into that sensitive area were not the subject of the treatment required under Article 5 of Directive 91/271. The infringement, in so far as it relates to the United Kingdom's obligations under Article 5 of, and Section B of Annex I to, Directive 91/271, is, therefore, established.

86 In those circumstances, it must be found that by not ensuring that urban waste water entering collecting systems from the Tiverton, Durham (Barkers Haugh), Chester-le-Street, Islip, Broughton Astley, Chilton, Witham and Chelmsford agglomerations, before discharge into sensitive areas, be subject to more stringent treatment than that described in Article 4 of Directive 91/271, the United Kingdom has failed to fulfil its obligations under Article 5 of, and Section B of Annex I to, that directive. The third complaint must be rejected as to the remainder.

87 It follows from all the foregoing considerations that:

– by not ensuring that the waters collected in a combined urban waste waters and rainwater system in the Gowerton and Llanelli agglomerations are retained and conducted for treatment, in compliance with the requirements of Directive 91/271, the United Kingdom has failed to fulfil its obligations under Articles 3, 4 and 10 of, and Sections A and B of Annex I to, that directive;

– by not putting in place secondary treatment for the urban waste water in the Ballycastle agglomeration and by not subjecting the urban waste water in the Gibraltar agglomeration to any treatment, the United Kingdom has failed to fulfil its obligations under Article 4 of, and Section B of Annex I to, Directive 91/271; and

– by not ensuring that urban waste water entering collecting systems from the Tiverton, Durham (Barkers Haugh), Chester-le-Street, Islip, Broughton Astley, Chilton, Witham and Chelmsford agglomerations, before discharge into sensitive areas, be subject to more stringent treatment than that described in Article 4 of Directive 91/271, the United Kingdom has failed to fulfil its obligations under Article 5 of, and Section B of Annex I to, that directive.

88 The action must be dismissed as to the remainder.

Costs

Under Article 138(1) of the Rules of Procedure, the unsuccessful party is to be ordered to pay the costs if they have been applied for in the successful party's pleadings. Since the Commission has applied for costs and the United Kingdom's failure to fulfil its obligations has in substance been established, the United Kingdom must be ordered to pay the costs.

On those grounds, the Court (Ninth Chamber) hereby:

1. **Declares that, by not ensuring that the waters collected in a combined urban waste waters and rainwater system in the Gowerton and Llanelli agglomerations are retained and conducted for treatment, in compliance with the requirements of Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment, the United Kingdom of Great Britain and Northern Ireland has failed to fulfil its obligations under Articles 3, 4 and 10 of, and Sections A and B of Annex I to, that directive;**

2. **Declares that, by not putting in place secondary treatment for the urban waste water in the Ballycastle agglomeration and by not subjecting the urban waste water in the Gibraltar agglomeration to any treatment, the United Kingdom of Great Britain and Northern Ireland has failed to fulfil its obligations under Article 4 of, and Section B of Annex I to, Directive 91/271;**

3. **Declares that, by not ensuring that urban waste water entering collecting systems from the Tiverton, Durham (Barkers Haugh), Chester-le-Street, Islip, Broughton Astley, Chilton, Witham and Chelmsford agglomerations, before discharge into sensitive areas, be subject to more stringent treatment than that described in Article 4 of Directive 91/271, the United Kingdom of Great Britain and Northern Ireland has failed to fulfil its obligations under Article 5 of, and Section B of Annex I to, that directive;**

4. **Dismisses the action as to the remainder;**

5. **Orders the United Kingdom of Great Britain and Northern Ireland to pay the costs.**

Juhász Vajda Lycourgos

Delivered in open court in Luxembourg on 4 May 2017.

A. Calot Escobar

E. Juhász

Registrar

President of the Ninth Chamber

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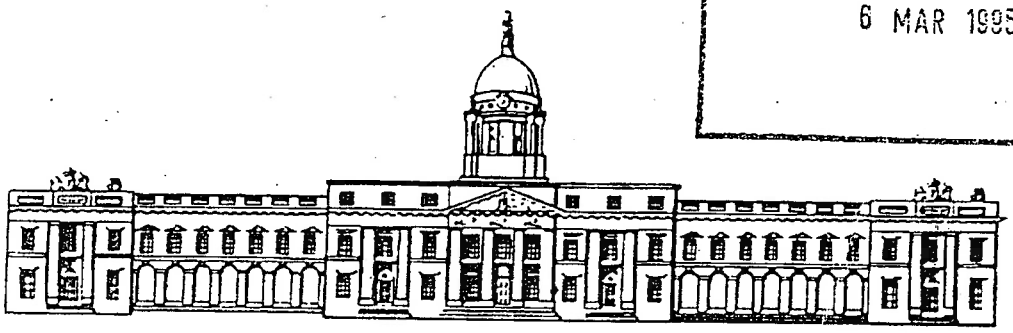
* Language of the case: English.

URBAN WASTE WATER TREATMENT DIRECTIVE (91/271/EEC)

Procedures and Criteria in relation to Storm Water Overflows



DEPARTMENT OF THE

ENVIRONMENT

Contents

Storm Water Overflows

1. Introduction

The Urban Waste Water Treatment Directive 91/271/EEC(UWWTD) which came into effect on 30 June, 1993 provides a framework for action to deal with the pollution threat from urban and industrial waste water. In relation to urban waste water, specific requirements apply to the provision of collecting systems and treatment plants and Member States must also decide on measures to limit the pollution from storm water overflows. This paper is intended to assist local authorities and their consulting engineers in the evaluation of requirements for implementation of the latter aspect of the UWWTD. In particular, the paper indicates the general approach and the design criteria to be followed and discusses the way these criteria might be implemented.

The overall approach is to ensure that the efficiency of the collecting system is considered in addition to the efficiency of the ultimate treatment process. In this way, the overall performance of the sewerage system is defined rather than that of the treatment plant only.

The European Commission has commissioned a consultant to carry out a review study of stormwater pollution control systems used in EU Member States. The purpose of the study is to do a comparative analysis of current practices in terms of environmental benefit and economic consequences, to develop general and technical guidelines and recommendations for good practice which can be adopted by waste water operators, and to propose suitable variants to the general guidelines to meet local needs where appropriate. The criteria and guidelines set out in this paper will be reviewed in due course in the light of any recommendations of the study report which is due to be completed shortly.

2. Directive's Requirements

Article 3 of the Directive requires Member States to "ensure that all agglomerations are provided with collecting systems for urban waste water,

- at the latest by 31 December, 1998 for those with a population equivalent of more than 10,000 discharging into a sensitive area

- at the latest by 31 December, 2000 for those with a population equivalent (p.e.) of more than 15,000, and

- at the latest by 31 December, 2005 for those with a population equivalent of between 2,000 and 15,000.

It further requires that collecting systems satisfy the requirements of Annex 1(A) of the Directive which stipulates that

"The design, construction and maintenance of collecting systems shall be undertaken in accordance with the best technical knowledge not entailing excessive costs, notably regarding:

- volume and characteristics of urban waste water,

- prevention of leaks,

- the limitation of pollution of receiving waters due to storm water overflows."

In a footnote to the above requirements, the Directive recognises that it is not possible in practice to construct collecting systems and treatment plants in a way such that all waste water can be treated during situations such as unusually heavy rainfall. As a result, it requires Member States to decide on measures to limit pollution from storm water overflows and suggests that such measures:-

(1) could be based on

- dilution rates, or
- capacity in relation to dry weather flow, or

(2) could specify a certain acceptable number of overflows per year.

3. Quality Standards

3.1 General

Apart from the specific requirements of the UWWTD, certain quality standards or objectives for the aquatic environment must be considered in relation to the provision of upgraded or new storm water overflows. These comprise standards in the following European Union Directives:-

- Council Directive of 8 December 1975 concerning the quality of bathing water (76/160/EEC)

- Council Directive of 18 July 1978 on the quality of fresh waters needing protection or improvement in order to support fish life (78/659/EEC)

- Council Directive of 30 October 1979 on the quality required of shellfish waters (79/923/EEC)

- Council Directive of 16 June 1975 concerning the quality required of surface water intended for the abstraction of drinking water in Member States (75/440/EEC)

These standards have been given legal effect in Ireland in each case by means of the following national Regulations:-

- S.I. No. 155 of 1992 Quality of Bathing Water Regulations, 1992 and S.I. No. 145 of 1994 Quality of Bathing Waters (Amendment) Regulations, 1994;

- S.I. No. 293 of 1988 European Communities (Quality of Salmonid Waters) Regulations, 1988;

- S.I. No. 200 of 1994 Quality of Shellfish Water Regulations, 1994;

- S.I. No. 294 of 1989 European Communities (Quality of surface water intended for the abstraction of drinking waters) Regulations, 1989.

These Regulations generally require compliance with the imperative (I) standards prescribed but, in the case of bathing waters, it should be noted that the guide values therein must be the aim, since it is adherence to the guide values (and not the mandatory I values) which enables areas to qualify for Blue Flag status.

Apart from the need to ensure that the standards set in Regulations are complied with, sanitary authorities must also consider standards (or objectives) set down in Water Quality Management Plans as well as the standards/objectives recommended by the Technical Committee on Effluent and Water Quality Standards in its "Memorandum No 1 : Water Quality Guidelines (1979 Report). Information Note: In regard to the latter Memorandum, the Department is at present considering the making of regulations under Section 26 of the Water Pollution Act 1977 setting quality standards in regard to waters generally for a range of List II Dangerous Substances pertinent to the Irish situation.

3.2 Bathing Waters

As regards the protection of bathing waters, restricted spill frequency and volume of storm water discharged is required during the bathing season from mid-May to August.

The use of Time Series Rainfall for storm events confined to these months allows the determination of frequency and volume of spill using the calibrated hydraulic model of the network. Iterative use of the model with a variety of storage volumes will determine the solution to satisfy the limits adopted.

The National Rivers Authority (NRA) in the UK has set out standards for consenting storm water overflows into or in close proximity to bathing areas and water contact/recreational use waters and these standards
can be summarised as follows:

- The maximum number of independent storm events discharged via the SWO must not, on average, exceed 3 per bathing season for identified bathing waters unless it can be shown that the design will achieve the water quality standards of the Bathing Water Directive for at least 98.2% of the time.

- The maximum number of independent storm events discharging via storm water overflows affecting water contact/recreational use waters must not, on average, exceed 7 times per bathing season.

- The soffit level of the overflow outfall must be located below the level of the low water mark of mean spring tides (MLWS); otherwise a spill frequency criterion of 1 spill in 5 bathing seasons will apply.

- Normally the incoming flow must exceed that calculated from "Formula A[1]" before the storm water overflow spills unless there are high dilutions available.

- Discharge flows are required to be screened to at least 10mm and where the frequency of spill is greater than once per year, 80% of the volume should be screened to at least 6mm.

Network models using the WALLRUS software package can be used to establish the storage volume requirements to meet the criteria for potential SWO spills to the identified bathing waters.

The type of screen used to achieve the requirements should be of the screenings retention type and not of the removal type. That is, the screenings intercepted by the screen should be retained in the sewer system and not removed for separate disposal. This will reduce running and maintenance costs of screening at storm water overflows.

3.3 Sensitive Areas

The requirements for effluent treatment prior to discharge to sensitive areas is for a minimum percentage reduction of 80% of total phosphorus and 70-80% of total nitrogen. It would appear reasonable that a volume reduction in storm sewage spill of this magnitude would be a consistent standard in this area. That is, the volume overflows as a percentage of rainfall run-off volume to the foul sewer would be a maximum of 20%.

This will require that a combination of storage and other sewerage improvements be considered to contain 80% of storm water run-off using Time Series Rainfall analysis in the Wallrus models for the contributing catchments. This level of containment(80%) would be a minimum value and should correspond to a proportionately higher percentage containment of nutrients since part of the nutrient load is carried in suspended solids, retention of which would be maximised in the design of the overflow structures.

4. Assessment Criteria for Existing SWO's

In assessing the operation of an existing SWO, one must determine if it:

(1) causes significant visual or aesthetic impact and public complaints,

(2) causes deterioration in water quality in the receiving water,

(3) gives rise to failure in meeting the requirements of national Regulations on foot of EU Directives(Bathing Waters, etc.)

(4) operates in dry weather.

5. Options following Assessment

Following assessment of an SWO on the basis of the criteria set out above, there are a number of options which can be considered in the context of remedying any capacity constraints. The first and most widely used option is an upgrading of the existing system. As the design considerations associated with upgrading also apply to new SWO's, these are dealt with together in section 6 below. Other options are "use of storage" and "active control". The use of storm water storage tanks is increasingly recommended as an alternative to the up-sizing of downstream capacity and this is dealt with in section 7 below. Active control, which involves effective use of spare storage capacity of sewer networks, is a relatively new approach and is dealt with in section 8 below.

6. Upgrading SWO's/New SWO's

6.1 Design Criteria

The general criterion for the future design of storm water overflows is defined as an absence of visible signs of sewage-derived debris (e.g. oil slicks, foaming etc.) and of deposits or algal growths caused by sewage discharge. This requires that the effects of organic/nutrient loads deposited in bed sediments must also be considered.

Design criteria for storm water overflows must take into consideration the following:

- beneficial uses of receiving waters and corresponding standards and water quality objectives,

- the nature and strength of sewage including the effects of re-suspension and "first foul flush" effects which may increase rather than diminish sewage strength in the sewer with increasing flow, and policy in relation to industrial discharges to the sewer,

- the siting of overflow discharges and their potential for aesthetic nuisance, and

- the type of overflow and its efficiency in containing as far as possible floating debris and solids generally, i.e. maximum solids separation.

6.2 Design Principles

The main difficulty in relation to setting standards for storm water overflows is the lack of information available on the effects of transient shock loadings on the receiving water and the difficulty of predicting their effects. Random physico-chemical sampling may not identify pollution associated with overflows. Biological sampling and assessment of receiving waters and bed sediments provides a more accurate assessment of on-going environmental conditions. Such sampling will be expected to indicate the biological impact of transient pollution.

The minimum setting for storm water overflows has traditionally been six times dry weather flow (6 DWF). In the UK this approach was replaced by "Formula A" following the report of the Technical

Committee on Storm Overflows and the Disposal of Storm Sewage (HMSO 1970)[1].

This is defined as follows:

$$\text{Formula A} = DWF + 1.36P + 2E \text{ m3/ day}$$

where 'P' is the population served and 'E' is the industrial effluent flow.

This provides broadly for 6 DWF from the domestic contribution but uses only a factor of 2 on the industrial effluent flow. This appears very low particularly where industrial effluent comprises a significant proportion of the total flow and constitutes high strength wastes with potentially toxic impacts. This was recognised in the report with a recommendation to increase the term '2E' in such situations.

Formula A should be considered as the minimum overflow setting in all situations whilst, at the same time, recognising its limitations in that

- no account is taken of the impermeable area draining to the overflow,
- no account is taken of the flow regime or use of the receiving water,
- there is no set method for making allowances for industrial discharges,
- no account is taken of the impact of intermittent pollution on the quality of the receiving water.

In addition, the following steps should also be applied:

(i) subjective criteria should be applied to exclude spills to minor watercourses and small, relatively clean, streams and such receiving waters should be deemed unsuitable for such discharges,

(ii) storm overflow structures should be designed in accordance with the WRc publication ER304E[2] with acceptable types of overflow structure limited to high side weir, stilling basin and vortex chamber overflows designed to achieve efficient solids separation and retention,

(iii) outlet control should maximise the retained flow at a near constant rate within the system capacity,

(iv) such an overflow should be designed for effective containment of detritus and floating debris,

(v) overflow structures should be capable of being properly maintained with provision for adequate ventilation, safe access and lighting,

(vi) overflow discharge points should be discreetly located and for, coastal outfalls, should be taken, where practical, to low water level,

(vii) traditional structures of the low side weir type and ad-hoc overflows of the hole-in-the-wall type should in time be replaced by properly designed overflows, rationalised where possible to a minimum number of overflow structures for each system.

The preliminary assessment of each overflow should also have regard to possible "first foul flush" effects. These will depend on the nature of the sewage and the nature of the sewers upstream and their gradients. Such flows have the potential for severe pollution due to extremely high BOD_5 levels, potentially toxic levels of ammonia and hydrogen sulphide, and long term degradation associated with a high level of organic solids deposited on the bed of the receiving water which continue to depress dissolved oxygen levels and release nutrients.

In general, research has shown that sewage strength frequently increases significantly during this "first foul flush" period, which tends to approximate to the time of concentration 'T_c', following which the strength decreases and the effects of dilution become evident.

6.3 Detailed Design Requirements

A well designed and effective SWO must be capable of meeting the following general requirements:

(1) good hydraulic control,

(2) good separation of gross pollutants,

(3) reliability,

(4) minimal maintenance requirements, and

(5) reasonable cost.

Generally, SWOs designed to WRc Report ER304E will meet these requirements though the hydraulic control (in particular for smaller SWOs) and the separation of gross solids needs careful consideration.

Hydraulic control at SWOs may be achieved by orifice plate, throttle pipe, vortex regulators or by adjustable penstocks. The WRc Report recommends that orifice throttles should have a diameter of opening of at least 200mm to reduce the risk of blockage. Likewise the diameter of a throttle pipe should not be less than 200mm and its length should ideally be between 3m and 30m long. Where penstocks are used, a clear ope capable of passing a 200 mm sphere should be provided. A vortex regulator may be used where the minimum required dimension of opening of 200mm cannot be met . These are usually of stainless steel construction and are fitted into the entrance of the continuation pipe. This device restricts the flow passing forward while allowing solid objects to pass through unrestricted. Generally each device is designed for the specific application and will require some maintenance from time to time.

Recommended chamber dimensions are given in the WRc Report for high side weir and stilling pond overflows to ensure good separation of gross polluting solids. The Report notes that, as performance is sensitive to minor changes in configuration, care should be taken not to deviate from the recommended chamber dimensions. Vortex overflows do not rely on a stilling effect to separate gross solids but require a significant drop in invert (1.5 times inlet diameter) and are therefore best suited to sewers with steeper gradients.

Hydro-dynamic separators are now available in prefabricated form which facilitates installation. These operate in a similar manner to vortex overflows with peripheral spill. Care should be taken in the selection of such devices to ensure that effective solids separation and hydraulic control is achieved.

The WRc Report recommends that screens should only be used in exceptional circumstances, for example, where the receiving water has a high amenity value. Where they are used, proper attention should be given to their location, the velocity of flow through the screens, raking and maintenance arrangements.

6.4 Planning Methodologies

Various methods are available or are currently being developed for establishing discharge settings and acceptable spill regimes. The use of a particular method is dependent on the level of significance placed on the particular overflow and the receiving water at the discharge point. This should be based on a combined assessment of the size of the contributing catchment, the available dilution, and the classification of the receiving water at the location of the overflow.

The Urban Pollution Management Steering Group(UK) have developed criteria for the initial assessment. Table 1 in Appendix 1 sets out the criteria for freshwaters and Table 2 those for coastal waters and estuaries. Recommended approaches depending on the level of significance of the overflow are set out in Appendix 2. These appendices are included for general guidance only; it will be necessary to examine each situation on its merits.

7. Use of Storage

The use of storm water storage tanks is increasingly recommended as an alternative to the up-sizing of downstream capacity for reducing or eliminating storm water overflows. These tanks can be on-line or off-line and operate on the principle that flows in excess of the downstream capacity can be contained until the storm has sufficiently abated to allow the stored storm water to be returned to the sewer. The downstream capacity of the system is therefore maximised and overflows are minimised. The tanks are generally sized to contain the overflow that would arise from a storm with a specific return period, the 'design event' . Typically, a storm of one hour duration with a return period of five years is used for a built-up area.

Calibrated hydraulic models of sewer networks are being developed which will be used in conjunction with Time Series Rainfall[3] to calculate overflow frequency and volumes. Use of sampling data of recognised parameters will allow estimates to be made of the pollution loads associated with such overflows.

Experience has shown that relatively modest storage volumes can appreciably reduce the frequency of overflows. While the reduction in the volume of overflow may not be as significant, overflows from major storm events will be relatively dilute discharges coinciding with relatively high flows in receiving waters. These conclusions are evident from consideration of the pattern of rainfall - occasional extreme events of high intensity and critical duration as compared with the majority of rainfall which tends to be of relatively low intensity.

The design of storm water storage tanks to effectively retain floatables and for ease of cleaning out and maintenance is very important. Traditionally, small storm tanks have been circular tanks designed exactly as for settling tanks. Larger storm tanks have tended to be rectangular in shape containing chain driven scraper equipment for cleaning out of settleable solids. A number of methods have now been developed including the "tipping bucket" method to wash out flood deposits at the end of tank use. This system comprises a container fabricated from stainless steel mounted on bearings on the end wall of the tank. The shape of the container is designed so that it automatically tips and empties when full thus flushing the settled deposits on the floor of the tank to the return sump. The number and capacity of tipping buckets required to effectively clean the tank is a function of the dimensions of the tank.

8. Active Control

Sewer systems, particularly large trunk sewer networks in cities and large towns, have significant storage volumes which could be more effectively utilised to reduce pollution from SWOs. Active (or real time) control of a combined sewer system will result in optimised performance from existing control structures and more cost effective upgrading of the system. Sewer system controls using telemetry to collect information and remotely operated control structures have been introduced in some major cities in Europe and the U.S. to take advantage of these benefits thus reducing the amount of capital investment required. The tools necessary to be capable of implementing active control in a sewer system are:

- spare capacity in the sewers,
- spatial variability in rainfall,
- knowledge of rainfall pattern and the response of the sewer network,
- data collection sensors,
- decision making system,
- operating hardware including telemetry control system.

Such systems will bring the operation of sewerage networks into a new era of management control which to date has been employed only on the distribution of potable water. The key to such control is data collection and an understanding of the way the sewerage network responds to rainfall events. Such an understanding will allow the operator derive maximum benefit from

the existing infrastructure and make informed decisions on cost effective improvements. From an Irish perspective, the potential for using active control would be limited to the larger urban centres where justification may be found for the costs involved.

9. Catchment Management

Future developments will undoubtedly include a more integrated approach to catchment management. This will result in river models together with sewage treatment works models and sewer network models being used to predict impacts of discharges on receiving waters for parameters such as dissolved oxygen, BOD_5, SS etc. This will lead to a better understanding of impacts on river water quality and will require that a much broader approach be adopted by engineers involved in the design and management of urban wastewater systems.

Table 1 - UPM Indicative Impact Assessment Criteria for Storm Overflows to Freshwaters
Low Significance Dilution > 8 : 1 (foul DWF @ 95% ile flow) No interaction with other discharges
Medium Significance Dilution < 8 : 1 Limited or no interaction with other discharges > 2,000 population equivalent Cyprinid fishery only if all these criteria apply.
High Significance Dilution < 2 : 1 Interaction with other discharges > 10,000 population equivalent Cyprinid or salmonid fishery only if all of these criteria apply

Table 2 UPM Indicative Impact Assessment Criteria for Storm Overflows to Coastal Waters and Estuaries
Low Significance Estuarial and coastal waters not containing EC identified bathing waters and shellfish waters
Medium Significance Population equivalent 2,000 - 10,000 Affects identified bathing waters and shellfish waters only if both criteria apply.
High Significance Population equivalent > 10,000 Affects identified bathing waters and shellfish waters only if both criteria apply.

Appendix 1

Appendix 2

A. Low Significance SWOs

For overflows of low significance minimum data techniques such as "Formula A", SDD Method[4], and QUALSOC[5] would be used. The SDD Method developed by the Scottish Development Department is an improvement on "Formula A" in that an account, albeit arbitrary, is made of the available dilution in the receiving water to recommend the size of storage tanks to be provided at an overflow. These recommendations are reproduced in Table 3 attached. It should be noted that the dilution factor used is that normally used for treatment works discharges and is therefore not a measure of the dilution of the overflow discharge but simply a measure of the relative size of the sewerage system and the river. Apart from this improvement, the limitations listed above with regard to "Formula A" apply equally to the SDD Method.

QUALSOC was the next improvement to the use of "Formula A" and was developed by the Welsh Water Authority. In principle the method is a dilution model which estimates the flow and pollutant concentration being discharged from the overflow, dilutes this with the estimated flow in the river and compares the resulting pollutant concentration with desirable limits. However, it does this by estimating discharges without having a model of the sewerage network or of the river to calculate the impact of discharges from particular events. The results therefore require careful interpretation to determine what they actually mean. The main limitations of this approach are that considerable skill is required to answer the following questions:

- what flow is likely in the river when the overflow is occurring?

- how frequently will the overflow occur?

- what effect will a "first foul flush" have?

- is there interaction with other discharges?

Table 4 attached shows the National Rivers Authority (U.K.) guidance standards for the use of QUALSOC.

Relatively little data about the sewer network or receiving water is required for any of these methods. Shortcomings include the limited consideration given to the environmental impact of the discharge and the inability to size any in-sewer flow attenuation facilities to counter restricted downstream capacity. Solutions identified by these methods may not be the most cost effective as a result.

B. Medium Significance SWOs

For overflows of medium significance the use of a hydraulic model such as WALLRUS for the sewer network and what are known as the Interim Procedure and CARP[6], (Comparative Acceptable River Pollution), would be appropriate.

The Interim Procedure estimates concentrations of various pollutants in overflow discharges and was first introduced in the second edition of the Sewerage Rehabilitation Manual[7]. It was designed to be used with a sewer hydraulic model which would predict the volume of overflow spill. The Procedure is based on a simplifying assumption that the pollutant concentration can be represented by an average concentration that was constant throughout the spill and that was the same for each rainfall event. The pollutant concentrations can be obtained in three

ways, given here in order of increasing cost:

1. Use the figures published with the Procedure which were derived from taking samples of overflow spill from about eight catchments and are reproduced in Table 5 attached.

2. Measure concentrations in the dry weather flow and use the dilution factors published with the Procedure which were derived from the same catchments and are reproduced in Table 6 attached.

3. Install sampling equipment at overflows and measure concentrations during a number of spill events to produce site specific average concentrations.

The CARP technique was developed by the WRc to give a method of comparing the impact of discharges to a receiving water. This involved looking not just at the total load of pollutant in a year, but at the pattern of discharge of pollutants throughout the year. It also developed a measure of the impact of the discharge which should be independent of the river size. There are limitations to the use of this procedure:

- The average concentrations for pollutant discharge are intentionally chosen to represent the highest likely concentration, and so will overestimate the spill.

- The average concentrations do not take into account change in concentration during an event in particular "first foul flush" effects or the beneficial effects of storage tanks in capturing the "first foul flush" and only spilling the later, cleaner flow.

- Only one standard river has been defined for this procedure which is for a Class 2, fast flowing stream. There is a doubt as to whether the standard applies to rivers of different character, for example, lowland rivers or very large rivers.

- The results can be influenced by the choice of river reach length used in the calculations.

For coastal discharges the hydraulic network model can be used directly to assess compliance with a spill frequency criterion. While there is a need for a considerably larger amount of data for these methods, their use in addition to taking the impact on the receiving waters into consideration, also allows storm water detention facilities to be sized with some confidence.

C. High Significance Overflows

For overflows of high significance, the use of complex models is justifiable. For the inland waters a sewer quality simulation model such as MOSQITO[8] and a dynamic impact model such as MIKE 11[9] would be employed, in addition to the WALLRUS model, together with a method to generate suitable Time Series Rainfall data where adequate historical records do not exist.

MOSQITO has been developed to simulate the changing quality of sewage throughout a storm event and models BOD, COD Suspended Solids and Ammonia. Standard pollutant mixture characteristics are given for use where local data are not available. Characteristics are also given for pipe sediments in combined systems and for pollutants initially in gully pots. Verification of the model is essential and is structured so that the standard values used to construct the model are replaced by measured values in stages, and only if necessary. This ensures that only essential data need be collected and a catchment which is accurately represented using the standard values can be modelled with the minimum of data collection.

MIKE 11 is a software package for simulating river water quality for selected parameters which can be used to assess the impact of storm water overflow discharges and check compliance with water quality objectives.

For marine situations, a marine advection/dispersion model would be required to assess the bacteriological impact relative to the criteria set down in the Bathing Water Directive.

As the costs associated with data collection, setting up, calibration and verification of these models are substantial their use should be restricted to the major urban schemes with high significance overflows. Where they are used, the benefits of having a detailed model of the existing system and the ability to test the effects of various options allows much greater confidence in the proposed solution. This should lead to more cost effective

solutions being proposed.

The level of investment that should be put into the preparation of these models should, of course, be assessed by taking into consideration, not alone the likely savings to be made in the short term by the construction of the more cost effective solutions that will be developed by their use, but also by the ongoing benefits such models will provide in assessing the performance of the augmented sewer network.

Table 3 SDD Method Recommended Storage at Overflows		
Dilution Factor	Overflow Setting	Storage Tank
> 8	Formula A	None
> 6	Formula A + 455P	None
	or Formula A	40 l / hd
> 4	Formula A	40 l / hd
> 2	Formula A	80 l / hd
> 1	Formula A	120 l / hd

Dilution factor = Average DWF / 95% ile flow.

Table 4 NRA Guidance Standards for QUALSOC Models			
River Class	BOD Limit		
	95%ile mg/l	99%ile mg/l	MAC mg/l
1B	5	9	12
2	9	16	20

Table 5 Interim Procedure Stormflow Concentrations		
Determinand	Flat Catchments	Steep Catchments
	mg/l	mg/l
BOD	125	75
COD	390	330
NH3	8	4
SS	420	340

Table 6 Interim Procedure Dilution Factors		
Determinand	Flat Catchments mg/l	Steep Catchments mg/l
BOD	0.5	0.3
COD	0.7	0.9
NH3	0.3	0.3
SS	1.5	1.5

References

1. Technical Committee on Storm Overflows and the Disposal of Storm Sewage; Final Report. Ministry of Housing and Local Government. HMSO 1970.

2. A guide to the design of storm overflow structures. Water Research Centre Report ER304E 1988.

3. Time Series Rainfall. Water Research Centre Report ER195E.

4. Storm Sewage Separation and Disposal. - Scottish Development Department HMSO 1977.

5. QUALSOC. Storm Sewage Overflow Policy Group, October 1988. Welsh Water Authority.

6. Interim Water Quality Planning Procedures for Controlling Intermittent Pollution from Storm Sewage Overflows. Water Research Centre Report ER317E 1988.

7. Sewerage Rehabilitation Manual - 2nd Edition. WRc 1986.

8. MOSQITO User Manual. HR Wallingford 1991.

9. MIKE 11 User Guide. Danish Hydraulic Institute 1990.

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UISCE EIREANN : IRISH WATER

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Irish Water
PO Box 448,
South City
Delivery Office,
Cork City.

www.water.ie

29 April 2022

Re: CDS21008799 pre-connection enquiry - Subject to contract | Contract denied

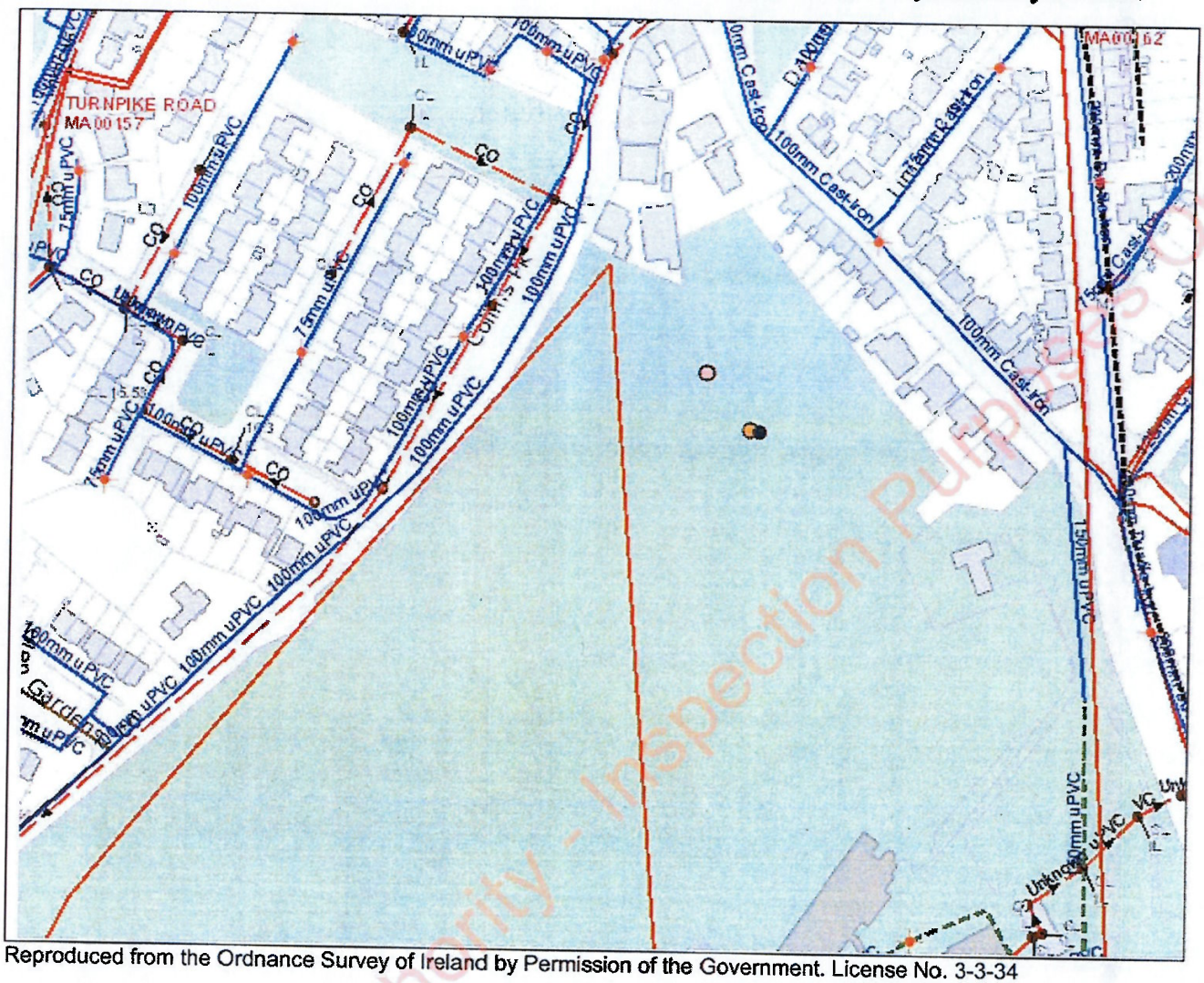
Connection for Business Connection of 1 unit(s) at Turnpike Road, Ennis, Clare

Dear Sir/Madam,

Irish Water has reviewed your pre-connection enquiry in relation to a Water & Wastewater connection at Turnpike Road, Ennis, Clare (the **Premises**). Based upon the details you have provided with your pre-connection enquiry and on our desk top analysis of the capacity currently available in the Irish Water network(s) as assessed by Irish Water, we wish to advise you that your proposed connection to the Irish Water network(s) can be facilitated at this moment in time.

SERVICE	OUTCOME OF PRE-CONNECTION ENQUIRY **THIS IS NOT A CONNECTION OFFER. YOU MUST APPLY FOR A CONNECTION(S) TO THE IRISH WATER NETWORK(S) IF YOU WISH TO PROCEED.**
Water Connection	Feasible without infrastructure upgrade by Irish Water
Wastewater Connection	Feasible without infrastructure upgrade by Irish Water
SITE SPECIFIC COMMENTS	
Water Connection	There is sufficient capacity for the proposed development.
Wastewater Connection	There is sufficient capacity for the proposed development.
The design and construction of the Water & Wastewater pipes and related infrastructure to be installed in this development shall comply with the Irish Water Connections and Developer Services Standard Details and Codes of Practice that are available on the Irish Water website. Irish Water reserves the right to supplement these requirements with Codes of Practice and these will be issued with the connection agreement.	

The map included below outlines the current Irish Water infrastructure adjacent to your site:



Reproduced from the Ordnance Survey of Ireland by Permission of the Government. License No. 3-3-34

Whilst every care has been taken in its compilation Irish Water gives this information as to the position of its underground network as a general guide only on the strict understanding that it is based on the best available information provided by each Local Authority in Ireland to Irish Water. Irish Water can assume no responsibility for and give no guarantees, undertakings or warranties concerning the accuracy, completeness or up to date nature of the information provided and does not accept any liability whatsoever arising from any errors or omissions. This information should not be relied upon in the event of excavations or any other works being carried out in the vicinity of the Irish Water underground network. The onus is on the parties carrying out excavations or any other works to ensure the exact location of the Irish Water underground network is identified prior to excavations or any other works being carried out. Service connection pipes are not generally shown but their presence should be anticipated.

General Notes:

1) The initial assessment referred to above is carried out taking into account water demand and wastewater discharge volumes and infrastructure details on the date of the assessment. **The availability of capacity may change at any date after this assessment.**
2) This feedback does not constitute a contract in whole or in part to provide a connection to any Irish Water infrastructure. All feasibility assessments are subject to the constraints of the Irish Water Capital Investment Plan.
3) The feedback provided is subject to a Connection Agreement/contract being signed at a later date.
4) A Connection Agreement will be required to commencing the connection works associated with the enquiry this can be applied for at https://www.water.ie/connections/get-connected/
5) A Connection Agreement cannot be issued until all statutory approvals are successfully in place.
6) Irish Water Connection Policy/ Charges can be found at https://www.water.ie/connections/information/connection-charges/
7) Please note the Confirmation of Feasibility does not extend to your fire flow requirements.
8) Irish Water is not responsible for the management or disposal of storm water or ground waters. You are advised to contact the relevant Local Authority to discuss the management or disposal of proposed storm water or ground water discharges
9) To access Irish Water Maps email datarequests@water.ie
10) All works to the Irish Water infrastructure, including works in the Public Space, shall have to be carried out by Irish Water.

If you have any further questions, please contact Shane Mcmanus from the design team by email to shane.mcmanus@water.ie For further information, visit **www.water.ie/connections.**

Yours sincerely,

Yvonne Harris

Yvonne Harris

Head of Customer Operations

Our Ref: AIER128

Date: 09 June 2023

Uisce Éireann
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Michael Duffy
1 Clós na hEaglaise,
Kilfenora,
Co. Clare.

duffycivileng@gmail.com

Dear Mr. Duffy,

I refer to your request dated 25 May 2023 and received by Uisce Éireann on 25 May 2023 under EU Directive 2003/4/EC (the **"Directive"**) (as transposed by the European Communities (Access to Information on the Environment) Regulations 2007–2018 (the **"Regulations"**) for the following information:

- *"All details regarding an assessment of pre-connection enquiry CDS21008799 and especially around the desktop analysis of the capacity currently available in the Irish Water networks as referred to in correspondence issued on 29 April 2022 (copy attached)."*

Following consideration of the provisions of the AIE Regulations, Uisce Éireann has reached a decision to grant your request on 09 June 2023. If you have any queries regarding this correspondence or would like to discuss your request further please contact foi@water.ie

I attach the relevant records returned by the decision-maker processing your AIE request. The decision-maker has advised that the Pre-Connection Enquiry (PCE) process involves three steps:

1. Customer submits completed PCE form to Uisce Eireann (Uisce Éireann).
2. Uisce Éireann/Local Authority Water Services assess the proposal and capacity in the Uisce Éireann assets;
3. Confirmation of Feasibility (COF) letter is issued to the Customer.

The information attached contains details of the assessments (Desk Top Analysis of Capacity) extracted from our Microsoft Dynamics 365 (D365) system that different stakeholders feed into.

Under Article 11 of the Regulations, you have a right to seek an internal review of our decision. An internal review must be requested within one month of receipt of our decision. There is no charge for requesting an internal review. If you would like to seek an internal review, you can do so by sending an email to foi@water.ie

Yours sincerely,

Noel Shannon
AIE Officer

Uisce Éireann

Pre-connection enquiry form

Business developments, mixed use developments, housing developments

This form is to be filled out by applicants enquiring about the feasibility of a water and/or wastewater connection to Irish Water infrastructure. If completing this form by hand, please use BLOCK CAPITALS and black ink.

Please refer to the **Guide to completing the pre-connection enquiry form** on page 13 of this document when completing the form.

*** Denotes mandatory/ required field. Please note, if mandatory fields are not completed the application will be returned.**

Section A | Applicant details

1 *Applicant details:

Registered company name (if applicable): HSE Midwest

Trading name (if applicable): N/A

Company registration number (if applicable): N/A

If you are not a registered company/business, please provide the applicant's name:

N/a

*Contact name: [redacted]

*Postal address: See Note 1

*Eircode: [redacted]

*Telephone: [redacted]

Mobile:

*Email: [redacted]

2 Agent details (if applicable):

Contact name: Alan Armstrong

Company name (if applicable): D. Fallon Consult. Eng

Postal address: Office 25, Calbro Court, Tuam Road, Galway

Eircode: H91YKH4

Telephone: [redacted]

Email: [redacted]

3 ***Please indicate whether it is the applicant or agent who should receive future correspondence in relation to the enquiry:**

Applicant [ ] Agent [x]

Section B | Site details

4 ***Site address:** Turnpike Rd, Ennis,
Co Clare

5 ***Irish Grid co-ordinates of site:** Eastings (X) 133674 Northings (Y) 176536

Eg. co-ordinates of GPO, O'Connell St., Dublin: E(X) 315,878 N(Y) 234,619

6 ***Local Authority:**

Local Authority that granted planning permission (if applicable):

Clare County Council

7 ***Has full planning permission been granted?** Yes [ ] No [x]

If 'Yes', please provide the current or previous planning reference number:

Section C | Development details

8 Please outline the domestic and/or industry/business use proposed:

Property type	Number of units	Property type	Number of units	Property type	Number of units
House		Apartments		Agricultural	
Office		School		Retail unit	
Residential care home		Institution		Industrial unit	
Hotel		Factory		Other	1
Other (please specify type)	100 Bed Community Nursing Unit				

9 *Approximate start date of proposed development: 01 / 04 / 2023

10 *Is the development multi-phased? Yes ☐ No ☒

If 'Yes', application must include a master-plan identifying the development phases and the current phase number.

If 'Yes', please provide details of variations in water demand volumes and wastewater discharge loads due to phasing requirements.

11 *Please indicate the type of connection required by ticking the appropriate box below:

Water ☐ Please go to Section D

Wastewater ☐ Please go to Section E

Both ☒ Please complete both Sections D and E

Section D | Water connection and demand details

12 ***Is there an existing connection to public water mains at the site?** Yes ☐ No ☒

12.1 If yes, is this enquiry for an additional connection to one already installed? Yes ☐ No ☒

12.2 If yes, is this enquiry to increase the size of an existing connection? Yes ☐ No ☒

13 **Approximate date water connection is required:** 01 / 04 / 2023

14 ***What diameter of water connection is required to service the development?** 150 mm

15 ***Is more than one connection required to the public infrastructure to service this development?** Yes ☐ No ☒

If 'Yes', how many? ☐☐

16 **Please indicate the business water demand (shops, offices, schools, hotels, restaurants, etc.):**

Post-development peak hour water demand	0.725 (See Calculation 2)	**l/s**
Post-development average hour water demand	0.58 (See Calculation 1)	**l/s**

Please include calculations on the attached sheet provided. Where there will be a daily/weekly/seasonal variation in the water demand profile, please provide all such details.

17 **Please indicate the industrial water demand (industry-specific water requirements):**

Post-development peak hour water demand	N/A	**l/s**
Post-development average hour water demand	N/A	**l/s**

Please include calculations on the attached sheet provided. Where there will be a daily/weekly/seasonal variation in the water demand profile, please provide all such details.

18 **What is the existing ground level at the property boundary at connection point (if known) above Malin Head Ordnance Datum?**

15.62 m

19 **What is the highest finished floor level of the proposed development above Malin Head Ordnance Datum?**

14.78 m

20 **Is on-site water storage being provided?** Yes ☐ No ☒

Please include calculations on the attached sheet provided.

21 **Are there fire flow requirements?** Yes ☐ No ☒

Additional fire flow requirements over and above those identified in Q16-17	N/A	**l/s**

Please include calculations on the attached sheet provided, and include confirmation of requirements from the Fire Authority.

22 **Do you propose to supplement your potable water supply from other sources?** Yes ☐ No ☒

If 'Yes', please indicate how you propose to supplement your potable water supply from other sources (see **Guide to completing the application form** on page 12 of this document for further details):

Section E | Wastewater connection and discharge details

23 ***Is there an existing connection to a public sewer at the site?** Yes ☐ No ☒

23.1 If yes, is this enquiry for an additional connection to the one already installed? Yes ☐ No ☒

23.2 If yes, is this enquiry to increase the size of an existing connection? Yes ☐ No ☒

24 ***Approximate date that wastewater connection is required:** 01 / 04 / 2023

25 ***What diameter of wastewater connection is required to service the development?** 225 mm

26 ***Is more than one connection required to the public infrastructure to service this development?** Yes ☐ No ☒

If 'Yes', how many?

27 **Please indicate the commercial wastewater hydraulic load (shops, offices, schools, hotels, restaurants, etc.):**

Post-development peak discharge	4.297 See Calculation 4	**l/s**
Post-development average discharge	3.438 See Calculation 3	**l/s**

Please include calculations on the attached sheet provided.

28 **Please indicate the industrial wastewater hydraulic load (industry-specific discharge requirements):**

Post-development peak discharge	N/A	**l/s**
Post-development average discharge	N/A	**l/s**

Please include calculations on the attached sheet provided.

29 **Wastewater organic load:**

Characteristic	Max concentration (mg/l)	Average concentration (mg/l)	Maximum daily load (kg/day)
Biochemical oxygen demand (BOD)	258.85 mg/l. See Appendix B	207.08 mg/l. See Appendix B	15.531 kg/day. See Appendix B
Chemical oxygen demand (COD)			
Suspended solids (SS)			
Total nitrogen (N)			
Total phosphorus (P)			
Other			

Temperature range	
pH range	

30 ***Storm water run-off will only be accepted from brownfield sites that already have a storm/surface water connection to a combined sewer. In the case of such brownfield sites, please indicate if the development intends discharging surface water to the combined wastewater collection system:**

Yes ☐ No ☒

If 'Yes', please give reason for discharge and comment on adequacy of SUDS/attenuation measures proposed.

31 ***Do you propose to pump the wastewater?** Yes ☐ No ☒

If 'Yes', please include justification for your pumped solution with this application.

32 **What is the existing ground level at the property boundary at connection point (if known) above Malin Head Ordnance Datum?**

8.50 m

33 **What is the lowest finished floor level on site above Malin Head Ordnance Datum?** 11.00 m

34 **What is the proposed invert level of the pipe exiting the property to the public road?**

7.225 m

Section F | Supporting documentation

Please provide the following additional information (all mandatory):

> Site location map: A site location map to a scale of 1:1000, which clearly identifies the land or structure to which the enquiry relates. The map shall include the following details: [x]

i. The scale shall be clearly indicated on the map.

ii. The boundaries shall be delineated in red.

iii. The site co-ordinates shall be marked on the site location map.

> Details of planning and development exemptions (if applicable). [ ]

> Calculations (calculation sheets provided below). [x]

> Site layout map to a scale of 1:500 showing layout of proposed development, water network and wastewater network layouts, additional water/wastewater infrastructure if proposed, connection points to Irish Water infrastructure. [x]

> Conceptual design of the connection asset from the proposed development to the existing Irish Water infrastructure, including service conflicts, gradients, pipe sizes and invert levels. [ ]

> Any other information that might help Irish Water assess this pre-connection enquiry. [x]

Section G | Declaration

I/We hereby make this application to Irish Water for a water and/or wastewater connection as detailed on this form.

I/We understand that any alterations made to this application must be declared to Irish Water.

The details that I/we have given with this application are accurate.

I/We have enclosed all the necessary supporting documentation.

Any personal data you provide will be stored and processed by Irish Water and may be transferred to third parties for the purposes of the water and/or wastewater connection process. I hereby give consent to Irish Water to store and process my personal data and to transfer my personal data to third parties, if required, for the purposes of the connection process.

If you wish to revoke consent at any time or wish to see Irish Water's full Data Protection Notice, please see **https://www.water.ie/privacy-notice/**

Signature: [redacted]

Date: 13 / 12 / 2021

Your full name (in BLOCK CAPITALS):

Alan Armstrong

Irish Water will carry out a formal assessment based on the information provided on this form.
Any future connection offer made by Irish Water will be based on the information that has been provided here.

Please submit the completed form to **newconnections@water.ie** or alternatively, post to:

Irish Water
PO Box 860
South City Delivery Office
Cork City

Please note that if you are sending us your application form and any associated documentation by email, the maximum file size that we can receive in any one email is 35MB.

Please note, if mandatory fields are not completed the application will be returned.

Irish Water is subject to the provisions of the Freedom of Information Act 2014 ("FOIA") and the codes of practice issued under FOIA as may be amended, updated or replaced from time to time. The FOIA enables members of the public to obtain access to records held by public bodies subject to certain exemptions such as where the requested records may not be released, for example to protect another individual's privacy rights or to protect commercially sensitive information. Please clearly label any document or part thereof which contains commercially sensitive information. Irish Water accepts no responsibility for any loss or damage arising as a result of its processing of freedom of information requests.

Calculations

Water demand

Please note that the site is currently a Greenfield site with no existing water demand.

Calculation 1. Proposed Average Water Demand

Staff No's = 90
Patients No's = 125
Allowance for visitors = 35
Total = 250

Allow for 60 Litres/Person/Day for Staff
Therefore, loading = 90 x 60 = 5,400 Litres/Day
We require this in l/s, therefore 5,400 l/day = 0.063 l/s

Allow for 350 Litres/Person/Day for Patients {As per IW Wastewater Code of Practice Page 172}
Therefore, loading = 125 x 350 = 43,750 Litres/Day
We require this in l/s, therefore 43,750 l/day = 0.506 l/s

Allow for 30 Litres/Person/Day for Visitors
Therefore, loading = 35 x 30 = 1050 Litres/Day
We require this in l/s, therefore 1050 l/day = 0.012 l/s

Total Demand = 0.063+0.506+0.012=0.581 l/s

Calculation 2. Proposed Peak Water Demand.

As per IW Code of Practice an additional 25% should be allowed for for peak time demand, therefore:

0.581 l/s + 25% = 0.73 l/s (Rounded Up)

On-site storage

Fire flow requirements

Calculation 3 - Total Average Foul Wastewater Demand

See calculation of 0.581l/s as per calculation 1 above.

Apply 6 x dry weather flow (dwf), therefore, 6 x 0.573/s = 3.49 l/s (Rounded Up)

Calculation 4 - Total Peak Foul Wastewater Demand

See calculation of 0.73l/s as per calculation 2 above.

Apply 6 x dry weather flow (dwf), therefore, 6 x 0.716/s = 4.36 l/s (Rounded Up)

Guide to completing the pre-connection enquiry form

This form should be completed by applicants enquiring about the feasibility of a water and/or wastewater connection to Irish Water infrastructure.

The Irish Water Codes of Practice are available at **www.water.ie** for reference.

Section A | Applicant Details

Question 1: This question requires the applicant or company enquiring about the feasibility of a connection to identify themselves, their postal address, and to provide their contact details.

Question 2: If the applicant has employed a consulting engineer or an agent to manage the enquiry on their behalf, the agent's address and contact details should be recorded here.

Question 3: Please indicate whether it is the applicant or the agent who should receive future correspondence in relation to the enquiry.

Section B | Site details

Question 4: This is the address of the site requiring the water/wastewater service connection and for which this enquiry is being made.

Question 5: Please provide the Irish Grid co-ordinates of the proposed site. Irish grid positions on maps are expressed in two dimensions as Eastings (E or X) and Northings (N or Y) relative to an origin. You will find these coordinates on your Ordnance Survey map which is required to be submitted with an application.

Question 6: Please identify the Local Authority that is or will be dealing with your planning application, for example Cork City Council.

Question 7: Please indicate if planning permission has been granted for this application, and if so, please provide the planning permission reference number.

Section C | Development details

Question 8: Please specify the number of different property/premises types by filling in the tables provided.

Question 9: Please indicate the approximate commencement date of works on the development.

Question 10: Please indicate if a phased building approach is to be adopted when developing the site. If so, please provide details of the phase master-plan and the proposed variation in water demand/wastewater discharge as a result of the phasing of the development.

Question 11: Please indicate the type of connection required by ticking the appropriate box and proceed to complete the appropriate section or sections.

Section D | Water connection and demand details

Question 12: Please indicate if a water connection already exists for this site.

Question 12.1: Please indicate if this enquiry concerns an additional connection to one already installed on the site.

Question 12.2: Please indicate if you are proposing to upgrade the water connection to facilitate an increase in water demand. Irish Water will determine what impact this will have on our infrastructure.

Question 13: Please indicate the approximate date that the proposed connection to the water infrastructure will be required.

Question 14: Please indicate what diameter of water connection is required to service this development.

Question 15: Please indicate if more than one connection is required to service this development. Please note that the connection size provided may be used to determine the connection charge.

Question 16: If this connection enquiry concerns a business premises, please provide calculations for the water demand and include your calculations on the calculation sheet provided. Business premises include shops, offices, hotels, schools, etc. Demand rates (peak and average) are site specific. Average demand is the total daily volume divided by a 24-hour time period and expressed in litres per second (l/s). For design purposes, please refer to the Irish Water Codes of Practice for Water Infrastructure.

Question 17: If this connection enquiry is for an industrial premises, please calculate the water demand and include your calculations on the calculation sheet provided. Demand rates (peak and average) are site specific. Average demand is the total daily volume divided by a 24-hour time period and expressed in litres per second (l/s). The peak demand for sizing of the pipe network will be as per the specific business production requirements. For design purposes, please refer to the Irish Water Codes of Practice for Water Infrastructure.

Question 18: Please specify the ground level at the location where connection to the public water mains will be made. This is required in order to determine if there is sufficient pressure in the existing water infrastructure to serve your proposed development. Levels should be quoted in metres relative to Malin Head Ordnance Datum.

Question 19: Please specify the highest finished floor level on site. This is required in order to determine if there is sufficient pressure in the existing water infrastructure to serve your proposed development. Levels should be quoted in metres relative to Malin Head Ordnance Datum.

Question 20: If storage is required, water storage capacity of 24-hour water demand must usually be provided at the proposed site. In some cases, 24-hour storage capacity may not be required, for example 24-hour storage for a domestic house would be provided in an attic storage tank. Please calculate the 24-hour water storage requirements and include your calculations on the attached sheet provided. Please also confirm that on-site storage is being provided by ticking the appropriate box.

Question 21: The water supply system shall be designed and constructed to reliably convey the water flows that are required of the development including fire flow requirements by the Fire Authority. The Fire Authority will provide the requirement for fire flow rates that the water supply system will have to carry. Please note that while flows in excess of your required demand may be achieved in the Irish Water network and could be utilised in the event of a fire, Irish Water cannot guarantee a flow rate to meet your fire flow requirement. To guarantee a flow to meet the Fire Authority requirements, you should provide adequate fire storage capacity within your development. Please include your calculations on the attached sheet provided, and further provide confirmation of the Fire Authority requirements.

Question 22: Please identify proposed additional water supply sources, that is, do you intend to connect to the public water mains or the public mains and supplement from other sources? If supplementing public water supply with a supply from another source, please provide details as to how the potable water supply is to be protected from cross contamination at the premises.

Section E | Wastewater connection and discharge details

Question 23: Please indicate if a wastewater connection to a public sewer already exists for this site.

Question 23.1: Please indicate if this enquiry relates to an additional wastewater connection to one already installed.

Question 23.2: Please indicate if you are proposing to upgrade the wastewater connection to facilitate an increased discharge. Irish Water will determine what impact this will have on our infrastructure.

Question 24: Please specify the approximate date that the proposed connection to the wastewater infrastructure will be required.

Question 25: Please indicate what diameter of wastewater connection is required to service this development.

Question 26: Please indicate if more than one connection is required to service this development. Please indicate number required.

Question 27: If this enquiry relates to a business premises, please provide calculations for the wastewater discharge and include your calculations on the attached sheet provided. Business premises include shops, offices, hotels, schools, etc. Discharge rates (peak and average) are site specific. Average discharge is the total daily volume divided by a 24-hour time period and expressed in litres per second (l/s). For design purposes, please refer to the Irish Water Codes of Practice for Wastewater Infrastructure.

Question 28: If this enquiry relates to an industrial premises, please provide calculations for the wastewater discharge and include your calculations on the calculation sheet provided. Discharge rates (peak and average) are site specific. Average discharge is the total daily volume divided by a 24-hour time period and expressed in litres per second (l/s). The peak discharge for sizing of the pipe network will be as per the specific business production requirements. For design purposes, please refer to the Irish Water Codes of Practice for Wastewater Infrastructure.

Question 29: Please specify the maximum and average concentrations and the maximum daily load of each of the wastewater characteristics listed in the wastewater organic load table (if not domestic effluent), and also specify if any other significant concentrations are expected in the effluent. Please complete the table and provide additional supporting documentation if relevant. Note that the concentration shall be in mg/l and the load shall be in kg/day. Note that for business premises (shops, offices, schools, hotels, etc.) for which only domestic effluent will be discharged (excluding discharge from canteens/ restaurants which would require a Trade Effluent Discharge licence), there is no need to complete this question.

Question 30: In exceptional circumstances, such as brownfield sites, where the only practical outlet for storm/ surface water is to a combined sewer, Irish Water will consider permitting a restricted attenuated flow to the combined sewer. Storm/surface water will only be accepted from brownfield sites that already have a storm/surface water connection to a combined sewer and the applicant must demonstrate how the storm/surface water flow from the proposed site is minimised using sustainable urban drainage system (SUDS). This type of connection will only be considered on a case by case basis. Please advise if the proposed development intends discharging surface water to the combined wastewater collection system.

Question 31: Please specify if the development needs to pump its wastewater discharge to gain access to Irish Water infrastructure.

Question 32: Please specify the ground level at the location where connection to the public sewer will be made. This is required to determine if the development can be connected to the public sewer via gravity discharge. Levels should be quoted in metres relative to Malin Head Ordnance Datum.

Question 33: Please specify the lowest floor level of the proposed development. This is required in order to determine if the development can be connected to the public sewer via gravity discharge. Levels should be quoted in metres relative to Malin Head Ordnance Datum.

Question 34: Please specify the proposed invert level of the pipe exiting the property to the public road.

Section F | Supporting documentation

Please provide additional information as listed.

Section G | Declaration

Please review the declaration, sign, and return the completed application form to Irish Water by email or by post using the contact details provided in Section G.

Notes

Notes

Note 1:

Chief Assistant Technical Services Officer ,
Health Service Executive,
Estates West.
Holland Road.
National Technology Park,
Limerick

D. Fallon
Consulting Engineers
Dublin - Galway

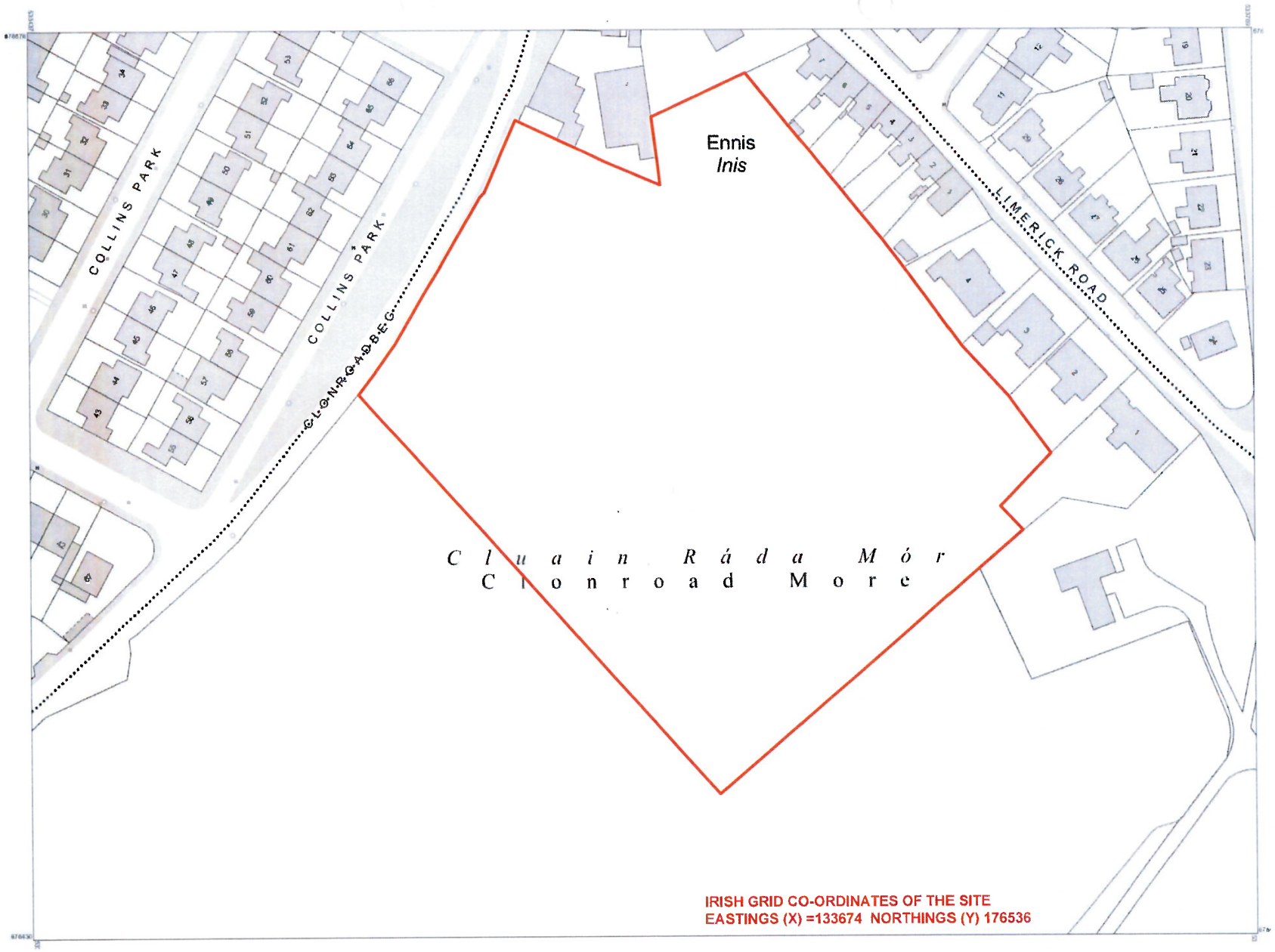
Appendix A:

Site Location Map

Site Layout Plan

G2029DR0002D01 Proposed Foul Drainage Layout

G2029DR0003D01 Proposed Watermain Layout



IRISH GRID CO-ORDINATES OF THE SITE
EASTINGS (X) =133674 NORTHINGS (Y) 176536

REV	DESCRIPTION	DRN	DATE

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

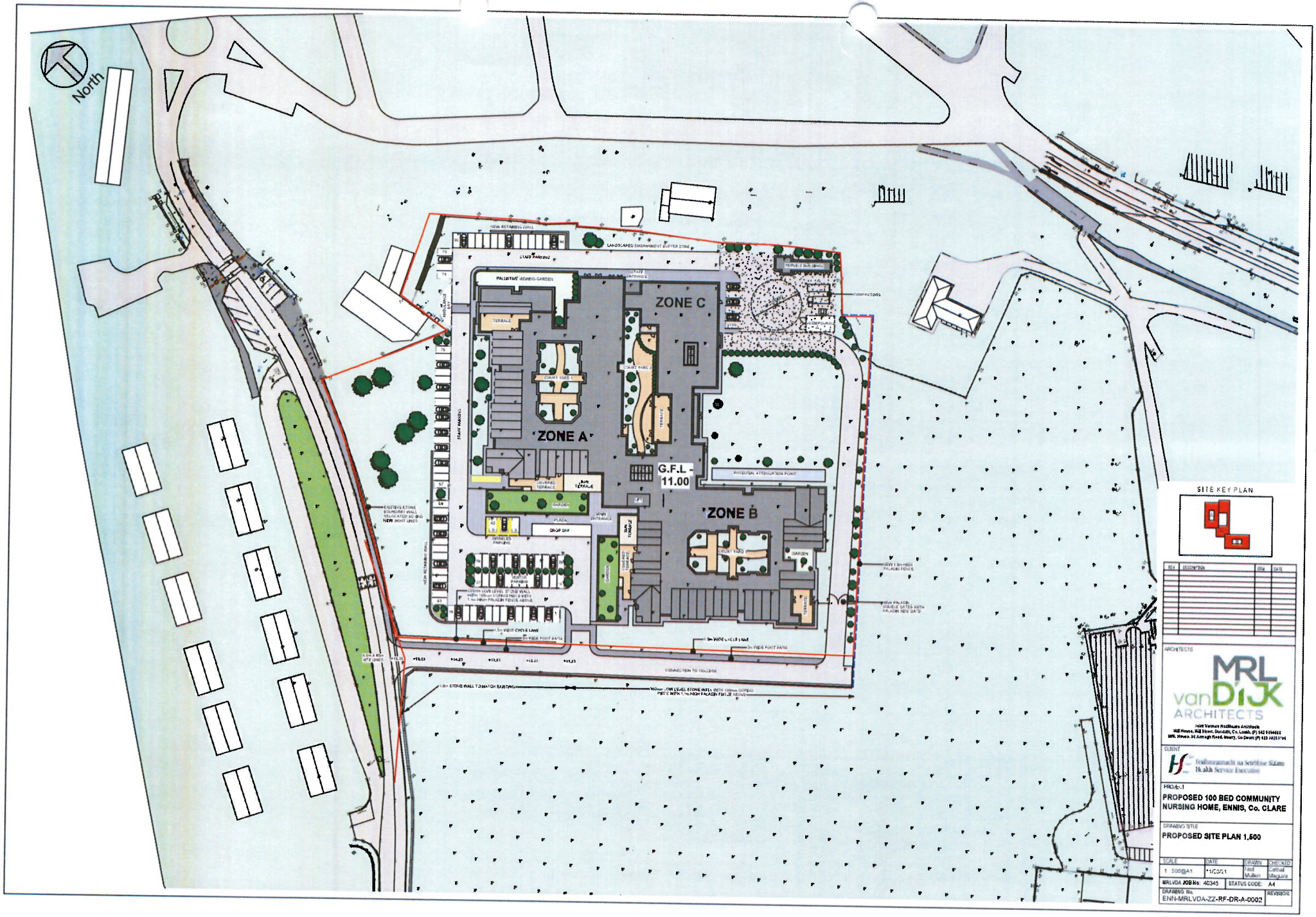
vanDijk Architects
Mill Street
Dundalk, Co.Louth
T: +353 42 9354466
E: info@vandijkarchitects.com
www.vandijkarchitects.com

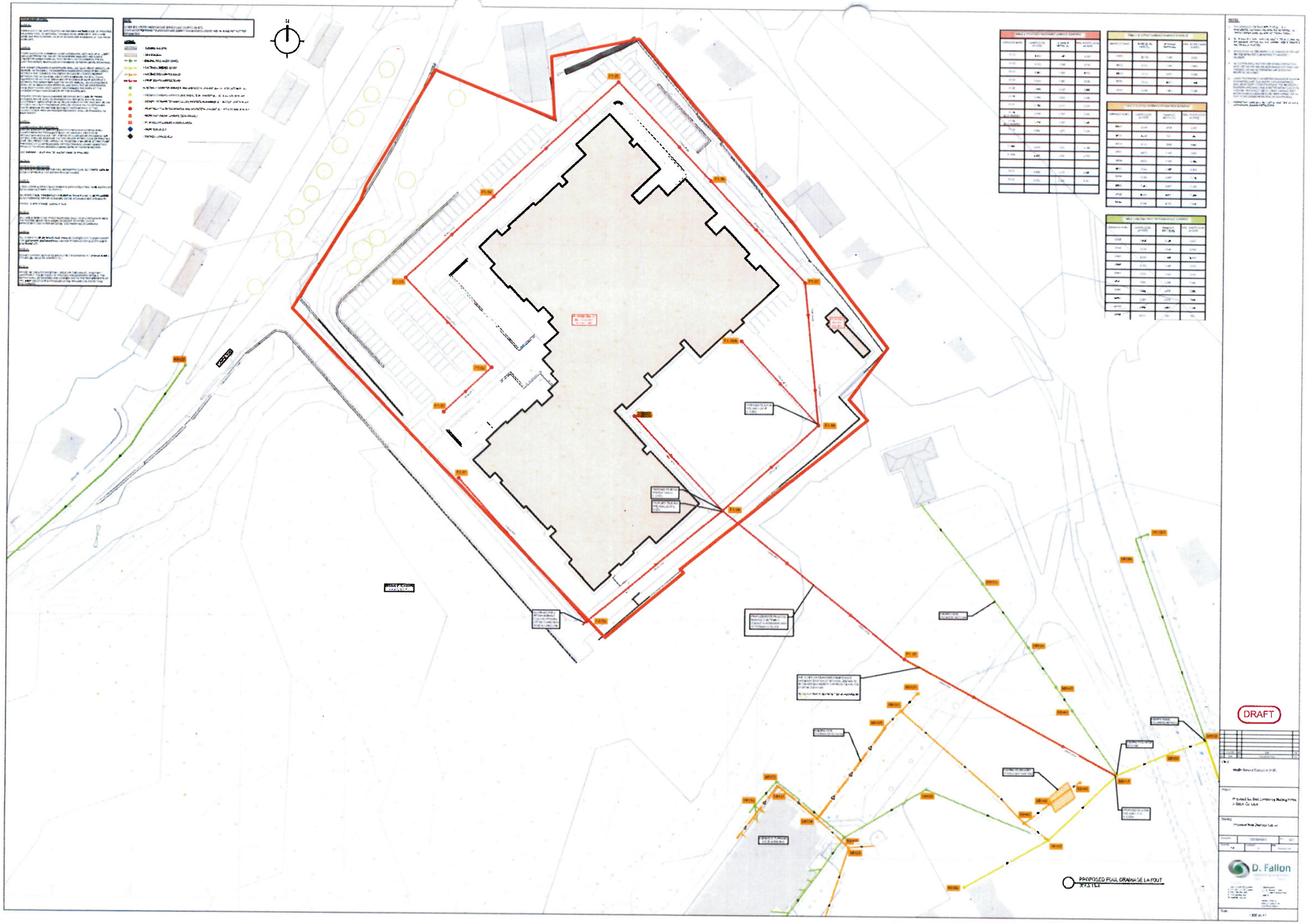
Milligan Reside Larkin
56 Armagh Road, Newry
Co.Down BT35 6DN
T: 028 30 253755
F: 028 30 261035
E: design@mrlarch.co.uk

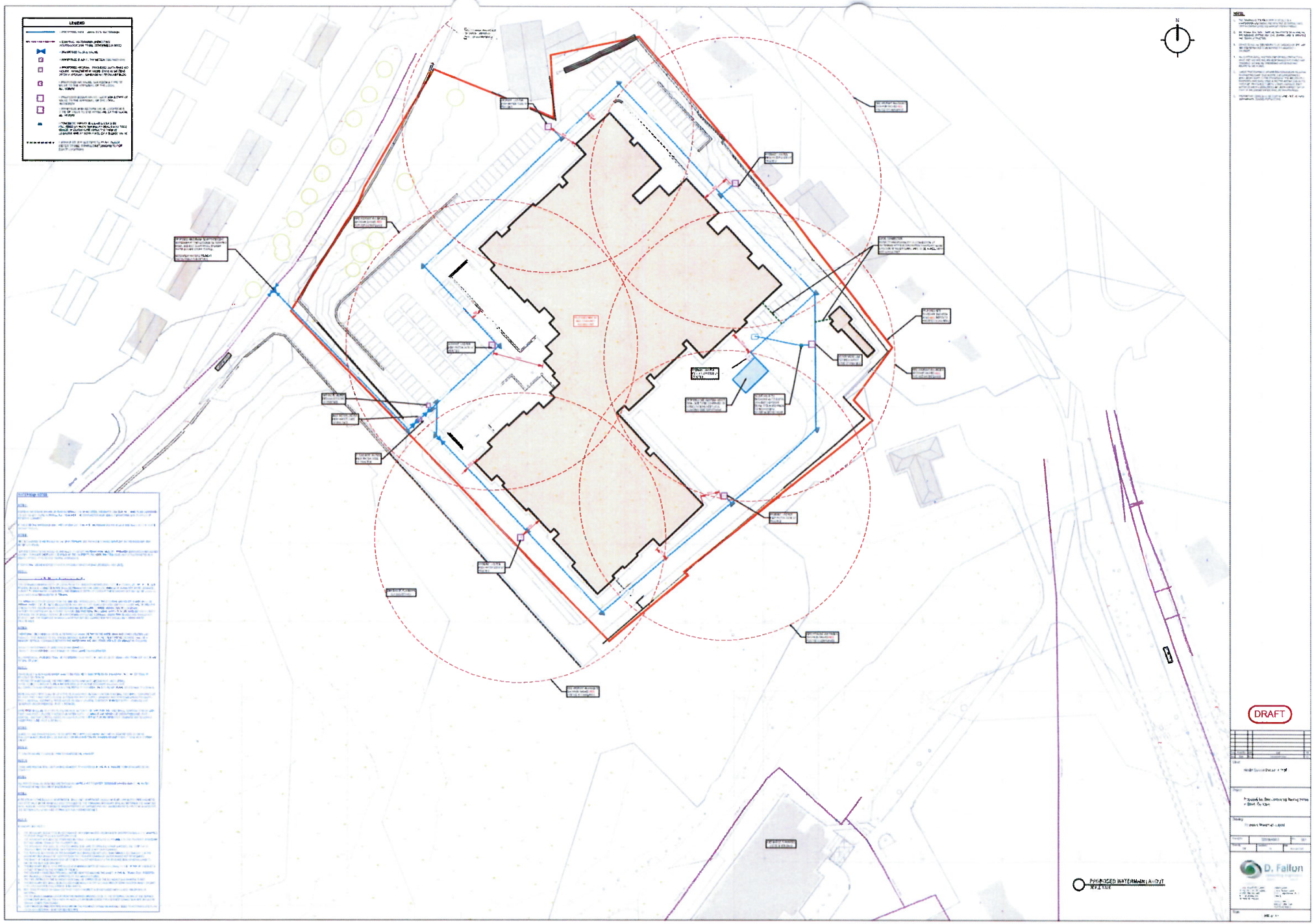
MRL vanDijk ARCHITECTS

Project	PROPOSED 100 BED COMMUNITY NURSING HOME IN ENNIS, Co. CLARE
Title	LOCATION MAP

DATE OF ISSUE	29.10.2021	
SCALE	1 : 1000 @ A3	
DRAWN BY	Neil Mullen	
APPROVED BY	Cathal Maguire	
JOB NO.	40345	REV.
DWG.	ENN-MRLVDA-ZZ-ZZ-DR-A-0051	


North
ZONE A
ZONE B
ZONE C
G.F.L - 11.00
SITE KEY PLAN
ARCHITECTS
MRL vanDIJK ARCHITECTS
CLIENT
Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive
PROJECT
PROPOSED 100 BED COMMUNITY NURSING HOME, ENNIS, Co. CLARE
DRAWING TITLE
PROPOSED SITE PLAN 1:500
SCALE
1 : 500@A1
DATE
11/03/11
DRAWN
Neil Mullen
CHECKED
Cathal Maguire
MRLVDA JOB No. 40345
STATUS CODE: A4
DRAWING No.
ENN-MRLVDA-ZZ-RF-DR-A-0002
REVISION


DRAFT
PROPOSED FOUL DRAINAGE LAYOUT
D. Fallon


LEGEND
PROPOSED WATERMAIN LAYOUT
DRAFT
D. Fallon

D. Fallon
Consulting Engineers
Dublin - Galway

Appendix B:

Hydraulic & Organic Loading Calculations & Design Check

2.0 FW Loading Calculations

A) Average

Source	No.	Hydraulic Loading				Organic Loading		
		Litres/ head / day	Total Hydraulic Loading (litres/day)	Equiv. PE (Total Hyd. load/180)	Max. Flow rate based on 6 DWF (litres/sec)	Loading g/ head/ day	Total Organic, Loading (g/day)	Equiv PE (=Total organic load/60)
Staff	90	60	5,400	30.00	0.38	30	2,700	45.00
Residents	125	350	43,750	243.06	3.04	60	7,500	125.00
Visitors	35	30	1,050	5.83	0.07	10	350	5.83
Total	**250**	--	**50,200**	**278.89**	**3.49**		**10,550**	**175.83**

B) Peak Demand (Average + 25%)

Source	No.	Hydraulic Loading				Organic Loading		
		Litres/ head / day	Total Hydraulic Loading (litres/day)	Equiv. PE (Total Hyd. load/180)	Max. Flow rate based on 6 DWF (litres/sec)	Loading g/ head/ day	Total Organic, Loading (g/day)	Equiv PE (=Total organic load/60)
Staff	90	75	6,750	37.50	0.47	37.5	3,375	56.25
Residents	125	437.5	54,688	303.82	3.80	75	9,375	156.25
Visitors	35	37.5	1,313	7.29	0.09	12.5	438	7.29
Total	**250**	--	**62,750**	**348.61**	**4.36**		**13,188**	**219.79**

Proposed Foulwater Pipeline Run (F1.01-F1.10)												
USMH	Drop MH	USIL	DSMH	Drop MH	DSIL	Chainage	Length	Grade	Pipe Size	Roughness	Pipe Capacity	Pipe Velocity
Ref		m	Ref		m	m	m		mm	mm	l/s	m/s
			F1.01	No	9.320	0.000						
F1.01	No	9.320	F1.02	No	9.145	21.000	21.000	120	150	0.15	18.86	1.07
F1.02	No	9.145	F1.03	No	8.935	61.500	40.500	193	225	0.15	43.03	1.08
F1.03	No	8.935	F1.04	No	8.745	99.750	38.250	201	225	0.15	42.13	1.06
F1.04	No	8.745	F1.05	No	8.465	154.250	54.500	195	225	0.15	42.80	1.08
F1.05	No	8.465	F1.06	No	8.245	197.750	43.500	198	225	0.15	42.46	1.07
F1.06	No	8.245	F1.07	No	8.025	242.250	44.500	202	225	0.15	42.02	1.06
F1.07	No	8.025	F1.08	Yes	7.800	288.000	45.750	203	225	0.15	41.92	1.05
F1.08	Yes	7.800	F1.09	Yes	7.600	328.750	40.750	204	225	0.15	41.81	1.05
F1.09	Yes	7.600	F1.10	No	7.225	403.750	75.000	200	225	0.15	42.24	1.06
F1.10	No	7.225	MH12	No	**6.850**	480.750	77.000	205	225	0.15	41.70	1.05
Note: Refer to Existing Drainage Layout G2029DR0001, Proposed Development assumes tie-in at MH13 Invert Level = 6.850m												

Proposed Foulwater Pipeline Run (F1.08A-F1.08)												
USMH	Drop	USIL	DSMH	Drop	DSIL	Chainage	Length	Grade	Pipe Size	Roughness	Pipe Capacity	Pipe Velocity
Ref		m	Ref		m	m	m		mm	mm	l/s	m/s
			F1.08A	No	9.200	0.000						
F1.08A	No	9.200	F1.08	Yes	8.800	36.000	36.000	90	150	0.15	21.89	1.24
			F1.08	Yes	7.800							
Note: Refer to Proposed Drainage Layout G2029DR0002, assumes tie-in at F1.08 Invert Level = 8.800m (Drop Manhole Required)												

Proposed Foulwater Pipeline Run (F1.09A-F1.09)												
USMH	Drop	USIL	DSMH	Drop	DSIL	Chainage	Length	Grade	Pipe Size	Roughness	Pipe Capacity	Pipe Velocity
Ref		m	Ref		m	m	m		mm	mm	l/s	m/s
			F1.09A	No	9.750	0.000						
F1.09A	No	9.750	F1.09	Yes	9.350	40.500	40.500	101	150	0.15	20.62	1.17
			F1.09	Yes	7.600							
Note: Refer to Proposed Drainage Layout G2029DR0002, assumes tie-in at F1.09 Invert Level = 9.350m (Drop Manhole Required)												

Proposed Foulwater Pipeline Run (F2.01-F1.09)												
USMH	Drop	USIL	DSMH	Drop	DSIL	Chainage	Length	Grade	Pipe Size	Roughness	Pipe Capacity	Pipe Velocity
Ref		m	Ref		m	m	m		mm	mm	l/s	m/s
			F2.01	No	9.625	0.000						
F2.01	No	9.625	F2.02	No	9.325	61.500	61.500	205	225	0.15	41.70	1.05
F2.02	No	9.325	F1.09	Yes	9.025	118.500	57.000	190	225	0.15	43.38	1.09
			F1.09	Yes	7.600							
Note: Refer to Proposed Drainage Layout G2029DR0002, assumes tie-in at F1.09 Invert Level = 9.025m (Drop Manhole Required)												

Pre-Connection Enquiry CDS21008799 - Turnpike Road, Ennis, Clare

Assessment Period: 13/12/21 – 29/04/22

The Uisce Eireann/Irish Water assessment process (desktop analysis) of capacity currently available in the Uisce Eireann/Irish Water networks involves input from three stakeholders.

1. Local Authority Water Services;
2. Uisce Eireann/Irish Water Connections & Developer Services (CDS) Design team;
3. Uisce Eireann/Irish Water Asset Planning.

1. Local Authority Water Services

Water Assessment

From: Conor Marrinan
Sent: 21 December 2021 16:05
To: Deirdre O'Keeffe
Subject: RE: CDS21008799 PCE for water and Waste water for HSE Midwest, Turnpike Road, Ennis, Co. Clare - 100 bed Community Nursing Unit

Hi Deirdre,

Application filled out and saved in 365.

Connection is feasible.

"Magmeter required to IW standards at connection point to public network"

Thanks,

Conor

Conor Marrinan

Executive Engineer
Water Services Department
Clare County Council, Waterpark House, Drumbiggle Road, Ennis, Co. Clare, V95 N1NR
T: [redacted] | **E:** [redacted] | **W:** www.clarecoco.ie

D365 Water Assessment

Drinking Water Connection	
Existing IW main adjacent to the site?	Yes
Is the development multi-phased?	No
Water Treatment Plant	DRUMCLIFFE WTP
Water Supply Scheme	Ennis PWS

Infrastructure Assessment	
Upgrade to WTP required for development?	No
Upgrade to water network reqd. for development?	Yes
Constraints and potential solutions (IW Network)	Magmeter required at connection point to IW standards
Existing IW water asset within the site	No

Assessment Summary	
Type of Development	Business Connection
Existing IW main adjacent to the site?	Yes
Are Water Infrastructure upgrades required?	Yes
Impacts to IW Water Infrastructure	No
Outcome	Refer to CDS

Wastewater Assessment

From: Patrick Tiernan
Sent: 31 January 2022 16:40
To: Deirdre O'Keeffe
Subject: RE: CDS21008799 PCE for water and Waste water for HSE Midwest, Turnpike Road, Ennis, Co. Clare - 100 bed Community Nursing Unit

Deirdre,

Waste water section is complete.

Paddy

D365 Wastewater Assessment

Wastewater Connection	
Existing IW sewer adjacent to the site?	Yes
Existing mains dia. for connection	>300
Material of existing wastewater sewer	Concrete
Is the development multi-phased?	No
Wastewater Treatment Plant	Clareabbey WWTP

Infrastructure Assessment	
Upgrade to WWTP required for development?	No
Upgrade to IW network required for development?	Yes
Constraints and potential solutions (IW Network)	Westfields Pump Station under pressure during inclement weather. Foul network also floods in Toberteascain during inclement weather. Proposed solutions - upgrade Westfields PS and/or new main foul sewer direct from Clare Road to Westfields PS. A possibility also exists

	to pump Kildysart Cross PS direct to Clareabbey WwTP. Currently Kildysart cross pumps to Westfields before being pumped on again to Clareabbey WwTP. Pumping directly from Kildysart cross to Clareabbey would relieve significant pressure at Westfields.
Intent to discharge surface water	No
Existing IW water/wastewater asset within the site	No
Diversion required for development?	No
Provide details on Impact	Existing sewer network under pressure especially in times of inclement weather. Westfields pump station struggles with incoming flows during inclement weather. Inclement weather also leads to sewage flooding in Toberteascain due to links between storm and foul network
Potential impact on IW infrastructure?	Yes

Assessment Summary	
Type of Development	Business Connection
Existing IW sewer adjacent to the site?	Yes
Wastewater Infrastructure upgrades required?	Yes
Surface water to be discharged to the IW network?	No
Impacts to IW Wastewater Infrastructure	Yes
Outcome	Refer to CDS

2. Uisce Eireann/Irish Water Connections & Developer Services (CDS) Design team

Constraints identified in the Local Authority Water Services Assessment. CDS assess the proposed connection and the Constraints identified to determine if further assessment is required by Asset Planning.

Water Treatment Plant Capacity Register assessed:

Local Authority	Water Supply Zone Name	WSZ Code	Plant Name (Local Name)	24hr. Production Capacity (m3/day)	Abstraction Safe Reliable Yield (m³/day)	Daily Production (m3/day)	Available Water production (m³/day)	Standard Housing Unit Headroom
Clare	Ennis PWS	0300PU01009	Drumcliffe WTP	16000	18300	14800	1200	1225.81

Wastewater Treatment Plant Capacity Register assessed:

UISCE WATER

Settlements with Waste Water Discharge Authorisations - Wastewater Treatment Capacity
Waste Water Discharge Licences (WWDL) and Certificates of Authorisation (CoA)

29th April 2020

Region	County	Settlement	Census pop. (2016)	Wastewater Treatment Plant (WWTP)	Reg #	Serves other areas?	WWTP Capacity (PE)		Load (PE) 2019	Headroom (PE)		Current project completion year
							Today	Upon works completion		WWDL ELV Capability	UWW Standards Capability (not WWDL ELVs)	
5	Clare	Ennis	incl.	Clareabbey WWTP	D0199	Yes	6,000	Not yet defined	4,742	0	1,258	Post 2024

Headroom (PE)
WWDL Capability
UWW Standards Capability (not WWDL ELVs)

Headroom available at the WWTP in 2019 in terms of population equivalents based on available capacity now or by completion of a project by **2022** (where relevant)

Green = spare capacity available.

Amber = potential spare capacity. WWTP currently not compliant with Waste Water Discharge Licence emission limit values but is capable of achieving at least UWW standards. Potential availability of capacity in this case would be dependent on any additional load not resulting in a significant breach of the combined approach as set out in Regulation 43 of the Waste Water Discharge (Authorisation) Regulations 2007.

Capital Needs Assessment - Treatment	
Referral to Water Treatment Required	No
Referral to Wastewater Treatment Required	Yes
Reason for Referral (Wastewater treatment)	Constraints Identified

Capital Needs Assessment - Network	
Referral to Water Networks Required	Yes
Reason for Referral (Water Networks)	Constraints Identified
Referral to Wastewater Networks Required	Yes
Reason for Referral (Wastewater Network)	Constraints Identified

3. **Uisce Eireann/Irish Water Asset Planning**

Wastewater Treatment Capacity Assessment	
Upgrade/Extension of the existing WWTP required?	Yes
Provide details on WWTP Works required	Upgrade of the Clonroadmore WWTP* is included in the Irish Water Investment Plan. Project is currently at Feasibility stage. Proposed development can progress ahead of the upgrade to the wastewater treatment plant.
**The LA identified Clareabbey WWTP as the relevant WWTP however Asset Planning confirmed this area is connected to the Clonroadmore collection network which drains to the Clonroadmore WWTP.*	

Wastewater Network Assessment	
Extension/upgrade of the existing network Rqd.? WW	Yes
Provide details on WW Net. Assess works rqd.	Extg network has capacity for foul only load from this site. Storm run-off will not be accepted. Developer to provide details of how he is dealing with run-off, and demonstrate that it does not end up in IW sewer away from the site. IW will progress any upgrades on Westfields WWPS directly.

Water Network Assessment	
Extension/upgrade of the existing network Rqd.? DW	No

UISCE ÉIREANN : IRISH WATER

Uisce Éireann
Bosca OP 448
Oifig Sheachadta na
Cathrach Theas
Cathair Chorcaí

Irish Water
PO Box 448,
South City
Delivery Office,
Cork City.

www.water.ie

Alan Armstrong
Office 25,
Calbro Court, Tuam Road,
Galway
H91YKH

29 April 2022

Re: CDS21008799 pre-connection enquiry - Subject to contract | Contract denied

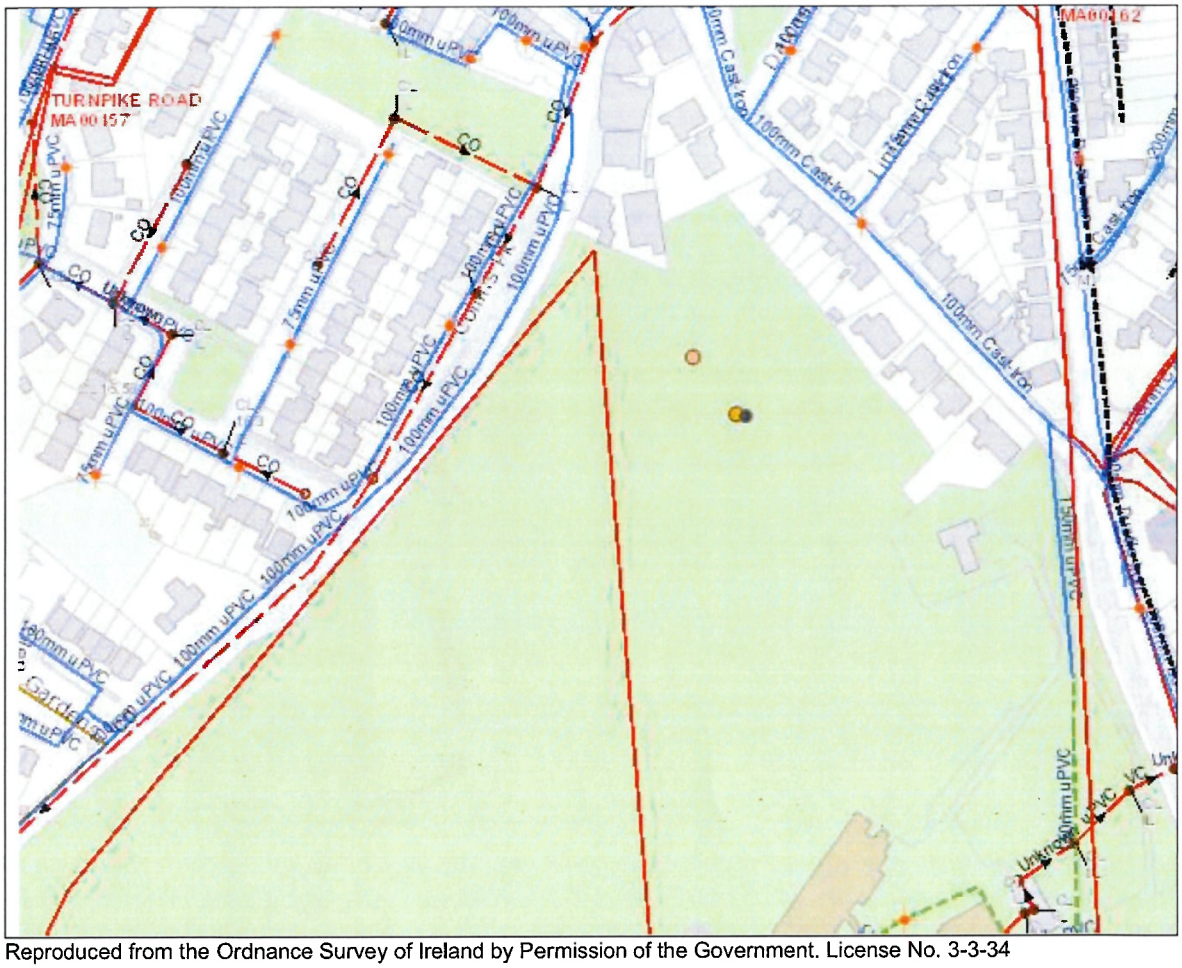
Connection for Business Connection of 1 unit(s) at Turnpike Road, Ennis, Clare

Dear Sir/Madam,

Irish Water has reviewed your pre-connection enquiry in relation to a Water & Wastewater connection at Turnpike Road, Ennis, Clare (the **Premises**). Based upon the details you have provided with your pre-connection enquiry and on our desk top analysis of the capacity currently available in the Irish Water network(s) as assessed by Irish Water, we wish to advise you that your proposed connection to the Irish Water network(s) can be facilitated at this moment in time.

SERVICE	OUTCOME OF PRE-CONNECTION ENQUIRY **THIS IS NOT A CONNECTION OFFER. YOU MUST APPLY FOR A CONNECTION(S) TO THE IRISH WATER NETWORK(S) IF YOU WISH TO PROCEED.**
Water Connection	Feasible without infrastructure upgrade by Irish Water
Wastewater Connection	Feasible without infrastructure upgrade by Irish Water
SITE SPECIFIC COMMENTS	
Water Connection	There is sufficient capacity for the proposed development.
Wastewater Connection	There is sufficient capacity for the proposed development.
The design and construction of the Water & Wastewater pipes and related infrastructure to be installed in this development shall comply with the Irish Water Connections and Developer Services Standard Details and Codes of Practice that are available on the Irish Water website. Irish Water reserves the right to supplement these requirements with Codes of Practice and these will be issued with the connection agreement.	

The map included below outlines the current Irish Water infrastructure adjacent to your site:



Reproduced from the Ordnance Survey of Ireland by Permission of the Government. License No. 3-3-34

Whilst every care has been taken in its compilation Irish Water gives this information as to the position of its underground network as a general guide only on the strict understanding that it is based on the best available information provided by each Local Authority in Ireland to Irish Water. Irish Water can assume no responsibility for and give no guarantees, undertakings or warranties concerning the accuracy, completeness or up to date nature of the information provided and does not accept any liability whatsoever arising from any errors or omissions. This information should not be relied upon in the event of excavations or any other works being carried out in the vicinity of the Irish Water underground network. The onus is on the parties carrying out excavations or any other works to ensure the exact location of the Irish Water underground network is identified prior to excavations or any other works being carried out. Service connection pipes are not generally shown but their presence should be anticipated.

General Notes:

1) The initial assessment referred to above is carried out taking into account water demand and wastewater discharge volumes and infrastructure details on the date of the assessment. **The availability of capacity may change at any date after this assessment.**
2) This feedback does not constitute a contract in whole or in part to provide a connection to any Irish Water infrastructure. All feasibility assessments are subject to the constraints of the Irish Water Capital Investment Plan.
3) The feedback provided is subject to a Connection Agreement/contract being signed at a later date.
4) A Connection Agreement will be required to commencing the connection works associated with the enquiry this can be applied for at https://www.water.ie/connections/get-connected/
5) A Connection Agreement cannot be issued until all statutory approvals are successfully in place.
6) Irish Water Connection Policy/ Charges can be found at https://www.water.ie/connections/information/connection-charges/
7) Please note the Confirmation of Feasibility does not extend to your fire flow requirements.
8) Irish Water is not responsible for the management or disposal of storm water or ground waters. You are advised to contact the relevant Local Authority to discuss the management or disposal of proposed storm water or ground water discharges
9) To access Irish Water Maps email datarequests@water.ie
10) All works to the Irish Water infrastructure, including works in the Public Space, shall have to be carried out by Irish Water.

If you have any further questions, please contact Shane Mcmanus from the design team by email to [redacted] For further information, visit **www.water.ie/connections.**

Yours sincerely,

Yvonne Harris

Yvonne Harris

Head of Customer Operations