RECEIVED: 20/03/2026

Waterford CCC Planning Authority - Inspection Purposes Only!

Uisce Éireann
Irish Water

CONSTRUCTED WETLAND WWTP

Clonea Power, Co. Waterford

Appropriate Assessment Screening &

Natura Impact Statement

March 2026

RYAN HANLEY now Stantec

CONSULTING ENGINEERS

1 Galway Business Park, Upper Newcastle Road, Dangan, Galway H91A3EF
5th Floor, Jervis House, Jervis Street, Dublin 1, DO1 E3W9
Unit 1203, Building 1000, Gateway Business Park, New Mallow Road, Cork T23 HDW9
Innovation House, Monneen Road, Castlebar, Co. Mayo, F23E400

CLIENT	Uisce Éireann
PROJECT NO.	6051
PROJECT TITLE	Constructed Wetland at Clonea Power, Co. Waterford
REPORT TITLE	Natura Impact Statement

Rev.	Status	Author(s)	Reviewed By	Approved By	Issue Date
1	Draft	A. Fogarty	E. Bennett	E. Shields	12/2025
2	Draft Issue comments	A. Fogarty	E. Bennett	E. Shields	03/2026
3	Updates issue final	A. Fogarty	E. Bennett	E. Shields	03/2026

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

Table of Contents

RECEIVED: 20/03/2026

1 Introduction and Background to the Project 1
1.1 General Introduction 1
1.2 Legislative Context 2
1.3 The Aim of this Report 2
1.4 Statement of Authority 3
1.5 Report Structure 3

2 The Appropriate Assessment Process 4
2.1 Guidance for the Appropriate Assessment Process 4
2.2 Stages of Article 6 Assessment 4
2.2.1 Screening for Appropriate Assessment 5
2.2.2 Appropriate Assessment (Natura Impact Statement) 5

3 Methodology 7
3.1 Desk Study 7
3.2 Ecological Site Assessment 8

4 Description of the Proposed Project 9
5 Description of the Receiving Environment 26
5.1 Records from the National Biodiversity Centre Data (NBDC) and National Parks and Wildlife (NPWS) 26
5.2 Habitats and Flora 28
5.3 Invasive Species 28
5.4 Fauna 32
5.5 Water & Soils 37

6 Screening for Appropriate Assessment 42
6.1 Designated European Sites In The Vicinity Of The Project 42
6.2 Lower River Suir SAC (002137) 48
6.3 In-combination assessment of the effects of the proposed development with other plans/projects 61
6.3.1 Development Plans 61
6.3.2 Other Construction Developments 63
6.4 Screening for AA Conclusion 67

7 Natura Impact Statement 68
7.1 Integrity of the Site 68
7.2 Impact Assessment 69
7.2.1 Characterising Impacts 69
7.2.2 Potential Impacts on the Qualifying Interests of the Lower River Suir SAC 70
7.2.3 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260] 73
7.2.4 Sea Lamprey (*Petromyzon marinu*) [1095], Brook Lamprey (*Lampetra planeri*) [1096], River Lamprey (*Lampetra fluviatilis*) [1099] 77
7.2.5 Salmon (*Salmo salar*) [1106] 79
7.2.6 Otter (*Lutra lutra*) [1355] 82
7.2.7 Twaite Shad (*Alosa fallax*) (1103) 86
7.2.8 White-clawed Crayfish (*Austropotamobius pallipes*) (1092) 88
7.2.9 Freshwater Pearl Mussel (*Margaritifera margaritifera*) (1029) 91
7.2.10 Impacts Summarised 100

8 Mitigation Measures 107

Waterford CoCo Planning Authority - Inspection Purposes Only!

8.1.1 Mitigation Measures (Construction Phase) 107
8.1.2 Biosecurity (Balsam and Aquatics) 116
8.1.3 Mitigation Measures (Operational and Maintenance Phase) 119
8.1.4 Cumulative and Residual Impacts 119
9 Conclusion 128
10 References 129

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

1 INTRODUCTION AND BACKGROUND TO THE PROJECT

RECEIVED: 20/03/2026

1.1 General Introduction

Uisce Éireann (UÉ) commissioned Ryan Hanley (now Stantec) to complete an Appropriate Assessment Screening Report (AASR) & Natura Impact Statement (NIS) for the proposed **constructed wetland** (CW) and **associated infrastructure upgrade works** at Clonea Power, Co. Waterford.

Uisce Éireann (UÉ) is undertaking a programme of works, entitled the National Certificate of Authorisation Programme (NCAP), comprising of an assessment of existing treatment plants which hold a Certificate of Authorisation under the Wastewater Discharge (Authorisation) Regulations 2007 (SI No. 684 of 2007), for less than 500PE. Clonea Power Wastewater Treatment Plant (WwTP) was one of the sites noted in the Site Options Reports under the NCAP program where there is a known impact of wastewater on the receiving waterbody (River Clodiagh) and which requires upgrades and/or process optimisation activities. It has been identified as suitable for a potential Constructed Wetland (CW) wastewater treatment system.

The CW is designed to provide capacity up to 250 population equivalent (PE) (30-year design horizon). The current loading at Clonea power is 159 PE. The construction and operational phase of the proposed development will be assessed in this report. The proposed development comprises construction of a new CW wastewater treatment system and associated site access works, a new sewerage and wastewater pumping station (WwPS), a new rising main to the CW from the WwPS, a new treated effluent discharge pipe and outfall to the Clodiagh River. The project will also facilitate the decommissioning of the existing WwTP including the existing storm outfall to the Ballygarret 16 stream. The existing effluent outfall to the Clodiagh River at Clonea Bridge will be left in place, however it will not be connected to the new wastewater infrastructure.

The proposed CW will be constructed across part of an agricultural greenfield to the west of the village centre in Clonea Power. The WwPS will be constructed at an existing car park site opposite the Church in the village centre. The Ballygarret 16 river runs along the eastern border of the proposed CW site. This river discharges into the Clodiagh River immediately downstream of Clonea Bridge. Both watercourses are managed as Clodiagh (Portlaw)_040 under the water framework directive. The Lower River Suir Special Area of Conservation (SAC) is located immediately downstream of Clonea Bridge and the area is located within the Clodiagh *Margaritifera* (Fresh Water Pearl Mussel) SAC catchment.

Refer to **Section 4.1** for a detailed description of the proposed works.

This AASR & NIS was prepared in accordance with the European Commission guidance document Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43EEC (EC, 2001), European Communities (2018) Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Office for the Official Publications of the European Communities, Luxembourg and the

Waterford CCC Planning Authority - Inspection Purposes Only!

European Commission and the Department of the Environment's Guidance on the Appropriate Assessment of Plans and Projects in Ireland (December 2009, amended February 2010).

RECEIVED: 20/03/2026

1.2 Legislative Context

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as "The Habitats Directive", provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. These are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/ECC) as codified by Directive 2009/147/EC.

Article 6(3) states:

"*Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.*"

Article 6(4) states:

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

1.3 The Aim of this Report

This report will assist the planning authority in its assessment of the proposed project, as identified above, with regard to impact on European Sites. It will identify whether the project, alone or in combination with any other plan or project, will have an adverse effect on the integrity of a European Site. European Sites are those identified as sites of European Community importance, designated as SACs under the Habitats Directive or as SPAs under the Birds Directive.

Waterford CCC Planning Authority - Inspection Purposes Only!

1.4 Statement of Authority

This report was conducted by Ryan Hanley Ecologist, Aoife Fogarty. Aoife has a MSc in Marine Biology and 3 years of experience as a professional ecologist. She has completed otter and bat assessments, habitat and invasives species surveys for a range of different projects including flood relief schemes, national road developments and infrastructure upgrade projects. She is experienced in completing Appropriate Assessment Screenings, Natura Impact Statements, Preliminary Ecological Appraisals, Invasive Species Reports and Biodiversity Chapters for Environmental Impact Assessment Reports.

This report was reviewed by Dr. Elaine Bennett who holds a BSc in Biological Science and a PhD in plant ecology from University College Cork. Elaine has over 18 years of experience in environmental and ecological assessments including the management of EIARs, Environmental Reports, Appropriate Assessment Screenings and Natura Impact Statements. Elaine is a Chartered Environmentalist and Chartered Water and Environmental Manager.

1.5 Report Structure

The information contained in this report is designed to allow the Competent Authority to assess 1) whether there will be any adverse effects on the integrity of a European Site and 2) the implications of the project, alone or in combination with other plans and projects, in view of the Sites Conservation Objectives.

Section 2 outlines the legislation and guidance. Section 3 outlines methodology. Section 4 is a description of the proposed development. Section 5 outlines the baseline receiving environment including details of both desk studies and field surveys completed. Section 6 contains the Appropriate Assessment Screening outlining the European Sites brought forward to NIS. A comprehensive assessment of the potential cumulative effects of the proposed development is also provided in Section 6. Section 7 contains the Natura Impact Statement. The potential for the proposed development to result in adverse effects on each of the Qualifying Interests (QIs) of the European Site(s), is fully assessed. Section 8 contains the proposed Mitigation Measures that are designed to mitigate any adverse effects are described as well as an assessment of any residual effects.

The assessment of potential adverse effects follows the Precautionary Principle as detailed in Article 191 of the Treaty on the Functioning of the European Union (EU). It aims at ensuring a higher level of environmental protection through preventative decision-taking in case of a risk and underpins the Habitats Directive (DoEHLG 2010). The Precautionary Principle is the underlying concept of sustainable development which implies that prudent action be taken to protect the environment even in the absence of scientific certainty (DoEHLG 2010).

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

2 THE APPROPRIATE ASSESSMENT PROCESS

2.1 Guidance for the Appropriate Assessment Process

Article 6(3) guidance and legislation for the EU Habitats Directive (92/43/EEC) defines the requirement for AA of certain plans and projects. In order to inform the requirements of this AASR & NIS, the following guidance documents and legislation have been adhered to:

- DoEHLG Circular NPWS 1/10 & PSSP 2/10 Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities;
- DoEHLG (2010) Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Department of the Environmental Heritage and Local Government;
- European Commission (2000) Communication from the Commission on the Precautionary Principle. Office for Official Publications of the European Communities, Luxembourg. European Commission;
- European Commission (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC;
- European Commission (2021) Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC. Brussels, 28.9.2021C (2021) 6913 Final;
- European Commission (2006) Nature and biodiversity cases: Ruling of the European Court of Justice. Office for Official Publications of the European Communities, Luxembourg;
- European Commission (2013). Interpretation Manual of European Union Habitats. Version EUR 28. European Commission;
- European Commission (2018) Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC;
- European Union (Birds and Natural Habitats) Regulations 2011, as amended;
- Planning and Development Regulations 2001 (as amended).

2.2 Stages of Article 6 Assessment

The European Commission's guidance promotes a staged process, as set out below, the need for each being dependent upon the outcomes of the preceding stage:

(1) Screening;

(2) Appropriate Assessment;

(3) Assessment of Alternative Solutions; and

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

(4) Assessment where no alternative solutions remain and where adverse impacts remain.

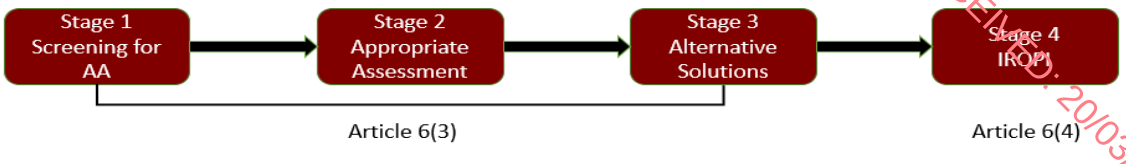


Figure 2.1: The Appropriate Assessment Process (Department of the Environmental Heritage and Local Government, 2010

2.2.1 Screening for Appropriate Assessment

Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3): Whether a plan or project is directly connected to or necessary for the management of the site, and whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a European site in view of its conservation objectives. If the effects are deemed to be significant, potentially significant, or uncertain, then the process must proceed to Stage 2 (AA). Screening should be undertaken without the inclusion of mitigation. The greatest level of evidence and justification will be needed in circumstances when the process ends at screening stage on grounds of no impact.

This screening assessment provides information to address the following elements:

1. Description of the plan or project, and local site or plan area characteristics. The description covers the full scope of the proposed plan or project (i.e., site set up, operational and restoration phase).
2. Description of the receiving environment setting of the proposed plan or project and its surrounds.
3. Identification of relevant European sites within the projects the potential zone of influence. A preliminary assessment to determine connectivity between the proposed works and receptors (i.e., European sites and/ or features for which the sites are designated). Where connectivity exists, the receptors in question are brought forward in the screening assessment process.
4. For receptors that exhibit potential connectivity to the proposed work a screening assessment is undertaken to establish whether the plan or project is likely to have a direct, indirect, or cumulative effect on receptors based on a consideration of likely impacts (i.e., an assessment of significance of effect).
5. Screening statement with conclusions on whether or not an AA is necessary for the relevant a Qualifying Feature.

2.2.2 Appropriate Assessment (Natura Impact Statement)

The aim of Stage 2 of the AA process is to identify any adverse impacts that the plan or project might have on the integrity of relevant European sites in view of these sites' conservation objectives. As part of the assessment, a key consideration is 'in combination' effects with other plans or projects. Where adverse

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

impacts are identified, mitigation measures can be proposed that would avoid, reduce, or remedy any such negative impacts thereby avoiding the need to progress to Step 3.

This stage considers whether the plan or project, alone or in combination with other projects or plans, will have adverse effects on the integrity of a European site, and includes any mitigation measures necessary to avoid, reduce or offset negative effects. The proponent of the plan or project will be required to submit a Natura Impact Statement (NIS), i.e., the report of a targeted professional scientific examination of the plan or project and the relevant European sites, to identify and characterise any possible implications for the site in view of the site's conservation objectives, taking account of in-combination effects. This should provide information to enable the public authority to carry out the AA.

A Stage Two AA is a focused and detailed examination, analysis evaluation carried out by the component authority of the implications of the plan or projects, on the integrity of a European site's conservation objectives. Case law has established that such an Appropriate Assessment, to be lawfully conducted, in summary:

(i) Must identify, in light of the best scientific knowledge in the field, all aspects of the proposed development which can, by itself or in-combination with other plans or projects, affect the conservation objectives of the European site;

(ii) Must contain complete, precise and definitive findings and conclusions and may not have lacunae or gaps; and

(iii) May only include a determination that the proposed development will not adversely affect the integrity of any European site where the competent authority decides (on the basis of complete, precise and definitive findings and conclusions) that no reasonable scientific doubt remains as to the absence of the identified potential effects, then the process is complete. If the assessment is negative, i.e. adverse effects on the integrity of a site cannot be excluded, the process must proceed to stage three, if necessary, stage four.

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

3 METHODOLOGY

RECEIVED: 20/03/2026

The approach taken in the preparation of this document is based on standard methods and follows best practice guidance as listed in **Section 2.**

3.1 Desk Study

A desk study was carried out to collate the available information on the ecological environment in the footprint of the proposed works. The EPA's AA GeoTool application was used to support the data gathering process during screening (Stage 1) and the NIS (Stage 2) (EC, 2021). The National Parks and Wildlife Service (NPWS) and the National Biodiversity Data Centre (NBDC), along with other sites, have been consulted in order to identify, confirm, and update existing records of Qualifying Interests and Special Conservation Interests and/or to identify the presence of suitable habitat for these species within the Zone of Influence (ZoI) of the proposed works. The Zoi of a proposed development is the geographical area over which it could affect the receiving environment in a way that could have significant effects on the Qualifying Interests of a European site. This should be established on a case-by-case basis using the Source-Pathway-Receptor framework (OPR, 2021). The following databases were reviewed for this report in March and November 2025;

- National Parks and Wildlife Service – online European Site information www.npws.ie;
- National Parks and Wildlife Service – Information on the status of EU protected habitats in Ireland (NPWS 2019a & 2019b);
- Environmental Protection Agency – Water Quality www.epa.ie; EPA mapping system http://gis.epa.ie; www.catchment.ie website;
- EPA AA Geotool - EPA Maps;
- Information on www.wfdireland.ie;
- Geological Survey of Ireland – Geology, soils, and Hydrogeology www.gsi.ie;
- Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018, Ver 1.3);
- Guidelines for Assessment of Ecological Impacts of National Roads Developments (NRA, 2009);
- Information on the conservation status of birds in Ireland 2020 - 2026 (Gilbert, Stanbury and Lewis, 2021); and
- National Biodiversity Data Centre (NBDC) online database http://www.biodiversityireland.ie/.

The habitats and species of Qualifying Interest (QI) for SACs and Special Conservation Interest (SCI) for SPAs were the main focus of the desktop studies and therefore, any supporting documentation on the NPWS website for the European Sites, was also consulted in order to identify and confirm records of

Waterford CCC Planning Authority - Inspection Purposes Only!

habitats and species within the area. Aerial imagery was consulted in order to get a broad overview of the habitat types present within the vicinity of the proposed works. Habitat mapping was undertaken using guidance set out in '*Best Practice Guidance for Habitat Survey and Mapping*' (Smith *et al.,* 2011) and '*A Guide to Habitat Types in Ireland*' (Fossitt, 2000). Plant nomenclature for vascular plants follows '*New Flora of the British Isles*' (Stace, 2010). Habitats considered to be of ecological significance and in particular having the potential to correspond to those listed in Annex I of the EU Habitats Directive 92/43/EEC were identified and assessed.

The Waterford County Council website (https://waterfordcouncil.ie/) and the resources outlined below, were consulted for information on other plans/projects in the area which had planning permission applications made in the last 5 years, which could result in cumulative impacts when considered in combination with the proposed works. The following resources were also reviewed and considered for in-combination effects:

- Waterford City and County Development Plan 2022 – 2028;
- EPA database for licenced activities;
- Department of Housing, Planning, and Local Government; and
- Online Planning Portal (myplan.ie)

3.2 Ecological Site Assessment

Site visits were undertaken in May 2024, April, August, September, October and November 2025 with a focus on habitats, flora and fauna occurring within the proposed works boundary, in the immediate environment and along the site boundary. Surveys were conducted in accordance with National Roads Authority (NRA) Guidelines, '*Ecological Surveying Techniques for Protected Flora and Fauna on National Road Developments*' (NRA, 2009a). Weather conditions during the surveys were suitable for an ecological site assessment with general dry conditions and temperatures varying between 12-16°C.

RECEIVED 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

4 DESCRIPTION OF THE PROPOSED PROJECT

RECEIVED: 20/03/2026

Ryan Hanley (now Stantec) was commissioned by Uisce Éireann (UÉ) to prepare an Appropriate Assessment Screening Report (AASR) and Natura Impact Statement (NIS) for the proposed constructed wetland (CW) and associated infrastructure upgrade works at Clonea Power, Co. Waterford.

The purpose of this project is to construct a new constructed wetland WwTP and WwPS with all associated ancillary and site access works at Clonea Power, Co. Waterford. Clonea Power WwTP has been identified by Uisce Éireann as a site where there is a known impact of wastewater on the receiving waterbody (River Clodiagh) and thus the wastewater treatment process in the area requires upgrades and or process optimisation activities. The current public sewerage scheme in Clonea Power comprises a WwTP located centrally in the village and a combined gravity sewer which extends to the residential estates to the north-west end of the village. The existing WwTP comprises a below ground Activated Sludge Package Plant and a re-purposed septic tank which is used for stormwater storage. The primary outfall from the WwTP is to the Clodiagh River at Clonea Bridge. There is a storm water overflow from the WwTP site to the adjacent Ballygarret stream which confluences with the Clodiagh River downstream of Clonea Bridge.

This project will include the construction of a new CW WwTP and WwPS to treat the effluent from the agglomeration. The CW is designed to provide capacity up to 250 population equivalent (PE) (30-year design horizon). The current loading at Clonea power is 159 PE. The Clonea Power CW is part of the National Certificate of Authorisation Programme (NCAP) undertaken by Uisce Éireann (UÉ). This programme entails upgrading wastewater treatment plants across Ireland, to meet UÉ water quality objectives. A strategic assessment identified where an CW process would appear to be a feasible option to achieve the water quality objectives. Clonea Power has been identified as a site suitable for an CW approach.

<u>Constructed Wetland (CW)</u>

CW's create a complex mixture of aerobic and anaerobic environments in which microbial communities provide chemical processes for wastewater treatment. These biological processes are unique to wetland systems and provide the basis for treatment. The result is that inorganic and organic pollutants can be physically removed through filtration, biologically degraded, absorbed by wetland plants, adsorbed to surfaces, or chemically transformed and stored within the wetland matrix.

Wetland environments contain diverse populations of microbes and plants controlling the chemical cycling of contaminants. This diversity of wetland organisms results in the ability of the system to adapt to changing conditions and the natural inundation of wetland environments provides for conditions to facilitate nitrification and denitrification. Finally, wetland substrates, consisting of oxides, carbonates, and organic matter, provide adsorption sites for continuous phosphorus removal and sequestration.

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

Clonea Power CW and associated works

The proposed works are designed for the future 30 year design horizon with a design loading of 250 Population Equivalent (PE). The CW will be constructed at a greenfield site (currently used as an agricultural greenfield for grazing cattle) directly west of Clonea Power village. The treated effluent will be discharged to the River Clodiagh at a new discharge point, immediately adjacent to the existing discharge point, which is located at Clonea Bridge.

The following works are proposed.

- A new CW type WwTP on a greenfield site in Clonea Power to treat the collected load from the agglomeration. The proposed CW will include:
  - Primary treatment via 1 no. 120m^3 septic tank (with two (internal) streams operating in parallel);
  - Secondary treatment via 4 no. wetland ponds (closest pond to a watercourse is the 4th pond c.30 metres from the Ballygarret 16 stream);
  - Access roads around proposed ponds;
  - New access road and entrance to the CW site;
  - Site Drainage, including a surface water drainage channel around the northwestern and northeastern sides of the ponds;
  - 2 No. lysimeter chambers for groundwater monitoring and sampling;
  - Open channel (flume type) outlet flowmeter (with battery and small PV powered);
  - New gravity treated effluent outfall pipe (Dia. 225mm PVC, L=647m) from CW to new outfall on River Clodiagh, fitted with flap valve.
- The existing Clonea Power WwTP will be decommissioned and made safe: The storm tank will be disconnected and filled with grout. The buried package plant will be disconnected and kept buried. The inlet, stormwater overflow, and outlet pipework will be disconnected and capped. All remaining site pipework and manholes will be filled with grout or suitable flowable fill. The existing outfall under the bridge over the River Clodiagh will be left intact.
- A new WWPS at the existing car park opposite the Church will include the following:
  - Construct a pumping station to pump formula A flows to the new WwTP (CW) site;
  - Provide 36m^3 stormwater storage in accordance with IW-TEC-700-99-02 Inlet Works & Stormwater Treatment (wastewater) and IW-TEC-800-03 Storm Water Overflows;
  - Construct a new Storm Water Overflow (SWO) from the proposed stormwater storage tank to the River Clodiagh;
  - Provide inlet EM flowmeter on the rising main towards CW;
  - Construct new gravity pipe (Dia. 225mm PVC, L=141m) to connect to existing sewerage network and convey raw sewage to the new WwPS;
  - Construct new rising main (Dia. 110mm PEHD, L=925m) from WwPS to CW site (under the R678 road).

Waterford CCC Planning Authority - Inspection Purposes Only!

- Provide a new treated effluent outfall to the River Clodiagh, on the southwestern end of the car park fitted with a flap valve;
- Boundary treatment including boundary fencing and planting (In accordance with TEC-600-01 Site Physical Security Specification), native hedgerow instatement and planting;
- Landscaping along the site boundaries and around wetland ponds;
- Ancillary works, including the following;
    - Trench dewatering, temporary and permanent reinstatement with raising and reset of all covers upon completion of permanent reinstatement;
    - Testing works of new pipework and new manholes;
    - Provision of signage in accordance with Uisce Éireann technical document UÉ-TEC-5000-001;
    - Temporary traffic management;
    - Disposal of waste materials;
    - Provision of appropriate trench/excavation side supports.

A 36-month process proving and optimisation period shall be implemented following the completion of construction.

It should be noted that a new pumping station, delivered under a separate project, shall connect flows from the pub and houses on the south side of the River Clodiagh. The preliminary design proposal was to connect those flows to the inlet manhole of the existing WwTP to enable those flows to connect from there to the new WwPS via the new gravity sewer proposed under this scheme.

The only instream works required are for the new effluent and stormwater outfall at the Clodiagh River. The layout drawing of the proposed works is outlined in **Figure 4.3**. **Figure 4.1** below presents the proposed process flow diagram.

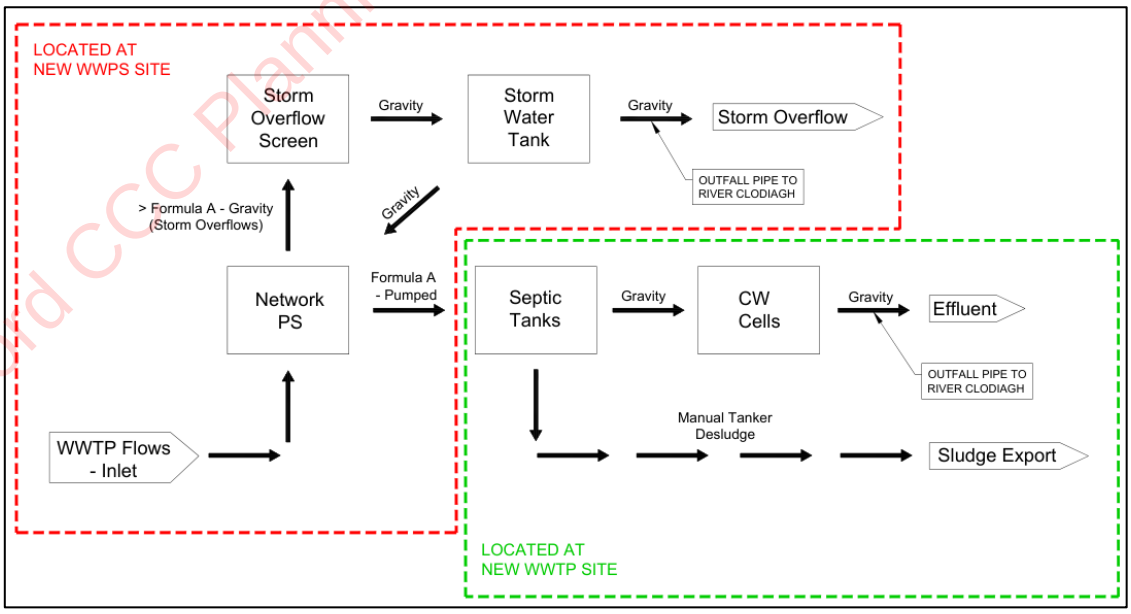


Figure 4.1: Clonea Power Process Flow Diagram

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

Combined flows from the existing Clonea Power collection network will be discharged via rising main to the new CW WwTP.

RECEIVED: 20/03/2026

Primary Treatment

Primary treatment at the new Clonea Power CW WwTP will consist of 1 no. septic tank. The septic tank shall be designed adequately in order to comply with the requirements of the UÉ standard TEC-XXX-XX-CW Guidance and TEC-700-02 Primary Treatment Wastewater. This will be provided by 1no. 120 m^3 septic tank with two streams operating in parallel. Septic tanks do not provide any supplemental biological treatment and are designed for primary settlement only. The tank will ensure no screenings are passed forward onto the CWs which will have planted species. Each stream of the septic tank shall have a minimum of two-compartment tanks in series, with the primary compartment providing at least two thirds of the total tank capacity. The depth from top water level to the floor of the tank should be a minimum of 1m. Baffled stilling wells shall be provided at the inlet and outlets of the tank. The baffles shall extend 150 mm above the liquid level and down to a depth of 450 mm into the liquid. The inlet invert shall be minimum 75 mm higher than the outlet invert to prevent build-up of solids in the inlet pipeline. Inlet and discharge pipelines to and from the septic tank shall have an internal diameter of not less than 150 mm. They shall be designed and constructed such that they are capable of being easily inspected, maintained and repaired at all times.

Septic tanks will be designed to achieve the following:

- minimum removals of 50% Suspended Solids.
- minimum removals of 20% BOD

The septic tank will be required to be desludged 2-4 times per year depending on in the influent load. This will be done by a suction tanker and dropped suction pipeline. The septic tank desludging area includes a drain that connects directly to the septic tank to avoid contamination from any spills from the tankers.

Secondary Treatment (Ponds)

The proposed Clonea Power CW is a Surface Flow (SF) constructed wetland, which consists of a number of sequential open ponds with layers of soil/substrate to promote and support roots of emergent plants. These ponds mimic the role of naturally occurring wetlands and are proven to remove a wide range of nutrients and pollutants from the influent wastewater. The proposed Clonea Power CW will utilise the natural sloping gradient of the site for the construction of the ponds. The CW have been sized for 250PE in accordance with the p-k-c dynamic modelling as outlined in Table 4.1 below.

Waterford CCC Planning Authority - Inspection Purposes Only!

Table 4.1: Clonea Power Indicative CW Sizing

Case	Design PE	Total Calculated CW Working Surface Area (m^2) *(minimum requirement)*	Total area of treatment ponds including earthworks (m^2) *(minimum requirement)*	Corresponding Loading Rate m^2/PE
PkC Dynamic CW Sizing	200	3499	4724	17.50
PkC Dynamic CW Sizing	**250**	**4375**	**5906**	**17.50**

RECEIVED: 20/03/2026

The calculated total site area required for the proposed WWTP is 10,988m^2, including the septic tank, embankments, access roads and 4 no. ponds with a total area of 4,956m^2. Each pond is sized in a ratio of 2:1, at a minimum, in accordance with the UÉ guidance document on CW WWTP. The use of 4 No. ponds breaks up the flow of water across the CW, in addition to the proposed water zones within each pond and prevents preferential flow paths developing while ensuring efficient treatment. Flows feeding each pond will be equally spread across in the inlet water zone as noted in the TEC-700-99-04 (Certificate of Authorisation Wastewater Treatment Plants) guidance on CW design. The water level within each pond will be controlled with rotating 90-degree bend pipes. The pipework will be arranged as follows:

- Pipework will connect from the septic tank to the inlet of Pond 1.
- The pipework will connect from the outlet of Pond 1 to the inlet of Pond 2.
- The pipework will connect from the outlet of Pond 2 to the inlet of Pond 3.
- The pipework will connect from the outlet of Pond 3 to the inlet of Pond 4.
- Pipework will connect from the outlet of Pond 4 and serve as a discharge pipe to the River Clodiagh.

The sizing and layout of the ponds have been designed in cognisance with the figures outlined in Table 4.1, with the constraints of the topography and cordon sanitaires influencing the size, location and shape of the ponds.

Pond Vegetation

Emergent type vegetation is proposed for the Clonea Power CW. Emergent plants have most of their plant above the water level. As well as having a positive biodiversity impact, emergent plants provide shading which can restrict algae growth and also provide insulation during colder winter months when the ponds are susceptible to freezing. The leaves of these plants can intercept precipitation and have high transpiration rates, both of which reduces the flow of water through the system.

Particular hardy species of emergent wetland plants as mentioned above are recommended for the first pond, as they are more tolerable to higher concentrations of BOD and ammonia. The sequent ponds will be planted with the below listed native vegetation types. Planting should ideally take place in spring or summer when the settling in period is approximately 2 weeks to 1 month.

Waterford CCC Planning Authority - Inspection Purposes Only!

Each of the 4 no. ponds will have a vegetation zone of circa 890m^2. Vegetation should be dense, typically 9 plants per m^2. Table 8.2 below lists native species suitable for planting. Over time, plant species not specified may appear, for example Canary Grass (*Phalaris Arundinacea*), Common Reed (*Phragmites Australis*) and Floating Sweet Grass (*Glyceria Fluitans*) within the CW ponds, these plants have the potential to be good for nutrient uptake. Each pond shall consist of a combination of annual and perennial species.

Table 4.2: Example Plant Species and Planting Location

Plant Species	Suitable for Pond
Branched bur-weed - *Sparganium erectum* (Annual Species)	1 & 2
Common club rush - *Schoenoplectus lacustri* (Perennial Species)	1, 2, 3 & 4
Greater pond sedge - *Carex riparia* (Perennial Species)	1, 2, 3 & 4
Yellow flag - *Iris pseudacorus* (Annual Species)	1 & 2
Lesser reedmace - *Typha angustifolia* (Perennial Species)	3 & 4
Bogbean - *Menyanthes trifoliata* (Annual Species)	3 & 4
Brooklime - *Veronica beccabunga* (Annual Species)	3 & 4
Celery-leaved buttercup - *Ranunculus sceleratus* (Annual Species)	3 & 4
Gipsywort - *Lycopus europaeus* (Annual Species)	3 & 4
Greater spearwort - *Ranunculus lingua* (Annual Species)	3 & 4
Marsh cinquefoil - *Potentilla palustris* (Annual Species)	3 & 4
Marsh violet - *Viola palustris* (Annual Species)	3 & 4
Marsh woundwort - *Stachys palustris* (Annual Species)	3 & 4
Marsh marigold - *Caltha palustris* (Annual Species)	3 & 4
Meadowsweet - *Filipendula ulmaria* (Annual Species)	3 & 4
Purple loosestrife - *Lythrum salicaria* (Annual Species)	3 & 4
Square-stalked St. john's-wort - *Hypericum tetrapterum* (Annual Species)	3 & 4
Water-plantain - *Alisma plantago-aquatica* (Annual Species)	3 & 4
Water mint - *Mentha aquatica* (Annual Species)	3 & 4

Pond Construction

The Department of Environment, Heritage, and Local Government guidance document for CW design (2010) states that for sites where a locally important aquifer is present and the groundwater vulnerability rating is high, the upper 750mm layer should be enhanced to achieve a permeability of 1x 10^{-8} m/s underlain by a further 250mm of sub-soil. SI results have indicated that the ground is overburdened, with bedrock at approximately 7.50m below ground level. Additionally, existing site soils have been found to have low permeability on the order of 1x 10^{-10} m/s and will therefore be suitable for use in forming a liner. It is not expected that an artificial liner will be required.

The clay liner will comply with the UE Standard for Constructed Wetlands. CWs that utilise soil liners shall be underlain by at least 1.0 m of moderate or low permeability subsoil, with the upper 0.5 m having a permeability of less than 1x10^{-8} m/s. The liners shall be overlain by subsoil with a minimum

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

thickness of 300 mm and low to moderate permeability, which will be used for planting the wetland vegetation. The clay liner will protect against any potential infiltration to groundwater.

The CW will not be constructed within or below the water table as this would result in excessive flows to the wetland and contamination risks. The groundwater will lie a minimum of 1 m below the bottom of the wetland. Lysimeters will installed before construction to determine background concentrations, and in-situ throughout the operation of the CW.

The material used for the construction of the embankments will be suitable to support vehicular access. Earthworks will be involved in the construction of the ponds and embankments. The ponds have been designed to minimise the cut and fill required throughout the site. The northwest border of the site is at an average elevation of 82m and slopes down to an average of 70m further east. This is a 12m drop over 350m which is steep. For this reason, the ponds have been placed in the relatively flat areas of the site. However, the levels have been carefully considered as to still provide a natural flow of water, by gravity, from the inlet to outlet of each pond, and eventually to the outfall at the south of the site.

A new effluent outfall pipeline to the River Clodiagh will be constructed fitted with a flap valve.

Bypass Pipework

To facilitate the maintenance of ponds, a 150mm PVC by-pass pipe network is included. Maintenance will be required throughout the lifecycle of the ponds, and this can begin when the flow is redirected from one pond to another by using a redirection gate. The streams of the septic tank can be isolated from each other. The flow can continue to either Ponds 2 or 3, depending on requirements at the time. Flow can then be directed from Ponds 2 to 4 or from Ponds 3 to 4. Finally, when maintenance is required on Pond 4, the flow from Pond 3 can bypass and discharge to the River Clodiagh when acceptable treated levels are achieved.

Ancillary Works

The ancillary works shall include:

- Trench dewatering, temporary and permanent reinstatement with raising and reset all covers upon completion of permanent reinstatement;
- Testing works of new pipework and new manholes;
- Provision of signage in accordance with TEC-5000-001;
- Temporary traffic management;
- Disposal of waste materials;
- Backfilling and reinstatement of trenches and roads;
- Perform a pre-condition survey;
- Provision of appropriate trench/excavation side supports.

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/02/2026

Access Road

The proposed access road shall consist of two layers of clause 803 and 804 granular build up, finished with a top layer of surface dressing and cover a width of 5 metres. Based on the infrequent site visits required by the operator, and the bi-annual sludge removal by most likely a tractor and sludge tanker, a road finish consisting of surface dressing is deemed sufficient for the required purpose. It is proposed that the access road profile will be sloped towards the drainage swale and away from the ponds so that surface water is attenuated and treated. It is not proposed to install kerbing along the road edge, with drainage consisting of over edge flows.

Site Drainage

A surface water drainage channel will be constructed around the northeastern and northwestern sides of the CW ponds. The channel will serve as a surface water drain diverting flows away from the ponds. The channel will be 1m wide at the bottom with side slopes at a 1:1 gradient. The longitudinal slope of will be 3.90%, or approximately 1:25.6. The channel will be excavated to approximately 1 – 1.5m below the existing ground level. Soil excavated in the construction of the channel will be used to form the pond embankments. The channel will be planted with grass to provide surface water treatment, filtering out sediment and other pollutants from flows. Regular maintenance will likely be required to remove weeds and debris from the bottom. The channel will terminate at a headwall from which flows will be directed via a 225mm pipe to the existing swale at the southeastern corner of the site which discharges into a tributary of the River Clodiagh.

WWPS & Gravity Sewer

A new WwPS will be constructed to pump Formula A flows to the Constructed Wetland site. The WwPS shall be located in the car park across from the church. Combined sewer flows shall be directed to the WWPS by means of a new gravity sewer. A new gravity sewer will intercept the inlet flows towards the existing WwTP (under the R678 road) and divert them to the inlet of the new WwPS. The inlet to the new WwPS shall be capped such that flows are diverted into the new sewer. The sewer shall not be less than 225mm in diameter and shall generally follow the slope of the ground cover. Manholes shall be installed at changes in horizontal alignment or at 90m intervals in accordance with UÉ's Wastewater Code of Practice.

The WwPS shall comprise one cast in place concrete structure including a wet well, valve chamber, and storm tank. Flows shall be directed from the gravity sewer into the wet well from an inlet chamber equipped with a manually operated penstock to allow for isolation of the WwPS during maintenance. The inlet to the wet well shall be fitted with a baffle plate. The wet well shall be 1.8m x 2.5m x 4.55m deep. The wet well shall contain 2no. submersible pumps in duty/ standby configuration, level sensors, a high-level storm overflow, and a storm tank return inlet fitted with a flap valve. Benching shall be provided in the sump of the wet well. A vent pipe shall be installed to a vent stack per STD-WW-34.

Waterford CCC Planning Authority - Inspection Purposes Only!

The vent stack shall be located in the northwest corner of the car park. The pumps shall have a power rating suitable to pass Formula A flows to the Constructed Wetland site. The pumps shall be operated automatically by variable speed drives (VSD's) located inside the MCC kiosk. The cover of the wet well, valve chamber, and all storm tank access covers shall be watertight and traffic rated.

The valve chamber shall be 1.8m x 2.5m. The bottom of the valve chamber shall be sloped towards a sump, provided with drainage to the wet well. The outlet from the valve chamber shall be fitted with a tee connecting to a gate valve and a female Bauer connection to allow for desludging the line. A flow metering chamber shall be provided. The chamber shall be fitted with an electromagnetic flow meter to measure influent flows pumped towards the CW. The MCC Kiosk shall be located behind the WwPS on the adjacent property. Stairs shall be installed for access to the Kiosk. The kiosk shall be a pre-fabricated GRP structure suitably large enough to house the control panel for the WwPS and any other required instrumentation. There shall be a wet kiosk adjacent to the MCC with a potable water connection housing the break tank and pump for the storm tank cleaning system.

During storm events, flows in excess of Formula A shall overflow back to the WwPS inlet chamber, through a Jacopa Cyclone Screen, and into the Storm Tank. The storm tank shall be sized for 120 litres/ PE plus 20% (36m^3) in accordance with UÉ guidance. The storm tank shall be provided with a jet washing unit. A vent pipe shall be installed to the WwPS vent stack. The stormwater flows will return by gravity to the PS once the storm event ceases. A high-level stormwater overflow shall be installed discharging to the River Clodiagh via an outfall headwall fitted with a flap valve. Flow monitoring shall be provided to record spill events.

Constructability Considerations

The CW ponds will be constructed on a graduating slope to allow for the ponds to benefit from gravity flows between the CW ponds, making use of the existing ground profile. The pond embankments will be constructed with a minimum slope of 3:1, this is to ensure that the slopes are constructable using the on-site material and minimise the requirement for imported material. Additional soils for constructing the pond embankments will be provided by the excavated material from the drainage channel. The access to the site is along a farm track which will be constructed in a manner to support the provision of machinery and sludge tankers to access the site. The construction of the proposed works will be carried out closer to the spring months to allow the treatment process to begin with the plant given the strongest chance to establish themselves, while the weather might be milder also to allow for a safer and easier construction of the ponds. Several pipelines will be constructed within the R678 including the new gravity sewer redirecting flows to the WwPS, the new rising main to the CW site, and the outfall gravity sewer. The new WwPS will require works in the river to install the new outfalls from both the CW WwTP and the overflow from the Storm Tank. Temporary sandbags or cofferdam construction will be required. Crane works will also be required to install the WwPS. A temporary working area will be necessary, most likely on the property adjacent to the WwPS.

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

Likely construction methodology for the headwall construction (dependent on contractor)

When constructing headwalls for outfall pipelines the following steps should be taken:

- Survey outfall positions with TOPO/GPR and record most appropriate locations for construction.
- Proceed with general surveys and wayleave drawings prior to finalising the location.
- Pick a low-flow period for the river and locate the most appropriate point for the outfall.
- Once standard ecological and environmental precautions are undertaken, strip topsoil from pipeline along Wayleave
- Once the outfall location is prepared, set out the line of sheet piles giving adequate working room for the pre-cast headwall units and minimising the amount of riverbank outside the line.
- Reducing the riverbank external to sheetpiles will minimise the interruption and disturbance to the river when the sheetpiles are pulled and headwall id finished.
- See Plate 1 below for example of layout for a sheetpile line and approximate riverbank location.

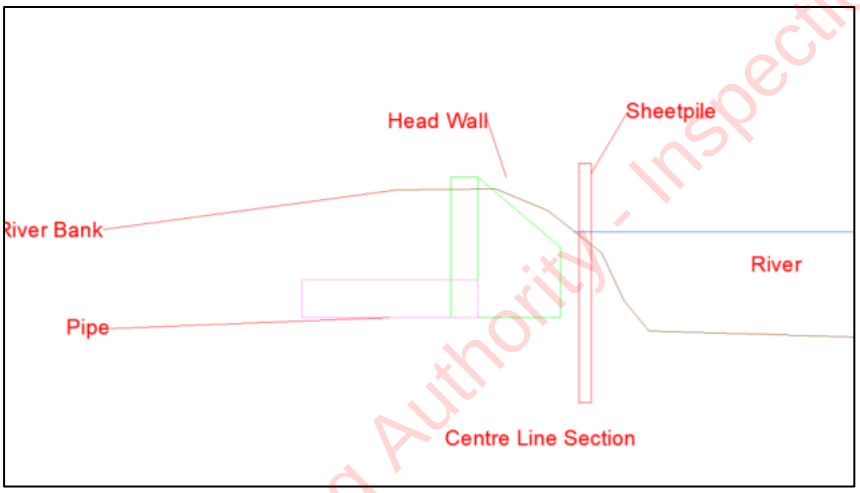


Plate 1: Section through a riverbank headwall

- Low Flow periods in the river allow for the least amount of riverbank external to sheetpiles and this can be removed once sheetpiles are emplaced.
- Once sheetpiles are emplaced the excavation can begin with lowest possible risk to the river. The layout in Plate 2 shows how an area behind the sheetpiles can be excavated with a large flat section for the precast units.

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

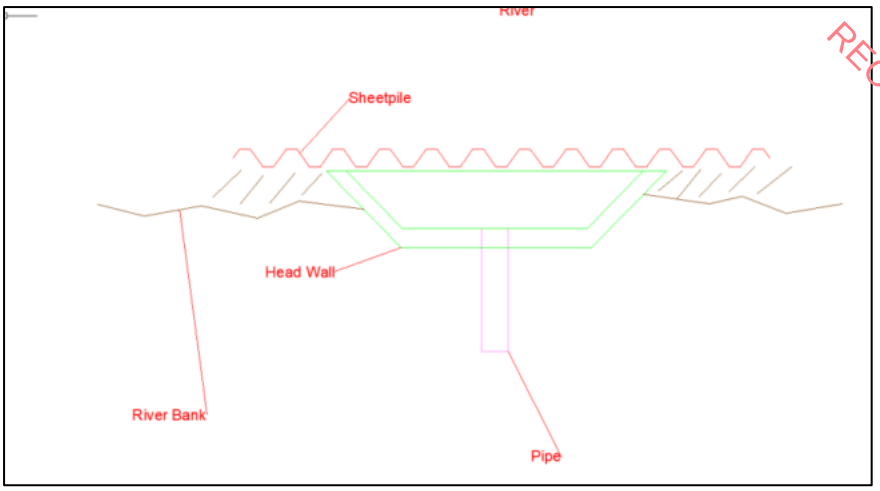


Plate 2: Plan of Headwall Construction

- The base of the headwall will be excavated to approx. 300mm below the required depth and built up with a clean washed stone to within 75mm of the required depth
- A suitable geotextile will be placed on the clean washed stone and a 75mm layer of 25N/mm^2 concrete will be placed to support the Headwall units.
- A pipeline can be excavated back along the Wayleave from the headwall position.
- Once the 'leanmix' concrete is set and capable of holding the precast units then they can be placed into the excavation using the appropriate machinery to the required position.
- Once emplaced the pipework can be laid back from the headwall with a base shingle layer to bed pipes and an appropriate aggregate over the crown to Uisce Eireann standards for backfilling.
- The surround of the precast headwall unit can be backfilled with aggregate up to within 400mm of the existing ground level and a layer of subsoil and topsoil can finish to surface.
- If the low flow period persists then the sheetpiles can be removed, if the river has risen then the recommendation is to wait until the next low flow period to remove.
- Note: Advice on the treatment of the riverbank should be sought from Inland Fisheries Ireland (IFI) and Office of Public Works (OPW) to ensure the construction meets their approval. IFI often requests rock armour on the edges of outfalls to increase turbulence and create an additional mixing zone for treated effluent entering the river. OPW will sometimes wish to make site visits before and after the installation to check condition of the riverbank.

Operational and Maintenance Phase

New outfalls:

The existing Clonea Power WwTP will be decommissioned and made safe. The storm tank will be disconnected and filled with grout. The buried package plant will be disconnected and kept buried. The inlet, stormwater overflow, and outlet pipework will be disconnected and capped. All remaining site pipework and manholes will be filled with grout or suitable flowable fill. The existing outfall under the bridge over the River Clodiagh will be left intact.

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED 20/03/2026

There will be a new treated effluent outfall and stormwater overflow outfall installed adjacent to Clonea Bridge for discharge to the Clodiagh River. The current pressure from the existing outfall will be reduced, as the existing treatment plant is not fit for purpose while the proposed new CW has been designed for increased capacity and will provide an improvement to the quality of the effluent discharged into the Clodiagh River. The existing flow of wastewater discharged will remain the same (current loading is 159 PE) as the new sewage line will connect properties that are currently serviced by the existing WwTP. As the population grows, it is expected that the flow of wastewater will increase and the new CW wastewater treatment system has been sized to treat the sewage generated by up to 250PE.

The proposed pumping station will convey Formula A flows (maximum storm flow received at treatment works) to the CW and during storm events, flows in excess of Formula A shall overflow back to the WwPS inlet chamber, through a Jacopa Cyclone Screen, and into the Storm Tank. The storm tank shall be sized for 120 litres/ PE plus 20% (36m^3) in accordance with UÉ guidance. The stormwater flows will return by gravity to the PS once the storm event ceases. A high-level stormwater overflow shall be installed discharging to the River Clodiagh via an outfall headwall fitted with a flap valve. Flow monitoring shall be provided to record spill events.

A Water Assimilative Capacity (WAC) assessment for the Clodiagh River has been undertaken to assess the impact of the existing and future flows. A simple mass balance WAC assessment followed by a Monte Carlo analysis was completed as part of the feasibility study report (FSR), following UÉ's Interim Technical Guidance for Water Quality Impact Assessment (Freshwaters) Workbook. Table 4.3 below outlines the maximum allowable treated effluent concentrations for the 30-year design loadings. The ponds will be designed with the hydraulic capacity and sizing for 250PE (30-year design horizon), and the WAC analysis has been undertaken to consider seasonal variations in the capacity of the receiving water. Current PE loading from Clonea Power is 159PE. A submission to review the existing Certificate of Authorisation will be submitted to the EPA, including an appropriate assessment as part of the application. The WAC assessment considers the requirement to achieve **High Status** in the receiving waterbody in accordance with the Habitats Directive and the Water Framework Directive objectives as well as the treatment standards that will be achieved in the Constructed Wetland, which provides secondary treatment. The proposed treated effluent standards meet the requirements of 'Appropriate Treatment' under the Urban Wastewater Treatment Regulations and will accommodate the achievement of the Water Framework Directive and Habitats Directive objective.

Waterford CCC Planning Authority - Inspection Purposes Only!

Table 4.3: WAC Calculations – Clonea Power CW 95%-ile Conditions

Design Horizon	95%-ile Condition (mg/L)		
	Ammonia	BOD	MRP
Current (159 PE)	26.8	669.8	11.6
10 Yr. (200 PE)	20.4	509.1	8.8
30 Yr. (250 PE)	16.3	407.4	7.0

Table 4.4: Proposed Clonea Power CW Treatment Standards

Parameter	Proposed treated effluent standards (30 Yr/250PE)	Applicable Regulation
Ammonia	16.3 mg/L	Surface Water Regulations 2009, as amended
BOD	25 mg/L	Surface Water Regulations 2009, and Urban Wastewater Treatment Directive (UWWTD) as amended
MRP	7.0 mg/L	Surface Water Regulations 2009, as amended
Total Suspended Solids	35 mg/L	Non-regulatory limit based on UWWTD requirements for secondary treatment
pH	6-9	Surface Water Regulations 2009, as amended / Current WWDA

RECEIVED: 20/03/2026

Waterford CCC Planning Authority - Inspection Purposes Only!

Maintenance:

The CW will require periodic inspection to ensure that the system is operating efficiently. A visual inspection, by walking the berms will be performed on a weekly basis to:

- Identify any changes in their overall condition (i.e., unusual water levels, health of plants within the emergent marshes and along the perimeter berms, changes to effluent water characteristics, etc);
- Confirm that the wetland is hydrated to the normal operating water elevation;
- Inspect wetland vegetation to determine adequate water is available (e.g., yellowing of leaves during growing season);
- Confirm no damage or blockage to stoplog and effluent control structures;
- Inspect the side slopes of perimeter berms for signs of erosion; and
- Sample collection as required to comply with the operating permit and monitor overall system performance.

Regular maintenance of system components will be necessary to sustain the proper function of the CW system. Many of the regular maintenance items can be performed without interrupting the operation of the system. Some items, however, such as pipe cleaning and sediment removal, require limited system downtime. Anticipated maintenance activities required within the CW area will include:

- Piping inspection and cleaning;
- Erosion inspection;

- Liner inspection (if applicable);
- Hydraulic control structure inspections (accumulated sediment/clogging) and cleaning;
- Open water channel inspection; and
- Wetlands vegetation inspection.

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/05/2026

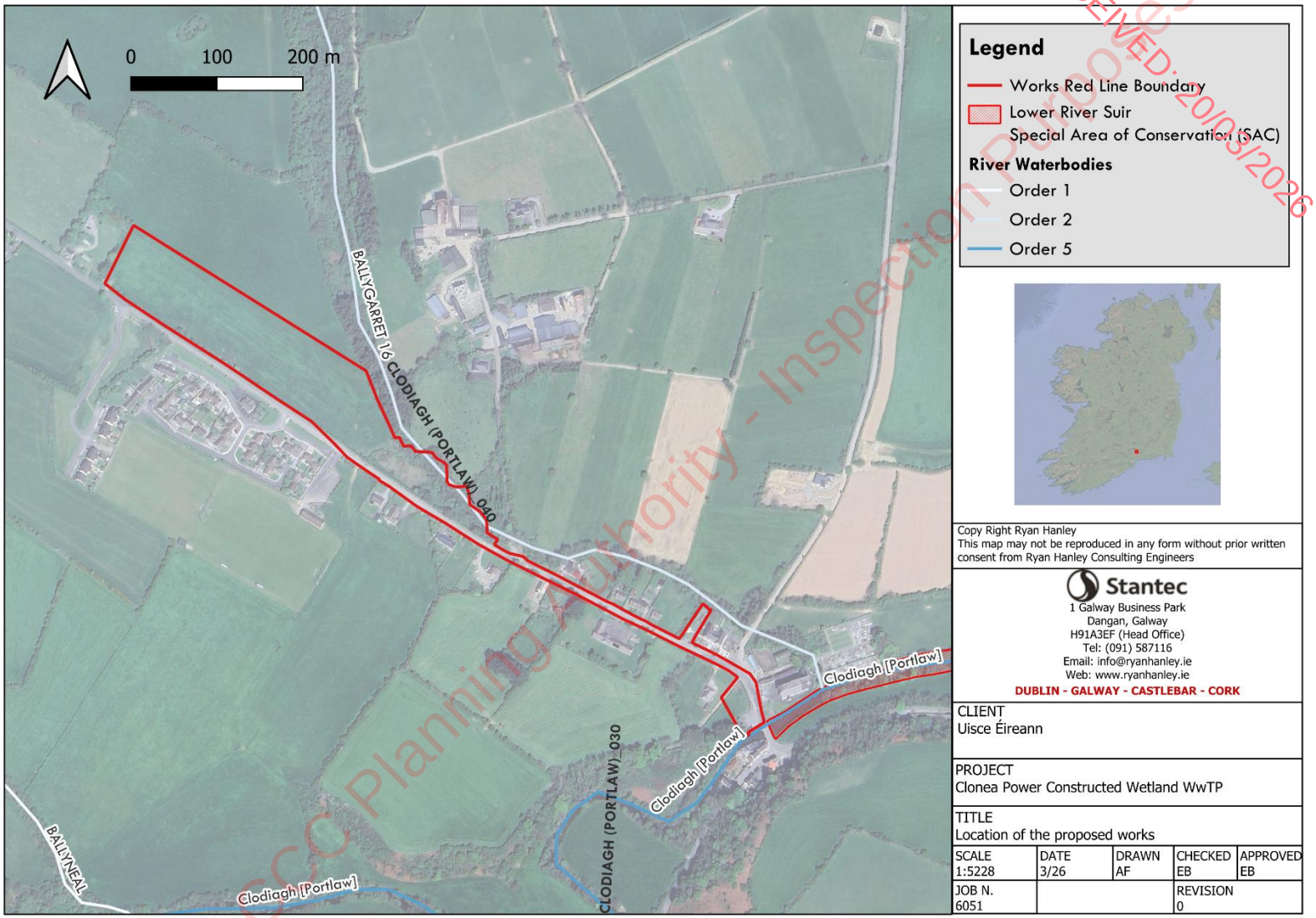
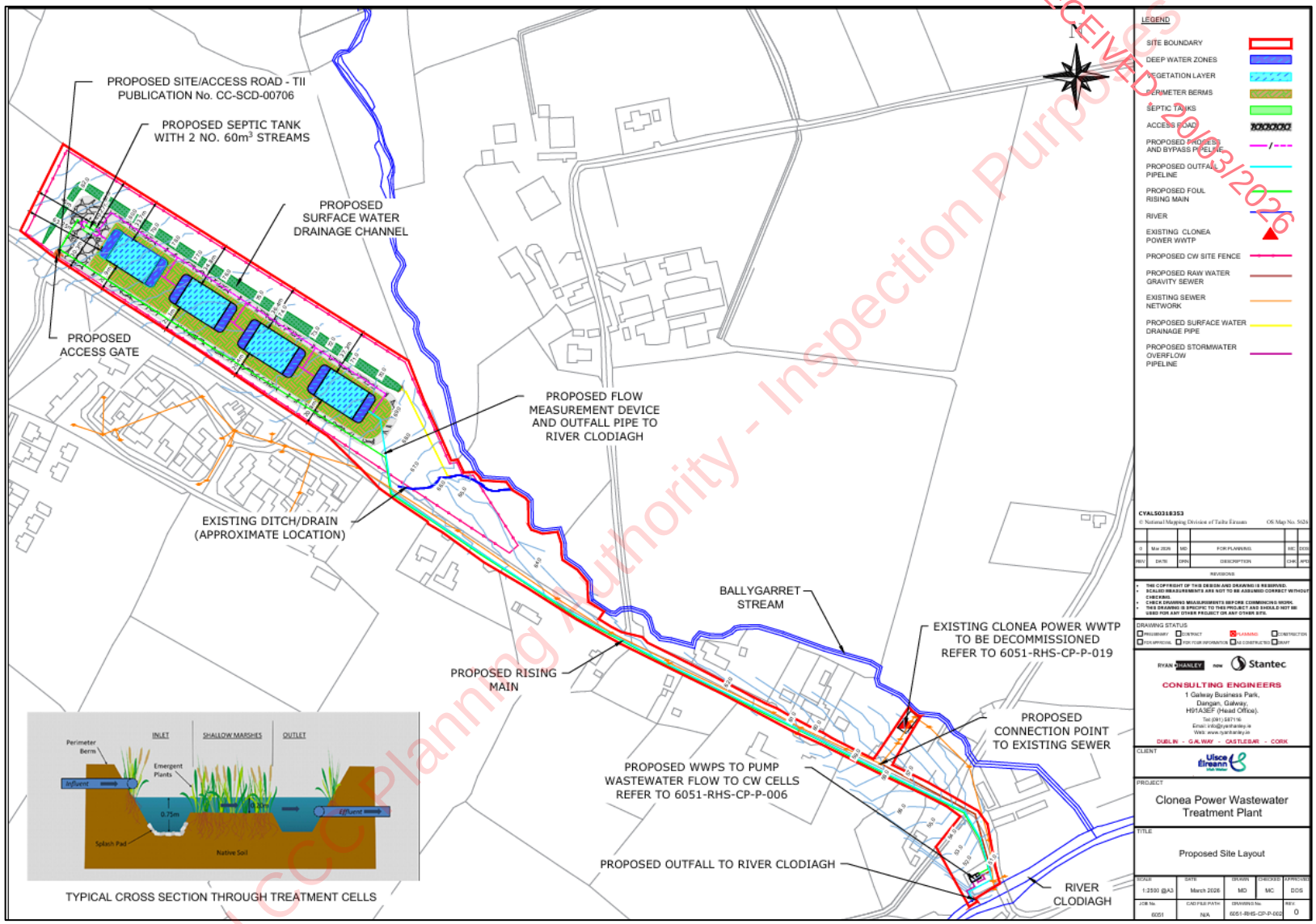


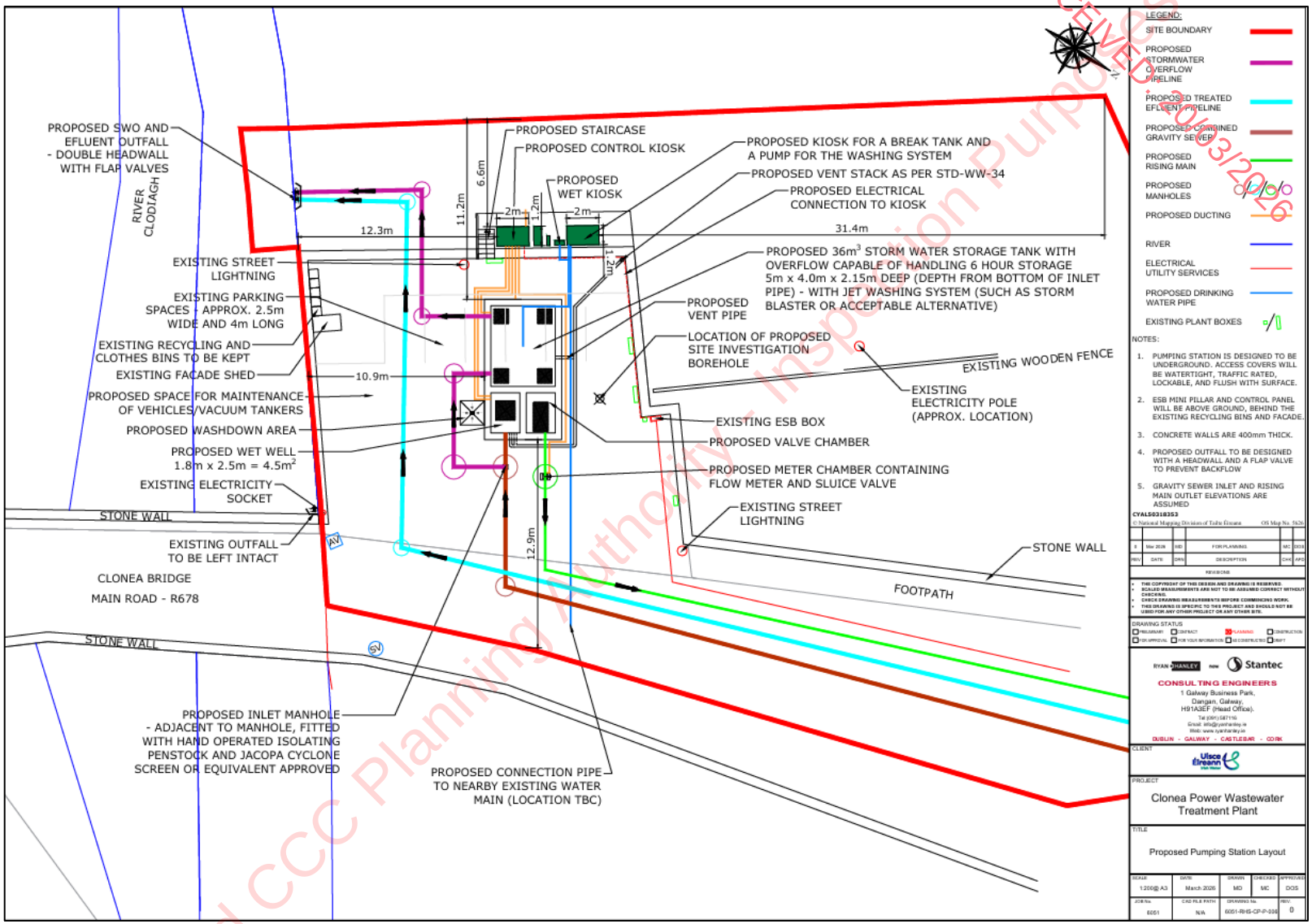
Figure 4.2: Location of the proposed works

Waterford CCC Planning Authority - Inspection Purposes Only!



RECEIVED 20/3/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

Figure 4.3: Proposed Works Layout



RECEIVED 03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

Figure 4.4: Proposed WwPS Layout

5 DESCRIPTION OF THE RECEIVING ENVIRONMENT

RECEIVED: 20/03/2026

Clonea Power is a village in County Waterford located approximately 8km south-west of Carrick-on-Suir, Co. Tipperary and approximately 30km north-east of Dungarvan, Co. Waterford. Development within the village is linear in nature along the R678, with residential estates located at its western edge. The nearest significant watercourse is the River Clodiagh, which runs along the south of the village and crosses the R678 at Clonea Bridge. The Ballygarret 16 river, a tributary of the Clodiagh River, flows southwards through Clonea Power and into the Clodiagh south of the church and just downstream of Clonea Bridge. Both of these rivers are recorded as the Clodiagh (Portlaw)_040 under the Water Framework Directive.

The proposed CW site is situated to the northwest of Clonea Power on the R678 road across from Clodiagh Drive and Deerpark residential areas. This site is an agricultural field that is bordered to the east by a riparian zone and the Ballygarret 16 river which runs down through the village centre to join the Clodiagh river flowing east towards Portlaw. A treeline borders the southern section of the site and the R678 road with utilities cables running overhead. The village centre is situated further along the R678 road to the east.

The existing WWTP site comprises an area of approximately 105m^2 and is set within a larger landholding which includes the Parish Hall. This site is bounded to the west by a greenfield plot, to the north by the Ballygarret 16 river and green fields, and to the east by the Parish Hall. It is bounded to the south by an access track and the R678, including a layby area. The existing WwTP site is c.42m from an existing domestic property (to the west) and c.20m from the Parish Hall. The site of the proposed WwPS is an existing car park adjacent to Clonea Bridge in the village centre directly opposite the church.

The Lower River Suir Special Area of Conservation (SAC) is located immediately downstream of Clonea Bridge, and the area is located within the Clodiagh *Margaritifera* (Fresh Water Pearl Mussel) SAC catchment.

See **Figure 5.1** for the habitat map and **Figure 5.2** for the watercourses in proximity to the works area.

5.1 Records from the National Biodiversity Centre Data (NBDC) and National Parks and Wildlife (NPWS)

A detailed desktop-study of the area was conducted using aerial orthophotography (Bing Imagery and Google Earth ©) and National Biodiversity Data Centre (NBDC) biodiversity maps to collate detailed baseline information. The works traverse 2km² grid squares (**S31S & S31X**) of the NBDC database with records of species of note outlined in **Table 5.1.**

Waterford CCC Planning Authority - Inspection Purposes Only!

Table 5.1: NBDC records of protected species and invasive species (2km² grid squares S31S & S31X)

EU Habitats = EU Habitats Directive 92/43/EEC, EU Birds = EU Birds Directive 79/409/EEC as amended, Wildlife Acts = Wildlife Act 1976 (Ireland) as amended, BOCC = Birds of Conservation Concern,

Grid Square	Species Name	Conservation Status
S31X	Barn Swallow (*Hirundo rustica*)	Wildlife Acts, BOCC Amber List
	Common Kestrel (*Falco tinnunculus*)	Wildlife Acts, BOCC Red List
	Common Linnet (*Carduelis cannabina*)	Wildlife Acts, BOCC Amber List
	Common Pheasant (*Phasianus colchicus*)	Wildlife Acts, EU Birds Directive, Annex II, Section I, Annex III, Section I
	Common Starling (*Sturnus vulgaris*)	Wildlife Acts, BOCC Amber List
	Common Wood Pigeon (*Columba palumbus*)	Wildlife Acts, EU Birds Directive Annex II, Section I, Annex III, Section I
	Eurasian Badger (*Meles meles*)	Wildlife Acts
	European Otter (*Lutra lutra*)	Wildlife Act, EU Habitats Directive Annex II, Annex IV
	Freshwater White-clawed Crayfish (*Austropotamobius pallipes*)	Wildlife Acts, EU Habitats Directive Annex II, Annex V
	Goldcrest (*Regulus regulus*)	Wildlife Acts, BOCC Amber List
	Grey Wagtail (*Motacilla cinerea*)	Wildlife Acts, BOCC Red List
	House Martin (*Delichon urbicum*)	Wildlife Acts, BOCC Amber List
	House Sparrow (*Passer domesticus*)	Wildlife Acts, BOCC Amber List
	Lesser Noctule (*Nyctalus leisleri*)	Wildlife Acts, EU Habitats Directive Annex IV
	Meadow Pipit (*Anthus pratensis*)	Wildlife Acts, BOCC Red List
	Pipistrelle (*Pipistrellus pipistrellus sensu lato*)	Wildlife Acts, EU Habitats Directive Annex IV
	Soprano Pipistrelle (*Pipistrellus pygmaeus*)	Wildlife Acts, EU Habitats Directive Annex IV
	Spotted Flycatcher (*Muscicapa striata*)	Wildlife Acts, BOCC Amber List
	West European Hedgehog (*Erinaceus europaeus*)	Wildlife Acts
	Willow Warbler (*Phylloscopus trochilus*)	Wildlife Acts, BOCC Amber List
	Invasive Species	
S31X	Budapest Slug (*Tandonia budapestensis*)	Medium Impact Invasive Species
S31S & S31X	Cherry Laurel (*Prunus laurocerasus*)	High Impact Invasive Species
S31X	Common Garden Snail (*Cornu aspersum*)	Medium Impact Invasive Species
S31X	Douglas Fir (*Pseudotsuga menziesii*)	Medium Impact Invasive Species
S31X	European Rabbit (*Oryctolagus cuniculus*)	Medium Impact Invasive Species
S31S	Field Penny-cress (*Thlaspi arvense*)	Medium Impact Invasive Species
S31X	Jenkins' Spire Snail (*Potamopyrgus antipodarum*)	Medium Impact Invasive Species
S31X	Keeled Slug (*Tandonia sowerbyi*)	Medium Impact Invasive Species
S31S & S31X	Sycamore (*Acer pseudoplatanus*)	Medium Impact Invasive Species

No species protected under the Flora (Protection) Order 2022 (S.I. No. 235/2022) were identified in the proposed works area on review of the NPWS Flora (Protection) Order 2022 Map Viewers and NBDC database.

No species protected under the Flora (Protection) Order 2022 (S.I. No. 235/2022) were observed in the proposed works areas during the site walkovers in 2024 and 2025.

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

5.2 Habitats and Flora

The ecological character is described below in terms of the adjacent habitats as per the Heritage Council's 'A Guide to Habitat Types in Ireland' (Fossitt, 2000). The main habitat types characterising the proposed works areas are improved agricultural grassland (**GA1**) and buildings and artificial surfaces (**BL3**).

CW site

The site of the proposed CW is largely agricultural grassland (**GA1**) with small patches of wet grassland (**GS4**) at its southern bounds. It is bordered to the east by a section of grassy embankment (**GS2**), an old stone wall (**BL1**), mixed broadleaf/conifer woodland (**WD2**) and the Ballygarret 16 (Clodiagh (Portlaw)_040) river (**FW1**). There is a small section of wet grassland (**GS4**) and an unmapped stream (**FW4**) in the southeast of the CW site which joins the Ballygarret 16 river in the east. This river enters the Clodiagh River (**FW1**) downstream of Clonea Bridge. The southeastern section of the CW site also contains an area of mixed broadleaf/conifer woodland (**WD2**). There are a number of drainage ditches (**FW4**) (dry at time of surveying) at the southern end of the CW field. The CW site is bordered to the south by sections of hedgerow (**WL1**), treeline (**WL2**) and the R678 road (**BL3**). A residential building (**BL3**) is directly adjacent to the CW site in the west. Two residential cul de sacs are situated directly south of the proposed site across the R698 (**BL3**).

Existing WwTP

Clonea Power village, including the church and parish hall and various other residential and public buildings are located further southeast along the R698 (**BL3**). The new rising main from the WwPS to the CW site and the treated effluent pipeline to the Clodiagh River will be installed along the margins of the R698 (**BL3**). This road is bordered by a combination of hedgerow (**WL1**), treeline (**WL2**) and residential buildings (**BL3**). The existing WwTP sits within a patch of dry meadow grassland (**GS2**) north of the R698 (**BL3**). It is bordered by riparian woodland (**WN5**) and the Ballygarret 16 river (**FW1**) to the north. A treeline (**WL2**) is located to the west and the parish hall (**BL3**) to the east of this site.

Proposed WWPS location

The site of the proposed WwPS is within an existing car park (**BL3**) opposite the church and directly adjacent to Clonea Bridge (**BL1**) and the River Clodiagh (**FW1**). Behind the carpark to the southwest is agricultural grassland (GA1) and areas of mixed broadleaf/conifer woodland (**WD2**).

5.3 Invasive Species

Nationally, the European Communities (Birds and Natural Habitats) Regulations 2011 [SI 477 of 2011] (hereafter referred to as the Habitats Regulations) contain the provisions to address invasive species. A

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

list of non-native invasive species is set out in the Regulations (known as Third Schedule species). The European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374 of 2024) contain a list of invasive alien species of national concern (First Schedule) and a list of vector materials of national concern (Second schedule). It is an offence, without a licence, to release, allow to disperse/escape, breed, propagate, import, transport, sell or advertise invasive species and vector material listed in the aforementioned regulations.

No invasive plant species listed on the third schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477/2011) or the first and second schedule of the European Union (Invasive Alien Species) Regulations 2024 (SI 374/2024) were identified within the proposed works area during the ecological walkover surveys. No Third Schedule invasive species were reported in the NBDC database 2km^2 grid squares S31S and S31X which the site is located within.

During the site survey on the 10th of May 2024, a small stand of Himalayan Balsam (*Impatiens glandulifera*) was recorded growing on the northeast bank of the Clodiagh River, downstream of Clonea Bridge and east of the Church in the village centre. This location is not within the proposed works boundary, and no works are proposed in proximity to it. During follow up surveys in April, August, September and October 2025, stands of Himalayan Balsam were observed growing on the eastern bank at multiple points directly adjacent to Clonea Bridge (upstream and downstream). A large area of Himalayan Balsam was observed growing upstream of Clonea Bridge in an area of wet grassland on the western bank of the River Clodiagh. None of these areas are within the proposed red line boundary for the project but the stands at Clonea Bridge are in close proximity (c.10m from proposed instream works on other side of the river for new outfalls – **Figure 5.2**).

High impact invasive species Cherry Laurel (*Prunus laurocerasus*) and medium impact invasive species Cotoneaster spp. (*Cotoneaster horizantolis*) were observed growing at sections along the side of the R678 road moving from the CW site towards Clonea Power village centre. These species will not be disturbed as a result of the proposed works. They are not listed on the SI 477/2011 or SI 374/2024 regulations.

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

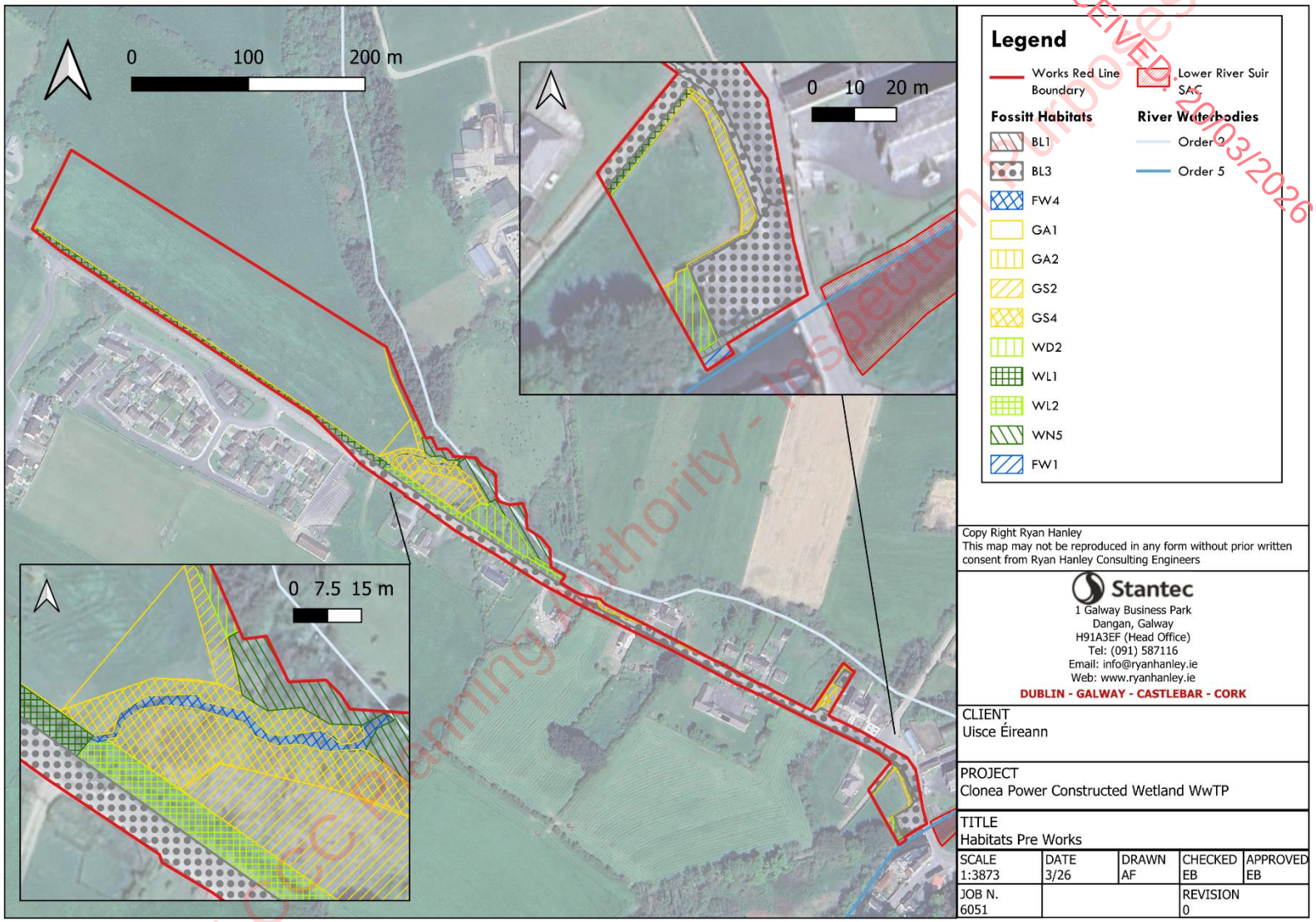


Figure 5.1: Fossitt Habitats within the proposed works boundary

RECEIVED: 20/03/2026
Waterford C.C. Planning Authority - Inspection Purposes Only!

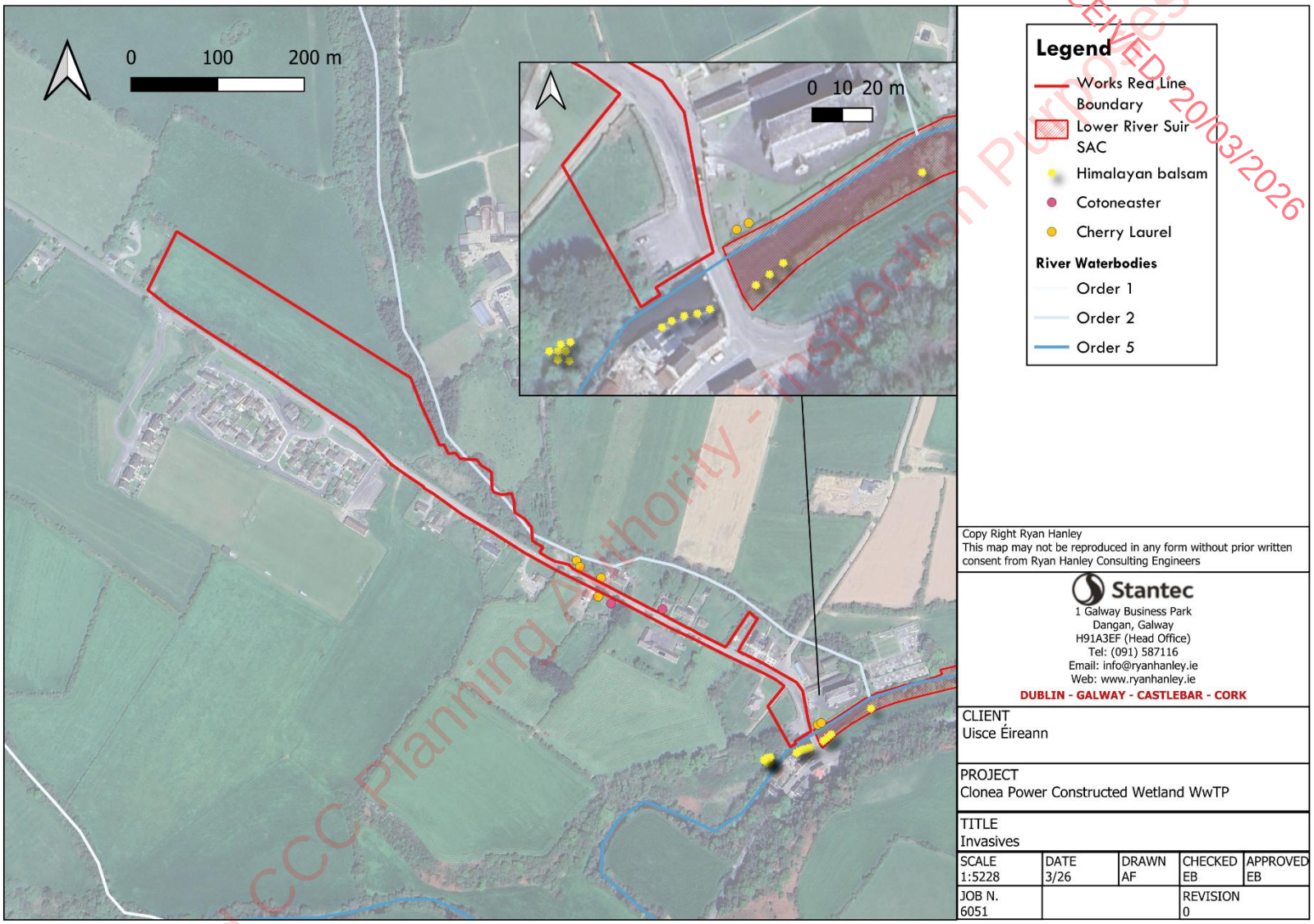


Figure 5.2: Invasive Species Locations

RECEIVED 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

5.4 Fauna

The area of the proposed works sits within 2km^2 grid squares **S31S & S31X** in the NBDC database. The NBDC database show records in this grid square for Eurasian Badger (*Meles meles*) and European Otter (*Lutra lutra*). Freshwater White-clawed Crayfish (*Austropotamobius pallipes*) has also been reported by the NBDC in the area and is likely present in the Clodiagh River. The overall bat suitability index value (30.11) according to 'Model of Bat Landscapes for Ireland' (Lundy *et al.* 2011) suggests the landscape in which the proposed site is located is of moderate to high suitability for bats in general. The likelihood of bat activity in the area is high and bat species Lesser Noctule (*Nyctalus leisleri*), Pipistrelle (*Pipistrellus pipistrellus sensu lato*) and Soprano Pipistrelle (*Pipistrellus pygmaeus*) were reported by the NBDC as active in the area. The riparian habitat along the Ballygarret 16 river and Clodiagh river would provide an attractive and suitable foraging habitat for otter and bat species, and the existing treelines would provide good connectivity between the surrounding habitats. The old residential buildings, church and parish hall may be attractive roost sites for bat and bird species. The proposed CW field is bordered to the south by a mature hedgerow and treeline with a small number of mature trees. These include a few large Scots pines (*Pinus sylvestris*) where rooks (*Corvus frugilegus*) are nesting.

Clonea Power is located within the Clodiagh *Margaritifera* (Fresh Water Pearl Mussel) SAC catchment, however surveys carried out by RPS in 2020 did not detect mussels within 300m downstream and 500m upstream of the existing discharge location at Clonea Bridge. Based on the results of historical surveys carried out between 2006 and 2017 as reported in the Lower River Suir SAC site conservation objectives document, there is not believed to be a significant population within the 1400m reach downstream of Clonea Bridge (NPWS, 2017; RPS, 2020). Ecological walkover surveys carried out in the area during 2024 and 2025 by Ryan Hanley (now Stantec) observed that the instream habitat directly adjacent to the existing outfall and the site of the new proposed outfall (both directly upstream of Clonea Bridge) were sub-optimal for freshwater pearl mussel owing to findings that are consistent with those that were observed during the surveys in 2020 by RPS. There is a combination of fine sediment and algal detritus which has smothered substrates. The same heavy plume of grey, foul-smelling discharge from the existing outfall was evident during 2020, 2024 and 2025. Rooted macrophyte cover was also evident in this location in 2024, with coverage decreased but still present in 2025.

During surveys carried out by RPS in 2020, numerous salmonids were observed in the area, particularly upstream of the existing discharge location at Clonea Bridge. Larger brown trout (*S. trutta*) were observed in deeper pools, while juvenile (0+, 1+ and 2+) salmon (*S. salar*) and trout were ubiquitous in riffles, runs and glides. The combination of depth and flow type variability makes for excellent salmonid nursery habitat this reach of the Clodiagh River. Holding habitat was less common, with only a few deeper pools present. The combination of cobble, pebble and gravel substrates presents spawning habitat potential, although probably limited by bed instability and siltation that was evident. Instream habitats were noted to hold potential for river, brook and sea lamprey spawning (i.e., similar requirements to salmonids). Lamprey nursery habitat was limited, with very little area of stable, deeper, marginal silt deposits where juvenile lamprey could burrow. White-clawed crayfish (*A. pallipes*) were

RECEIVED: 20/02/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

also recorded as common along the entire study reach upstream and downstream of the existing discharge point. A variety of size classes were observed, along with berried females, indicating a breeding population.

RECEIVED: 20/03/2026

Site Surveys

Otter and Badger

May 2024

No signs of badger or otter were detected during the site survey on the 10th of May 2024. The proposed works areas and banks of the Ballygarret 16 watercourse and Clodiagh River were walked 200 metres north and south of the proposed works areas. It was not possible to walk down the southern banks of the Clodiagh River on the day due to the height of the river, but this southern section was observed from the bridge and adjacent road and buildings.

April, September, October, November 2025

Given the proximity of the site to the Clodiagh River and the Lower River Suir SAC, further surveys of the site for otter (*Lutra lutra*) were undertaken. The Ballygarret 16 watercourse and Clodiagh River were assessed on four separate surveys in April, September, October and November 2025. These surveys also included the recommended buffer zones along each watercourse. The methodology was carried out as per the 'Standard Otter Survey' method and outlined by the National Otter Survey publication (Reid *et al,* 2013) and following NRA (2009) and NPWS (2019) otter survey guidance. The survey extent covered 200 metres upstream and downstream of the proposed works areas along the Ballygarret 16 watercourse and Clodiagh River. A trail camera was set up along the Clodiagh River to monitor for otter activity. Weather conditions during all surveys were suitable for an ecological site assessment with general dry conditions and temperatures varying between 12-14°C.

Physical evidence of otter was found on rocks within the Ballygarret 16 watercourse (spraint on large rocks) and upstream of Clonea Bridge along the Clodiagh River where an otter trail and couch were recorded in scrub on the western edge of an agricultural field on the western bank of the Clodiagh River. Both watercourses were assessed for the presence of a holt and the watercourses were fully accessible to survey on foot within the waterbody, or along the banks at deeper sections (downstream of Clonea Bridge within the Clodiagh River). No potential otter holt was located during the otter survey. The trail camera was left up for a month between October and November 2025 at a location on the western banks of the Clodiagh River c.60m upstream of Clonea bridge. No signs of otter were detected on the trail camera.

Surveys of the proposed works areas were also conducted in April, August, September, October and November 2025 . The proposed working area was assessed for the presence of badger in line with NRA (2009) guidelines. No badger setts, or evidence of badger (hair, scatt, snuffle holes, trails) were noted.

Waterford CCC Planning Authority - Inspection Purposes Only!

Weather conditions during all surveys were suitable for an ecological site assessment with general dry conditions and temperatures varying between 12-14°C.

RECEIVED: 20/03/2026

Bats

September and October 2025

Clonea Bridge and the old stone wall running along the banks upstream and downstream of Clonea Bridge were noted to contain potential roosting features for bats in the form of crevices and cracks under the arches and between the stones. Emergence surveys of the bridge and adjacent stone walls were conducted during September and October 2025 in line with the Bat Conservation Trust, Bat Surveys for Professional Ecologists, Good Practice Guidelines (Collins, 2023) & Bat Mitigation Guidelines for Ireland V2 (Marnell *et al.*, 2022). Weather conditions during the surveys were suitable for an ecological site assessment with general dry conditions and temperatures varying between 12-14°C.

No bats were detected emerging from Clonea Bridge or the immediately adjacent sections of adjoining stone walls on either of the survey nights. Small numbers (2 upstream and 5 downstream) of Daubenton's Bats (*Myotis daubentonii)* were observed and detected on the Full Spectrum Anabat Recorder foraging in the river c. 10m upstream and c. 15m downstream of Clonea Bridge. Soprano Pipistrelle (*Pipistrellus pygmaeus)* and Common Pipistrelle (*Pipistrellus pipistrellus*) were also detected on the recorder during both survey nights.

Bats were visible but did not forage directly adjacent to the bridge, likely due to the presence of strong artificial lights on both sides of the bridge that illuminated the river in this location. Only one or two bats were observed commuting through the arches downstream. The majority of activity was from one or two bats that foraged consistently in an area c.10m upstream of the bridge. These two bats would fly within 5m of the arches and circle back upstream to continue foraging in the same area. Four or five Daubenton's bats similarly foraged in an area c.15m downstream of Clonea Bridge but did not commute upstream under the arch. Activity levels were low overall during both survey nights with less than 10 bats observed in total during both surveys.

The bat surveys were conducted late in the season (September/October). Female bats usually leave maternity roosts in August and seek out males who have set up mating territories. Mating may take place in a swarming site, which may be a cave or large underground site, or may take place in a roost protected by a single male (a harem). Hibernation normally takes place from October/November onwards. Based on the survey results, it is unlikely that bats are roosting in the bridge or adjacent stone walls during September/October, however, it is possible that the area could be utilised by bats during the earlier maternity seasons and a further survey preconstruction survey during the appropriate seasonal period is recommended. However, the strong artificial light presence on the bridge which floods adjacent sections of the river is likely to serve as a deterrent to large numbers of roosting bats in this location. No other mammals were observed during the ecological walkover surveys in 2024 and 2025.

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

Birds

Grey Wagtails (*Motacilla cinerea)* were noted to be nesting along the western banks of the Clodiagh River upstream and downstream of Clonea Bridge. Rooks (*Corvus frugilegus)* are nesting in trees in the southeast of the treeline bordering the CW site and in the trees bordering the car park and proposed site of the WwPS. A Grey Heron (*Ardea cinerea*) was observed on two occasions during the surveys flying downstream along the Clodiagh River and was also detected on the trail camera upstream of Clonea Bridge. A dipper (*Cinclus cinclus*) was observed on a section of instream rocks during the September 2025 survey immediately downstream of Clonea Bridge and was also detected on the trail camera upstream of Clonea Bridge. Robin (*Erithacus rubecula*), Wren (*Troglodytes troglodytes*), Blackbird (*Turdus merula*), Chiffchaff (*Phylloscopus collybita*), Long-tailed Tit (*Aegithalos caudatus*), Blackcap (*Sylvia atricapilla*), Great Tit (*Parus major*), Blue Tit (*Cyanistes caeruleus*), Dunnock (*Prunella modularis*), Chaffinch (*Fringilla coelebs*), Wood Pigeon (*Columba palumbus*) and Jackdaw (*Coloeus monedula*) were also detected utilising treelines and hedgerows within the proposed works boundary.

Waterford CCC Planning Authority - Inspection Purposes Only!

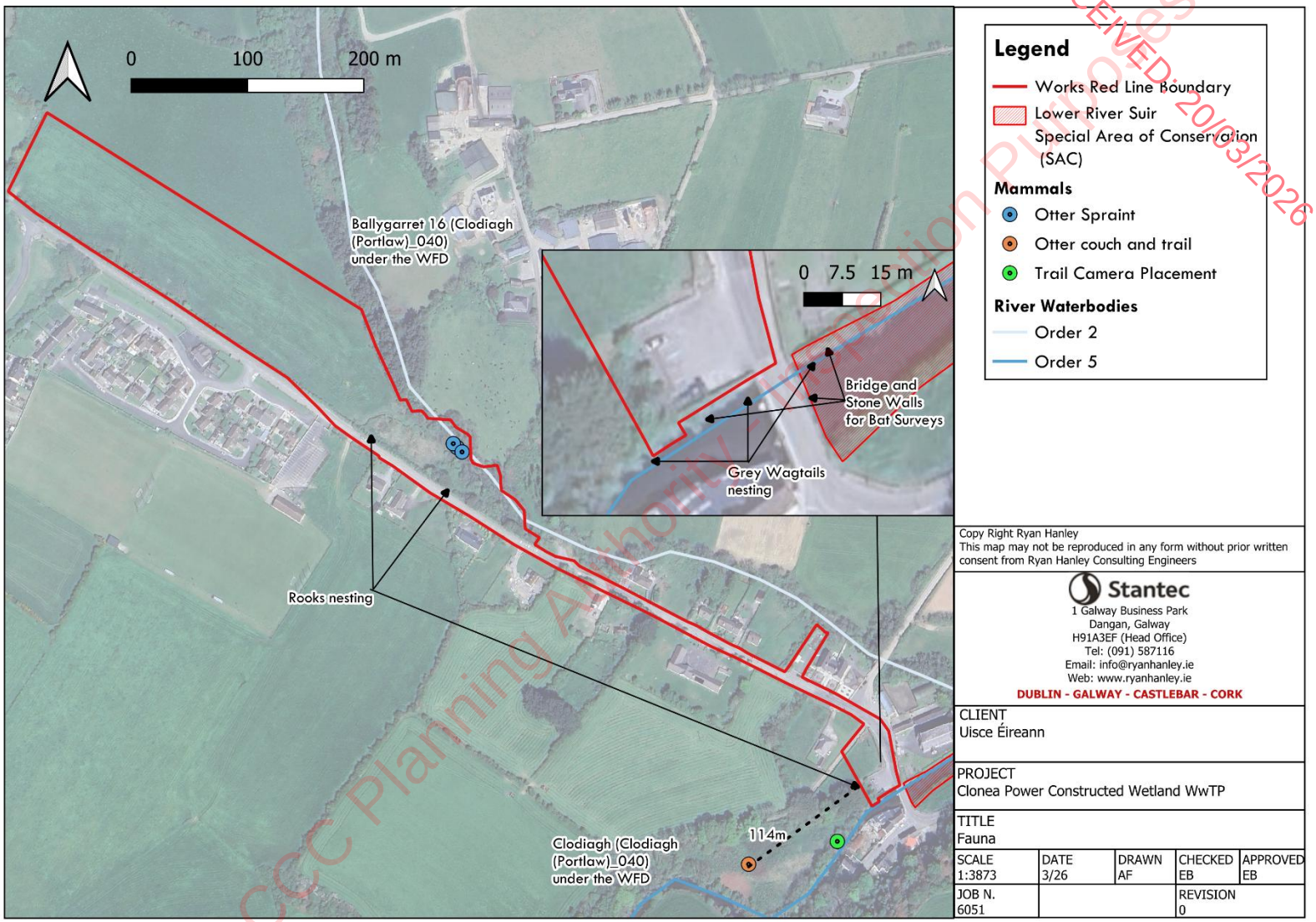


Figure 5.3: Faunal Signs

RECEIVED: 20/03/2026
For Consultation Purposes Only!
Waterford CCC Planning Authority

5.5 Water & Soils

RECEIVED: 20/03/2026

The Ballygarret 16 river (Clodiagh (Portlaw)_040 (IE_SE_16C030400)) runs along the eastern border of the proposed CW site. It is an order two river and is part of the 16 Suir catchment. The Ballygarret 16 river runs into the Clodiagh (Portlaw) river close to Clonea Bridge and this river flows east towards Portlaw, Co. Waterford. Both watercourses are classified as Clodiagh (Portlaw)_040 under the Water Framework Directive. The Clodiagh (Portlaw)_030 enters the village from the southwest and joins the Clodiagh (Portlaw)_040 near Clonea Bridge. The Clodiagh (Portlaw)_040 is part of the Lower River Suir SAC immediately after Clonea Bridge. The Clodiagh (Portlaw)_040 has a Water Framework Directive (WFD) status of "Good", and a risk status of "Not at Risk". The Clodiagh_030 has a current WFD status of "Good" and a risk status of "At Risk" (WFD Status 2019-2024). The Clodiagh (Portlaw)_040 and Clodiagh (Portlaw)_030 watercourses are part of the 16_17 Clodiagh[Portlaw]_SC_010 sub catchment. Significant pressures impacting "At Risk" waterbodies in this subcatchment are reported by catchments.ie as Agriculture, Urban Wastewater and Hydromorphology. Impacts of these pressures are listed as Organic Pollution, Nutrient Pollution and Habitat Morphological Impact.

There is a small unmapped stream/drainage ditch in the southeast of the CW site (c. 20 metres from closest works - effluent pipeline works) that runs for a short distance northeast through the field where it joins the Ballygarret 16 stream.

The study site is located within the groundwater body "Comeragh". The proposed works area is located within an area of High Groundwater vulnerability which is vulnerable to contamination from human activities. The groundwater body Comeragh has a WFD status of "Good" and a risk status of "Not at Risk" (WFD Status 2019-2024). The area is located within a Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones. An aquifer is a body of rock that holds groundwater. This aquifer is capable of supplying locally important supplies (e.g., smaller public water supplies, group schemes). The Environmental Protection Agency (EPA) Maps website places the proposed works area and surrounding land within a drinking water safe zone, listing "Article 7 Abstraction for Drinking Water-Comeragh" for the groundwater units. According to the EPA and Geological Survey Ireland (GSI) online mapping, the proposed works area is not located in a Groundwater Source Protection Area.

The proposed works are located in an area with Soil Information System (SIS) National Soil Clonroche. This is a well-drained mineral soil. It is a fine loamy drift with sillceous stones. Sections closer to watercourses are underlain by poorly draining River Alluvium. In the southern section of the proposed works areas in proximity to Clonea Bridge, there are also areas of SIS National Soil Gortaclareen. This is a poorly drained mineral soil, a surface-water gley. It is a fine loamy drift with siliceous stones. The subsoil is reported by Teagasc as a clayey shale till at the CW site and along the R678 road. There is undifferentiated Alluvium at Clonea bridge and bordering the watercourses.

Clonea Power and the Clodiagh River are part of a freshwater pearl mussel SAC catchment area. One of the conservation objectives for freshwater pearl mussel as part of the Lower River Suir SAC is "Restore

Waterford CCC Planning Authority - Inspection Purposes Only!

water quality - macroinvertebrates: Ecological Quality Ratio (EQR) greater than 0.90 (Q4-5 or Q5); phytobenthos: EQR greater than 0.93". The EQRs correspond to **high ecological status** for these two WFD biological quality elements. They represent high water quality with very low nutrient concentrations (oligotrophic conditions). The target is for sufficient habitat in favourable condition to allow the species to maintain itself on a long-term basis as a viable component of the Clodiagh system. A Q value of 4 was taken at Clonea Bridge in 2023 (https://epawebapp.epa.ie/qvalue/webusers/). The Portlaw Clodiagh is the only tributary in the Suir catchment to which the EC Environmental Objectives (Freshwater Pearl Mussel) Regulations 2009 apply. The 2023 biological water quality monitoring results indicate that the macroinvertebrate element of the objectives set out in these regulations, requiring a minimum of EQR 0.9 (Q4-5), is not being achieved at five of the six monitoring sites in the Clodiagh.

Flood Risk

The Ballygarret 16 river forms the eastern boundary of the proposed CW field and continues in an easterly direction before out falling to the River Clodiagh at the rear of the Church in the village centre, downstream of Clonea Bridge.

There are no CFRAM (National Catchment Flood Risk Assessment and Management Programme (CFRAM)) maps available for Clonea Power. The National Indicative Fluvial Flooding (NIFF*) map indicates that the southern section of the R678 road and car park (proposed site of WwPS) near Clonea Bridge are located within the medium probability** fluvial flood extent of the Clodiagh River for the present-day scenario. The proposed CW field and the northern sections of the R678 road in the town are not located within the present-day fluvial flood extent of the River.

Pluvial flooding is a result of rainfall-generated overland flows which arise before runoff can enter any watercourse or sewer or from hillside run-off. It is usually associated with high-intensity rainfall. There is potential for hill side runoff to flow overland across the proposed CW site. There is potential for road runoff to flow into the proposed carpark (WwPS) site.

The OPW floodinfo.ie site indicates a recurring flood event on the R678 due to a low point on this regional road (OPW FloodInfo Flood ID 3912 – dated from 2006). This is in the vicinity of the proposed pipeline works along the R678 road. There is a recurring river flood record at the car park (proposed site of WwPS) near the current discharge point on the River Clodiagh (ID-3911). Evidence listed by the FloodInfo website includes a flood report dated 2006 and a newspaper article dated 1947. The report describes the events as "High flows in the Clodiagh flood the roadway upstream and downstream of the bridge. One pub floods" (Flood ID 3911). The carpark site is surrounded by 1.3m high masonry wall which would likely protect the carpark from direct inundation from the river flood levels upstream of the bridge. There is a drainage opening through the wall.

A flood defence scheme was built in 2019 adjacent to Clancy's Bar (across Clonea Bridge, directly opposite the existing effluent discharge point). The flood defence scheme (Clonea Power Flood Defence Works) comprised the construction of a new 600mm diameter storm outfall pipe to the River Clodiagh

RECEIVED: 20/08/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

and the installation of clay embankments, proprietary fence panels, removable barriers, and reinforced concrete walls along the northern bank of the River Clodiagh, immediately upstream and downstream of the bridge.

RECEIVED: 20/03/2026

Flood Risk Assessment 2025

A Flood Risk Assessment was completed for the proposed works by Ryan Hanley in 2025. The findings included the following.

- The proposed CW site is in Flood Zone C (above the 1 in 1000year flood level) relative to fluvial flood risk;
- Flood risk associated with pluvial (hillside run-off) and groundwater/ subsurface sources exists at the proposed CW site which could impact the proposed treatment process and associated ponds. The proposed design measures comprise drainage works to intercept hillside runoff and subsurface flows and divert the flows to the Ballygarret stream. A 1.5m deep grass lined open channel upgradient of the proposed CW works draining to an adjacent downhill surface watercourse will effectively intercept the surface and shallow subsurface flows and convey these flows away from the site;
- The pipeline trenches associated with the proposed sewers to the WwPS, the proposed rising main from the WwPS to the CW site and the outfall main from the CW site to the river have the potential to intercept and convey groundwater/ subsurface flows and cause surface flooding and subsurface erosion. Appropriate pipeline trench design incorporating stanking and trench drainage will address the associated potential impacts;
- The proposed WwPS site is likely in Flood Zone A relative to the River Clodiagh. The proposed WwPS and associated infrastructure will be flood compatible, e.g. chamber covers, opes and plinths, vulnerable equipment above the 1 in 200 year flood level, plus a freeboard of >500mm (>51.35mOD). Sealed/ watertight manhole covers will be used at the WwPS site below this level. A non-return valve will be installed on the overflow pipe from the WwPS to Clodiagh River. It will be necessary to implement groundwater and surface water management measures to appropriately manage the short duration flood risk at this site;
- Road drainage will be installed to intercept and divert road runoff from the WwPS site. Non-return valves will be installed on surface water outfalls to the river;
- Segments of the proposed new rising main and outfall pipe will be in a medium flood risk area. It will be necessary to implement groundwater and surface water management measures to appropriately manage the short duration flood risk along the sewer;
- The excavation works for construction of the CW, the WwPS, and the scheme pipelines will likely intercept groundwater. Dewatering (by temporary pumping), and construction stage water quality management systems will be required to facilitate working in the dry, ensure the

Waterford CCC Planning Authority - Inspection Purposes Only!

excavation works are appropriately drained and that the discharge of the dewatering flows to receiving waters will not:

- Increase flooding to adjacent properties i.e. via surcharging of existing urban drainage, or direct run-off into properties;
- Impact the water quality of adjacent watercourses.

In addition, the FRA recommended the following measures be implemented during construction stage:

- Elevated groundwater levels are expected in the area. In order to minimise the need for groundwater dewatering, works will be coordinated to be undertaken during prevailing dry weather and non-flood conditions when adjacent watercourse levels are appropriately low;
- All excavations and trenches will be backfilled as soon as practical, and none shall be left open overnight;
- Dewatering pumps will be in place to handle any issue arising from high groundwater levels during the construction works. The contractor will ensure all arising dewatering flows are discharged at an appropriate controlled flow rate so as not to cause any flooding in the downstream drainage networks or adjacent properties;
- The Contractor will ensure that the drainage gullies in the area are maintained clear throughout the works and no contaminated site run-off will be permitted to discharge directly to the Ballygarret watercourse or the River Clodiagh.
- The Contractor will temporarily divert surface run-off (pluvial) from discharging into open excavation trenches in order to minimise the dewatering works required;
- No refuelling will be undertaken on site (other than pumps). All pumps shall be appropriately bunded and spill kits will be available on site should a fuel spill occur;
- Excavated material (including topsoil and subsoil) and imported fill material for the CW shall not be stored within Flood Zone A and B.
- The Contractor's compound shall be located in Flood Zone C.

**NIFM: This data shows the modelled extent of land that might be flooded by rivers (fluvial flooding) during a theoretical or 'design' flood event with an estimated probability of occurrence, rather than information for actual floods that have occurred in the past.*

***1 (Medium Probability)= AEP 1% or odds of 100:1. Flood event probabilities are referred to in terms of a percentage Annual Exceedance Probability, or 'AEP'. This represents the probability of an event of this, or greater, severity occurring in any given year. These probabilities may also be expressed as odds (e.g. 100 to 1) of the event occurring in any given year*

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

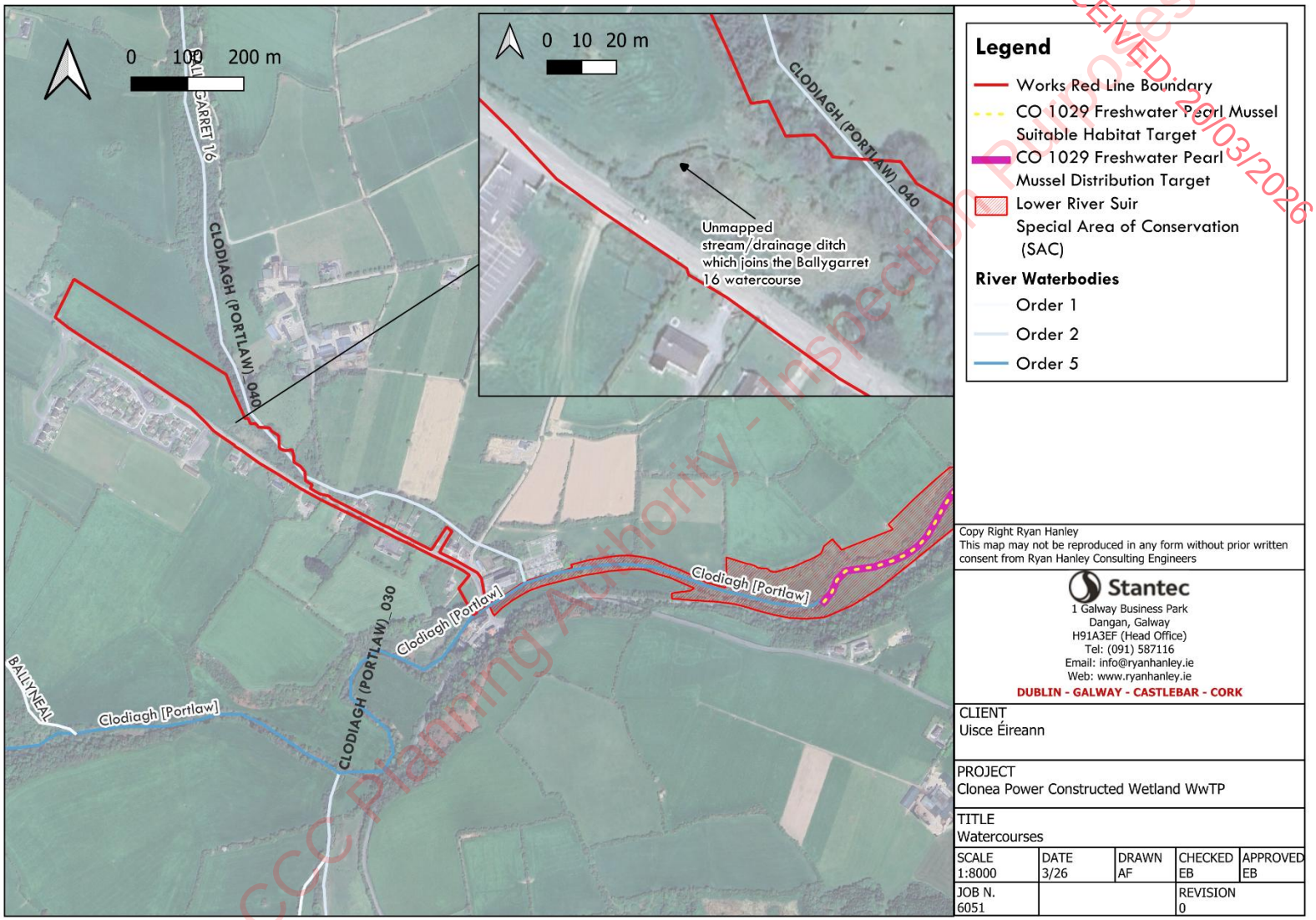


Figure 5.2: Surface waters surrounding the proposed development

RECEIVED: 28/03/2026
For Inspection Purposes Only!
Waterford CCC Planning Authority

6 SCREENING FOR APPROPRIATE ASSESSMENT

RECEIVED: 20/03/2026

6.1 Designated European Sites In The Vicinity Of The Project

Section 3.2.3 of the Guidance for Planning Authorities (DoEHLG, 2010) states that the approach to screening can be different for different plans and projects and will depend on the scale and the likely effects of the project. A key variable that will determine whether or not a particular European Site is likely to be negatively affected is its physical distance from the project site. As per *Appropriate Assessment Screening for Development Management* (OPR, 2021), the Zone of Influence (ZoI) is the criteria for screening any potential impact on the Natura 2000 network. A ZoI for a project is established on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors within vicinity of the proposed development. The ZoI takes into account the potential for connectivity to ecological receptors through the Source-Pathway-Receptor (S-P-R) model and assesses potential impacts of the proposed development on both immobile and mobile qualifying interests of identified European sites. Functional pathways can include the use of an application site for foraging by a QI/SCI species of an SAC or SPA i.e., Otter or migratory birds.

The ZoI for the proposed works has been determined by analysis of the receiving environment within which the works are located. The area over which the proposed works has the potential to result in effects was then determined. Initially, sites were identified utilising a precautionary approach with a potential ZoI. If there is no ecological pathway or functional link between the proposed works and the European site, there is no potential for impact and the project can be screened out.

Given the size, scale and nature of this project and the nature of the ecological receptors in the surrounding environment, it is considered for the purpose of this screening exercise that the potential sources of impact are construction related noise, light, dust, disturbance, potential release of construction related pollutants (sediment, hydrocarbons and concrete) and operational discharges from the CW and storm overflow. Given the scale of the works, the likely zone of impact for construction related light, noise, dust and disturbance is the zone immediately surrounding the proposed development works (c. 350 meters).

Given the potential impact of construction related sediment, hydrocarbon and concrete run off and operational discharges from the CW and storm overflow, the fact the nearest watercourse is within (for the new outfall construction) and c.1 metre from the proposed works boundary, the zone of influence is considered to be the zone immediately surrounding the proposed works and any sites with a hydrological connection to the adjacent watercourses (Ballygarret 16 & Clodiagh River). The zone of influence was also considered not only in physical terms but also in relation to biological connectivity, particularly mobile aquatic species, which may be affected by changes in water quality beyond the localised area of impacts.

Waterford CCC Planning Authority - Inspection Purposes Only!

A review of the National Parks and Wildlife Service (NPWS) database has identified the following Natura 2000 sites as potentially impacted by the proposed project, being in proximity, upstream or downstream of the works.

Each European site was assessed to determine potential interactions with the proposed works (See **Table 6.1, Figure 6.1 and Figure 6.2**):

Table 6.1: European Sites identified in the potential Zone of Influence

Site Name	Site Code	S>P>R	Distance and potential for impact
Lower River Suir SAC	002137	Yes	A Source Pathway Receptor (S-P-R) exists. There is a direct hydrological connection. This site is c. 3 meters downstream on the River Clodiagh from the proposed works area at Clonea Bridge. Instream works are proposed c.20m upstream from this site for the new outfall construction (effluent and storm). This site is c.640 metres downstream of the fourth pond in the proposed CW site along the Ballygarret watercourse. Considering the proximity and direct hydrological connection, there is potential for impact to this site as a result of the proposed works. **Therefore, this SAC will be assessed further.**
River Barrow and River Nore SAC	002162	No	The Lower River Suir SAC (which the Clodiagh River is a part of) meets with the River Barrow and River Nore SAC c.37km downstream from the proposed works site hydrologically. The Clodiagh River joins the River Suir Estuary which confluences with the New Ross Port and Barrow Suir Nore Estuary transitional waterbodies c.37km downstream of the proposed works area. Considering the scale and nature of the proposed works, the c. 37km hydrological distance and the natural attenuation properties of the estuary and confluencing transitional waterbodies, there will be no significant impact upon this SAC. **Therefore, the proposed works screen out for a likely significant impact on this SAC.**
River Nore SPA	004233	No	There is an indirect hydrological connection to this site. This site is located c. 30km upstream of the confluence of the River Suir Estuary and the Barrow Suir Nore Estuary (which is itself c. 37km downstream of the proposed works areas). The special conservation interest (SCI) of this site Kingfisher (*Alcedo atthis*) is usually quite territorial. Considering the scale and nature of the proposed works, the indirect c. 67km hydrological distance and the natural attenuation properties of the estuary and confluencing transitional waterbodies, there will be no significant impact upon this SPA. **Therefore, the proposed works screen out for a likely significant impact on this SPA.**

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

Site Name	Site Code	S>P>R	Distance and potential for impact
Comeragh Mountains SAC	001952	No	This site is located c.5km upstream of the proposed works areas and none of the qualifying interests (listed below) associated with this site are mobile. A small section of 3260 habitat is present in the Clodiagh River adjacent to Clonea Bridge. This is associated with the Lower River Suir SAC (of which it is also a qualifying interest) which will be brought forward for further assessment. None of the other habitats associated with this SAC are present within the proposed works areas. **Therefore, the proposed works screen out for a likely significant impact on this SAC.** Qualifying Interests - Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110] - Watercourses of plain to montane levels with *the Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260] - Northern Atlantic wet heaths *with Erica tetralix* [4010] - European dry heaths [4030] - Alpine and Boreal heaths [4060] - Blanket bogs (* if active bog) [7130] - Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*) [8110] - Calcareous rocky slopes with chasmophytic *vegetation* [8210] - Siliceous rocky slopes with chasmophytic vegetation [8220] - *Hamatocaulis vernicosus* (Slender Green Feathermoss) [6216]

As outlined in **Table 6.1** above, there is potential for interaction between the proposed works and the **002137 Lower River Suir SAC** using the Source » Pathway » Receptor model. Assessment of likely significant effects is considered further below in **Table 6.2 and Table 6.3** in view of the sites conservation objectives.

RECEIVED 29/08/2025
Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

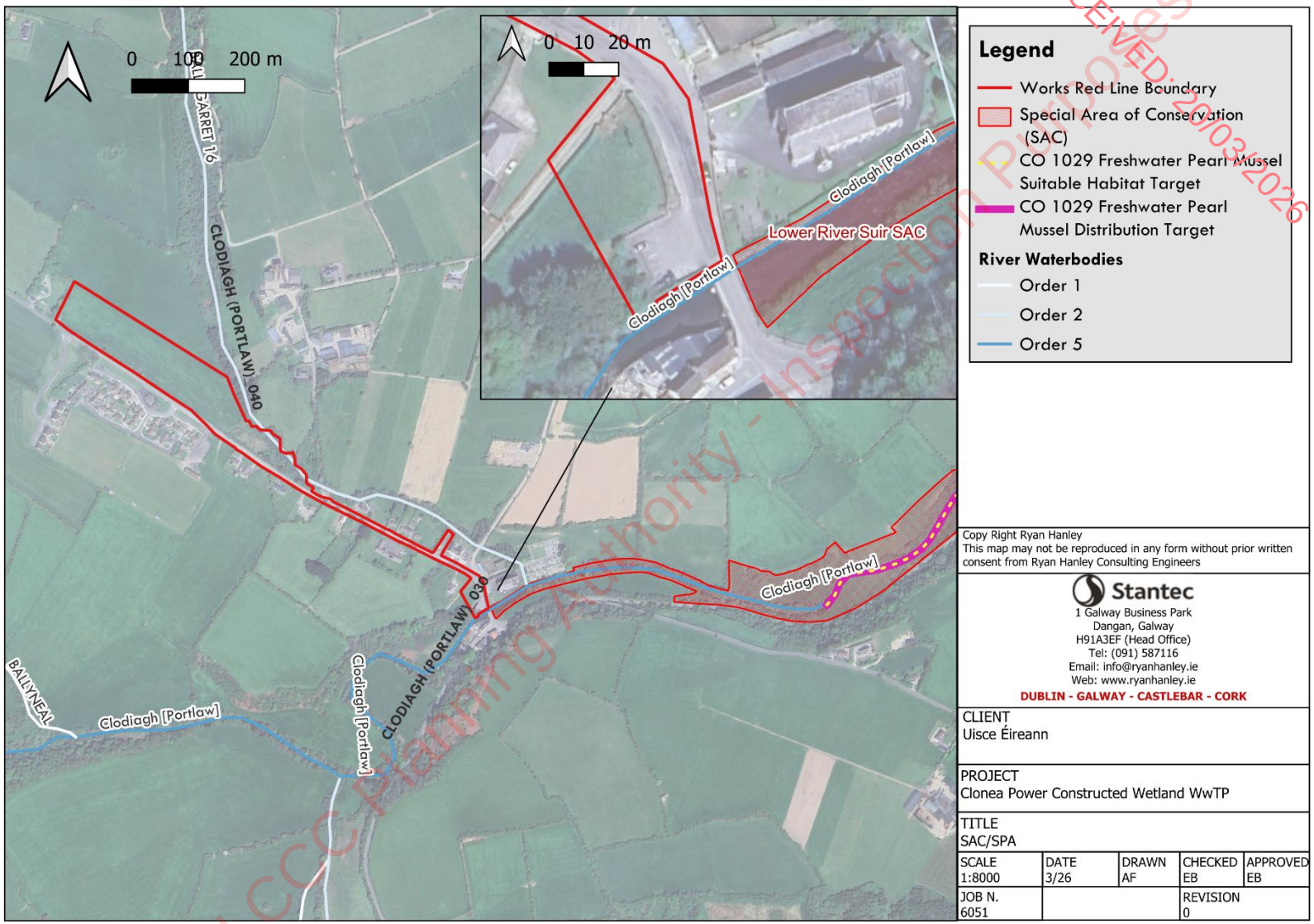


Figure 6.1: Designated sites within and in direct proximity to the proposed works

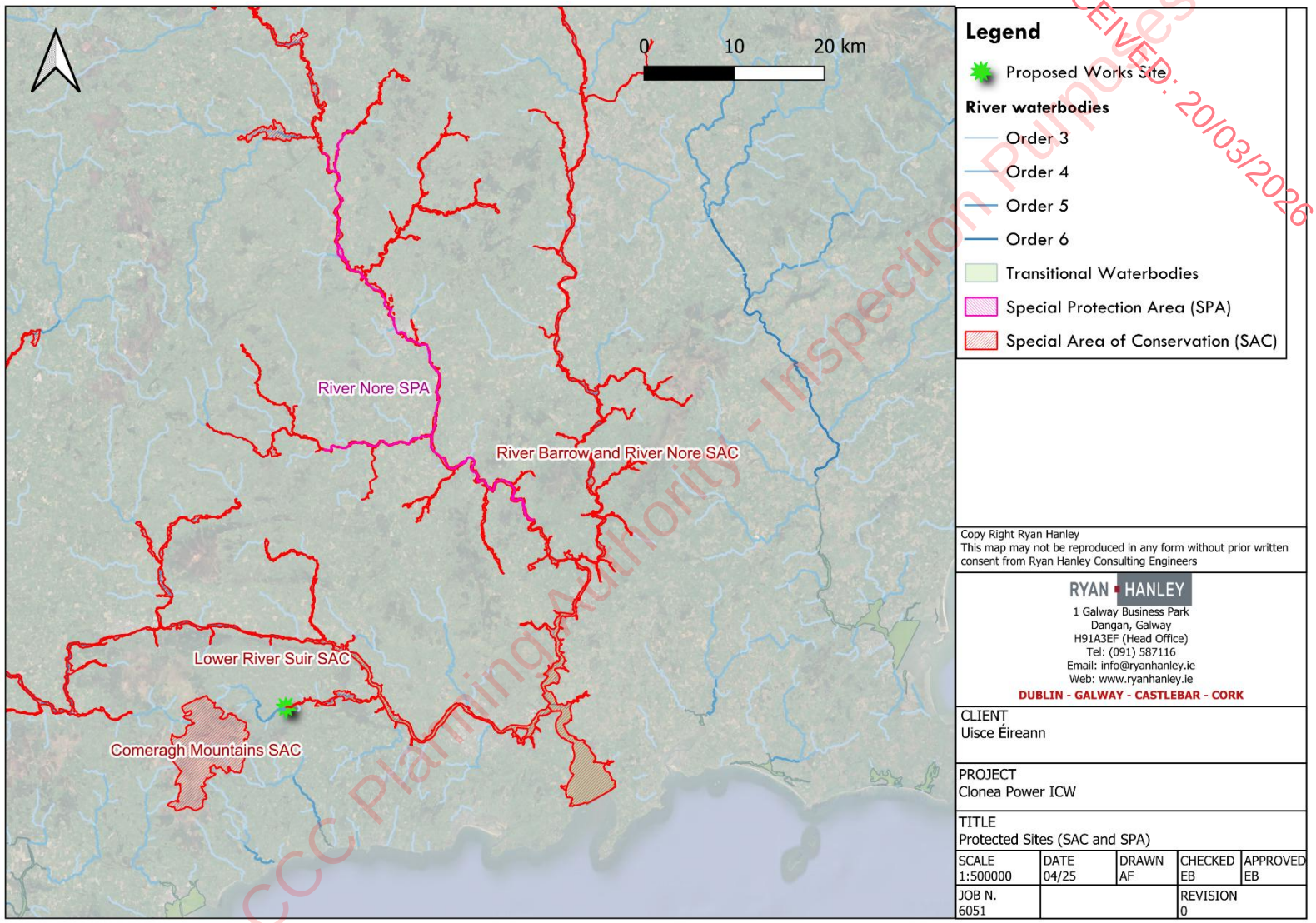


Figure 6.2: Designated sites in the proposed works zone of influence

RECEIVED: 20/03/2026
For Inspection Purposes Only!
Waterford CCC Planning Authority

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

Table 6.2: Qualifying Interests of the Lower River Suir SAC - c.3m hydrologically downstream

Designated site and code	Approximate Distance from the proposed works	Qualifying Interests (QI's)	Source - Pathway - Receptor
Lower River Suir SAC (002137)	c. 3 metres from proposed works boundary	▪ Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] ▪ Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260] ▪ Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] ▪ Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0] ▪ Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0] ▪ *Taxus baccata* woods of the British Isles [91J0] ▪ *Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029] ▪ *Austropotamobius pallipes* (White-clawed Crayfish) [1092] ▪ *Petromyzon marinus* (Sea Lamprey) [1095] ▪ *Lampetra planeri* (Brook Lamprey) [1096] ▪ *Lampetra fluviatilis* (River Lamprey) [1099] ▪ *Alosa fallax* (Twaite Shad) [1103] ▪ *Salmo salar* (Salmon) [1106] ▪ *Lutra lutra* (Otter) [1355]	**Yes.** There is a direct S-P-R connection via the Clodiagh River and the Ballygarret 16 stream. The proposed works boundary is c. 3 metres from this SAC. ▪ There is a new outfall (effluent and storm) proposed to be constructed (involving instream works) at the Clodiagh River c. 20 meters upstream of this SAC. ▪ The new WwPS adjacent to Clonea Bridge will be constructed c.5 metres from this SAC boundary. ▪ The CW field will be constructed adjacent to the Ballygarret 16 watercourse (closest pond will be set back c. 30 metres from the Ballygarret 16 stream). This watercourse joins the Clodiagh River and the Lower River Suir SAC c. 640 metres downstream. ▪ There is also a small unmapped stream in the southeast of the CW site (c. 20 metres from closest works - effluent pipeline works) that runs for a short distance northeast through the field where it joins the Ballygarret 16 stream. ▪ The existing WwTP and emergency storm overflow will be decommissioned. The Ballygarret stream runs directly north of this site (c. 7 metres from site, overflow outfalls to the stream). This stream joins the Clodiagh River and the Lower River Suir SAC c. 165 metres downstream. ▪ Dewatering procedures will be required during excavation works on site. ▪ Diversion of surface run off from the surrounding environment at the CW field will be required via a grass lined channel which will discharge via the existing swale to the unmapped stream and subsequently Ballygarret 16 watercourse. As a result of works in close proximity to watercourses and the presence of instream works (at the site of the new outfalls only), there is a potential risk to water quality from construction due to factors such as siltation as well as the potential for the accidental release of hydrocarbons and concrete to watercourses. Clonea Power and the Clodiagh River are part of a freshwater pearl mussel SAC catchment area which requires high ecological status of watercourses. Instream works also have the potential to disturb aquatic qualifying interests such as Salmon, Lamprey spp., Crayfish and Floating River Vegetation habitat (3260). Otter are also likely to be present along the Ballygarret 16 stream and the Clodiagh River and may be subject to disturbance as a result of the proposed works. Therefore, there is a potential risk to the qualifying interests of this SAC that are sensitive to changes in water quality and disturbance.

6.2 Lower River Suir SAC (002137)

RECEIVED: 29/03/2026

The Lower River Suir SAC consists of the freshwater stretches of the River Suir immediately south of Thurles, the tidal stretches as far as the confluence with the Barrow/Nore immediately east of Cheekpoint in Co. Waterford, and many tributaries including the Clodiagh in Co. Waterford, the Anner, Nier, Tar, Aherlow, Multeen and Clodiagh in Co. Tipperary.

Alluvial wet woodland is a declining habitat type in Europe as a result of drainage and reclamation. The best examples of this type of woodland in the site are found on the islands just below Carrick-on-Suir and at Fiddown Island. The terrain is littered with dead trunks and branches and intersected with small channels which carry small streams to the river. The bryophyte and lichen floras appear to be rich. Eutrophic tall herb vegetation occurs in association with the various areas of alluvial forest and elsewhere where the floodplain of the river is intact. Old oak woodlands are also of importance at the site. The best examples are seen in Portlaw Wood which lies on both sides of the Clodiagh River in Co. Waterford. Two stands of Yew (*Taxus baccata*) woods, a rare habitat in Ireland and the E.U., occur within the SAC. These are on limestone ridges at Shanbally and Cahir Park. Floating river vegetation is evident in the freshwater stretches of the River Suir and along many of its tributaries. At a couple of locations along the river Opposite-leaved Pondweed (*Groenlandia densa*) occurs. This species is protected under the Flora (Protection) Order, 2022. Salt meadows occur below Waterford City in old meadows where the embankment is absent, or has been breached, and along the tidal stretches of some of the in- flowing rivers below Little Island. There are very narrow, non-continuous bands of this habitat along both banks. More extensive areas are also seen along the south bank at Ballynakill, the east side of Little Island, and in three large salt meadows between Ballynakill and Cheekpoint. The legally protected (Flora (Protection) Order, 2022) Meadow Barley (*Hordeum secalinum*) grows at the landward transition of the saltmarsh.

The SAC is of particular conservation interest for the presence of a number of Annex II animal species, including Freshwater Pearl Mussel (both *Margaritifera margaritifera* and *M. margaritifera* subsp. *durrovensis* occur), White-clawed Crayfish, Salmon, Twaite Shad (*Alosa fallax*), three species of Lampreys - Sea Lamprey, Brook Lamprey and River Lamprey, and Otter. This is one of only three known spawning grounds in the country for Twaite Shad. The site also supports populations of several other animal species. Those which are listed in the Irish Red Data Book include Daubenton's Bat, Natterer's Bat, Pipistrelle Bat, Pine Marten, Badger, Irish Hare, Smelt and Common Frog. Breeding stocks of Carp are found in Kilsheelan Lake. This is one of only two lakes in the country which is known to have supported breeding Carp. Carp require unusually high summer water temperatures to breed in Ireland. As the site is therefore unusual in this regard, it may also support interesting invertebrate populations. Parts of the site have also been identified as of ornithological importance for a number of Annex I (E.U. Birds Directive) bird species, including Greenland White-fronted Goose, Golden Plover, Whooper Swan and Kingfisher. Wintering populations of migratory birds use the site. Flocks are seen in Coolfinn Marsh and also along the reedbeds and saltmarsh areas of the Suir.

Waterford CCC Planning Authority - Inspection Purposes Only!

Land use at the site consists mainly of agricultural activities including grazing, silage production, fertilising, and land reclamation. The grassland is intensively managed, and the rivers are therefore vulnerable to pollution from run-off fertilisers and slurry. Arable crops are also grown. Fishing is a main tourist attraction on stretches of the Suir and some of its tributaries, and there are several Angler Associations, some with a number of beats. The Aherlow River is a designated Salmonid Water under the EU Water Framework Directive. Other recreational activities such as boating, golfing and walking are also popular. Several industrial developments, which discharge into the river, border the SAC including three dairy related operations and a tannery.

The Qualifying Interests and their associated Nature 2000 codes for the Lower River Suir SAC are as follows:

- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]
- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]
- Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]
- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0]
- *Taxus baccata* woods of the British Isles [91J0]
- *Margaritifera margaritifera* (Freshwater Pearl Mussel) [1029]
- *Austropotamobius pallipes* (White-clawed Crayfish) [1092]
- *Petromyzon marinus* (Sea Lamprey) [1095]
- *Lampetra planeri* (Brook Lamprey) [1096]
- *Lampetra fluviatilis* (River Lamprey) [1099]
- *Alosa fallax* (Twaite Shad) [1103]
- *Salmo salar* (Salmon) [1106]
- *Lutra lutra* (Otter) [1355]

The Conservation Objective of the Lower River Suir SAC is to **maintain or restore** the favourable conservation condition of the Qualifying Interests, for which the Lower River Suir SAC is designated. Due to the potential Source » Pathway » Receptor connectivity to the Lower River Suir SAC, the potential for interaction with the Qualifying Interests of this site is considered further in **Table 6.3.**

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

Table 6:3: Qualifying Interests of Lower River Suir SAC

Lower River Suir SAC			
Qualifying Interest	**Conservation Objective**	**Potential for Impact to this QI**	**Screening**
Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] & Mediterranean salt meadows (*Juncetalia maritime*) [1410] *Note: Mediterranean salt meadow habitat was not recorded within the SAC during latest monitoring period (SAC coastal habitat supporting document dated 2017), it is not listed on the Site synopsis document for the SAC (Dated 2023) but it is listed on the conservation objectives document (Dated 2017).*	To **restore** the favourable conservation condition of Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) and Mediterranean salt meadows (*Juncetalia maritime*) in the Lower River Suir SAC.	NPWS Article 17 and SSCO data illustrate that the proposed works area is not within the range and distribution of these habitats. These are coastal habitats located within the estuary of the River Suir c. 25km east downstream. Any sediment/pollutants that enters the Ballygarret 16 stream or Clodiagh River as a result of the proposed works will flow c.25km downstream and through the tidal influence of the estuary where significant sedimentation is part of the natural process of an estuary. There will be no impact on the conservation objective attributes of habitat area, habitat distribution, natural sediment supply, creeks and pans, flooding regime, vegetation structure (zonation, sward height, cover) and vegetation composition (typical species and sub communities & negative indicator species – *Spartina anglica*). Therefore, there is no potential for significant impact to this habitat. The proposed works screen out for potential impact on Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] and Mediterranean salt meadows (*Juncetalia maritime*) [1410], and so, **these QI's will not be assessed further.**	**Screened out**
Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]	To **maintain** the favourable conservation condition of Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation in the Lower River Suir SAC.	The distribution of this habitat or its sub-types within the Lower River Suir SAC has not been fully mapped and so the full distribution is unknown. The proposed site is within a freshwater pearl mussel catchment, and the SAC population is located in the Clodiagh River. The distribution target and suitable habitat target for freshwater pearl mussel in the Clodiagh River is located c. 620 metres downstream of Clonea Bridge. Rooted macrophytes should be absent or trace (<5% cover) in freshwater pearl mussel habitat. The Clodiagh failed the macrophyte target but marginally passed the macroalgal target in 2009. Patches of abundant *Ranunculus* were recorded by all surveyors, with up to 40% cover in places. Algae were generally absent in 2009, however up to 10% *Cladophora* cover was recorded downstream of Clonea Bridge where sewage fungus had previously been recorded in 2006. Tree shade may be supressing plant growth over much of the mussel habitat (NPWS, 2017). *Ranunculus* was	**Screened In**

Waterford CCC Planning Authority Inspection Purposes Only!

RECEIVED: 20/08/2026

Lower River Suir SAC			
Qualifying Interest	**Conservation Objective**	**Potential for Impact to this QI**	**Screening**
		recorded directly upstream and downstream of Clonea Bridge during the ecological surveys in 2024 and 2025. The Lower River Suir SAC conservation objectives document lists water quality as a target attribute for this habitat. This habitat may be negatively impacted by changes in water quality which may arise during the proposed works. Therefore, considering potential impacts on water quality and the close proximity of this habitat to the proposed working areas, the works screen in for potential impact on Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260] and so, **this QI will be assessed further.**	
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]	To **maintain** the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the Lower River Suir SAC.	This habitat was not recorded within the proposed works boundary during the site surveys and therefore there is no potential for direct interference with it. The total distribution of this habitat within the Lower River Suir SAC is unknown. Therefore, this habitat may be located downstream of the works area. This is a predominately terrestrial habitat. The Himalayan Balsam recorded along the banks of the Clodiagh is not within the proposed working area and is c. 10m from the proposed instream works area on the other side of the bank. Balsam seeds can be spread up to 7m from the parent plant naturally. There will be no impact on the conservation objective attributes of habitat area, habitat distribution, the hydrological regime (flooding depth/height of water table), vegetation composition (positive indicator species, non-native species, negative indicator species, scrub, bracken and heath), vegetation structure (height) and physical structure (bare soil, grazing and disturbance). The works screen out for potential impact on Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] and so, **this QI will not be assessed further.**	**Screened out**
Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]	To **restore** the favourable conservation condition of Old sessile oak woods with	No old oak woodlands were reported within the proposed works boundary during the site surveys and therefore there is no potential for direct interference with this habitat. There are old oak woodlands mapped by the NPWS c. 220 metres downstream of the proposed	**Screened out**

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

Lower River Suir SAC			
Qualifying Interest	**Conservation Objective**	**Potential for Impact to this QI**	**Screening**
	Ilex and *Blechnum* in the British Isles in the Lower River Suir SAC.	works boundary along the River Clodiagh. The total distribution of this habitat within the Lower River Suir SAC is unknown. There will be no clearance of any woodland required as part of the proposed works. While this habitat is located downstream of the proposed works, this is a terrestrial habitat with no significant hydrological dependence. Therefore, this habitat will not be significantly impacted by any changes in water quality which may occur as a result of the proposed works. The Himalayan Balsam recorded along the banks of the Clodiagh is not within the proposed working area and is c. 10m from the proposed instream works area on the other side of the bank. Balsam seeds can be spread up to 7m from the parent plant naturally. There will be no impact on the conservation objective attributes of Habitat area, Habitat Distribution, Woodland size, Woodland structure (cover and height, community diversity and extent, natural regeneration, dead wood, veteran trees, indicators of local distinctiveness) and vegetation composition (native tree cover, typical species, negative indicator species). The works screen out for potential impact on Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0] and so, **this QI will not be assessed further.**	
Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0]	To **restore** the favourable conservation condition of Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) in the Lower River Suir SAC.	No Alluvial forests were reported within the proposed works boundary during the site surveys and therefore there is no potential for direct interference with this habitat. The nearest Alluvial forests mapped by the NPWS are located c. 15km away hydrologically (indirect connection ->3.7km upstream of the Clodiaghs confluence with the Suir Estuary). Further un-surveyed areas of alluvial forest may be present within the SAC. There will be no clearance of any woodland as part of the proposed works. While this habitat may still be located downstream of the proposed works and is a habitat that is hydrologically influenced, any potential impacts on water quality are not likely to significantly affect its distribution. The Himalayan Balsam recorded along the banks of the Clodiagh is not within the proposed working area and is c. 10m from the proposed instream works area on the other side of the bank. Balsam seeds can be spread up to 7m from the parent plant naturally. There will be no impact on the	**Screened out**

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/09/2026

Lower River Suir SAC			
Qualifying Interest	**Conservation Objective**	**Potential for Impact to this QI**	**Screening**
		conservation objective attributes of habitat area, habitat distribution, woodland size, woodland structure (cover and height), woodland structure (community diversity and extent, natural regeneration, dead wood, veteran trees, indicators of local distinctiveness), hydrological regime (flooding depth/height of water table) and vegetation composition (native tree cover, typical species, negative indicator species). The works screen out for potential impact on Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0] and so, **this QI will not be assessed further.**	
Taxus baccata woods of the British Isles [91J0]	To **restore** the favourable conservation condition of *Taxus baccata* woods of the British Isles* in the Lower River Suir SAC.	No *Taxus baccata* woods were reported within the proposed works boundary during the site surveys and therefore there is no potential for direct interference with this habitat. As per the Lower River Suir SAC conservation objectives document there are no mapped *Taxus baccata* woods downstream of the proposed works however the total distribution of this habitat within the Lower River Suir SAC is unknown. There will be no clearance of any woodland as part of the proposed works. While this habitat may still be located downstream of the proposed works, this is a terrestrial habitat with no significant hydrological dependence. Therefore, this habitat will not be significantly impacted by changes in water quality which may occur as a result of the proposed works. The Himalayan Balsam recorded along the banks of the Clodiagh is not within the proposed working area and is c. 10m from the proposed instream works area on the other side of the bank. Balsam seeds can be spread up to 7m from the parent plant naturally. There will be no impact on the conservation objective attributes of Habitat area, Habitat distribution, Woodland size, Woodland structure (cover and height, community diversity and extent, natural regeneration, dead wood, veteran trees, indicators of local distinctiveness) and vegetation composition (native tree cover, typical species, negative indicator species). Therefore, the works screen out for potential impact on *Taxus baccata* woods of the British Isles [91J0] and so, **this QI will not be assessed further.**	**Screened out**

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

Lower River Suir SAC			
Qualifying Interest	**Conservation Objective**	**Potential for Impact to this QI**	**Screening**
Freshwater Pearl Mussel (*Margaritifera margaritifera*) [1029]	To **restore** the favourable conservation condition of Freshwater Pearl Mussel in the Lower River Suir SAC.	NPWS Article 17 data illustrates the proposed site is within the range and distribution of this species. This area is recorded as a *Margaritifera* catchment, and the SAC population is located in the Clodiagh River. The distribution target and suitable habitat target for this species in the Clodiagh River is located c. 620 metres downstream of Clonea Bridge. Survey data from 2020 by RPS detected no mussels within a 300m stretch downstream and 500m stretch upstream of the existing discharge point at Clonea bridge. Based on the results of historical surveys carried out between 2006 and 2017 as reported in the Lower River Suir SAC site conservation objectives document, there is not believed to be a significant population within the 1400m reach downstream of Clonea Bridge (NPWS, 2017; RPS, 2020). The Clodiagh requires "High" WFD status water due to the presence of freshwater pearl mussel. The current status of the Ballygarret 16 and Clodiagh River (Clodiagh (Portlaw)_040) river in this area is "Good" and "Not At Risk" and therefore already not meeting the required WFD target of "High". Salmon are also a QI of the Lower River Suir SAC and may be present in the Clodiagh River. Salmon are involved in the larval stage of the Freshwater Pearl Mussel life cycle. A potential impact on Salmon may result in a potential impact on Freshwater Pearl Mussels. This species may be negatively impacted by changes in water quality and release of sedimentation and/or hydrocarbons and concrete which may arise during the proposed works. Therefore, the proposed works screen in for potential impact on Freshwater Pearl Mussel (*Margaritifera margaritifera*) [1029] and **this QI will be assessed further.**	**Screened In**
White-clawed Crayfish (*Austropotamobius pallipes*) [1092]	To **maintain** the favourable conservation condition of White-clawed Crayfish in the Lower River Suir SAC.	White-clawed crayfish (*Austropotamobius pallipes*) occurs extensively on the River Suir and on many of its tributaries including the Clodiagh. White-clawed crayfish require clean, calcium rich, alkaline waters (NPWS, 2019b) which have a Q-value of at least Q3-4 (NPWS,	**Screened In**

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/09/2026

Lower River Suir SAC			
Qualifying Interest	**Conservation Objective**	**Potential for Impact to this QI**	**Screening**
		2017). This species may be negatively impacted by changes in water quality and release of sedimentation and/or hydrocarbons and concrete which may arise during the proposed works. Instream works during the outfall construction may also cause direct disturbance to this species and its habitat if it is present along the riverbed. Surveys carried out by RPS in 2020 detected white clawed crayfish widespread across the channel in proximity to Clonea bridge. A variety of size classes were observed, along with berried females, indicating a breeding population (RPS, 2020). The second recorded outbreak of crayfish plague in Ireland occurred in 2017 on the River Suir, Co. Tipperary, between Clonmel and Carrick on Suir. Crayfish losses were estimated to be around 400,000 animals over a 24 km river stretch. However, in the 2017 crayfish survey, 22 sites sampled in the Suir catchment tested negative for crayfish plague. In 2018, seven sites were assessed and Cahir Bridge on the River Suir was the only site to test positive for crayfish plague, while Carrick-on-Suir tested negative, having tested positive the previous year. In 2020, one site out of the ten sampled in the Suir catchment, the River Multeen tested positive for Crayfish plague (Brady *et al.,* 2024). Crayfish plague has been reported in the Suir catchment, but no specific reports are available for the Clodiagh River, however precautionary biosecurity measures would be warranted to avoid any potential spread. Therefore, the proposed works screen in for impact on White-clawed Crayfish (*Austropotamobius pallipes*) [1092] and so, **this QI will be assessed further.**	
Sea Lamprey (*Petromyzon marinus*) [1095]; Brook Lamprey (*Lampetra planeri*) [1096]; River Lamprey (*Lampetra fluviatilis*) [1099]	To **restore** the favourable conservation condition of Sea Lamprey, Brook Lamprey and River Lamprey in the Lower River Suir SAC.	NPWS Article 17 data illustrates the proposed site is not within the range and distribution of *Petromyzon marinus* (Sea Lamprey) or *Lampetra fluviatilis* (River Lamprey) however the nearest distribution grids are 1.8km east. The proposed works area is within the range and distribution of *Lampetra planeri* (Brook Lamprey). For the purposes of assessment, the three lampreys will be grouped together.	**Screened In**

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/08/2026

Lower River Suir SAC			
Qualifying Interest	**Conservation Objective**	**Potential for Impact to this QI**	**Screening**
		Surveys conducted by RPS in 2020 found instream habitats in proximity to Clonea Bridge had some potential for river, brook and sea lamprey spawning (i.e., combination of cobble, pebble and gravel substrates). Lamprey nursery habitat was limited, with very little area of stable, deeper, marginal silt deposits where juvenile lamprey could burrow (RPS, 2020). The River Suir catchment was sampled for fish in 2018 using single pass electrofishing for WFD purposes. Lamprey were present at a site high in the catchment. The nearest site to the Clodiagh confluence at Portlaw was Kilsheelan Bridge (indirect hydrological connection, upstream the River Suir) (RPS, 2020). There is a weir with a fish pass located on the River Clodiagh in Portlaw (US28ID: 16_3698_118) which would be between the works area and the Suir estuary downstream. This may serve as a potential barrier during low flow conditions to Sea and River Lamprey travelling from the estuary upstream along the Clodiagh. Lampreys require gravelled areas to spawn. Once the larvae hatch, they move to fine grained areas of sand and silt and filter feed until they have developed (NPWS, 2019b). Instream works during the outfall construction may also cause direct disturbance to this species and its habitat if it is present along the riverbed. This species may be negatively impacted by changes in water quality and release of sedimentation and/or hydrocarbons and concrete which may arise during the proposed works and travel downstream. The introduction of sediment to this habitat may form a blanket of sediment over suitable spawning areas. Additionally, sediment may settle on habitats where juveniles are present within the finer grained areas, creating anoxic conditions below and thus, suffocating the juveniles. The addition of sediment as a result of the proposed works may also introduce nutrients to the watercourse. This may promote the growth of macrophytes and filamentous algae. This growth may inhibit juveniles from accessing suitable habitats as well as potentially preventing adequate nutrients from reaching them when they are filter feeding. As a result, the proposed works screen in for impact on Sea Lamprey (*Petromyzon marinus*) [1095], Brook Lamprey (*Lampetra planeri*)	

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

Lower River Suir SAC			
Qualifying Interest	**Conservation Objective**	**Potential for Impact to this QI**	**Screening**
		[1096], and River Lamprey (*Lampetra fluviatilis*) [1099]. **Therefore, these QI's will be assessed further.**	
Twaite Shad (*Alosa fallax fallax*) [1103]	To **restore** the favourable conservation condition of Twaite Shad in the Lower River Suir SAC.	Twaite shad spend most of their lives within estuaries and coastal waters. This species travels upstream to spawn in late May/early June (NPWS, 2019b). This SAC is one of only three known spawning grounds in the country for Twaite Shad (NPWS, 2023). The fertilised eggs hatch after a short period and juveniles can reach up to 100mm at the end of the first year. Limited knowledge indicates that Irish twaite shad may live in estuarine waters for at least two full years prior to going to sea. Catch and release angling as well as telemetry studies have encountered migrating adults in four rivers in the south/south--east of Ireland, namely the Blackwater, Suir, Barrow and Nore. Spawning was confirmed during the 2013-2018 period at the upper tidal limits of these rivers via kick sampling for eggs, with young-of-the-year juveniles also recorded in the upper estuarine habitats, respectively. Twaite shad have two optimal habitat requirements, adult spawning habitat and nursery habitat for 0-group fish. Spawning activity is found in gravelled areas of main-stem SAC rivers with a moderate gradient and a diversity of depth-velocity conditions. Fertilisation is external and eggs and sperm are broadcast into open water. Fertilised eggs hatch in the water column or on the channel bed. The post larval fish are exposed to tidal transport and can be moved up and down the estuaries with tidal movement until they develop swimming capacity to be able to hold station or residency, independent of flow conditions, in backwater and refuge areas. In Ireland, adults migrate into the upper tidal freshwater areas of the main designated rivers. There is unimpeded access for twaite shad into the freshwater reaches of the Rivers Nore and Suir but fish have not been recorded in these riverine areas. Given that twaite shad have access into freshwater spawning habitat in four SAC rivers, it is not	**Screened In**

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

Lower River Suir SAC			
Qualifying Interest	**Conservation Objective**	**Potential for Impact to this QI**	**Screening**
		fully understood why the species appears to spawn predominately in the upper tidal limits (NPWS, 2019b). There is a weir with a fish pass located on the River Clodiagh in Portlaw (US28ID: 16_3698_118) which would be between the works area and the Suir estuary downstream. This may serve as a potential barrier during low flow conditions to any Twaite shad travelling from the estuary upstream along the Clodiagh. Instream works during the outfall construction may also cause direct disturbance to this species if it is present along the riverbed. This species may be negatively impacted by changes in water quality and release of sedimentation and/or hydrocarbons and concrete which may arise during the proposed works and travel downstream. A decrease in water quality would result in a reduction of the quality of suitable spawning grounds for this species. Additionally, the potential introduction of nutrients from sedimentation may result in macrophyte and filamentous algal growth. This growth may alter oxygen levels in the water column and reduce spawning habitat quality, both of which are target attributes for this species. As a result, the proposed works screen in for impact on Twaite Shad (*Alosa fallax fallax*) [1103]. **Therefore, this QI will be assessed further.**	
Salmon (*Salmo salar*) [1106]	To **restore** the favourable conservation condition of Atlantic Salmon in the Lower River Suir SAC.	The Clodiagh River is likely to be an important salmonid spawning and nursery tributary within the Suir catchment. Surveys conducted by RPS during 2020 found numerous salmonids along the entire study reach, particularly upstream of the existing discharge location at Clonea Bridge. Larger brown trout (*S. trutta*) were observed in deeper pools, while juvenile (0+, 1+ and 2+) salmon (*S. salar*) and trout were ubiquitous in riffles, runs and glides. The combination of depth and flow type variability makes for excellent salmonid nursery habitat in this reach of the Clodiagh River. Holding habitat was less common, with only a few deeper pools present. The combination of cobble, pebble and gravel substrates presents spawning habitat potential, although	**Screened In**

Waterford CCC Planning Authority - Inspection purposes Only!

RECEIVED: 20/02/2026

Lower River Suir SAC			
Qualifying Interest	**Conservation Objective**	**Potential for Impact to this QI**	**Screening**
		probably limited by bed instability and siltation that was evident (RPS, 2020). Instream works during the outfall construction may also cause direct disturbance to salmonid habitats and salmon themselves if they are present along the riverbed during construction. Salmon may be negatively impacted by changes in water quality and release of sedimentation and/or hydrocarbons and concrete which may arise during the proposed works and travel downstream. A decrease in water quality may impact the overall health of all salmonid life stages and result in a reduction in the quality of suitable spawning grounds. Excess sediment may form a blanket of silt over suitable spawning areas. The water quality conservation objective for the Salmon QI is "at least Q4" at all sites. The Clodiagh in particular requires "High" WFD status due to the presence of freshwater pearl mussel and Salmon play an important role in the larval life stage of freshwater pearl mussel. As a result of the instream works and due to the potential for construction runoff, there is the potential for significant impact on Salmon *(Salmo salar)* [1106]. **Therefore, this QI will be assessed further.**	
Otter (*Lutra lutra*) [1355]	To **maintain** the favourable conservation condition of Otter in the Lower River Suir SAC.	The Ballygarret 16 watercourse and Clodiagh River were assessed on four separate surveys in April, September, October and November 2025. The survey extent covered 200 metres upstream and downstream of the proposed works areas along the Ballygarret 16 watercourse and Clodiagh River. Physical evidence of otter was found on rocks within the Ballygarret 16 watercourse (spraint on large rocks) and upstream of Clonea Bridge along the Clodiagh River where an otter trail and couch were recorded in bracken scrub on the western edge of an agricultural field on the western bank of the Clodiagh River. No potential otter holt was located during the otter survey. Given the presence of abundant fish and crayfish in this stretch of the Clodiagh river along with extensive bank-side habitat for cover	**Screened In**

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

Lower River Suir SAC			
Qualifying Interest	**Conservation Objective**	**Potential for Impact to this QI**	**Screening**
		upstream and downstream of the bridge, otters are likely to forage the reach. As the works take place within and in proximity to watercourses, there is the potential for the proposed works to disturb the presence of commuting & foraging Otter. Introduction of sediment or accidental release of hydrocarbons & concrete during construction may impact water quality and the prey species of Otter. Therefore, the proposed works screen in for potential impact on Otter (*Lutra lutra*) [1355] and so, **this QI will be assessed further.**	

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

6.3 In-combination assessment of the effects of the proposed development with other plans/projects

Cumulative and/or in-combination impacts are changes in the environment that result from numerous anthropogenic impacts. In order to fully assess the potential impact of the proposed works on European Sites, the project must be assessed alone and in combination with existing activities and proposed plans for the area. This step aims to identify at an early stage any possible significant in-combination or cumulative impacts.

Potential impacts of the proposed project relate to direct and indirect impacts on the Lower River Suir SAC in combination with other plans and projects as a result the proposed CW and associated infrastructure upgrade works in Clonea Power, Co. Waterford.

6.3.1 Development Plans

Waterford City & County Development Plan 2022-2028

The Waterford City & County Development Plan (CDP) 2022-2028 provides a framework for the sustainable development of the Waterford City and County area. The Natura Impact report for the CDP has identified that the CDP may, if unmitigated, have significant effects on a number of European sites. Elements of the plan with potential for effects include: City Infrastructure development including river crossings, increase in population, proliferation of unmaintained and unmonitored septic tanks, agricultural intensification, recreational trails and expansion of tourism. Threats to site integrity such as infrastructure, habitat loss and species disturbance, water quality and protection of annexed species and habitats outside the designated boundaries of the Natura 2000 Network were identified as key issues in maintaining the favourable conservation status of the network.

An objective (D01) listed in the CDP for Clonea-Power requires the availability of an appropriate wastewater treatment system prior to any further residential development in the interests of protecting the River Clodiagh and Lower River Suir SAC. The proposed works are directly supporting this objective.

A Strategic Environmental Assessment (SEA) and Natura Impact Report (NIR) were carried out as part of the CDP. The NIR examined the potential impacts which could negatively affect European Sites following adoption of the Development Plan. The NIR concluded that following the successful inclusion of mitigation measures, in combination with objectives and compliance, that no adverse effects on the integrity of European sites would arise. Therefore, the Waterford City & County Development Plan in combination with the proposed works will not have any adverse effects on the integrity of European Sites.

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/02/2026

National Biodiversity Action Plan 2023-2027

This is the forth iteration of the National Biodiversity Action Plan (BAP), for conserving and restoring Ireland's biodiversity covering the period 2023 to 2027. The aims are to achieve Ireland's Vision for Biodiversity through addressing issues ranging from improving the management of protected areas to increasing awareness and appreciation of biodiversity and ecosystem services. Any negative impact to the environment such as a reduction in water quality in the Ballygarret 16 watercourse and Clodiagh River would lead to a conflict with objectives and policies listed in the National Biodiversity Action Plan. Objectives from the National Biodiversity Action Plan are listed below.

- Objective 1: Adopt a Whole-of-Government, Whole-of-Society Approach to Biodiversity;
- Objective 2: Meet Urgent Conservation and Restoration Needs;
    - Outcome 2A: The protection of existing designated areas and protected species is strengthened and conservation and restoration within the existing protected area network are enhanced.
    - Outcome 2D: Biodiversity and ecosystem services in the marine and freshwater environment are conserved and restored.
- Objective 3: Secure Nature's Contribution to People;
- Objective 4: Enhance the Evidence Base for Action on Biodiversity; and
- Objective 5: Strengthen Ireland's Contribution to International Biodiversity Initiatives.

Water Action Plan 2024: River Basin Management Plan 2022 – 2027

The Water Action Plan 2024: A River Basin Management Plan for Ireland outlines the new approach that Ireland will take as it works to protect and restore its rivers, lakes, estuaries and coastal waters over the third cycle of the EU Water Framework Directive (WFD).

- In total, 517 Areas for Action have been selected for focused attention in the third cycle based on risk. The Clodiagh (Portlaw) river has been identified as one of the priority areas for action in this third cycle. It has been identified as an area that requires restoration as it is not currently meeting its environmental objectives.
- The Clodiagh (Portlaw) is one of the 197 water bodies the Environmental Protection Agency (EPA) has noted where urban wastewater has been identified as a significant pressure. Uisce Éireann will assess urban wastewater requirements for the 197 Water Bodies where urban wastewater has been identified as a significant pressure by 2027, including any new significant pressure water bodies identified by the Local Authority Waters Programme (LAWPRO).
- Ireland's National Recovery and Resilience Plan includes the River Basin Management Plan – Enhanced Ambition Programme to advance priority wastewater treatment plant projects whose discharges have been identified as being significant pressures on water bodies and impacting on WFD objectives. This project is funded by the European Union under the National Recovery

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

and Resilience Plan. Clonea Power WwTP in Waterford has been identified as a candidate site under this program by Uisce Éireann as per the Water Action Plan 2024.

The proposed works aim to upgrade and improve the wastewater treatment capacity in Clonea Power which complies with the objectives and policies of the Water Action Plan 2024. Any negative impact to the environment such as a reduction in water quality in the Ballygarret 16 watercourse and Clodiagh River would lead to a conflict with objectives and policies listed in this Plan.

A Strategic Environmental Assessment (SEA) and Natura Impact Report (NIR) were carried out as part of the Water Action Plan 2024. The NIR examined the potential impacts which could negatively affect European Sites following adoption of the Water Action Plan. The NIR concluded that following the successful inclusion of mitigation measures, in combination with objectives and compliance, that no adverse effects on the integrity of European sites would arise. Therefore, the Water Action Plan 2024 in combination with the proposed works will not have any adverse effects on the integrity of European Sites.

6.3.2 Other Construction Developments

A new pumping station, delivered under a separate project, is proposed to connect flows from the pub and houses on the south side of the River Clodiagh. The preliminary design proposal is to connect those flows to the inlet manhole of the existing WwTP to enable those flows to connect from there to the new WwPS via the new gravity sewer proposed under this scheme. This project is anticipated to progress at a later stage, after the proposed constructed wetland and associated infrastructure works.

A review of the Waterford City & County Council planning portal identified a number of applications in proximity to the proposed works which were considered for any potential in-combination effects (**Table 6.4**). Relevant projects dating back over the past five years are listed. The focus of these planning applications were developments that have the potential to have a cumulative impact on the Lower River Suir SAC. Developments that are in proximity to the proposed works areas, the Clodiagh River or its tributaries, including the Ballygarret 16 watercourse were reviewed for a potential cumulative impact.

Two planning applications were identified as having the potential for cumulative impacts on the Lower River Suir SAC in association with the proposed works at Clonea.

2360089 (An Board Plenála ID: 317188): A Solar Farm on a total site area of 141 hectares (ha) located c. 10 meters north of proposed CW site. Adjacent to Ballygarret 16 watercourse (<10 metres) c. 650 metres upstream of Clodiagh River. Works are in very close proximity to the proposed CW and associated infrastructure works in Clonea Power. There is likely to be an overlap in timings with regards to the construction stages of both projects. There is potential for cumulative impacts on the Lower River Suir SAC in terms of impacts to water quality and disturbance to QI species. The proposed solar farm development has undergone appropriate assessment, and a Natura Impact Statement (NIS) was

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/01/2026

submitted with the planning application. It stated that following appropriate mitigation measures as outlined in the NIS, there would be no impact on the Lower River Suir SAC.

23146: Construction of a rock ramp fish pass in front of the existing weir, at Portlaw Weir on the Clodiagh River c. 10km downstream from proposed works. Works are located on the Clodiagh River within the Lower River Suir SAC. There is potential for cumulative impacts on the Lower River Suir SAC in terms of water quality and disturbance to QI species. The proposed development has undergone appropriate assessment, and a Natura Impact Statement (NIS) was submitted with the planning application. It stated that following appropriate mitigation measures as outlined in the NIS, there would be no impact on the Lower River Suir SAC.

The proposed works are small in scale and nature and are located wholly within the rural area of Clonea Power across one agricultural field, along the R678 road from this field as far as the bridge, at the existing WwTP site and in a small 5-6 space car park adjacent to the bridge. Several other developments are proposed within the local area and may occur at the same time. In the absence of mitigation, it is possible that the proposed works in combination with larger scale developments in the adjacent area such as the proposed solar farm and downstream fish pass in Portlaw would result in a cumulative burden on water quality in the Clodiagh River and potential disturbance to QI species in the Lower River Suir SAC.

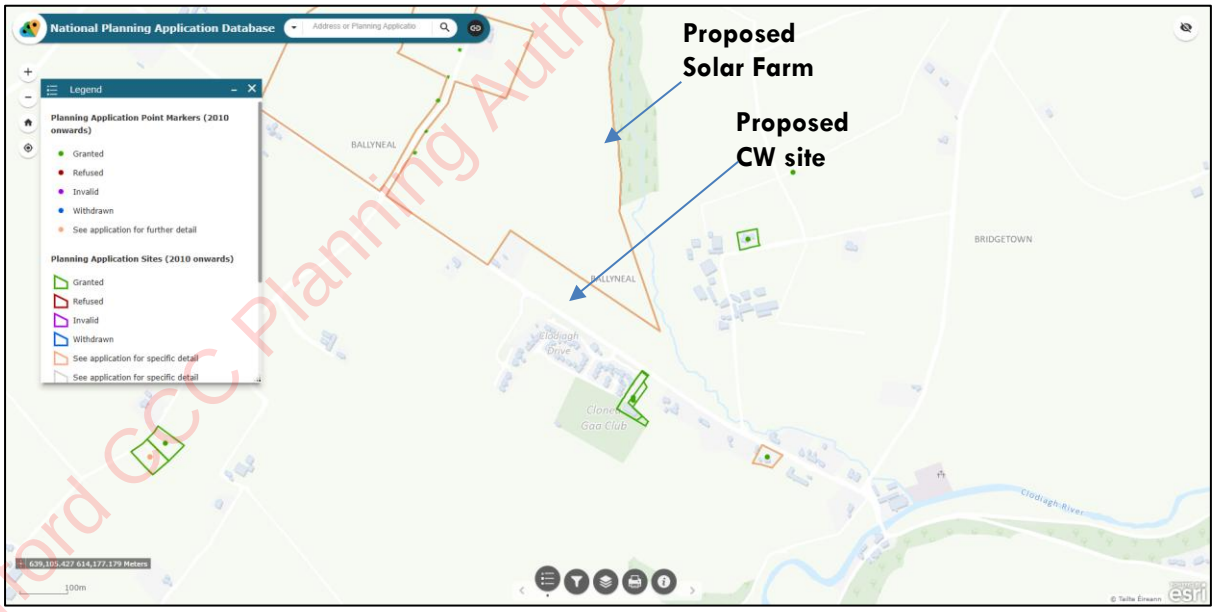


Table 6.3: Proposed neighbouring developments in Clonea Power within the last 5 years (image taken from the National Planning Application Database, December 2025).

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

Table 6.4: Projects granted planning permission in the locality of the proposed works

Planning Reference	Application Status	Address & Distance from Development Site	Summary of development	Potential Cumulative Impact
2360089 (An Board Plenála ID: 317188)	Application finalised – Conditional Decision Date: 24/4/2024	Clonea Power, Co. Waterford c. 10 meters north of proposed CW site. Adjacent to Ballygarret 16 watercourse (<10 metres) c. 650 metres upstream of Clodiagh River.	A Solar Farm on a total site area of 141 hectares (ha), consisting of photovoltaic panels on ground mounted steel frames with associated cabling and ducting; 28 no. single storey inverter stations; perimeter fencing; permeable gravel access track; 49 no. onsite pole mounted CCTV cameras; 4 no. new site accesses; 4 no. security gates; 3 no. temporary construction compound/material storage area; 3 no. temporary construction stage wheelwash systems (with overhead settlement tank); 6 no. temporary storage containers and all associated ancillary development services and works.	**Potential for cumulative impact.** Works are in very close proximity to the proposed CW and associated infrastructure works in Clonea Power. There is likely to be an overlap in timings with regards to the construction stages of both projects. Potential for cumulative impacts on the Lower River Suir SAC in terms of water quality and disturbance to QI species. The proposed solar farm development has undergone appropriate assessment, and a Natura Impact Statement (NIS) was submitted with the planning application. It stated that following appropriate mitigation measures as outlined in the NIS, there would be no impact on the Lower River Suir SAC.
2360404	Application finalised – Conditional Decision Date: 24/10/2023	Clonea Power, Co. Waterford. c. 10 meters south of proposed CW site Set back c. 600 metres from Clodiagh River	Construction of a sports and recreation centre and all associated site works.	Considering the small scale and location of the proposed works, no likely cumulative impact on the Lower River Suir SAC. This planning application would be subject to appropriate assessment screening as required by the competent authority.
20710	Application finalised – Conditional Decision Date: 7/1/2021	Clonea Power, Co. Waterford. c. 10 meters south of proposed pipeline works Set back c. 400 metres from Clodiagh River	To construct single storey extension to the rear of existing dwelling, close existing entrance and construct, a new splayed entrance all ancillary site works.	Considering the small scale and location of the proposed works, no likely cumulative impact on the Lower River Suir SAC. This planning application would be subject to appropriate assessment screening as required by the competent authority.
20364	Application finalised – Conditional	Clonea Power, Co. Waterford. c. 150 meters north of decommissioning works.	To construct a single storey extension to the side and rear of my dwelling, provide a new splayed entrance to improve sightlines and all ancillary site works.	Considering the small scale and location of the proposed works, no likely cumulative impact on the Lower River Suir SAC. This planning application would be subject to appropriate

Waterford CCC Planning Authority - Inspection Purposes Only!

	Decision Date: 15/10/2020	Set back c. 200 metres from Clodiagh River		assessment screening as required by the competent authority.
211044	Application finalised – Conditional Decision Date: 12/5/2022	Lissasmuttaun , Portlaw , Co. Waterford. c.4km downstream of the proposed works. Walls are set back at least c. 40 metres from the Clodiagh river with apparent dense vegetation buffer in between.	Permission for the removal, reinstatement and improvement of a portion of protected structure, estate boundary wall and gate. The work will consist of widening and set back of existing estate gate for the purpose of safety and improved access.	Considering the nature and location of the proposed works, no likely cumulative impact on the Lower River Suir SAC. This planning application would be subject to appropriate assessment screening as required by the competent authority.
22647	Application finalised – Conditional Decision Date: 18/10/2022	DA024-1 Carrick On Suir, Comeragh MD Drop Poles c.4km downstream of the proposed works Poles are set back at least c. 20 metres from the Clodiagh river with apparent dense vegetation buffer in between.	Section 254 Licence for the erection of overground electronic communications infrastructure and any associated physical infrastructure along public roads including: 1. The erection of new overground fibre optic cables on existing timber poles. 2. The erection of new poles and associated fibre optic cables. Poles do not exceed 12 metres in height or approximately 0.3 metres in diameter and are manufactured to EN14229: 2010 and further described in Schedule Two. MRL T1 Application reference number: 2022WD048	Considering the nature and location of the proposed works, no likely cumulative impact on the Lower River Suir SAC. This planning application would be subject to appropriate assessment screening as required by the competent authority.
23146	Application finalised – Conditional Decision Date: 19/7/2023	Portlaw Weir, Clodiagh River c. 10km downstream from proposed works. Works located on the Clodiagh River within the SAC	For the construction of a rock ramp fish pass in front of the existing weir, at Portlaw Weir on the Clodiagh River on the border of the townlands of Coolroe, Guilcagh and Ballycahane, Co. Waterford.	**Potential for cumulative impact.** Potential for cumulative impacts on the Lower River Suir SAC in terms of water quality and disturbance to QI species. The proposed development has undergone appropriate assessment, and a Natura Impact Statement (NIS) was submitted with the planning application. It stated that following appropriate mitigation measures as outlined in the NIS, there would be no impact on the Lower River Suir SAC.
2460053	Application finalised – Conditional Decision Date: 2/5/2024	Coolfin, Portlaw , Co Waterford c. 10km downstream from proposed works. c. 20 metres from the Clodiagh River	The conversion of the existing Coach House on the site, a Protected Structure, to a two storey, two bedroom dwelling, and associated works.	Considering the nature and location of the proposed works, no likely cumulative impact on the Lower River Suir SAC. This planning application would be subject to appropriate assessment screening as required by the competent authority.

Waterford CCC Planning Authority - Inspection Purposes Only!
RECEIVED: 20/03/2026

RECEIVED: 20/03/2026

6.4 Screening for AA Conclusion

In order for an effect to arise, there must be a pathway between the source and the receptor (Natura 2000 site). Where a pathway does not exist, an impact cannot occur. This screening for AA identifies and assesses potential significant effects which are likely to occur resulting from the proposed CW and associated infrastructure upgrade works at Clonea Power, Co. Waterford. The Lower River Suir SAC was identified to have a S-P-R as a result of the works occurring c. 3 metres from the proposed SAC boundary with instream works for the new outfall construction and hydrological connections via the Ballygarret 16 watercourse (c.165-640 metres) and the Clodiagh River (c. 3-20 metres). The qualifying interests of the Lower River Suir SAC are at risk due to a potential deterioration in water quality and disturbance as a result of the proposed works. No other European Site supports a S-P-R connectivity to the proposed works.

The AA Screening evaluates the objective information presented in the Project Description, taking consideration of the proposed works elements; however, the evaluation does not presuppose that the construction requirements specified in the design, or to be implemented on site by the Contractor, are integral to avoid or reduce harmful effects on any European site. Therefore, it is considered that, in accordance with Article 6(3) of the Habitats Directive, the proposed CW and infrastructure upgrade works at Clonea Power, Co. Waterford individually or in combination with other plans and projects **would be likely to have significant effects on the Lower River Suir SAC in view of the said sites' conservative objectives and Stage 2 of the Appropriate Assessment process (Natura Impact Statement) is required.**

A Natura Impact Statement (NIS) has been prepared in **Section 7**, to provide a scientific examination of the project to enable the carrying out of AA by the competent authority. The NIS will examine potential effects to the European Site screened in as part of the screening for Appropriate Assessment; **the Lower River Suir SAC.**

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/08/2026

7 NATURA IMPACT STATEMENT

The Natura Impact Statement shall identify, in light of the best scientific knowledge in the field, all aspects of the works that have the potential, either individually or in combination with other plans or projects, to adversely affect the integrity of the **Lower River Suir SAC** in the context of its Conservation Objectives. In order to facilitate the Competent Authority in its Appropriate Assessment of the proposed project, the Natura Impact Statement must contain complete, precise, and definitive findings and include an examination, analysis, evaluation, findings, and conclusions.

7.1 Integrity of the Site

From the Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (EC, 2002), the meaning of integrity is described as follows:

'*The integrity of a site involves its ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the site's conservation objectives.*'

The concept of the 'integrity of the site' is also explained in the EU publication Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, as follows:

'*It is clear from the context and from the purpose of the directive that the 'integrity of the site' relates to the site's conservation objectives. For example, it is possible that a plan or project will adversely affect the integrity of a site only in a visual sense or only habitat types or species other than those listed in Annex I or Annex II. In such cases, the effects do not amount to an adverse effect for purposes of Article 6(3), provided that the coherence of the network is not affected. On the other hand, the expression 'integrity of the site' shows that focus is here on the specific site. Thus, it is not allowed to destroy a site or part of it on the basis that the conservation status of the habitat types and species it hosts will anyway remain favourable within the European territory of the Member State.*

As regards the connotation or meaning of 'integrity,' this can be considered as a quality or condition of being whole or complete. In a dynamic ecological context, it can also be considered as having the sense of resilience and ability to evolve in ways that are favourable to conservation. The 'integrity of the site' has been usefully defined as 'the coherence of the site's ecological structure and function, across its whole area, or the habitats, complex of habitats and/or populations of species for which the site is or will be classified.'

A site can be described as having a high degree of integrity where the inherent potential for meeting the site's conservation objectives is realised, the capacity for self-repair and self-renewal under dynamic conditions is maintained, and a minimum of external management support is required. When looking at the 'integrity of the site,' it is therefore important to consider a range of factors, including the possibility of effects manifesting themselves in the short, medium, and long-term.

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

The integrity of the site involves its ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the site's conservation objectives. A Constructed Wetland has the potential to increase the ecological value of the area and provide a more species rich habitat for protected fauna. Operationally the new constructed wetland and associated infrastructure will result in an improvement to the existing discharge quality and wastewater treatment process which is currently not fit for purpose. The works will enable the wastewater treatment process in the area to cater for future population growth and reduce the chance of unintended operational wastewater discharges to the adjacent watercourse. This will help to ensure the protection of local and downstream water quality and adherence to the objectives of the water framework and habitats directives which will benefit the qualifying interests of the **Lower River Suir SAC.**

7.2 Impact Assessment

7.2.1 Characterising Impacts

The methodology for the assessment of impacts is derived from the Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites (EC, 2001) and *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*' (CIEEM, 2018, V.1.3 (2024)).

Impacts and effects on Qualifying Interests are categorised by:

- Direct and indirect effects;
- Short and long-term effects;
- Construction, operational and decommissioning effects; and
- Isolated, interactive, and cumulative effects.

Impacts that could potentially occur through the implementation of the proposed project, can be categorised as follows (EC, 2001):

- Temporary loss/reduction of habitat area;
- Disturbance to key species (direct & indirect);
- Changes in key indicators of conservation value such as decrease in water quality.

Direct impacts refer to direct disturbance of species, habitat loss or fragmentation arising from land-take requirements for development purposes.

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

Indirect impacts refer to those which can arise through proximal or remote connectivity, for example by means of a watercourse, via overland flow of surface water, via groundwater, via air (e.g., dust) or via other emissions from a project site (e.g., noise and light). Indirect and secondary impacts do not have a straight-line route between cause and effect. It is potentially more challenging to ensure that all the possible indirect impacts of the project – in combination with other plans and projects - have been established. Deterioration in water quality can occur as an indirect consequence of development, which in turn changes the aquatic environment and reduces its capacity to support certain plants and animals. The introduction of invasive species can also be defined as an indirect impact. Disturbance to fauna can arise directly through the loss of habitat (e.g., displacement of roosting bats) or indirectly through noise, vibration and increased activity associated with construction activities or the operational processes of a proposed development.

7.2.2 Potential Impacts on the Qualifying Interests of the Lower River Suir SAC

There is a direct S-P-R connection via the Clodiagh River and the Ballygarret 16 stream. The proposed works boundary is c. 3 metres from the Lower River Suir SAC at its closest point.

- Potential for direct disturbance to Otter which may be commuting/foraging in the area. Potential for direct disturbance to Salmon, Lamprey spp., Twaite shad, White Clawed Crayfish and Floating River Vegetation that may be present in the Clodiagh River during instream works for the outfall construction. This may impact the distribution and density of qualifying interests in the SAC.
- Potential for impacts on water quality locally and in downstream areas as a result of construction works from sediment, hydrocarbons and concrete and from operational discharges from the wastewater treatment process. This may impact the distribution and density of qualifying interests in the SAC. Pathways include the following:
    - There is a new outfall (effluent and storm) proposed to be constructed (involving instream works) at the Clodiagh River c. 20 meters upstream of this SAC.
    - The new WwPS adjacent to Clonea Bridge will be constructed c.5 metres from this SAC boundary.
    - The CW field will be constructed adjacent to the Ballygarret 16 watercourse (closest pond will be set back c. 30 metres from the Ballygarret 16 stream). This watercourse joins the Clodiagh River and the Lower River Suir SAC c. 640 metres downstream.
    - There is also a small unmapped stream in the southeast of the CW site (c. 20 metres from closest works - effluent pipeline works) that runs for a short distance northeast through the field where it joins the Ballygarret 16 stream.

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

- The existing WwTP and emergency storm overflow will be decommissioned. The Ballygarret stream runs directly north of this site (c. 7 metres from site, overflow outfalls to the stream). This stream joins the Clodiagh River and the Lower River Suir SAC c. 165 metres downstream.
- Dewatering procedures will be required during excavation works on site.
- Flood risk associated with pluvial (hillside run-off) and groundwater/ subsurface sources exists at the proposed CW site which could impact the proposed treatment process and associated ponds. The proposed design measures comprise drainage works to intercept hillside runoff and subsurface flows and divert the flows to the Ballygarret watercourse. Diversion of surface run off from the surrounding environment at the CW field will be required via a 1.5m deep grass lined channel upgradient of the proposed CW will effectively intercept the surface and shallow subsurface flows and convey these flows away from the site by discharging via the existing swale to the unmapped stream and subsequently the Ballygarret 16 watercourse.
- The pipeline trenches associated with the proposed sewers to the WwPS, the proposed rising main from the WwPS to the CW site and the outfall main from the CW site to the river have the potential to intercept and convey groundwater/ subsurface flows and cause surface flooding and subsurface erosion. Appropriate pipeline trench design incorporating stanking and trench drainage will address the associated potential impacts.
- The proposed WwPS site is likely in Flood Zone A relative to the River Clodiagh. A non-return valve will be installed on the overflow pipe from the WwPS to Clodiagh River. It will be necessary to implement groundwater and surface water management measures to appropriately manage the short duration flood risk at this site. Road drainage will be installed to intercept and divert road runoff from the WwPS site.
- Segments of the proposed new rising main and outfall pipe will be in a medium-flood risk area. It will be necessary to implement groundwater and surface water management measures to appropriately manage the short duration flood risk along the sewer.

- During the site survey on the 10th of May 2024, a small stand of Himalayan Balsam (*Impatiens glandulifera*) was recorded growing on the northeast bank of the Clodiagh River, downstream of Clonea Bridge and east of the Church in the village centre. This location is not within the proposed works boundary, and no works are proposed in proximity to it. During follow up surveys in April, August, September and October 2025, stands of Himalayan Balsam were observed growing on the eastern bank at multiple points directly adjacent to Clonea Bridge (upstream and downstream). A large area of Himalayan Balsam was observed growing upstream of Clonea Bridge in an area of wet grassland on the western bank of the River

Waterford CCC Planning Authority - Inspection Purposes Only!

Clodiagh. None of these areas are within the proposed red line boundary for the project but the stands at Clonea Bridge are in close proximity (c.10m from proposed stream works on other side of the river for new outfalls). Balsam seeds can be spread up to 7m from the parent plant naturally. While it is not present within the proposed works boundary as of yet, spread of Balsam to further areas is likely to occur naturally due to its observed spread between 2024 and 2025. Further establishment of this invasive species downstream along the banks will displace natural riparian vegetation in the Lower River Suir SAC and may lead to increased sedimentation entering the watercourse during periods of dieback and bankside erosion in winter.

Potential impacts on the qualifying interests of the Lower River Suir SAC that were screened in for further assessment in Section 6 of this report are considered in further detail below. The following QI's were brought forward for further assessment. Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260], Sea Lamprey (*Petromyzon marinu*) [1095], Brook Lamprey (*Lampetra planeri*) [1096], River Lamprey (*Lampetra fluviatilis*) [1099], Freshwater Pearl Mussel (*Margaritifera margaritifera*) [1029], Salmon (*Salmo salar*) [1106], Otter (*Lutra lutra*) [1355], Twaite Shad (*Alosa fallax*) (1103) and White-clawed Crayfish (*Austropotamobius pallipes*) (1092).

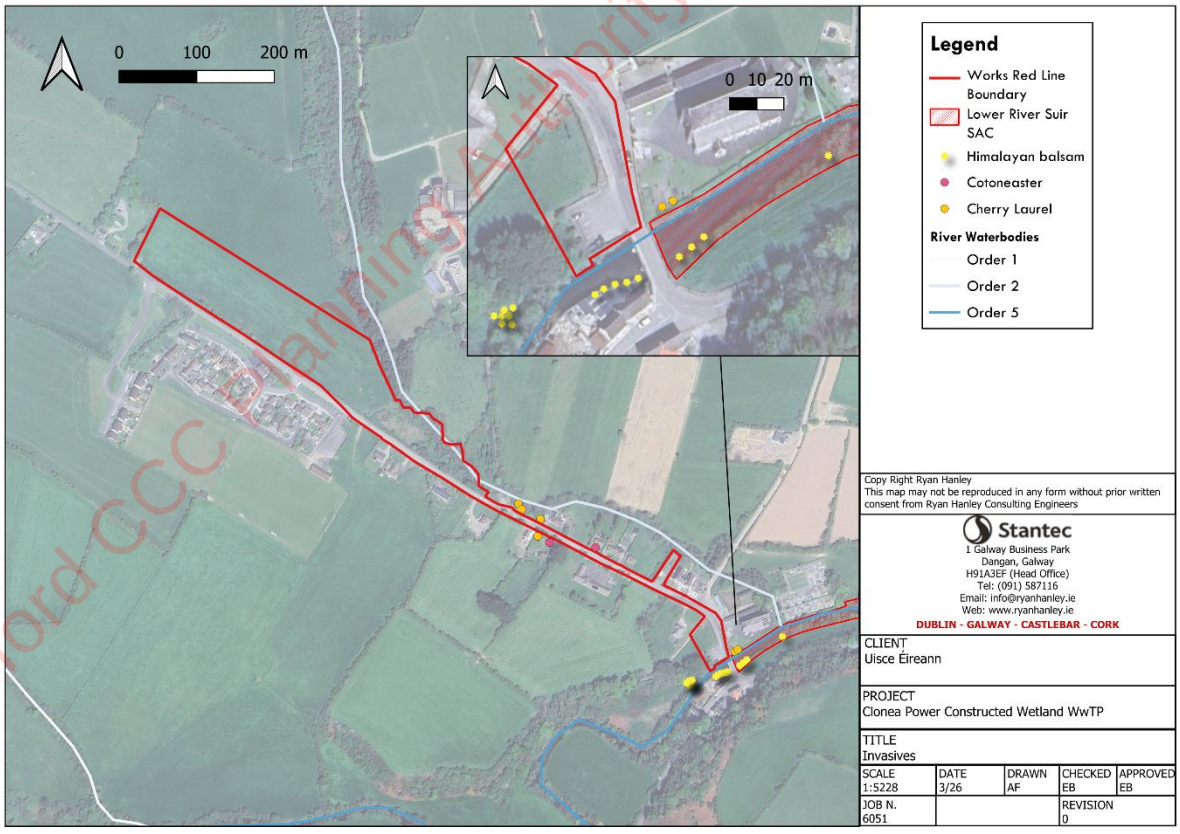


Figure 7.1: Himalayan Balsam in proximity to the proposed working areas

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

7.2.3 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]

The site-specific conservation objective for [3260] is to **maintain** the favourable conservation condition.

Favourable conservation status of a **habitat** (i.e. Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation) is achieved when:

- its natural range, and area it covers within that range, are stable or increasing;
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and
- the conservation status of its typical species is favourable.

The distribution of this habitat or its sub-types within the Lower River Suir SAC has not been fully mapped and so the full distribution is unknown. The proposed site is within a freshwater pearl mussel catchment, and the SAC population is located in the Clodiagh River. The distribution target and suitable habitat target for freshwater pearl mussel in the Clodiagh River is located c. 620 metres downstream of Clonea Bridge. Rooted macrophytes should be absent or trace (<5% cover) in freshwater pearl mussel habitat. The freshwater pearl mussel (1029) conservation objective takes precedence over the habitat area objective for habitat 3260 in the Clodiagh River (Portlaw) within this SAC, because the mussel requires environmental conditions close to natural background levels. The Clodiagh failed the macrophyte target but marginally passed the macroalgal target in 2009. Patches of abundant *Ranunculus* were recorded by all surveyors, with up to 40% cover in places. Algae were generally absent in 2009, however up to 10% Cladophora cover was recorded downstream of Clonea Bridge where sewage fungus had previously been recorded in 2006. Tree shade may be supressing plant growth over much of the mussel habitat (NPWS, 2017). A survey carried out by RPS in 2020 recorded *Ranunculus* spp. and pollution tolerant filamentous green algae (*Vaucheria* spp. and *Cladophora* spp.) downstream of the existing discharge point at Clonea Bridge. The habitat was classed as damaged, of poor quality and low conservation value. *Ranunculus* was recorded directly upstream and downstream of Clonea Bridge during the ecological surveys in 2024 and 2025.

Specific attributes and targets for this habitat within the Lower River Suir SAC are the following:

- **Habitat Area:** Area stable or increasing, subject to natural processes;
- **Habitat distribution:** No decline, subject to natural processes;
    - *Potential for impact from the proposed works: These **two** conservation objective attributes will be assessed together. Instream works for the outfall construction will likely come into direct contact with patches of Ranuculus (this area of the habitat is not within the SAC boundary but c. 20m upstream of it) that are present in the Clodiagh River in this location. Surveys by RPS in 2020 reported this habitat to be in poor quality due to pollution from the existing effluent discharge and evident siltation and sewage fungus. This was*

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

reconfirmed during walkover surveys in 2025 by Ryan Hanley. Instream works are likely to involve a sandbag/cofferdam set up with a temporarily dammed section of the river surrounding the new outfalls (effluent & storm) on the riverbank in this location. It is possible that a small area of Ranuculus habitat will be removed/and or damaged in this area.. This will be temporary only during construction phase. The riverbed will be restored to its initial condition post construction works and it will be possible for Ranuculus to reestablish itself in this location. Removal of some vegetation on the banks will be required during the outfall construction, this will be re-established at all points where physically possible, but it is likely there will be a slight reduction in fringing habitat quality in this location for a short-term period. This may slow the re-establishment of floating river vegetation habitat in the location. This habitat exists both upstream and downstream of the instream works location in the Clodiagh and therefore there will be no contraction of range. Impacts on water quality from sedimentation, hydrocarbons and concrete released as a result of construction may impact the quality and functioning of this habitat downstream and therefore impact its area and distribution within the SAC. Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the water quality of the surrounding area and benefit this habitat.

- **River flow:** Maintain appropriate hydrological regimes;
  - *Potential for impact from the proposed works: There may be a temporary impact on water flow in the Clodiagh River during instream works. However, considering the small scale of the instream works required, this is not expected to result in significant impacts to river flow downstream. The existing hydrological regimes will be maintained. Diversion of surface run off from the surrounding environment at the CW field will be required via a 1.5m deep grass lined channel upgradient of the proposed CW will effectively intercept the surface and shallow subsurface flows and convey these flows away from the site by discharging via the existing swale to the unmapped stream and subsequently the Ballygarret 16 watercourse. This channel is in line the existing natural drainage pathways on site and will not result in any significant hydrological changes downstream. The existing flow of wastewater discharged will remain the same (current loading from Clonea Power is 159PE) as the new CW will treat wastewater from properties that are currently serviced by the existing WwTP. As the population grows, it is expected that the flow of wastewater will increase, and the new CW wastewater treatment system has been sized to treat the sewage generated by up to 250PE. The proposed pumping station will convey Formula A flows (maximum storm flow received at treatment works) to the CW and during storm events, flows in excess of Formula A shall overflow back to the WwPS inlet chamber, through a Jacopa Cyclone Screen, and into the Storm Tank. The stormwater flows will return by*

Waterford CCC Planning Authority - Inspection Purposes Only!

gravity to the PS once the storm event ceases. A high-level stormwater overflow shall be installed discharging to the River Clodiagh via an outfall headwall fitted with a flap valve. Flow monitoring shall be provided to record spill events.

- **Groundwater discharge:** Maintain appropriate hydrological regime;
  - *Potential for impact from the proposed works: The study site is located within the groundwater body "Comeragh". The proposed works area is located within an area of High Groundwater vulnerability which is vulnerable to contamination from human activities. The groundwater body Comeragh has a WFD status of "Good" and a risk status of "Not at Risk" (WFD Status 2019-2024). SI results have indicated that the ground is overburdened, with bedrock at approximately 7.50m below ground level. Additionally, existing site soils have been found to have low permeability on the order of 1x 10-10 m/s and will therefore be suitable for use in forming a liner. The clay liner will comply with the UE Standard for Constructed Wetlands. CWs that utilise soil liners shall be underlain by at least 1.0 m of moderate or low permeability subsoil, with the upper 0.5 m having a permeability of less than 1x10-8 m/s. The liners shall be overlain by subsoil with a minimum thickness of 300 mm and low to moderate permeability, which will be used for planting the wetland vegetation. The clay liner will protect against any potential infiltration to groundwater. The CW will not be constructed within or below the water table as this would result in excessive flows to the wetland and contamination risks. The groundwater will lie a minimum of 1 m below the bottom of the wetland. Lysimeters will installed before construction to determine background concentrations, and in-situ throughout the operation of the CW.*
  - *The existing hydrological regimes will be maintained. Diversion of surface run off from the surrounding environment at the CW field will be required via a 1.5m deep grass lined channel upgradient of the proposed CW will effectively intercept the surface and shallow subsurface flows and convey these flows away from the site by discharging via the existing swale to the unmapped stream and subsequently the Ballygarret 16 watercourse. This channel is in line with the existing natural drainage pathways on site (flow follows the path of surface water channels towards the southeast) and will not result in any significant hydrological changes downstream.*
  - *Dewatering procedures will be required on site. Excavation activities have the potential to encounter groundwater. The area at the WwPS, the pipeline trenches associated with the proposed sewers to the WwPS, the proposed rising main from the WwPS to the CW site and the outfall main from the CW site to the river have the potential to intercept and convey groundwater/ subsurface flows and cause surface flooding and subsurface erosion. Appropriate pipeline trench design incorporating stanking and trench drainage will address the associated potential impacts. This will be temporary only during construction phase.*

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/02/2026

- **Tidal influence:** Maintain natural tidal regime;
    - *Potential for impact from the proposed works: There will be no impact on the tidal regime as a result of the proposed works.*
- **Substratum composition, particle size range:** Maintain appropriate substratum particle size range, quantity and quality, subject to natural processes;
    - *Potential for impact from the proposed works: Instream works and works in close proximity to watercourse have the potential to release sediment into the water column which may get transported downstream. This sediment can potentially alter the substratum composition and particle size range optimal for this habitat. Many of the high conservation value sub-types are dominated by coarse substrata, and it is likely that bedrock, boulders, cobbles and coarse gravels were naturally abundant in many tributaries in this SAC, particularly where the freshwater pearl mussel (Margaritifera margaritifera) occurs. Fine substrata are naturally abundant in depositing and tidal reaches. The size and distribution of particles are largely determined by the river flow, which will not be altered as a result of the proposed works. The chemical composition (particularly minerals and nutrients) of the substratum is also important. The quality of finer sediment particles is a notable driver of rooted plant communities. The site-specific conservation objectives document for the Lower River Suir SAC notes increased fine sediment is contributing to the unfavourable status of the freshwater pearl mussel in the Clodiagh.*
- **Water quality:** Maintain appropriate water quality to support the natural structure and functioning of the habitat;
    - *Potential for impact as a result of the proposed works: Instream works and works in close proximity to watercourse have the potential to release sediment and/or hydrocarbons and concrete into the water column which may get transported downstream. There are a number of pathways by which impacts on water quality may occur as a result of the proposed works (Section 7.22). The Clodiagh (Portlaw)_030 enters the village from the southwest and joins the Clodiagh (Portlaw)_040 near Clonea Bridge. The Clodiagh_030 has a WFD status of "Good" and a risk status of "At Risk". The Clodiagh (Portlaw)_040 is part of the Lower River Suir SAC immediately after Clonea Bridge. The Clodiagh_040 has a Water Framework Directive (WFD) status of "Good", and a risk status of "Not at Risk". The specific water quality targets for this habitat may vary among sub-types. Depositing and tidal stretches of rivers may, naturally, be more nutrient-rich and, therefore Water Framework Directive (WFD) "good" status may suffice. Faster flowing tributaries that are naturally dominated by bryophytes and macroalgae typically require WFD "high" status. The Clodiagh in particular requires "High" WFD status water quality due to the presence of freshwater pearl mussel.*

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

- *Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the water quality of the surrounding area and benefit this habitat.*

- **Typical Species:** Maintain typical species in good condition, including appropriate distribution and abundance;

  - *Potential for impact from the proposed works: The sub-types of this habitat are poorly understood and their typical species have not yet been fully defined. The typical species may include higher plants, bryophytes, macroalgae and microalgae, and invertebrates. The protected vascular plant species opposite-leaved pondweed (Groenlandia densa) is associated with rivers and floodplains in the SAC. The banks of the Suir, particularly its tidal stretches, support a notable population of the rare Rumex crispus subsp. uliginosus. Neither of these species were detected within the proposed works area or in direct proximity. Impacts on water quality and substratum composition may impact typical species composition, distribution and abundance downstream. Impacts on fringing habitat/shading may lead to algal growth in enriched waters.*

- **Floodplain connectivity:** Maintain floodplain connectivity necessary to support the typical species and vegetation composition of the habitat;

  - *Potential for impact from the proposed works: There will be no impact on floodplain connectivity for this habitat as a result of the proposed works. The existing hydrological regimes will be maintained.*

- **Fringing habitats:** Maintain marginal fringing habitats that support the typical species and vegetation composition of the habitat;

  - *Potential for impact from the proposed works: Removal of some vegetation on the banks will be required during the outfall construction, this will be re-established at all points where physically possible, but it is likely there will be a slight reduction in fringing habitat quality in this location for a short-term period. The presence of numerous larger trees behind the riparian vegetation and buildings on the adjacent side of the bank will still provide a degree of shading over the riverbank.*

7.2.4 Sea Lamprey (*Petromyzon marinu*) [1095], Brook Lamprey (*Lampetra planeri*) [1096], River Lamprey (*Lampetra fluviatilis*) [1099]

The site-specific conservation objective for [1095, 1096 and 1099] is to **restore** the favourable conservation condition.

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

NPWS Article 17 data illustrates the proposed site is not within the range and distribution of *Petromyzon marinus* (Sea Lamprey) or *Lampetra fluviatilis* (River Lamprey) however the nearest distribution grids are 1.8km east. The proposed works area is within the range and distribution of *Lampetra planeri* (Brook Lamprey). For the purposes of assessment, the three lampreys will be grouped together. Surveys conducted by RPS in 2020 found instream habitats in proximity to Clonea Bridge had some potential for river, brook and sea lamprey spawning (i.e., combination of cobble, pebble and gravel substrates). Lamprey nursery habitat was limited, with few areas of stable, deeper, marginal silt deposits where juvenile lamprey could burrow (RPS, 2020). The River Suir catchment was sampled for fish in 2018 using single pass electrofishing for WFD purposes. Lamprey were present at a site high in the catchment. The nearest site to the Clodiagh confluence at Portlaw was Kilsheelan Bridge (indirect hydrological connection, upstream the River Suir) (RPS, 2020). There is a weir with a fish pass located on the River Clodiagh in Portlaw (US28ID: 16_3698_118) which would be between the works area and the Suir estuary downstream. This may serve as a potential barrier during low flow conditions to Sea and River Lamprey travelling from the estuary upstream along the Clodiagh. Unlike Sea and River Lampreys, Brook Lampreys can spend their entire lifecycle in freshwater habitat. Lampreys require gravelled areas to spawn. Once the larvae hatch, they move to fine grained areas of sand and silt and filter feed until they have developed (NPWS, 2019b).

Specific attributes and targets for these species within the Lower River Suir SAC are the following:

- **Distribution:** extent of anadromy:
    - Sea Lamprey: Greater than 75% of main stem length of rivers accessible from estuary;
    - Brook & River Lamprey : Access to all water courses down to first order stream;
    - *Potential for impact from the proposed works. There will be no barriers to movement for these species as a result of the proposed works. The only instream works proposed are for a new outfall construction upstream of Clonea Bridge. Works in this area will be limited to a small section adjacent to the banks. A small area of the riverbed will be temporarily dammed surrounding the outfall location on the bank. The river will remain free flowing around this area. The riverbed will be restored to its original condition post works. If there are any large amounts of sediment released to the water column during the proposed works, this may occlude the passage of lamprey in areas downstream.*
- **Population structure of juveniles:** At least three age/size groups present;
- **Juvenile density in fine sediment:**
    - Sea Lamprey: Juvenile density at least 1/m^2;
    - Brook and River Lamprey: Mean catchment juvenile density of brook/river lamprey at least 2/m^2;

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

- **Extent and distribution of spawning habitat:** No decline in extent and distribution of spawning beds; and
    - **Availability of juvenile habitat: More than 50% of sample sites positive.**
    - *Potential for impact from the proposed works: The four conservation objective attributes will be assessed together. There is suitable spawning habitat (cobble, pebble and gravel substrates) in the area of the Clodiagh River adjacent to the proposed works. Lamprey nursery habitat was found to be limited during the RPS surveys in 2020, with few areas of stable, deeper, marginal silt deposits where juvenile lamprey could burrow. Direct disturbance of spawning habitats and juveniles may occur during instream works. The only instream works proposed are for a new outfall construction upstream of Clonea Bridge. Works in this area will be limited to a small section adjacent to the banks. A small area of the riverbed will be temporarily dammed surrounding the outfall location on the bank. The river will remain free flowing around this area. The riverbed will be restored to its original condition post works. Noise and vibration effects are also likely to occur during the outfall construction and may cause disturbance to Lamprey spp. present within the vicinity. This will be temporary only during construction phase. Lamprey spp. may be negatively impacted by changes in water quality and release of sedimentation and/or hydrocarbons and concrete which may arise during the proposed works and travel downstream. The introduction of sediment to this habitat may form a blanket of sediment over suitable spawning areas. Additionally, sediment may settle on habitats where juveniles are present within the finer grained areas, creating anoxic conditions below and thus, suffocating the juveniles. The addition of sediment as a result of the proposed works may also introduce nutrients to the watercourse. This may promote the growth of macrophytes and filamentous algae. This growth may inhibit juveniles from accessing suitable habitats as well as potentially preventing adequate nutrients from reaching them when they are filter feeding. These effects may alter the population structure of juveniles, juvenile density in fine sediment, extent and distribution of spawning habitat and availability of juvenile habitat.*
    - *Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the water quality of the surrounding area and benefit Lamprey species.*

7.2.5 Salmon (*Salmo salar*) [1106]

The site-specific conservation objective for [1106] is to **restore** the favourable conservation condition.

The Clodiagh River is likely to be an important salmonid spawning and nursery tributary within the Suir catchment. Surveys conducted by RPS during 2020 found numerous salmonids along the entire study

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

reach, particularly upstream of the existing discharge location at Clonea Bridge. Larger brown trout (*S. trutta*) were observed in deeper pools, while juvenile (0+, 1+ and 2+) salmon (*S. salar*) and trout were ubiquitous in riffles, runs and glides. The combination of depth and flow type variability makes for excellent salmonid nursery habitat in this reach of the Clodiagh River. Holding habitat was less common, with only a few deeper pools present. The combination of cobble, pebble and gravel substrates presents spawning habitat potential, although probably limited by bed instability and siltation that was evident (RPS, 2020).

Specific attributes and targets for this species within the Lower River Suir SAC are the following:

- **Distribution, extent of anadromy:** 100% of river channels down to second order accessible from estuary;
    - *Potential for impact from the proposed works. There will be no barriers to movement for Salmon as a result of the proposed works. The only instream works proposed are for a new outfall construction upstream of Clonea Bridge. Works in this area will be limited to a small section adjacent to the banks. A small area of the riverbed will be temporarily dammed surrounding the outfall location on the bank. The river will remain free flowing around this area. The riverbed will be restored to its original condition post works. If there are any large amounts of sediment released to the water column during the proposed works, this may occlude the passage of Salmon in areas downstream.*
- **Adult spawning fish:** Conservation limit (CL) for each system consistently exceeded;
- **Salmon fry abundance:** Maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry/5 minutes sampling;
- **Out-migrating smolt abundance:** No significant decline;
- **Number and distribution of redds:** No decline in number and distribution of spawning redds due to anthropogenic cause; and
    - *Potential for impact from the proposed works: These **four** conservation objectives will be assessed together. Instream works during the outfall construction may cause direct disturbance to salmonid habitats and salmon themselves if they are present along the riverbed during construction. Salmon spawn in clean gravels. Spawning typically occurs in headwaters, though it may happen anywhere in a river if a suitable substrate of well oxygenated loose gravel is available. There are suitable areas of clean gravels in the Clodiagh river in direct proximity to the proposed works and juvenile salmon were detected in riffles, runs and glides. The combination of depth and flow type variability makes for excellent salmonid nursery habitat in this reach of the Clodiagh River. The only instream works proposed are for a new outfall construction upstream of Clonea Bridge. Works in this area will be limited to a small section adjacent to the banks. A small area of the riverbed*

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2025

will be temporarily dammed surrounding the outfall location on the bank. The river will remain free flowing around this area. The riverbed will be restored to its original condition post works. Noise and vibration effects are also likely to occur during the outfall construction and may cause disturbance to Salmon. present within the vicinity. This will be temporary only during construction phase Direct disturbance of salmon and their spawning habitat during instream works may impact the conservation objective targets of adult spawning fish, salmon fry abundance, out migrating smolt abundance and the number and distribution of redds.

- *Salmon may be negatively impacted by changes in water quality and release of sedimentation and/or hydrocarbons and concrete which may arise during the proposed works and travel downstream. A decrease in water quality may impact the overall health of all salmonid life stages and result in a reduction in the quality of suitable spawning and nursery grounds. Excess sediment may form a blanket of silt over suitable spawning areas. The water quality conservation objective for the Salmon QI is "at least Q4" at all sites. The Clodiagh in particular requires "High" WFD status water quality due to the presence of freshwater pearl mussel and Salmon play an important role in the larval life stage of freshwater pearl mussel. Freshwater pearl mussel habitat is a combination of the area of 1) habitat adult and juvenile mussels can occupy; 2) spawning and nursery habitats host fish can occupy. Fish nursery and mussel habitat typically overlap. Fish spawning habitat is generally adjacent to mussel habitat but may lie upstream of the generalised mussel distribution. Impacts on water quality may impact the conservation objective targets of adult spawning fish, salmon fry abundance, out migrating smolt abundance and the number and distribution of redds.*

- **Water quality:** At least Q4 at all sites sampled by EPA.
  - *Potential for impact as a result of the proposed works: Salmon are extremely sensitive to changes in water quality. Instream works and works in close proximity to watercourse have the potential to release sediment and/or hydrocarbons and concrete into the water column which may get transported downstream. There are a number of pathways by which impacts on water quality may occur as a result of the proposed works (Section 7.22). The Clodiagh (Portlaw)_030 enters the village from the southwest and joins the Clodiagh (Portlaw)_040 near Clonea Bridge. The Clodiagh_030 has a WFD status of "Good" and a risk status of "At Risk". The Clodiagh (Portlaw)_040 is part of the Lower River Suir SAC immediately after Clonea Bridge. The Clodiagh_040 has a Water Framework Directive (WFD) status of "Good", and a risk status of "Not at Risk". The water quality conservation objective for the Salmon QI is "at least Q4 (Good)" at all sites. The Clodiagh in particular requires "High" WFD status water quality due to the presence of freshwater pearl mussel and Salmon play an important role in the larval life stage of freshwater pearl mussel.*

Waterford CCC Planning Authority - Inspection Purposes Only!

- *Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the water quality of the surrounding area and benefit this species.*

RECEIVED: 20/03/2026

7.2.6 Otter (*Lutra lutra*) [1355]

The site-specific conservation objective for [1355] is to **maintain** the favourable conservation condition.

The Ballygarret 16 watercourse and Clodiagh River were assessed on four separate surveys in April, September, October and November 2025. The survey extent covered 200 metres upstream and downstream of the proposed works areas along the Ballygarret 16 watercourse and Clodiagh River. Physical evidence of otter was found on rocks within the Ballygarret 16 watercourse (spraint on large rocks) and upstream of Clonea Bridge along the Clodiagh River where an otter trail and couch were recorded in bracken scrub on the western edge of an agricultural field on the western bank of the Clodiagh River (Figure 7.2). No potential otter holt was located during the otter survey. Given the presence of abundant fish and crayfish in this stretch of the Clodiagh river along with extensive bank-side habitat for cover upstream and downstream of the bridge, otters are likely to forage the reach.

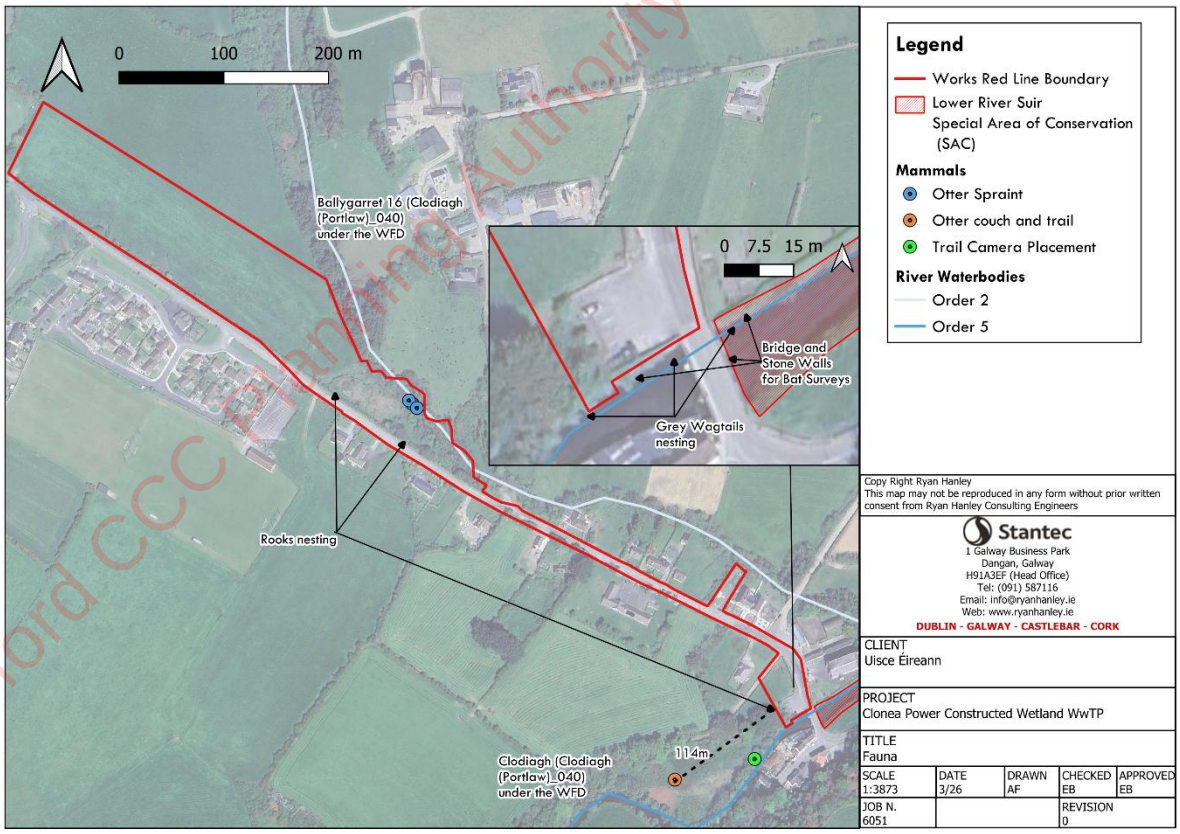


Figure 7.2: Otter signs recorded during surveys in 2025

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

Specific attributes and targets for this species within the Lower River Suir SAC are the following:

- No significant decline in **distribution;**
  - Favourable Conservation Status (FCS) target, based on 1980/81 survey findings, is 88% in SACs. Current range is estimated at 93.6% (Reid *et al.* 2013).
  - *Potential for impact due to the proposed works: The proposed works are c.3m from the SAC boundary. Signs of otter (spraints, a couch and trail) were detected during otter surveys in 2025 along the Ballygarret 16 watercourse and the Clodiagh River. Given the presence of abundant fish and crayfish in this stretch of the Clodiagh river along with extensive bank-side habitat for cover upstream and downstream of the bridge, otters are likely to forage the reach. The proposed works have the potential to directly disturb otter species using the Clodiagh River or Ballygarret 16 watercourse in proximity to the proposed works. There is also the potential for indirect disturbance as a result of noise/vibration from the proposed working area. Disturbance whether direct or indirect can cause otter to move to other areas affecting overall distribution. This will be temporary only during the construction phase. Long term, operationally there will be no noise above existing levels and maintenance works will involve inspecting existing infrastructure on site as per current levels.*
  - *Instream works and works in close proximity to watercourse have the potential to release sediment and/or hydrocarbons and concrete into the water column which may get transported downstream. There are a number of pathways by which impacts on water quality may occur as a result of the proposed works (Section 7.22). Impacts on water quality may affect the prey species of otter or the direct health of otter species. This may indirectly impact overall distribution. This risk will be temporary only during the construction phase. Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the water quality of the surrounding area.*
- No significant decline in extent of **terrestrial habitat;**
  - *Area mapped and calculated as 116.17ha above high water mark (HWM) and 726.61ha along river banks. Areas mapped to include 10m terrestrial buffer along shoreline (above HWM and along river banks) identified as critical for otters.*
  - *Potential for impact due to the proposed works: Works are confined to the habitats of agricultural grassland, built ground and a small section of the banks of the Clodiagh River for a new outfall construction. Considering the proposed works boundary, in the absence of mitigation, the proposed works have the potential to directly interfere with terrestrial*

Waterford CCC Planning Authority - Inspection Purposes Only!

otter habitat and/or directly disturb otter species using terrestrial otter habitat (10m terrestrial buffer on banks from river). This will be temporary only during the construction phase at the site of the new outfall construction. There will be no removal of existing otter habitat. Removal of some vegetation on the banks will be required during the outfall construction. This will be re-established at all points where physically possible, but it is likely there will be a slight reduction in fringing habitat quality in this location for a short-term period. The presence of numerous larger trees behind the riparian vegetation and buildings on the adjacent side of the bank will still provide a degree of shading over the riverbank.

- No significant decline in extent of **marine habitat;**
  - *Area mapped and calculated as 712.27ha. Area mapped based on evidence that otters tend to forage within 80m of the shoreline (HWM).*
  - *Potential for impact due to the proposed works: There will be no impacts on extent of marine habitat as a result the proposed works. There is no marine habitat in the vicinity of the proposed works.*
- No significant decline in extent of **freshwater (river) habitat;**
  - *Length mapped and calculated as 382.31km.*
  - *Potential for impact due to the proposed works: There will be no likely impacts on extent of freshwater (river) habitat as a result the proposed works. The only instream works proposed are for a new outfall construction upstream of Clonea Bridge. Works in this area will be limited to a small section adjacent to the banks. A small area of the riverbed will be temporarily dammed surrounding the outfall location on the bank. The river will remain free flowing around this area. The riverbed will be restored to its original condition post works.*
  - *Instream works and works in close proximity to watercourse have the potential to release sediment and/or hydrocarbons and concrete into the water column which may get transported downstream. There are a number of pathways by which impacts on water quality may occur as a result of the proposed works (Section 7.22). Impacts on water quality may impact the overall quality of otter freshwater riverine habitat. This risk will be temporary only during the construction phase. Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the water quality of the surrounding area.*
- No significant decline in **couching sites and holts;**
  - *Potential for impact due to the proposed works: There will be no likely impacts on couching sites and holts as a result of the proposed works. No holts were identified within 200m of the proposed working area during the site surveys. There is the potential that one is created*

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

by otter within the 200m zone of influence prior to works commencing which may then be subject to direct/indirect disturbance. One couch was recorded in bracken scrub on the western edge of an agricultural field on the western bank of the Clodiagh River c. 114 south west of the proposed works boundary. This couch will not be directly disturbed by the proposed works, but there is the potential for indirect disturbance to any otter utilising this area via noise during the construction stage.

- No significant decline in **fish biomass available;**
    - *Potential for impact due to the proposed works: Instream works and works in close proximity to watercourse have the potential to release sediment and/or hydrocarbons and concrete into the water column which may get transported downstream. There are a number of pathways by which impacts on water quality may occur as a result of the proposed works (Section 7.22). Potential impacts on water quality may result in changes to prey availability in the vicinity of the proposed works and as a result downstream, with a decline in fish biomass as an available food source. This risk will be temporary only during the construction phase. Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the water quality of the surrounding area.*
- No significant decline in **barriers to connectivity**.
    - *Potential for impact due to the proposed works: There will be no likely impacts on barriers to connectivity as a result the proposed works. The only instream works proposed are for a new outfall construction upstream of Clonea Bridge. Works in this area will be limited to a small section adjacent to the banks. A small area of the riverbed will be temporarily dammed surrounding the outfall location on the bank. The river will remain free flowing around this area. The riverbed will be restored to its original condition post works. Removal of some vegetation on the bank will be required during the outfall construction. This will be re-established at all points where physically possible, but it is likely there will be a slight reduction in fringing habitat quality in this location for a short-term period. The presence of numerous larger trees behind the riparian vegetation and buildings on the adjacent side of the bank will still provide a degree of shading over the riverbank. This area is already limiting passage for otter due to the existing stone wall, car park and road that bisects the Clodiagh river in this location. There is a degree of dry passage available beneath the arches of the bridge during low-moderate flows. This will not be impacted by the proposed works.*

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

7.2.7 Twaite Shad (*Alosa fallax*) (1103)

The site-specific conservation objective for [1103] is to **restore** the favourable conservation condition.

Twaite shad spend most of their lives within estuaries and coastal waters. This species travels upstream to spawn in late May/early June (NPWS, 2019b). This SAC is one of only three known spawning grounds in the country for Twaite Shad (NPWS, 2023). The fertilised eggs hatch after a short period and juveniles can reach up to 100mm at the end of the first year. Limited knowledge indicates that Irish twaite shad may live in estuarine waters for at least two full years prior to going to sea. Catch and release angling as well as telemetry studies have encountered migrating adults in four rivers in the south/south--east of Ireland, namely the Blackwater, Suir, Barrow and Nore. Spawning was confirmed during the 2013-2018 period at the upper tidal limits of these rivers via kick sampling for eggs, with young-of-the-year juveniles also recorded in the upper estuarine habitats, respectively.

Twaite shad have two optimal habitat requirements, adult spawning habitat and nursery habitat for 0-group fish. Spawning activity is found in gravelled areas of main-stem SAC rivers with a moderate gradient and a diversity of depth-velocity conditions. Fertilisation is external and eggs and sperm are broadcast into open water. Fertilised eggs hatch in the water column or on the channel bed. The post larval fish are exposed to tidal transport and can be moved up and down the estuaries with tidal movement until they develop swimming capacity to be able to hold station or residency, independent of flow conditions, in backwater and refuge areas. In Ireland, adults migrate into the upper tidal freshwater areas of the main designated rivers. There is unimpeded access for twaite shad into the freshwater reaches of the Rivers Nore and Suir but fish have not been recorded in these riverine areas. Given that twaite shad have access into freshwater spawning habitat in four SAC rivers, it is not fully understood why the species appears to spawn predominately in the upper tidal limits (NPWS, 2019b).

There is a weir with a fish pass located on the River Clodiagh in Portlaw (US28ID: 16_3698_118) which would be between the works area and the Suir estuary downstream. This may serve as a potential barrier during low flow conditions to any Twaite shad travelling from the estuary upstream along the Clodiagh.

Specific attributes and targets for this species within the Lower River Suir SAC are the following:

- **Distribution, extent of anadromy:** Greater than 75% of main stem length of rivers accessible from estuary;
    - *Potential for impact from the proposed works. Data from the NPWS Article 17 Species Assessment Reports (2019) indicate that Twaite shad are more likely to be present in the main stem of the Suir, spawning in the upper tidal limits than in the Clodiagh. However, it is still possible for this species to be present in the river and in proximity to the proposed works. There will be no barriers to movement for Twaite shad as a result of the proposed works. The only instream works proposed are for a new outfall construction upstream of Clonea Bridge. Works in this area will be limited to a small section adjacent to the banks.*

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

A small area of the riverbed will be temporarily dammed surrounding the outfall location on the bank. The river will remain free flowing around this area. The riverbed will be restored to its original condition post works. If there are any large amounts of sediment released to the water column during the proposed works, this may occlude the passage of Twaite shad in areas downstream.

- **Population structure, age classes:** More than one age class present;
- **Extent and distribution of spawning habitat:** No decline in extent and distribution of spawning habitats;
- **Spawning habitat quality:** Maintain stable gravel substrate with very little fine material, free of filamentous algal (macroalgae) growth and macrophyte (rooted higher plants) growth;
    - *Potential for impact from the proposed works: These **three** conservation objectives will be assessed together. Instream works during the outfall construction may cause direct disturbance to twaite shad habitats and twaite shad themselves if they are present along the riverbed during construction. Twaite shad spawn in clean gravels and in Ireland, they appear to spawn predominately in the upper tidal limits of main stem SAC rivers. Data from the NPWS Article 17 Species Assessment Reports (2019) indicate that Twaite shad are more likely to be present in the main stem of the Suir, spawning in the upper tidal limits than in the Clodiagh. However, it is still possible for this species to be present in the river and in proximity to the proposed works. There are suitable areas of clean gravels in the Clodiagh river in direct proximity to the proposed works. The only instream works proposed are for a new outfall construction upstream of Clonea Bridge. Works in this area will be limited to a small section adjacent to the banks. A small area of the riverbed will be temporarily dammed surrounding the outfall location on the bank. The river will remain free flowing around this area. The riverbed will be restored to its original condition post works. Noise and vibration effects are also likely to occur during the outfall construction and may cause disturbance to twaite shad present within the vicinity. This will be temporary only during construction phase. Direct disturbance of twaite shad and their spawning habitat during instream works may impact the conservation objective targets of population structure, extent and distribution of spawning habitat and spawning habitat quality.*
    - *Twaite shad may be negatively impacted by changes in water quality and release of sedimentation and/or hydrocarbons and concrete which may arise during the proposed works and travel downstream. A decrease in water quality may impact the overall health of all Twaite shad life stages and result in a reduction in the quality of suitable spawning and nursery grounds. Excess sediment may form a blanket of silt over suitable spawning areas. Impacts on water quality may impact the conservation objective targets of population structure, extent and distribution of spawning habitat and spawning habitat*

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

quality. Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the water quality of the surrounding area and benefit this species.

- **Water quality, oxygen levels:** Oxygen levels no lower than 5mg/l.
  - *Potential for impact as a result of the proposed works: Instream works and works in close proximity to watercourse have the potential to release sediment and/or hydrocarbons and concrete into the water column which may get transported downstream. There are a number of pathways by which impacts on water quality may occur as a result of the proposed works (Section 7.22). A deterioration in water quality may impact oxygen levels in the watercourse. Increased sedimentation in the watercourse can cloud the water column and settle over the streambed, reducing light penetration and disrupting photosynthesis by aquatic plants and algae reducing the amount of oxygen released into the water column. The decomposition of the excess organic material trapped in the sediment will also uses up dissolved oxygen, further reducing oxygen levels.*
  - *Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the water quality of the surrounding area and benefit this species.*

7.2.8 White-clawed Crayfish (*Austropotamobius pallipes*) (1092)

The site-specific conservation objective for [*1092*] is to **maintain** the favourable conservation condition.

White-clawed crayfish (*Austropotamobius pallipes*) occurs extensively on the River Suir and on many of its tributaries including the Clodiagh. White-clawed crayfish require clean, calcium rich, alkaline waters (NPWS, 2019b) which have a Q-value of at least Q3-4 (NPWS, 2017). Surveys carried out by RPS in 2020 detected white clawed crayfish widespread across the channel in proximity to Clonea bridge. A variety of size classes were observed, along with berried females, indicating a breeding population (RPS, 2020).

The second recorded outbreak of crayfish plague in Ireland occurred in 2017 on the River Suir, Co. Tipperary, between Clonmel and Carrick on Suir. Crayfish losses were estimated to be around 400,000 animals over a 24 km river stretch. However, in the 2017 crayfish survey, 22 sites sampled in the Suir catchment tested negative for crayfish plague. In 2018, seven sites were assessed and Cahir Bridge on the River Suir was the only site to test positive for crayfish plague, while Carrick-on-Suir tested negative, having tested positive the previous year. In 2020, one site out of the ten sampled in the Suir catchment, the River Multeen tested positive for Crayfish plague (Brady *et al.*, 2024). Crayfish plague has been

Waterford CCC Planning Authority - Inspection Purposes Only!

reported in the Suir catchment, but no specific reports are available for the Clodiagh River, however precautionary biosecurity measures would be warranted to avoid any potential spread.

Specific attributes and targets for this species within the Lower River Suir SAC are the following:

- **Distribution:** No reduction from baseline;
    - *Potential for impact as a result of the proposed works: Surveys carried out by RPS in 2020 detected white clawed crayfish widespread across the channel in proximity to Clonea bridge. A variety of size classes were observed, along with berried females, indicating a breeding population. Instream works are proposed for a new outfall construction upstream of Clonea Bridge. Works in this area will be limited to a small section adjacent to the banks. A small area of the riverbed will be temporarily dammed surrounding the outfall location on the bank. The river will remain free flowing around this area. Any crayfish present in the dammed section of the riverbed may be directly disturbed and displaced by this. There is the potential this will temporarily alter the distribution of this species in the SAC. The riverbed will be restored to its original condition post works.*
    - *Instream works and works in close proximity to watercourse have the potential to release sediment and/or hydrocarbons and concrete into the water column which may get transported downstream. There are a number of pathways by which impacts on water quality may occur as a result of the proposed works (Section 7.22). A reduction in water quality may indirectly impact the distribution of this species within the SAC. White-clawed crayfish require at least Q3-4. The introduction of sediment may disturb the prey of the white-clawed crayfish as well as potentially carry nutrients into the watercourse resulting in algal growth. This algal growth may further impact on the habitat quality for both the white-clawed crayfish, and its prey by forming widespread carpets of filamentous algae across the benthic habitat. Introduction of sediment as a result of the proposed works may also result in a carpet of sediment on the riverbed, potentially resulting in less refuge areas under rocks and cobbles for this species. Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the water quality of the surrounding area and benefit this species and its distribution.*
- **Population structure, recruitment:** Juveniles and/or females with eggs in all occupied tributaries;
    - *Potential for impact as a result of the proposed works: Surveys carried out by RPS in 2020 detected white clawed crayfish widespread across the channel in proximity to Clonea bridge. A variety of size classes were observed, along with berried females, indicating a breeding population. Instream works area proposed for a new outfall construction upstream*

RECEIVED 20/03/2020
Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 29/03/2026

of Clonea Bridge. Works in this area will be limited to a small section adjacent to the banks. A small area of the riverbed will be temporarily dammed surrounding the outfall location on the bank. The river will remain free flowing around this area. Any crayfish present in the dammed section of the riverbed may be directly disturbed and displaced by this. There is the potential this will temporarily alter the population structure and recruitment of this species in the SAC. The riverbed will be restored to its original condition post works. A reduction in water quality may also indirectly impact the population structure and recruitment of this species within the SAC.

- **Negative indicator species:** No alien crayfish species;
    - *Potential for impact as a result of the proposed works: There will be no potential to introduce or spread alien crayfish species as a result of the proposed works. Many North American crayfish species are resistant to Crayfish Plague and can act as carriers of the disease which is rapidly fatal when passed to the White-clawed Crayfish. While there is no evidence that North American or other non-native crayfish have been introduced to Ireland, the crayfish plague has reached rivers in Ireland possibly by spores carried on fishing equipment.*
- **Disease:** No instances of disease;
    - *Potential for impact as a result of the proposed works: There is unlikely to be potential to spread Crayfish plague as a result of the proposed works. Crayfish plague has been reported in the Suir catchment, but no specific reports are available for the Clodiagh River, however precautionary biosecurity measures would be warranted to avoid any potential spread.*
- **Water quality:** At least Q3-4 at all sites sampled by EPA;
    - *Potential for impact as a result of the proposed works: Instream works and works in close proximity to watercourses have the potential to release sediment and/or hydrocarbons and concrete into the water column which may get transported downstream. There are a number of pathways by which impacts on water quality may occur as a result of the proposed works (Section 7.22). Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the water quality of the surrounding area and benefit this species.*
- **Habitat quality, heterogeneity:** No reduction in habitat heterogeneity or habitat quality.
    - *Crayfish need high habitat heterogeneity. Larger crayfish must have stones to hide under, or an earthen bank in which to burrow. Hatchlings shelter in vegetation, gravel and among fine tree roots. Smaller crayfish are typically found among weed and debris in shallow*

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED 20/03/2026

water. Larger juveniles in particular may also be found among cobbles and detritus, such as leaf litter. These conditions must be available on the whole length of occupied habitat.

- *Potential for impact as a result of the proposed works: Surveys carried out by RPS in 2020 detected white clawed crayfish widespread across the channel in proximity to Clonea bridge. A variety of size classes were observed, along with berried females, indicating a breeding population. Instream works area proposed for a new outfall construction upstream of Clonea Bridge. Works in this area will be limited to a small section adjacent to the banks. A small area of the riverbed will be temporarily dammed surrounding the outfall location on the bank. The river will remain free flowing around this area. There is the potential this will temporarily alter the habitat heterogeneity in the dammed section of the river. The riverbed will be restored to its original condition post works. A reduction in water quality may also indirectly impact habitat heterogeneity for this species within the SAC. The introduction of sediment may carry nutrients into the watercourse resulting in algal growth. This algal growth may further impact on the habitat quality for both the white-clawed crayfish, and its prey by forming widespread carpets of filamentous algae across the benthic habitat. Introduction of sediment as a result of the proposed works may also result in a carpet of sediment on the riverbed, potentially resulting in less refuge areas under rocks and cobbles for this species. Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the water quality of the surrounding area and benefit this species and habitat heterogeneity.*

7.2.9 Freshwater Pearl Mussel (*Margaritifera margaritifera*) (1029)

The site-specific conservation objective for [*1029*] is to **restore** the favourable conservation condition.

NPWS Article 17 data illustrates the proposed site is within the range and distribution of this species. This area is recorded as a *Margaritifera* catchment, and the SAC population is located in the Clodiagh River. The distribution target and suitable habitat target for this species in the Clodiagh River is located c. 620 metres downstream of Clonea Bridge. The Clodiagh requires "High" WFD status water due to the presence of freshwater pearl mussel. The current status of the Ballygarret 16 and Clodiagh River (Clodiagh (Portlaw)_040) river in this area is "Good" and "Not At Risk" and therefore already not meeting the required WFD target of "High".

This *Margaritifera* population is listed on The European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations 2009. (S.I. 296 of 2009). Mussel habitat in the Clodiagh is known to occur from Clonea Power to Portlaw and is sparsely occupied from c.630m downstream of Clonea to c.1.8km above Portlaw. It is possible that some mussel habitat occurs upstream or downstream of the

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

mapped stretches, but few mussels are likely to be found. The mussel habitat has been severely impacted for a significant period by sedimentation, other hydromorphological changes, organic pollution and eutrophication.

Full baseline distribution and abundance mapping was conducted in 2006. Mussels were nowhere abundant, maximum density was 3 per square metre. The habitat is significantly below carrying-capacity. The distribution in the Clodiagh has contracted since the 1990s. It appears the population is small and currently heading towards extinction. There is no significant population in the 1400m reach downstream of Clonea.

- Ross (2006) counted 1,206 mussels and estimated a total population of 2,412, concluding that, given the large areas of physically suitable habitat, a much larger population was previously present and a major population decline had occurred (NPWS, 2017);
- Baseline distribution surveys on the Clodiagh River in 2006 found no mussels in the 610m reach downstream of Clonea. From that point downstream, there were only three (3) of adult mussels for the next 760m. This equates to no significant population in the 1400m reach downstream of Clonea. The next 1500m recorded ca.135 mussels, with clusters of adults continuing from there to about 1.8km upstream of Portlaw (NPWS, 2017);
- Ross (2009) measured an 18.5% decline in mussel numbers between 2006 and 2009 at one transect indicating continued losses (NPWS, 2017);
- Moorkens (2010) estimated the population to be less than 10,000. The target of 10,000 is considered appropriate for a functional, self-sustaining population (NPWS, 2017);
- NPWS (2013), in producing a national population estimate, assumed the Clodiagh population had declined at a rate of 3% per year (NPWS, 2017);
- Ross et al. (2017) recorded 'rapid and alarming' declines of 56-94% between 2006 and 2016 at five monitoring locations (67% decline overall) (NPWS, 2017);
- The status of the Clodiagh River population of was 'Unfavourable' and failed targets for population structure: recruitment in 2006, 2009 and 2016. The NPWS concluded there had been no successful recruitment from 1986 to 2009. The Clodiagh population is considered to be unsustainable owing to lack of survival of juvenile and adult mussels (NPWS, 2017);
- A survey carried out by RPS in 2020 found that *Margaritifera margaritifera* were absent from the Clodiagh River directly adjacent to the existing outfall at Clonea Bridge. They were also reported as absent c. 300 metres downstream and c. 500 metres upstream of Clonea Bridge (extent the survey area covered – 800m of river channel). There were patches of suitable habitat reported for mussels, although habitats were mainly sub-optimal owing to a combination of fine sediment and algal detritus which smothered substrates in areas where mussels would be expected to be found. A heavy plume of grey, foul-smelling discharge with abundant sewage fungus, flowed along the true left bank downstream of Clonea Bridge (RPS, 2020).

Waterford CCC Planning Authority - Inspection Purposes Only!

- Ecological walkover surveys carried out in the area during 2024 and 2025 by Ryan Hanley (now Stantec) observed that the instream habitat directly adjacent to the existing outfall and the site of the new proposed outfall (both directly upstream of Clonea Bridge) were sub-optimal for freshwater pearl mussel owing to findings that are consistent with those that were observed during the surveys in 2020 by RPS. There is a combination of fine sediment and algal detritus which has smothered substrates in areas where mussels would be expected to be found. The same heavy plume of grey, foul-smelling discharge from the existing outfall was similarly evident during 2024 and 2025. Rooted macrophyte cover was also evident in this location in 2024, with coverage decreased but still present in 2025. Considering these factors, the area of the proposed instream works is deemed unsuitable habitat for FWPM.

Specific attributes and targets for this species within the Lower River Suir SAC are the following:

- **Distribution: Restore distribution to 10.4km;**
    - *Potential for impact as a result of the proposed works: The only instream works are proposed are for a new outfall construction c.20m upstream of Clonea Bridge. Works in this area will be limited to a small section adjacent to the banks. A small area of the riverbed will be temporarily dammed surrounding the outfall location on the bank. The river will remain free flowing around this area. The riverbed will be restored to its original condition post works. The distribution target and suitable habitat target for this species in the Clodiagh River is located c. 620 metres downstream of Clonea Bridge. Survey data from 2020 by RPS detected no mussels within a 300m stretch downstream and 500m stretch upstream of the existing discharge point at Clonea bridge. Based on the results of historical surveys carried out between 2006 and 2017 as reported in the Lower River Suir SAC site conservation objectives document, there is not believed to be a significant population within the 1400m reach downstream of Clonea Bridge (NPWS, 2017; RPS, 2020). Surveys in 2020 (RPS), 2024 and 2025 (Ryan Hanley (now Stantec) indicate the section of the Clodiagh River directly adjacent to the proposed works at Clonea Bridge is currently not suitable for this species due to fine sedimentation and the condition of the discharge from the existing effluent outfall which discharges straight to the Clodiagh river. Considering this and the above details, there will be no direct impact on this species as a result of the proposed works and therefore no direct impact on the distribution of this species.*
    - *Instream works and works in close proximity to watercourses have the potential to release sediment and/or hydrocarbons and concrete into the water column which may get transported downstream. There are a number of pathways by which impacts on water quality may occur as a result of the proposed works (Section 7.22). The Clodiagh requires "High" WFD status water due to the presence of freshwater pearl mussel. The current status*

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

of the Ballygarret 16 and Clodiagh River (Clodiagh (Portlaw)_040) river in this area is "Good" and "Not At Risk" and therefore already not meeting the required WFD target of "High". Impacts on water quality and release of sedimentation could impact freshwater pearl mussels and their habitat downstream of Clonea Bridge and indirectly impact the distribution of this species and its restoration. Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the water quality of the surrounding area and benefit this species.

- **Population: Restore population to at least 10,000 adult mussels;**
  - *Potential for impact as a result of the proposed works: Based on information from the NPWS conservation objectives document, the current mussel population in the Clodiagh is not large, not breeding and apparently declining rapidly. It is likely that the existing Clonea discharge over many years negatively impacted mussel survival. There will be no direct impact on this species as a result of the proposed works. Impacts on water quality and release of sedimentation could impact freshwater pearl mussels and their habitat downstream of Clonea Bridge and indirectly impact the population of this species and its restoration. Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the water quality of the surrounding area and benefit this species.*
- **Population structure: Recruitment: Restore to at least 20% of each population no more than 65mm in length; and at least 5% of each population no more than 30mm in length;**
  - *Potential for impact as a result of the proposed works: The NPWS concluded there had been no successful recruitment from 1986 to 2009. The status of the Clodiagh River population of was 'Unfavourable' and failed targets for population structure: recruitment in 2006, 2009 and 2016. There will be no direct impact on this species as a result of the proposed works. Impacts on water quality and release of sedimentation could impact freshwater pearl mussels and their habitat downstream of Clonea Bridge and indirectly impact the population structure and recruitment of this species and its restoration. Impacts on salmon species as a result of instream works and water quality impacts may also indirectly impact the population structure and recruitment of freshwater pearl mussel. Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the water quality of the surrounding area and benefit this species.*

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

- **Population structure: adult mortality: No more than 5% decline from previous number of live adults counted; dead shells less than 1% of the adult population and scattered in distribution;**
    - *Potential for impact as a result of the proposed works: The distribution target and suitable habitat target for this species in the Clodiagh River is located c. 620 metres downstream of Clonea Bridge. Survey data from 2020 by RPS detected no mussels within a 300m stretch downstream and 500m stretch upstream of the existing discharge point at Clonea bridge. Based on the results of historical surveys carried out between 2006 and 2017 as reported in the Lower River Suir SAC site conservation objectives document, there is not believed to be a significant population within the 1400m reach downstream of Clonea Bridge (NPWS, 2017; RPS, 2020). Surveys in 2020 (RPS), 2024 and 2025 (Ryan Hanley (now Stantec) indicate the section of the Clodiagh River directly adjacent to the proposed works at Clonea Bridge is currently not suitable for this species due to fine sedimentation and the condition of the discharge from the existing effluent outfall which discharges straight to the Clodiagh river. There will be no direct impact on this species as a result of the proposed works. Impacts on water quality and release of sedimentation could impact freshwater pearl mussels and their habitat downstream of Clonea Bridge and indirectly cause adult mortality. Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the water quality of the surrounding area and benefit this species.*
- **Suitable habitat: extent: Restore suitable habitat in more than 8.8km in the Clodiagh system and any additional stretches necessary for salmonid spawning;**
- **Suitable habitat: condition: Restore condition of suitable habitat. The species' habitat is a combination of the area of 1) habitat adult and juvenile mussels can occupy; 2) spawning and nursery habitats host fish can occupy;**
    - *Potential for impact as a result of the proposed works: These **two conservation objectives** will be assessed together. The distribution target and suitable habitat target for this species in the Clodiagh River is located c. 620 metres downstream of Clonea Bridge. The only instream works are proposed are for a new outfall construction c.20m upstream of Clonea Bridge. Works in this area will be limited to a small section adjacent to the banks. A small area of the riverbed will be temporarily dammed surrounding the outfall location on the bank. The river will remain free flowing around this area. The riverbed will be restored to its original condition post works. There will be no permanent removal of any potential mussel or spawning salmon habitat. Mussel habitat is widespread in the Clodiagh but in unfavourable condition owing to sedimentation, other hydro-morphological changes and nutrient enrichment. A survey carried out by RPS in 2020 found that Margaritifera*

Waterford CCC Planning Authority - Inspection Purposes Only!

margaritifera were absent from the Clodiagh River directly adjacent to the existing outfall at Clonea Bridge. They were also reported as absent c. 300 metres downstream and c. 500 metres upstream of Clonea Bridge (extent the survey area covered – 800m of river channel). There were patches of suitable habitat reported for mussels, although habitats were mainly sub-optimal owing to a combination of fine sediment and algal detritus which smothered substrates in areas where mussels would be expected to be found. A heavy plume of grey, foul-smelling discharge with abundant sewage fungus, flowed along the true left bank downstream of Clonea Bridge (RPS, 2020). Ecological walkover surveys in 2024 and 2025 (Ryan Hanley (now Stantec) similarly indicate the section of the Clodiagh River directly adjacent to the proposed works at Clonea Bridge is currently not suitable for this species due to fine sedimentation and the condition of the discharge from the existing effluent outfall which discharges straight to the Clodiagh river. Impacts on water quality and release of sedimentation could impact freshwater pearl mussel habitat downstream of Clonea Bridge. Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the water quality of the surrounding area and benefit habitat condition and extent, both for freshwater pearl mussels and host fish.

- **Water quality: macroinvertebrate and phytobenthos (diatoms): Restore water quality - macroinvertebrates: EQR greater than 0.90 (Q4-5 or Q5); phytobenthos: EQR greater than 0.93;**
    - *Potential for impact as a result of the proposed works: Freshwater Pearl Mussel are highly sensitive to sedimentation and enrichment. They require high water quality with very low nutrient concentrations (oligotrophic conditions). The Ecological quality ratio (EQRs) requirements for this species correspond to "high" ecological status (Q4-5/Q5). A Q value of 4 was taken at Clonea Bridge in 2023 (https://epawebapp.epa.ie/qvalue/webusers/). The 2023 biological water quality monitoring results indicate that the macroinvertebrate element of the objectives set out in these regulations, requiring a minimum of EQR 0.9 (Q4-5), is not being achieved at five of the six monitoring sites in the Clodiagh.The current status of the Ballygarret 16 and Clodiagh River (Clodiagh (Portlaw)_040) river in this area is "Good" and "Not At Risk" and therefore already not meeting the required WFD target of "High". Upstream of Clonea Bridge, the Clodiagh_030 has a WFD status of "Good" and a risk status of "At Risk". Instream works and works in close proximity to watercourses have the potential to release sediment and/or hydrocarbons and concrete into the water column which may get transported downstream. There are a number of pathways by which impacts on water quality may occur as a result of the proposed works (Section 7.22). Long term, operationally the works will improve the quality of the treated effluent*

RECEIVED: 29/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the water quality of the surrounding area and benefit this species.

- **Substratum quality: filamentous algae (macroalgae); macrophytes (rooted higher plants): Restore substratum quality - filamentous algae: absent or trace (less than 5%); macrophytes: absent or trace (less than 5%);**
    - *Potential for impact as a result of the proposed works: Release of nutrients, hydrocarbons or sediment to the water column can cause algal growth and create favourable conditions for rooted macrophytes. Rooted macrophytes should be absent or trace (<5% cover) in freshwater pearl mussel habitat. Instream works and works in close proximity to watercourses have the potential to release sediment and/or hydrocarbons and concrete into the water column which may get transported downstream. There are a number of pathways by which impacts on water quality may occur as a result of the proposed works (Section 7.22). Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help reduce the nutrient burden, improve the water quality of the surrounding area and benefit this species.*
- **Substratum quality: sediment: Restore substratum quality - stable cobble and gravel substrate with very little fine material; no artificially elevated levels of fine sediment;**
    - *Potential for impact as a result of the proposed works: The Clodiagh failed the substratum quality, sediment target for the Sub-basin Management Plan in 2009 and 2016, with strong silt plumes recorded in mussel habitat. Ross et al. (2017) recorded extremely heavy silt plumes at every site, even in fast riffles. Ross (2006) recorded significant siltation of the mussel habitat and observed riverbank erosion and collapse, and livestock entry to the river. Silt in the Clodiagh is also providing a rooting medium for macrophytes which should be absent or trace (<5% cover) in freshwater pearl mussel habitat. Sufficient survival of juvenile and adult mussels is being prevented by the poor condition of the river substratum (NPWS, 2017). A survey carried out by RPS in 2020 found patches of suitable habitat for mussels in close proximity to Clonea Bridge, although these were mainly sub-optimal owing to a combination of fine sediment and algal detritus which smothered substrates in areas where mussels would be expected to be found. Ecological walkover surveys in 2024 and 2025 (Ryan Hanley (now Stantec) similarly indicate the section of the Clodiagh River directly adjacent to the proposed works at Clonea Bridge is currently not suitable for this species due to fine sedimentation and the condition of the discharge from the existing effluent outfall which discharges straight to the Clodiagh river. The only instream works are proposed are for a new outfall construction c.20m upstream of Clonea Bridge. Works in this area will be limited to a small section adjacent to the banks. A small area of the riverbed*

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

will be temporarily dammed surrounding the outfall location on the bank. The river will remain free flowing around this area. The riverbed will be restored to its original condition post works. Instream works and works in close proximity to watercourses have the potential to release sediment and/or hydrocarbons and concrete into the water column which may get transported downstream. There are a number of pathways by which impacts on water quality may occur as a result of the proposed works (Section 7.22). Long term operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help improve the substratum quality of the surrounding area and benefit this species.

- **Substratum quality: oxygen availability: Restore to no more than 20% decline from water column to 5cm depth in substrate;**
    - *Potential for impact as a result of the proposed works: Increased algal growth would reduce oxygen levels in the Clodiagh. This could impact the survival of juvenile freshwater pearl mussels. Juvenile mussels require full oxygenation while buried in gravel. In suitable habitat, there should be very little loss of redox potential between the water column and underlying gravels. Average redox was very poor, 23-28% at four sites monitored in 2016, only three of the 40 measurements were <20% (Ross et al., 2017). Instream works and works in close proximity to watercourse have the potential to release sediment and/or hydrocarbons and concrete into the water column which may get transported downstream. There are a number of pathways by which impacts on water quality may occur as a result of the proposed works (Section 7.22). A deterioration in water quality may impact oxygen levels in the watercourse. Increased sedimentation in the watercourse can promote algal growth, cloud the water column and settle over the streambed, reducing light penetration and disrupting photosynthesis by aquatic plants and algae reducing the amount of oxygen released into the water column. The decomposition of the excess organic material trapped in the sediment will also uses up dissolved oxygen, further reducing oxygen levels. Long term, operationally the works will improve the quality of the treated effluent discharge (as the current WwTP is not fit for purpose) and reduce the chance of unintended wastewater discharges during storm events which will help reduce the nutrient burden and improve the oxygen availability in the watercourse.*
- **Hydrological regime: flow variability: Maintain appropriate hydrological regime;**
    - *Potential for impact from the proposed works: To restore the habitat for the freshwater pearl mussel species, flow variability over the annual cycle must be such that: 1) high flows can wash fine sediments from the substratum; 2) high flows are not artificially increased so as to cause excessive scour of mussel habitat; 3) low flows do not exacerbate the deposition of fine sediment or growth of algae/macrophytes and 4) low flows do not cause stress to*

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

mussels in terms of exposure, water temperatures, food availability or aspects of the reproductive cycle. Groundwater inflow to the substratum contributes to water-cycling.

- *There may be a temporary impact on water flow in the Clodiagh River during instream works. However, considering the small scale of the instream works required, this is not expected to result in significant impacts to river flow downstream. The existing hydrological regimes will be maintained. Diversion of surface run off from the surrounding environment at the CW field will be required via a 1.5m deep grass lined channel upgradient of the proposed CW will effectively intercept the surface and shallow subsurface flows and convey these flows away from the site by discharging via the existing swale to the unmapped stream and subsequently the Ballygarret 16 watercourse. This channel is in line the existing natural drainage pathways on site and will not result in any significant hydrological changes downstream. The existing flow of wastewater discharged will remain the same (current loading from Clonea Power is 159PE) as the new CW will treat wastewater from properties that are currently serviced by the existing WwTP. As the population grows, it is expected that the flow of wastewater will increase, and the new CW wastewater treatment system has been sized to treat the sewage generated by up to 250PE. The proposed pumping station will convey Formula A flows (maximum storm flow received at treatment works) to the CW and during storm events, flows in excess of Formula A shall overflow back to the WwPS inlet chamber, through a Jacopa Cyclone Screen, and into the Storm Tank. The stormwater flows will return by gravity to the PS once the storm event ceases. A high-level stormwater overflow shall be installed discharging to the River Clodiagh via an outfall headwall fitted with a flap valve. Flow monitoring shall be provided to record spill events.*
- *The study site is located within the groundwater body "Comeragh". The proposed works area is located within an area of High Groundwater vulnerability which is vulnerable to contamination from human activities. The groundwater body Comeragh has a WFD status of "Good" and a risk status of "Not at Risk" (WFD Status 2019-2024). SI results have indicated that the ground is overburdened, with bedrock at approximately 7.50m below ground level. Additionally, existing site soils have been found to have low permeability on the order of 1x 10-10 m/s and will therefore be suitable for use in forming a liner. The clay liner will comply with the UE Standard for Constructed Wetlands. CWs that utilise soil liners shall be underlain by at least 1.0 m of moderate or low permeability subsoil, with the upper 0.5 m having a permeability of less than 1x10-8 m/s. The liners shall be overlain by subsoil with a minimum thickness of 300 mm and low to moderate permeability, which will be used for planting the wetland vegetation. The clay liner will protect against any potential infiltration to groundwater. The CW will not be constructed within or below the water table as this would result in excessive flows to the wetland and contamination risks. The groundwater will lie a minimum of 1 m below the bottom of the wetland. Lysimeters*

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

will installed before construction to determine background concentrations, and in-situ throughout the operation of the CW.

- *Dewatering procedures will be required on site. Excavation activities have the potential to encounter groundwater. The area at the WwPS, the pipeline trenches associated with the proposed sewers to the WwPS, the proposed rising main from the WwPS to the CW site and the outfall main from the CW site to the river have the potential to intercept and convey groundwater/ subsurface flows and cause surface flooding and subsurface erosion. Appropriate pipeline trench design incorporating stanking and trench drainage will address the associated potential impacts. This will be temporary only during construction phase.*

- **Host fish: Maintain sufficient juvenile salmonids to host glochidial larvae; and**
  - *Potential for impact from the proposed works: Salmon are also a QI of the Lower River Suir SAC and may be present in the Clodiagh River. Instream works and impacts on water quality may affect Salmonids which could result in indirect effects on freshwater pearl mussel. Salmonid fish are host to the larval stage of the freshwater pearl mussel and essential to completion of the life cycle.*

- **Fringing habitat: area and condition: Restore the area and condition of fringing habitats necessary to support the population.**
  - *Potential for impact from the proposed works: Removal of some vegetation on the banks will be required during the outfall construction, this will be re-established at all points where physically possible, but it is likely there will be a slight reduction in fringing habitat quality in this location for a short-term period. The presence of numerous larger trees behind the riparian vegetation and buildings on the adjacent side of the bank will still provide a degree of shading over the riverbank. This area does not currently support any mussel populations and the distribution target and suitable habitat target for this species in the Clodiagh River is located c. 640 metres downstream of this location.*

7.2.10 Impacts Summarised

In light of the conservation objectives assessed above, the following are considered to be the potential impacts on the qualifying interests of the **Lower River Suir SAC** during the construction and operational phases of the proposed works. Impacts have been identified on the following qualifying interests: Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260], Sea Lamprey (*Petromyzon marinu*) [1095], Brook Lamprey (*Lampetra planeri*) [1096], River Lamprey (*Lampetra fluviatilis*) [1099], Freshwater Pearl Mussel (*Margaritifera margaritifera*) [1029], Salmon (*Salmo salar*) [1106], Otter (*Lutra lutra*) [1355], Twaite Shad (*Alosa fallax*) (1103) and White-clawed Crayfish (*Austropotamobius pallipes*) (1092).

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

Construction Phase

Direct and Indirect (Disturbance):

The proposed works take place c.3m from the Lower River Suir SAC boundary, with instream works proposed c.20m upstream of the SAC boundary in the River Clodiagh. There is the potential that Salmon, Lamprey spp., Twaite Shad, White Clawed Crayfish, Otter, which are mobile species could be present within or directly adjacent to the proposed works area and be directly and indirectly (via noise, vibrations, light) disturbed by the proposed works. Floating river vegetation present in the Clodiagh River directly adjacent to the proposed works also has the potential to be directly disturbed. This is considered most likely during instream works at the outfall (storm and effluent) construction point on the Clodiagh River, given the other proposed works take place within primarily agricultural grassland and built ground. The new outfall construction works will largely be limited to a small section along the banks of the Clodiagh watercourse directly upstream of the existing discharge location at Clonea Bridge. Temporary sandbags or cofferdam construction will be required for a small section instream adjacent to the banks to facilitate the construction. A small area of the riverbed will be temporarily dammed surrounding the outfall location on the bank and piling will likely be required to facilitate construction. The river will remain free flowing around this area. The riverbed will be restored to its original condition post works. Some clearance of vegetation will be required at this location on the bank also to facilitate access. This is a treeline that exists high up on the bank above a stone wall. There is suitable spawning habitat for Salmon, Lamprey and Twaite shad as well as suitable refuges for White Clawed Crayfish in this instream works location. Juvenile salmon and white clawed crayfish were both detected in this area during surveys carried out by RPS in 2020. The instream works area is not suitable for freshwater pearl mussel owing to a combination of fine sediment, algal detritus and grey, foul-smelling discharge smothering substrates. A section of floating river vegetation habitat is also present in the instream works area. An otter couch was found c. 114m south of this location in an area of bracken scrub and so otter are likely to be foraging along the river in this location. Noise and light from construction works adjacent to this area at the proposed WwPS (existing car park adjacent to the bridge) may also indirectly disturb these qualifying interests. Noise and light from construction works in the proposed CW site may also disturb otter commuting or foraging along the Ballygarret 16 watercourse, where spraints were detected during surveys in 2025.

Mitigation measures will be required during construction to prevent disturbance (direct and indirect) to these qualifying interests during construction.

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

Indirect (Water Quality (Sedimentation, Hydrocarbons, Concrete) & Biosecurity (Crayfish plague and Himalayan Balsam):

The works require excavation of an agricultural field for the construction of the CW ponds and pipeline installation. Excavation of built surface will also be required for the pipeline installation along the R678 road and for the WwPS at the existing car park site by the bridge. Instream works are also required for the storm and effluent outfall construction at the Clodiagh River c.20m upstream of the SAC boundary, where a section of the riverbed will be temporarily dammed via sandbag or cofferdam construction. Instream works and works in close proximity to watercourse have the potential to release sediment and/or hydrocarbons and concrete into the water column which may get transported downstream and impact Salmon, Lamprey spp., Twaite Shad, White Clawed Crayfish, Otter, Freshwater Pearl Mussel and Floating River Vegetation, all of which are sensitive to impacts from reduced water quality and sedimentation. There are a number of pathways by which impacts on water quality may occur as a result of the proposed works.

- There is a new outfall (effluent and storm) proposed to be constructed (involving instream works) at the Clodiagh River c. 20 meters upstream of this SAC.
- The new WwPS adjacent to Clonea Bridge will be constructed c.5 metres from this SAC boundary.
- The CW field will be constructed adjacent to the Ballygarret 16 watercourse (closest pond will be set back c. 30 metres from the Ballygarret 16 stream). This watercourse joins the Clodiagh River and the Lower River Suir SAC c. 640 metres downstream.
- There is also a small unmapped stream in the southeast of the CW site (c. 20 metres from closest works - effluent pipeline works) that runs for a short distance northeast through the field where it joins the Ballygarret 16 stream.
- The existing WwTP and emergency storm overflow will be decommissioned. The Ballygarret stream runs directly north of this site (c. 7 metres from site, overflow outfalls to the stream). This stream joins the Clodiagh River and the Lower River Suir SAC c. 165 metres downstream.
- Dewatering procedures will be required during excavation works on site.
- Flood risk associated with pluvial (hillside run-off) and groundwater/ subsurface sources exists at the proposed CW site which could impact the proposed treatment process and associated ponds. The proposed design measures comprise drainage works to intercept hillside runoff and subsurface flows and divert the flows to the Ballygarret watercourse. Diversion of surface run off from the surrounding environment at the CW field will be required via a 1.5m deep grass lined channel upgradient of the proposed CW will effectively intercept the surface and shallow subsurface flows and convey these flows away from the site by discharging via the existing swale to the unmapped stream and subsequently the Ballygarret 16 watercourse.

Waterford CCC Planning Authority - Inspection Purposes Only!

- The pipeline trenches associated with the proposed sewers to the WwPS, the proposed rising main from the WwPS to the CW site and the outfall main from the CW site to the river have the potential to intercept and convey groundwater/ subsurface flows and cause surface flooding and subsurface erosion. Appropriate pipeline trench design incorporating stanking and trench drainage will address the associated potential impacts.
- The proposed WwPS site is likely in Flood Zone A relative to the River Clodiagh. A non-return valve will be installed on the overflow pipe from the WwPS to Clodiagh River. It will be necessary to implement groundwater and surface water management measures to appropriately manage the short duration flood risk at this site. Road drainage will be installed to intercept and divert road runoff from the WwPS site.
- Segments of the proposed new rising main and outfall pipe will be in a medium-flood risk area. It will be necessary to implement groundwater and surface water management measures to appropriately manage the short duration flood risk along the sewer.

During the site survey on the 10th of May 2024, a small stand of Himalayan Balsam (*Impatiens glandulifera)* was recorded growing on the northeast bank of the Clodiagh River, downstream of Clonea Bridge and east of the Church in the village centre. This location is not within the proposed works boundary, and no works are proposed in proximity to it. During follow up surveys in April, August, September and October 2025, stands of Himalayan Balsam were observed growing on the eastern bank at multiple points directly adjacent to Clonea Bridge (upstream and downstream). A large area of Himalayan Balsam was observed growing upstream of Clonea Bridge in an area of wet grassland on the western bank of the River Clodiagh. None of these areas are within the proposed red line boundary for the project but the stands at Clonea Bridge are in close proximity (c.10m from proposed instream works on other side of the river for new outfalls. Balsam seeds can be spread up to 7m from the parent plant naturally. While it is not present within the proposed works boundary as of yet, spread of Balsam to further areas is likely to occur naturally due to its observed spread between 2024 and 2025. Further establishment of this invasive species downstream along the banks will displace natural riparian vegetation in the Lower River Suir SAC and may lead to increased sedimentation entering the watercourse during periods of dieback and bankside erosion in winter.

Crayfish plague has been reported in the Suir catchment, but no specific reports are available for the Clodiagh River, however precautionary biosecurity measures would be warranted to avoid any potential spread. The second recorded outbreak of crayfish plague in Ireland occurred in 2017 on the River Suir, Co. Tipperary, between Clonmel and Carrick on Suir. Crayfish losses were estimated to be around 400,000 animals over a 24 km river stretch. However, in the 2017 crayfish survey, 22 sites sampled in the Suir catchment tested negative for crayfish plague. In 2018, seven sites were assessed and Cahir Bridge on the River Suir was the only site to test positive for crayfish plague, while Carrick-on-Suir tested

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

negative, having tested positive the previous year. In 2020, one site out of the ten sampled in the Suir catchment, the River Multeen tested positive for Crayfish plague (Brady *et al.*, 2024).

Mitigation measures will be required during construction to protect water quality and the spread of disease & invasive species.

Operational Phase

Direct and Indirect (Disturbance):

There is not considered to be any potential for direct impacts during the operational and maintenance phase of the proposed works. Maintenance works are expected to be infrequent and involve inspection of existing infrastructure at the site. These works do not involve any level of noise, light, dust or vibration that would be considered a significant impact in the context of the wider baseline urban environment. The septic tank will be required to be desludged 2-4 times per year depending on in the influent load. This will be done by a suction tanker and dropped suction pipeline. There may be the potential to disturb commuting/foraging otter along the Clodiagh River and Ballygarret 16 watercourse, however, considering the scale and infrequency of the works required, this would not be expected to be a significant effect. Precautionary mitigation measures with regards to the timing of the works are recommended.

Indirect (Water Quality):

Operational and storm water discharges from the Clonea Power constructed wetland and WwPS will and may occur during the operational stages of the project which can impact water quality. The proposed works involves the construction of new outfalls (storm and effluent) on the Clodiagh River. The current pressure from the existing outfalls will be reduced, as the existing treatment plant is overloaded (as per EPA site visit (SV23785) findings in March 2022) while the proposed new CW has been designed for increased capacity and will provide an improvement to the quality of the effluent discharged into the Clodiagh watercourse. The existing flow of wastewater discharged will remain the same (current loading from Clonea Power is 159PE) as the new CW will treat wastewater from properties that are currently serviced by the existing WwTP. As the population grows, it is expected that the flow of wastewater will increase, and the new CW wastewater treatment system has been sized to treat the sewage generated by up to 250 PE.

The proposed pumping station will convey Formula A flows (maximum storm flow received at treatment works) to the CW and during storm events, flows in excess of Formula A shall overflow back to the WwPS inlet chamber, through a Jacopa Cyclone Screen, and into the Storm Tank. The stormwater flows will return by gravity to the PS once the storm event ceases. A high-level stormwater overflow shall be

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

installed discharging to the River Clodiagh via an outfall headwall fitted with a flap valve. Flow monitoring shall be provided to record spill events.

A Water Assimilative Capacity (WAC) assessment for the Clodiagh River has been undertaken to assess the impact of the existing and future flows. A simple mass balance WAC assessment followed by a Monte Carlo analysis was completed as part of the feasibility study report (FSR), following UÉ's Interim Technical Guidance for Water Quality Impact Assessment (Freshwaters) Workbook. Table 7.2 below outlines the maximum allowable treated effluent concentrations for the 30-year design loadings. The ponds will be designed with the hydraulic capacity and sizing for 250PE (30-year design horizon), and the WAC analysis has been undertaken to consider seasonal variations in the capacity of the receiving water. Current PE loading from Clonea Power is 159PE. A submission to review the existing Certificate of Authorisation will be submitted to the EPA, including an appropriate assessment as part of the application.

Table 7.1: WAC Calculations – Clonea Power CW 95%-ile Conditions

Design Horizon	95%-ile Condition (mg/L)		
	Ammonia	BOD	MRP
Current (159 PE)	26.8	669.8	11.6
10 Yr. (200 PE)	20.4	509.1	8.8
30 Yr. (250 PE)	16.3	407.4	7.0

Table 7.2: Proposed Clonea Power CW Treatment Standards

Parameter	Proposed treated effluent standards (30 Yr/250PE)	Applicable Regulation
Ammonia	16.3 mg/L	Surface Water Regulations 2009, as amended
BOD	25 mg/L	Surface Water Regulations 2009, and Urban Wastewater Treatment Directive (UWWTD) as amended
MRP	7.0 mg/L	Surface Water Regulations 2009, as amended
Total Suspended Solids	35 mg/L	Non-regulatory limit based on UWWTD requirements for secondary treatment
pH	6-9	Surface Water Regulations 2009, as amended / Current WWDA

The WAC assessment considers the requirement to achieve **High Status** in the receiving waterbody in accordance with the Habitats Directive and the Water Framework Directive objectives as well as the treatment standards that will be achieved in the Constructed Wetland, which provides secondary treatment. The proposed treated effluent standards meet the requirements of 'Appropriate Treatment' under the Urban Wastewater Treatment Regulations and will accommodate the achievement of the Water Framework Directive and Habitats Directive objective. Operationally the new constructed wetland and associated infrastructure will result in an improvement to the existing discharge quality and wastewater treatment process which is currently not fit for purpose. The works will enable the wastewater treatment process in the area to cater for future population growth and reduce the chance of unintended operational wastewater discharges to the adjacent watercourse. This will help to ensure the protection

Waterford CCC Planning Authority - Inspection Purposes Only!

of local and downstream water quality and adherence to the objectives of the water framework directive and habitats directive which will benefit the qualifying interests of the **Lower River Suir SAC.**

RECEIVED: 20/03/2026

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

8 MITIGATION MEASURES

Potential impacts on the qualifying interests of the Lower River Suir SAC associated with the proposed works have been identified in Section 7. Impacts primarily relate to **direct disturbance to qualifying interests** during instream works and to a **deterioration in water quality** associated with the release of sedimentation and or accidental release of hazardous substances such as hydrocarbons and concrete during the proposed works. Mitigation is set out below as a full suite of actions that will be undertaken in order to ensure that the proposed works do not adversely impact the conservation objectives of the Lower River Suir SAC. It will be the responsibility of the contractor to ensure all mitigation measures are implemented and monitored throughout the construction phase. It will be the responsibility of Uisce Éireann to ensure all mitigation measures are implemented and monitored throughout the operational and maintenance phase.

8.1.1 Mitigation Measures (Construction Phase)

The following mitigation measures **will be** implemented in full:

General Ecological Mitigation:

- The contractor will be required to complete a Construction Environmental Management Plan (CEMP) prior to works commencing which will capture the mitigation measures listed in the NIS;
- As works take place c. 3 metres from the Lower River Suir SAC and within and in proximity to two watercourses, a full works method statement will be agreed and approved with Inland Fisheries Ireland (IFI) and the National Parks and Wildlife Service (NPWS) prior to construction;
- Presence of an Ecological Clerk of Works (ECoW)
    - There will be an appointment of an appropriately experienced ECoW on site during construction to advise on the detailed implementation of the ecological mitigation as detailed in the NIS and Construction Environmental Management Plan (CEMP). In particular, the ECoW will be present for the full duration of the instream works in the Clodiagh River, monitoring carefully for impacts on water quality and the presence of otter, salmon, lamprey spp., twaite shad and white clawed crayfish. It will be the responsibility of the contractor to appoint the ECoW.
    - The role of the ECoW will ensure all construction works are monitored to prevent significant impacts on surrounding wildlife and will include:
        - Monitoring of water quality;
        - Supervision of construction works to ensure compliance with legislation;
        - Monitoring habitats and species during the course of construction works;
        - Provision of advice regarding the avoidance and minimisation of potential disturbance to wildlife;

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

    - Provide recommendations on appropriate responses / actions to site specific issues (e.g. identification of previously unrecorded breeding sites during construction works);
    - Liaison with National Parks and Wildlife Service (NPWS), Inland Fisheries Ireland (IFI) and other prescribed authorities, when required;
    - Biodiversity monitoring elements;
    - Toolbox talks;
  - The ECoW will have a minimum of 5 years' post-graduate experience in ecological assessment, appraisal techniques and mitigation monitoring;
  - The ECoW will be employed until all works have finished, and all machinery has been demobilised and has left the site;
  - The ECoW will be present on a weekly basis and also during specific works such as vegetation clearance, works on/near rivers/drains, installation of pollution-risk infrastructure (silt controls etc.), general earthworks, drainage installation away from sensitive receptors, site set-up or changes to pollution prevention measures, compliance checks for planning conditions, pre-construction ecological surveys, habitat reinstatement or enhancement.
- All personnel involved with the project will be informed of the requirement for protection of water quality and designated sites i.e., the Lower River Suir SAC and best practice methodologies will be employed via toolbox talks and during induction to the construction site;
- Sites for use as temporary construction phase storage areas will be located as far as is practicable from watercourses. These sites will be located at least 50m from the nearest watercourse;
- There will be inspection of any topsoil, stone or other imported material before entering the site to ensure that it is not contaminated with invasive species;
- An emergency response plan will be in place for the prevention of silt/pollutants reaching watercourse. All staff working on site will be aware of the procedures. Sufficient materials to aid in diversion/containment on any such spillage will be readily available and stored at close distance. Contact details for local IFI staff will be available on site and added to the plan;
- There will be no storage of materials, machinery or soil in areas that are susceptible to flooding;
- Dust will be managed as per best practice according to the "Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes" (NRA, 2011).

<u>Disturbance</u>

- Noise levels at a minimum will remain within acceptable limits following BS 5228 guidelines ("Noise Control on Construction and Open Sites").

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

- A preconstruction confirmatory survey will take place prior to works commencing to check the area for signs of use by otter, salmon, lamprey spp., twaite shad and white clawed crayfish and any other protected wildlife, particularly along the banks of Clodiagh River where the new outfall construction is proposed and also along the Ballygarret 16 watercourse in relation to otter presence;
- All works should be conducted during daylight hours (between sunrise and sunset);
- Artificial lighting if required on site should be designed to be directional and not flood large areas of the landscape;
- Machinery such as drills/excavators operating on site will begin with ramp-up or soft start procedure to minimise noise impact in the surrounding area;
- Compressors and hydraulic pumps will be enclosed or acoustically shielded using fitted covers or temporary enclosures;
- Generators and water/dewatering pumps will be housed in acoustically insulated cabins;
- Excavators will:
  - Be fitted with acoustic engine covers to reduce engine noise;
  - Be selected from Stage V-compliant plant featuring low-noise engine technology;
  - Be scheduled to avoid simultaneous operation near sensitive receptors.
- Articulated trucks will:
  - Be fitted with broadband reversing alarms (white noise) to reduce tonal impact;
  - Comply with a no-idling policy when stationary or queueing on-site;
- Wheeled loaders will:
  - Be fitted with acoustic panels around the engine compartment;
  - Avoid reversing near through pre-planned movement strategies;
  - Use broadband (non-tonal) reversing alarms.
- Dumpers will:
  - Be fitted with silenced exhausts and engine insulation;
  - Use rubber tyres instead of steel tracks to reduce ground-borne noise.
- The ECoW should monitor for the presence of otter, salmon, lamprey spp., twaite shad and white clawed crayfish and any other protected wildlife in the proposed works area or in areas directly adjacent such as the Clodiagh River and Ballygarret 16 watercourse. If otter, salmon, lamprey spp., twaite shad and white clawed crayfish or any other protected wildlife is detected within the proposed works area, works must stop until the animal is gone or as the ECoW advises.

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

Otter Mitigation

- No otter holts were observed during the site walkover survey however sings of otter (spraints and a couch) indicate the species is active in the area along both the Clodiagh River and the Ballygarret 16 watercourse. A confirmatory otter survey will be completed prior to construction to confirm the absence of otter holts within 150 metres of the proposed works boundary;
- The ECoW will monitor for the presence of otter throughout the entire construction period;
- No works will be undertaken within 150m of any holts at which breeding females or cubs are present;
- No wheeled or tracked vehicles (of any kind) will be within 20m of active, but non-breeding, otter holts. Light work, such as digging by hand or scrub clearance will not take place within 15m of such holts, except under licence.
- If a breeding holt is confirmed within 150 metres of the proposed works boundary, the ECoW will consult with the NPWS for further guidance. In the event of unavoidable disturbance impacts on an otter holt, then works will stop and a derogation license from the NPWS will be sought. Work will be undertaken in compliance with any conditions attached;
- Appropriate otter and mammal proof fencing will be installed in accordance with specifications outlined in NRA (2008) "Guidelines for the Treatment of Otters Prior to the Construction of National Road Schemes" around the proposed works areas and maintained for the duration of the works to prevent otter from entering the site during the construction phase. This fencing will also be suitable for badger species. Fencing should be installed such that access to and along otter habitat is not impeded (watercourses and 10 metre riparian buffer zone either side);
- All works should be conducted during daylight hours (between sunrise and sunset);
- No excavations are to be left uncovered or without a means of egress (a sloped plank for example) overnight, as otter may fall in or enter in search of food and become trapped. No buildings or storage units are to be left open overnight, as otter may enter and become trapped. No poisonous or potentially harmful substances or materials are to be left unsecured overnight;
- Artificial lighting will be avoided where possible in the river corridor and along linear habitats such as treelines and hedgerows;
- Access to dry passage for otter species will be maintained along the riverbank, there will be no permanent removal of riparian vegetation.

Instream Works (Clodiagh River)

- There are in stream works proposed, namely for the construction of the new effluent and storm outfall at the Clodiagh River. Works will be carried out from the bank, construction machinery will not cross the riverbed at this location;

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

- A full instream works method statement will be agreed and approved with IFI and NPWS prior to construction;
- In accordance with IFI guidelines. All instream works will be undertaken between the **July-September period**. This will prevent the disturbance of any breeding white-clawed crayfish or spawning fish species. This will be agreed in consultation with IFI;
- Instream works will only be carried out in dry, low flow conditions. Met Éireann five-day forecasts will be monitored on a daily basis prior to works commencing and no work will be carried out during extreme weather events as advised by ECoW;
- During all instream works the ECoW will be present;
- Before works commence, the ECoW will inspect the river where in-stream works are planned for the presence of otter, crayfish, lamprey, salmon, twaite shad and any other protected wildlife. There will be an agreed Method Statement with IFI and NPWS which will permit electrofishing under licence to be carried out in the partially dammed instream works section of the Clodiagh River. Crayfish will be trapped and translocated under licence out of the dammed area prior to dewatering;
- For instream works at the Clodiagh River, sterile sandbags will used to build a cofferdam around the works area. This area will be kept dry by pumping out water and discharging water to a settlement pond or settlement tank outside of the flood zone and at least 10 metres from any watercourse. A double silt curtain will be placed around the sandbag cofferdam as a precautionary measure to protect the water quality of the Clodiagh River and to prevent suspended solids migrating downstream. An oil sock will be suspended at water level along the silt curtain to trap any minor loss of hydrocarbons from machinery and prevent migration downstream;
- For instream works, during set up in this area, consultation with the ECoW is required to avoid disturbance of the *Ranuculus* spp. associated with the Annex 1 Floating River Vegetation (3260) habitat present in the river. Sandbag and Cofferdamn placement will be such that there is no direct disturbance or dewatering of an area where this species is present. *Ranuculus* spp. is present widely both upstream and downstream of this area at Clonea Bridge. The outfall construction area is likely to extend c. 3m each side of the outfall. If it not possible to completely avoid this species, then the set up works in the riverbed will be limited to the least disturbance possible and the riverbed restored to its original condition post works;
- Any silt curtains to be deployed should comply with relevant European Standard CE 1137-CPR-0613/29;
- The riverbed will be reinstated to its natural condition;
- Sondes will be employed upstream and downstream of the works areas to continually monitor water quality during the construction period. Alarms will trigger when there is a 20% difference

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

in turbidity between the upstream and downstream sondes. If an alarm triggers, works will cease immediately until the source is identified and rectified;

- All PPE, equipment and machines entering and leaving the water will be power washed before entry to and exit of the site and sprayed with a 1% virion aquatic solution following an IFI method for disinfection of equipment;
- All works undertaken on the banks will be fully consolidated to prevent scour and run off of silt. Consolidation will include the use of protective and biodegradable matting on the banks and the sowing of grass seed on bare soil. Care will be taken to ensure that no material is allowed to enter the river;
- Any piling activities will begin with a ramp-up or soft start procedure to minimise noise impact on aquatic species in the works area.

Sedimentation, dust and run off

- There will be maintenance of good site management at all times, and all site personnel will be made aware of the importance of the freshwater environment and the requirement to avoid pollution of all types, throughout all stages of the construction phase;
- The final design of drainage and silt trapping systems will be agreed with IFI and NPWS;
- All works will be carried out in accordance with IFI guidelines (2016) "Guidelines on protection of fisheries during construction works in and adjacent to waters";
- Excavation activities will be planned outside periods of Met Éireann predicted heavy rainfall, to limit the potential for suspended solids to be carried within surface water run-off;
- Access to the works area will be via designated stabilized entry/exit points to limit tracking of sediment;
- Silt traps/settlement ponds or other forms of containment and treatment will be constructed at locations that will intercept run off to watercourses. Traps shall not be constructed immediately adjacent to natural watercourses. A buffer zone should remain between the silt trap and the watercourse with natural vegetation left intact. Alternatively, imported materials such as terram, straw bales and coarse to fine gravel should be used either separately or in combination as appropriate to remove suspended matter from discharges;
- All imported material must be inspected and confirmed free of invasive species;
- Double silt fencing will be place along the site boundary between the proposed works area and all watercourses and drainage ditches to prevent construction runoff from entering any waterbody. This includes the Ballygarret 16 Stream, the unmapped stream in the southeast of the CW field, the Clodiagh River and all drainage ditches to the south of the proposed CW site. These silt traps will not be constructed immediately adjacent to natural watercourses or within an active flood plain. A buffer zone will remain between the silt trap and the watercourse with natural vegetation left intact to assist in the silt interception. Silt traps will be located in areas

Waterford CCC Planning Authority - Inspection Purposes Only!

with good access to facilitate monitoring, sampling and maintenance. A daily inspection of the silt fencing will be carried out on site by the Environmental Manager and ECoW (when on site);

- A daily visual assessment to ensure no construction run-off enters any watercourse or drainage ditch will be undertaken by the Environmental Manager and ECoW (when on site) and daily records will be kept of this activity;
- If upon inspection there is any construction run-off entering any watercourse or drainage ditch, then all works will cease immediately until the source is identified and rectified;
- Silt traps and fencing will not impede passage of any potential mammal species along the watercourse and riparian buffer zones;
- Any vegetation clearance will not be stockpiled along the riparian zone of any watercourse or drainage ditch;
- No excavated material will be stored on site. If excavated material is to be stored on-site, it will be for the shortest time possible and appropriate precautions in relation to the material will be taken. These precautions will include appropriate storage in a location at least 20m from the nearest watercourse or drain and not within a flood zone. Covering by means of a soil net cover will occur to prevent any dust being blown off-site. Management of construction material stockpiles to prevent siltation of watercourse systems through runoff during rainstorms will be undertaken. This will involve the construction of collector ditches and silt fences surrounding material stockpiles to contain runoff and direct it to the settlement ponds (or other containment and treatment system) before discharge to an adjacent watercourse. In addition the establishment of vegetation on the exposed soil adjacent to material stockpiles may also be used to slow down and treat (through settlement) runoff waters;
- All excavations and trenches shall be backfilled as soon as practical, and none shall be left open overnight;
- Any water encountered during excavation works will be discharged to a settlement pond or settlement tanker. Sediment ponds will be placed sufficiently well back from the Ballygarret 16 stream, unmapped stream and the Clodiagh River (outside of the flood zone and at least 20 metres from any watercourse) to avoid any possibility of inundation by these watercourses in flood conditions;
- Riparian vegetation will be fenced off to provide a 10m buffer zone for its protection;
- All drainage will be designed to achieve a discharge to surface waters with a suspended solid concentration of no more than 25mg/L. The pH of receiving waters will remain in the range of 6-9 unless baseline monitoring shows that it is normally outside of this range. Temporary oil interceptor facilities shall be installed and maintained where site works involve the discharge of drainage water to receiving rivers and streams;
- All manholes/gully's will be covered with silt matts to prevent sediment from entering the drainage network, the matts will be inspected daily to ensure they are in working order;

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

- All access roads will be inspected daily to ensure there is no sediment build up;
- Any exposed soil will be reseeded naturally as per the National Pollinator Plan;
- A silt fence will be erected on all sides of any temporary site compounds to prevent any runoff from the perimeter of the compounds;
- Construction vehicles will work from hardstanding areas (temporary hardstanding to be created where necessary) where possible to avoid the generation of mud within the works area;
- Sondes will be employed upstream and downstream of the works areas to continually monitor water quality during the construction period. Alarms will trigger when there is a 20% difference in turbidity between the upstream and downstream sondes. If an alarm triggers, works will cease immediately until the source is identified and rectified.
- Water quality monitoring of the Clodiagh River, unmapped stream and Ballygarret 16 watercourse will be conducted periodically throughout the works by the ECoW. In the event of any deteriorations are detected, works will cease immediately until the source is identified and rectified.

Machinery, Hydrocarbons and Hazardous Materials

- Protection measures will be put in place to ensure that all hydrocarbons used during the construction phase are appropriately handled, stored and disposed of in accordance to the TII/NRA document "Guidelines for the crossing of watercourses during the construction of National Road Schemes".
- All machinery used on site will be inspected to ensure they are in good working order and there is no hydrocarbon leakage;
- If a wheel wash is required, it will not discharge into a watercourse but will be discharged to a settlement tank with a filter;
- There will be no storage of machinery, fuel or other construction materials in areas prone to flooding or within 20m of any drain or watercourse;
- All materials with the potential to impact water quality will be stored in a bunded area within the site. Bund specification will conform to the current best practice for oil storage (Enterprise Ireland, BPGCS005);
- Spill kits, adequately stocked with spill clean-up materials such as booms and absorbent pads, will be readily available onsite;
- Oil booms and oil soakage pads will be maintained on-site to enable a rapid and effective response to any accidental spillage or discharge;
- Waste oils and hydraulic fluids will be collected in suitable leak-proof containers and transported off site for disposal or recycling;

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

- Protection measures will be put in place by the Contractor to ensure that all hydrocarbons used during the works are appropriately handled, stored, and disposed of in accordance with recognised standards as detailed by the Environmental Protection Agency (EPA);
- Where concrete is required, pre-cast concrete will be used where possible. Clearly visible signs will be placed in prominent locations close to concrete pour areas, stating that washout of concrete lorries is not permitted on the site. If cast-in-place concrete is required, all works will be undertaken in the dry and effectively isolated from entering any receiving surface water or foul sewers for a period sufficient to cure the concrete;
- Machinery will use biodegradable hydraulic fuel;
- Refuelling will take place outside of the flood zone and as far away as possible from any watercourse (minimum distance of at least 20m) on a bunded area created by the contractor;
- Compounds shall not be constructed in lands at risk of flooding
- Foul drainage from all site offices and construction facilities will be taken off-site and disposed of by a licensed contractor, in accordance with legislation to prevent pollution of rivers and local water supply.

<u>Flooding Risk and Groundwater Interception</u>

- It is probable that groundwater will be encountered during the project's excavation works and that excavations will require dewatering to facilitate working in the dry. The Contractor will be required to install and operate an appropriate construction stage water management system which ensures the excavation works are appropriately drained and that the discharge of the dewatering flows to received waters will not:
    - Increase flooding to adjacent properties i.e. via surcharging of existing urban drainage, or direct run-off into properties;
    - Impact the water quality of adjacent watercourses.
- Access for maintenance and inspection (by others) be maintained along the length of the channel adjacent to the proposed CW site;
- The works are to be programmed to be undertaken during low flow, non-flood conditions;
- All excavations and trenches shall be backfilled as soon as practical, and none shall be left open overnight;
- A construction stage water management system will be developed by the contractor for the site;
- Dewatering pumps shall be in place to handle any issue arising from high groundwater levels during excavation and pipeline installation. The contractor shall ensure all arising dewatering flows are discharged at an appropriate controlled flow rate to the downstream urban drainage/ sewer network so as not to cause any flooding in the downstream network or adjacent properties;

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

- Any water encountered during excavation works will be discharged to a settlement pond/tanker. This tank/pond will be placed sufficiently well back from the Milltownpass_010 watercourse (outside of the flood zone and at least 20 metres from any watercourse or drain) to avoid any possibility of inundation by these watercourses in flood conditions;
- A 1.5m deep grass lined open channel upgradient of the proposed CW works draining to an adjacent downhill surface watercourse is proposed as part of the works and will effectively intercept the surface and shallow subsurface flows and convey these flows away from the site. Surface run-off (pluvial) will be diverted from discharging into open excavation trenches which will minimise the dewatering works required. The channel will terminate at a headwall from which flows will be directed via a 225mm pipe to the existing swale at the southeastern corner of the site which discharges into a tributary of the River Clodiagh. Monitoring of the water quality discharging from this pipe to the existing swale will be required during construction. Any deteriorations will be thoroughly investigated and corrected where possible;
- All drainage will be designed to achieve a discharge to surface waters with a suspended solid concentration of no more than 25mg/L. The pH of receiving waters will remain in the range of 6-9 unless baseline monitoring shows that it is normally outside of this range. Temporary oil interceptor facilities shall be installed and maintained where site works involve the discharge of drainage water to receiving rivers and streams;
- Drainage gullies in the area will be maintained clear throughout the works and no contaminated site run-off will be permitted to discharge directly to any watercourse or drainage ditch;
- No refuelling to be undertaken on site (other than pumps). All pumps shall be appropriately bunded and spill kits will be available on site should a fuel spill occur;
- Excavated material (including topsoil and subsoil) and imported fill material for the CW will not be stored within Flood Zone A and B.
- The Contractor's compound will be located in Flood Zone C.

8.1.2 Biosecurity (Balsam and Aquatics)

Third schedule invasive species Himalayan balsam was recorded in close proximity to the works area at Clonea Bridge. Crayfish plague has been reported in the Suir catchment but there have been no confirmed records in the Clodiagh River to date. Invasive species and diseases have the potential to spread to other locations via machinery used on site, workers clothing and shoes or via watercourses if material is disturbed. The following biosecurity measures will be put in place to ensure no spread of invasive species & diseases:

- A pre-construction confirmatory survey for invasive species will be conducted at the earliest stage possible to update and inform on the status of invasive plant species in or near the works

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

area. This survey should be undertaken during the appropriate botanical season (April to September);

- Areas where there is the presence of third schedule invasive species in close proximity to the proposed works will be fenced and signed off to prevent inadvertent access. Toolbox talks will be given by the ECoW informing workers of the invasive species biosecurity zones, best practice measures and mitigation requirements for these areas;
- Instream works are required to take place during July-September as per IFI guidelines which is within the typical seeding period window for Himalayan balsam. During this period seed pods are mature and may explode naturally or when touched dispersing thousands of seeds up to 7m distance from the parent plant. Therefore, the risk of spread will be high if workers come within 7m of these plants at Clonea Bridge during the instream works. If access to the river is required during construction (for the instream works for the outfall construction) via the laneway by the bridge, this will bring workers into direct contact (and within 7m) of stands of Himalayan balsam which are growing on this side of the bank at Clonea Bridge. Consideration of this access will be evaluated preconstruction. If access is required by this route, treatment/removal (via manual hand pulling as present on an SAC watercourse) of Himalayan balsam earlier in the season prior to works commencing is warranted. This should be carried out in consultation with an invasive species management specialist. Access to the laneway and any treatment that will be carried out on the riverbank at this location will be subject to approval and consent from the landowner;
- Hand-pulling of Himalayan balsam will occur before the plant goes to seed (before June, ideally late April, early May). Close monitoring is required to ensure that regrowth does not occur due to viable seeds remaining in the soil. The pulled plants should be broken to discourage flowering, which can occur even with plants that have been removed from the ground. Because seeds from the previous season will germinate and produce new plants following hand pulling in April or May, the exercise will need to be repeated later in the season, around August. Hand pulling will be required the following year to account for the fact that seeds are capable of surviving for at least one year. Monitoring and localised hand pulling should be conducted for the following two years or as monitoring dictates. The broken plants can be placed in piles to rot naturally at a location agreed with the ECoW (avoid leaving vegetated material in an area that it could be easily washed into the river). Vegetative material can be disposed of by composting provided the compost will not be disturbed for a minimum of two years. Material may also be disposed of to a licensed landfill or incineration facility, or the material could be disposed of by shallow or deep burial. If contaminated soil is to be buried a minimum depth of 2m is required. Burial at this depth is sufficient to prevent regrowth. Himalayan balsam seeds do not contain sufficient energy reserves to allow them to germinate and grow up through hard substrate (Kelly, J *et al.*, 2008; NRA 2010; NBDC, 2015) (TII, 2020);

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

- Invasive species will be managed or avoided where they occur throughout the works area, in line with the NRA Guidelines on the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Road Schemes (NRA, 2010), and any other best practice guidance which may be available in the interim;
- All PPE, equipment and machines entering the water will be power washed before entry to the site and treated following an IFI method for disinfection of equipment;
- Any material arriving to site will be confirmed to be free of invasive species. This will be checked by the contractor with the material provider and records kept;
- All plant machinery and construction related vehicles arriving and leaving site will be checked for the presence of plant material e.g. leaves roots and rhizomes from non-native invasive species;
- All staff will be trained by the ECoWs in the identification of invasive species and the associated biosecurity measures required when working on site;
- Contaminated material will be handled in accordance with appropriate legislation and guidelines;
- Considering the positive presence of Crayfish plague in the Suir catchment, it is recommended the Clodiagh is tested for the presence of Crayfish plague eDNA prior to instream works commencing;
- Adherence to IFI biosecurity protocol (Caffrey, 2010) for avoidance of spread of pathogens will be followed by contractors and surveyors. Careful disinfection and biosecurity measures is essential to prevent transfer of damaging pathogens, e.g., crayfish plague disease, between sites and river sub-catchments within and outside of the project area. This will apply to all personnel working in or near water, plus machinery that meets surface water and/or drainage to surface waters;
- Check/Clean/Dry policy to be applied. All equipment/machinery/clothing/footwear used for instream works to be checked before entry to site and before leaving site and any plant or animal material/debris removed. Equipment/machinery/clothing/footwear shall be cleaned prior to entry and prior to leaving the site;
- Biosecurity facilities shall be installed on-site prior to site works commencing within the site compound. Any personal protective equipment (PPE) machinery and equipment used during instream works for the construction shall be washed down and disinfected in this facility. It shall include facilities for wheel brushing, brushing down of vehicles, cleaning of footwear and other equipment prior to arrival on site and on leaving site. It shall also include an area where washing can be directed into a dedicated and contained area. No washings will be discharged to any stream or watercourse, they will be removed off site.

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

- A sign-off sheet shall be maintained by the Contractor to confirm cleaning and disinfection material supplies and procedures are adequate and being adhered to.
- If soil is imported to the site for landscaping, infilling or embankments, the contractor shall gain documentation from suppliers that it is free from invasive species; and
- Ensure all site users are aware of measures to be taken via recorded Toolbox talks.
- All sites will be rechecked prior to the commencement of works should more than one growing season elapse to confirm initial findings.

8.1.3 Mitigation Measures (Operational and Maintenance Phase)

The following mitigation measures will be implemented in full:

- All works should be conducted during daylight hours (between sunrise and sunset);
- Water quality in the Clodiagh River and Ballygarret 16 stream will improve as a result of the improved wastewater treatment capacity of the CW. A comprehensive monitoring plan schedule for the site will be developed containing details of contingency measures to ensure the continuous and sustainable achievement of treatment efficiency. Water quality monitoring of the treated effluent, the diverted surface run off from the 1.5m grass lined channel, the unmapped watercourse, the Ballygarret 16 watercourse and the Clodiagh River in proximity to the proposed works site will take place regularly at a suitable period post construction and operation, especially during the establishment of the vegetation in the CW ponds and during the 36-month process proving and optimisation period. Any deteriorations will be thoroughly investigated, reported to the local authorities and addressed;
- An aquatic survey assessing the qualifying interests of the Lower River Suir SAC in the Clodiagh, in particular Freshwater Pearl Mussel, Salmon, Otter, White Clawed Crayfish, Lamprey, Twaite Shad and floating river vegetation will take place at a suitable period post construction and operation. Findings to be reported to the relevant authorities (IFI and NPWS);
- Sample collection from lysimeters will be undertaken periodically (as agreed with the EPA) to monitor groundwater conditions.
- A submission to review the existing Certificate of Authorisation will be submitted to the EPA, including an appropriate assessment as part of the application. A comprehensive monitoring and response plan will be provided with this application, containing details of contingency measures to ensure the continuous and sustainable achievement of treatment efficiency.

8.1.4 Cumulative and Residual Impacts

As per **Table 6.4**, proposed developments surrounding the works area as well as along the Clodiagh River have been assessed. The proposed works are small in scale and nature and are located wholly

Waterford CCC Planning Authority - Inspection Purposes Only!

within the rural area of Clonea Power across one agricultural field, the existing WwTP site, an existing 5-6 space car park adjacent to the bridge and one location on the banks of the Clodiagh River. Several other developments are proposed within the local area and may occur at the same time. In the absence of mitigation, however it is possible that the proposed works in combination with larger scale developments in the adjacent area such as the proposed solar farm in Clonea Power or rock ramp fish pass in Portlaw would result on a cumulative burden on the water quality of the Clodiagh River and the Lower River Suir SAC.

The proposed solar farm development has undergone appropriate assessment, and a Natura Impact Statement (NIS) was submitted with the planning application. It stated that following appropriate mitigation measures as outlined in the NIS, there would be no impact on the Lower River Suir SAC. The proposed rock ramp fish pass has undergone appropriate assessment, and a Natura Impact Statement (NIS) was submitted with the planning application. It stated that following appropriate mitigation measures as outlined in the NIS, there would be no impact on the Lower River Suir SAC. Following the mitigation measures outlined above will prevent impacts on water quality in the Clodiagh River from the proposed constructed wetland and associated infrastructure works and avoid significant disturbance of qualifying interests that may be in proximity to the proposed works area. Following the mitigation measures will ensure there is no potential for cumulative impacts on water quality and the Lower River Suir SAC.

Following the implementation of the mitigation mentioned above, the proposed works will not result in any adverse residual impact to the qualifying interests of the Lower River Suir SAC. Operationally the new constructed wetland and associated infrastructure will result in an improvement to the existing discharge quality and wastewater treatment process which is currently not fit for purpose. The works will enable the wastewater treatment process in the area to cater for future population growth and reduce the chance of unintended operational wastewater discharges to the adjacent watercourse. This will help to ensure the protection of local and downstream water quality and adherence to the objectives of the water framework and habitats directives which will benefit the qualifying interests of the Lower River Suir SAC. Residual effects are assessed in **Table 8.1** below.

RECEIVED: 29/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

Table 8.1: Assessment of residual effects following mitigation on the screened in qualifying interests of the Lower River Suir SAC

Qualifying Interest	Potential Impacts	Mitigation Measures	Residual effect following implementation of Mitigation Measures
Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260]	Direct disturbance during instream works in the Clodiagh River Reduction in water quality in the Clodiagh River from sedimentation and construction pollutants (hydrocarbons and concrete) and from operational wastewater discharges	Required. As detailed in Section 8	Direct disturbance to this species is likely during the proposed instream works for the outfall construction in the Clodiagh River. This habitat is present in the area of proposed instream works but this is outside the SAC boundary (c.20m upstream). The instream works area will be limited to a small, semicircular area around the location of the riverbank where the new outfalls (effluent and storm) are proposed. The river will remain free flowing outside of this section. Instream works are likely to involve a sandbag/cofferdam set up with a temporarily dammed section of the river surrounding the new outfalls (effluent & storm). It is possible that a small area of *Ranuculus* habitat will be removed/and or damaged in this area. This will be temporary only during construction phase. The riverbed will be restored to its initial condition post construction works and it will be possible for *Ranuculus* to reestablish itself in this location. Removal of some vegetation on the banks will be required during the outfall construction. This will be re-established at all points where physically possible, but it is likely there will be a slight reduction in fringing habitat quality in this location for a short-term period. This may slow the re-establishment of floating river vegetation habitat in the location. This habitat exists both upstream and downstream of the instream works location in the Clodiagh and therefore there will be no contraction of range. The residual effect is expected to be a likely slight short term negative effect during construction. Present water quality status of the Clodiagh River will be maintained during construction works and operational stages by implementing the proposed mitigation measures. Operationally the new constructed wetland and associated infrastructure will result in an improvement to the existing discharge quality and wastewater treatment process which is currently not fit for purpose. The works will enable the wastewater treatment process in the area to cater for future population growth and reduce the chance of unintended operational wastewater discharges to the adjacent watercourse. This will help to ensure the protection of local and downstream water quality and adherence to the objectives of the water framework and habitats directives which will benefit this habitat. Therefore, following implementation of the mitigation measures in Section 8, there is not considered to be any adverse effects on the integrity of the Lower

RECEIVED: 20/03/2026
Waterford CCC Planning Authority - Inspection Purposes Only!

			River Suir SAC as a result of the construction and operational phases of the proposed works.
White-clawed Crayfish (*Austropotamobius pallipes*) [1092]	Direct disturbance during instream works in the Clodiagh River Indirect disturbance from construction related noise, activity and machinery Reduction in water quality in the Clodiagh River from sedimentation and construction pollutants (hydrocarbons and concrete) and from operational wastewater discharges	Required. As detailed in Section 8	Direct disturbance to this species is possible during the instream works in the Clodiagh. Instream works will take place between July-September and so will avoid sensitive breeding periods for this species. This species was recorded as present in the area of proposed instream works during surveys by RPS in 2020 but this is outside the SAC boundary (c.20m upstream). The instream works area will be limited to a small, semicircular area around the location of the riverbank where the new outfalls (effluent and storm) are proposed. The river will remain free flowing outside of this section. Instream works are likely to involve a sandbag/cofferdam set up with a temporarily dammed section of the river surrounding the new outfalls (effluent & storm). White-clawed crayfish will be trapped and transplanted (if present) under licence in this dammed area prior to dewatering and moved to a suitable habitat location upstream. This will be temporary only during construction phase. The riverbed will be restored to its initial condition post construction works and it will be possible for White-clawed crayfish to reestablish itself in this location. Suitable habitat for this species exists both upstream and downstream of the instream works location in the Clodiagh. The residual effect is expected to be a likely slight temporary negative effect during construction. Indirect disturbance effects may also be possible from construction related noise, machinery and activity in the area, however these will not be significant following implementation of the proposed mitigation measures. Works will be carried out during daylight hours. The residual effect is expected to be a likely not significant temporary negative effect during construction. Present water quality status of the Clodiagh River will be maintained during construction works and operational stages by implementing the proposed mitigation measures. Operationally the new constructed wetland and associated infrastructure will result in an improvement to the existing discharge quality and wastewater treatment process which is currently not fit for purpose. The works will enable the wastewater treatment process in the area to cater for future population growth and reduce the chance of unintended operational wastewater discharges to the adjacent watercourse. This will help to ensure the protection of local and downstream water quality and adherence to the objectives of the water framework and habitats directives which will benefit this species.

Waterford CCC Planning Authority - Inspection Purposes Only!
RECEIVED: 20/08/2026

			Therefore, following implementation of the mitigation measures in Section 8, there is not considered to be any adverse effects on the integrity of the Lower River Suir SAC as a result of the construction and operational phases of the proposed works.
Sea Lamprey (*Petromyzon marinus*) [1095]; Brook Lamprey (*Lampetra planeri*) [1096]; River Lamprey (*Lampetra fluviatilis*) [1099].	Direct disturbance during instream works in the Clodiagh River Indirect disturbance from construction related noise, activity and machinery Reduction in water quality in the Clodiagh River from sedimentation and construction pollutants (hydrocarbons and concrete) and from operational wastewater discharges	Required. As detailed in Section 8	Direct disturbance to these species is possible during the instream works in the Clodiagh. Instream works will take place between July-September and so will avoid sensitive spawning periods for these species. The area of the instream works is outside the SAC boundary (c.20m upstream). The instream works area will be limited to a small, semicircular area around the location of the riverbank where the new outfalls (effluent and storm) are proposed. The river will remain free flowing outside of this section. Instream works are likely to involve a sandbag/cofferdam set up with a temporarily dammed section of the river surrounding the new outfalls (effluent & storm). Any Lamprey species present within dammed instream works areas will be electrofished under licence prior to works commencing in the area. This will be temporary only during construction phase. The riverbed will be restored to its initial condition post construction works and it will be possible for Lamprey spp. to reestablish themselves in this location. Suitable habitat for these species exists both upstream and downstream of the instream works location in the Clodiagh. The residual effect (in the case electrofishing encounters Lamprey spp.) is expected to be a likely slight temporary negative effect during construction. Indirect disturbance effects may also be possible from construction related noise, machinery and activity in the area, however these will not be significant following implementation of the proposed mitigation measures. The residual effect is expected to be a likely not significant temporary negative effect during construction. Present water quality status of the Clodiagh River will be maintained during construction works and operational stages by implementing the proposed mitigation measures. Operationally the new constructed wetland and associated infrastructure will result in an improvement to the existing discharge quality and wastewater treatment process which is currently not fit for purpose. The works will enable the wastewater treatment process in the area to cater for future population growth and reduce the chance of unintended operational wastewater discharges to the adjacent watercourse. This will help to ensure the protection of local and downstream water quality and adherence to the objectives of the water framework and habitats directives which will benefit these species.

Waterford CCC Planning Authority - Not for Public Purposes Only!
RECEIVED: 20/09/2016

			Therefore, following implementation of the mitigation measures in Section 8, there is not considered to be any adverse effects on the integrity of the Lower River Suir SAC as a result of the construction and operational phases of the proposed works.
Twaite Shad (*Alosa fallax*) [1103]	Direct disturbance during instream works in the Clodiagh River Indirect disturbance from construction related noise, activity and machinery Reduction in water quality in the Clodiagh River from sedimentation and construction pollutants (hydrocarbons and concrete) and from operational wastewater discharges	Required. As detailed in Section 8	Direct disturbance to this species is possible during the instream works in the Clodiagh. Instream works will take place between July-September and so will avoid sensitive spawning periods for this species. The area of the instream works is outside the SAC boundary (c.20m upstream). The instream works area will be limited to a small, semicircular area around the location of the riverbank where the new outfalls (effluent and storm) are proposed. The river will remain free flowing outside of this section. Instream works are likely to involve a sandbag/cofferdam set up with a temporarily dammed section of the river surrounding the new outfalls (effluent & storm). Any Twaite Shad present within dammed instream works areas will be electrofished under licence prior to works commencing in the area. This will be temporary only during construction phase. The riverbed will be restored to its initial condition post construction works and it will be possible for Twaite Shad to reestablish itself in this location. Suitable habitat for this species exists both upstream and downstream of the instream works location in the Clodiagh. The residual effect (in the case electrofishing encounters Twaite Shad) is expected to be an unlikely slight temporary negative effect during construction. Indirect disturbance effects may also be possible from construction related noise, machinery and activity in the area, however these will not be significant following implementation of the proposed mitigation measures. The residual effect is expected to be a likely not significant temporary negative effect during construction. Present water quality status of the Clodiagh River will be maintained during construction works and operational stages by implementing the proposed mitigation measures. Operationally the new constructed wetland and associated infrastructure will result in an improvement to the existing discharge quality and wastewater treatment process which is currently not fit for purpose. The works will enable the wastewater treatment process in the area to cater for future population growth and reduce the chance of unintended operational wastewater discharges to the adjacent watercourse. This will help to ensure the protection of local and downstream water quality and adherence to the objectives of the water framework and habitats directives which will benefit this species.

Waterford CCC Planning Authority - Inspection Purposes Only!
RECEIVED: 20/03/2026

			Therefore, following implementation of the mitigation measures in Section 8, there is not considered to be any adverse effects on the integrity of the Lower River Suir SAC as a result of the construction and operational phases of the proposed works.
Salmon (*Salmo salar*) [1106]	Direct disturbance during instream works in the Clodiagh River Indirect disturbance from construction related noise, activity and machinery Reduction in water quality in the Clodiagh River from sedimentation and construction pollutants (hydrocarbons and concrete) and from operational wastewater discharges	Required. As detailed in Section 8	Direct disturbance to this species is possible during the instream works in the Clodiagh. Surveys conducted by RPS during 2020 found numerous salmonids along the entire study reach, particularly upstream of the existing discharge location at Clonea Bridge. Instream works will take place between July-September and so will avoid sensitive spawning periods for Salmon. The area of the instream works is outside the SAC boundary (c.20m upstream). The instream works area will be limited to a small, semicircular area around the location of the riverbank where the new outfalls (effluent and storm) are proposed. The river will remain free flowing outside of this section. Instream works are likely to involve a sandbag/cofferdam set up with a temporarily dammed section of the river surrounding the new outfalls (effluent & storm). Any Salmon present within dammed instream works areas will be electrofished under licence prior to works commencing in the area. This will be temporary only during construction phase. The riverbed will be restored to its initial condition post construction works and it will be possible for Salmon to reestablish themselves in this location. Suitable habitat for this species exists both upstream and downstream of the instream works location in the Clodiagh. The residual effect (in the case electrofishing encounters Salmon) is expected to be a likely slight temporary negative effect during construction. Indirect disturbance effects may also be possible from construction related noise, machinery and activity in the area, however these will not be significant following implementation of the proposed mitigation measures. The residual effect is expected to be a likely not significant temporary negative effect during construction. Present water quality status of the Clodiagh River will be maintained during construction works and operational stages by implementing the proposed mitigation measures. Operationally the new constructed wetland and associated infrastructure will result in an improvement to the existing discharge quality and wastewater treatment process which is currently not fit for purpose. The works will enable the wastewater treatment process in the area to cater for future population growth and reduce the chance of unintended operational wastewater discharges to the adjacent watercourse. This will help to ensure the protection

Waterford CCC Planning Authority - Inspection Purposes Only!
RECEIVED: 20/01/2021

			of local and downstream water quality and adherence to the objectives of the water framework and habitats directives which will benefit this species. Therefore, following implementation of the mitigation measures in Section 8, there is not considered to be any adverse effects on the integrity of the Lower River Suir SAC as a result of the construction and operational phases of the proposed works.
Otter (*Lutra lutra*) [1355]	Direct disturbance works in areas in proximity to watercourses Indirect disturbance from construction related noise, activity and machinery Reduction in water quality in the Clodiagh River from sedimentation and construction pollutants (hydrocarbons and concrete) and from operational wastewater discharges	Required. As detailed in Section 8	No otter holts were detected within 200m of the proposed working areas. Direct disturbance to this species is possible during works in close proximity to watercourses and along riparian zones if otter are commuting/foraging in the area. Otter spraints were detected along the Ballygarret 16 watercourse, and an otter couch was detected c.114 meters upstream of the proposed instream working area on the Clodiagh River during 2025 surveys. The area of the instream works is outside the SAC boundary (c.20m upstream). The instream works area will be limited to a small, semicircular area around the location of the riverbank where the new outfalls (effluent and storm) are proposed. The river will remain free flowing outside of this section. Instream works are likely to involve a sandbag/cofferdam set up with a temporarily dammed section of the river surrounding the new outfalls (effluent & storm). This will be temporary only during construction phase. The riverbed will be restored to its initial condition post construction works. Removal of some vegetation on the banks will be required during the outfall construction. This will be re-established at all points where physically possible, but it is likely there will be a slight reduction in fringing habitat quality in this location for a short-term period. The presence of numerous larger trees behind the riparian vegetation and buildings on the adjacent side of the bank will still provide a degree of shading over the riverbank. This area is already limiting passage for otter due to the existing stone wall, car park and road that bisects the Clodiagh river in this location. There is a degree of dry passage available beneath the arches of the bridge during low-moderate flows. This will not be impacted by the proposed works. The residual effect is expected to be a likely slight temporary negative effect during construction. Indirect disturbance effects may also be possible from construction related noise, machinery and activity in the area, however these will not be significant following implementation of the proposed mitigation measures. The residual effect is expected to be a likely not significant temporary negative effect during construction.

Waterford CCC Planning Authority - Inspection Purposes Only!
RECEIVED: 20/03/2026

			Present water quality status of the Clodiagh River will be maintained during construction works and operational stages by implementing the proposed mitigation measures. Operationally the new constructed wetland and associated infrastructure will result in an improvement to the existing discharge quality and wastewater treatment process which is currently not fit for purpose. The works will enable the wastewater treatment process in the area to cater for future population growth and reduce the chance of unintended operational wastewater discharges to the adjacent watercourse. This will help to ensure the protection of local and downstream water quality and adherence to the objectives of the water framework and habitats directives which will benefit this species. Therefore, following implementation of the mitigation measures in Section 8, there is not considered to be any adverse effects on the integrity of the Lower River Suir SAC as a result of the construction and operational phases of the proposed works.
Freshwater Pearl Mussel *(Margaritifera margaritifera) [1029]*	Reduction in water quality in the Clodiagh River from sedimentation and construction pollutants (hydrocarbons and concrete) and from operational wastewater discharges	Required. As detailed in Section 8	Present water quality status of the Clodiagh River will be maintained during construction works and operational stages by implementing the proposed mitigation measures. Operationally the new constructed wetland and associated infrastructure will result in an improvement to the existing discharge quality and wastewater treatment process which is currently not fit for purpose. The works will enable the wastewater treatment process in the area to cater for future population growth and reduce the chance of unintended operational wastewater discharges to the adjacent watercourse. This will help to ensure the protection of local and downstream water quality and adherence to the objectives of the water framework and habitats directives which will benefit this species. Therefore, following implementation of the mitigation measures in Section 8, there is not considered to be any adverse effects on the integrity of the Lower River Suir SAC as a result of the construction and operational phases of the proposed works.

Waterford CCC Planning Authority - Unrestricted Purposes Only!
RECEIVED: 20/02/2026

RECEIVED: 20/03/2026

9 CONCLUSION

The AA Screening found that the proposed works, on the basis of objective scientific information, individually or in combination with other plans or projects, have the potential to have a significant effect on a European site; namely Lower River Suir SAC without the implementation of mitigation measures. Potential impacts primarily related to the potential for direct and indirect disturbance to the qualifying interests during the works and an impact on water quality from the release of sedimentation, hydrocarbons and/or concrete during the construction stage or from wastewater discharges during the operational stage. Therefore, an NIS was undertaken to ascertain whether the proposed works would have an adverse effect on the qualifying interests of the Lower River Suir SAC.

Mitigation measures, as outlined within Section 8 have been identified to ensure that there will be no adverse effects on the qualifying interests and integrity of the Lower River Suir SAC.

With the full implementation of best practice construction measures and mitigation measures during the construction and operational phase, there will be no likely significant adverse effects upon the conservation objectives of the qualifying interests of the Lower River Suir SAC. There will be no adverse effects to the Lower River Suir SAC or any other European site, from the proposed project individually or in-combination with other plans and/or projects.

The provisions of Article 6 of the 'Habitats' Directive 92/43/EC (2000) defines integrity as the coherence of the sites ecological structure and function, across its whole area, or the habitats, complex of habitats and/or population of species for which the site is classified'. It is clear that, given the implementation of the required mitigation measures, the proposed works will not give rise to adverse effects on the integrity of the Lower River Suir SAC.

It has been concluded, without a reasonable scientific doubt, that the proposed works will not adversely affect the integrity of any Natura 2000 site, or its Qualifying Interests, following adherence to best practice and the aforementioned mitigation measures.

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/01/2026

10 REFERENCES

All Accessed September 2025 and November 2025

Bruen M., Rymszewicz, A., O'Sullivan, J., Turner, J., Lawler, D., Conroy, E., Kelly-Quinn, M., (2017). Sediment Flux – Measurement, Impacts, Mitigation and Implications for River Management in Ireland. (2010-W-LS-4) EPA Research Report. EPA RESEARCH PROGRAMME 2014–2020.

Brady, D.J., Meade, R., Reynolds, J.D., Vilcinskas, A. and Theissinger, K., 2024. The crayfish plague pathogen Aphanomyces astaci in Ireland. *Microorganisms*, *12*(1), p.102.

Chanin, P.R.F. (2003). Ecology of the European otter. Conserving Natura 2000 Rivers Ecology Series No. 10. English Nature, Peterborough.

DEHLG (2010). Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities. Produced by the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin.

Department of the Environmental Heritage and Local Government (2010) *Appropriate Assessment of Plans and Projects in Ireland*. Guidelines. DoEHLG. Available at: https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2009_AA_Guidance.pdf.

EPA. (2023). *EPA RIVER QUALITY SURVEYS: BIOLOGICAL*. EPA. Available at: https://epawebapp.epa.ie/qvalue/webusers/PDFS/HA24.pdf?Submit=Get+Results.

EPA. (2024a). *EPA Maps*. Available at: https://gis.epa.ie/EPAMaps/Water.

EPA. (2024b). HA 16 Suir Catchment Report, May 2024. Available at https://catchments.ie/wp-content/files/catchmentassessments/16%20Suir%20Catchment%20Summary%20WFD%20Cycle%203.pdf. Accessed January 2025.

Fossitt, J. A. (2000). A Guide to Habitats in Ireland. The Heritage Council of Ireland Series

Gilbert, G., Stanbury, A. and Lewis, L. (2021) *Birds of Conservation Concern in Ireland 4 2020 - 2026*. 4. Bird Watch Ireland. Available at: https://birdwatchireland.ie/app/uploads/2021/04/Irish-Birds-2021-BOCCI-for-web.pdf.

King, J.L., Marnell, F., Kingston, N., Rosell, R., Boylan, P., Caffrey, J.M., Fitzpatrick, Ú., Gargan, P.G., Kelly, F.L., O'Grady, M.F., Poole, R., Roche, W.K., Cassidy, D. (2011). Red Lists Ireland Red List No. 5: Amphibians, Reptiles & Freshwater Fish. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.

Lawler, D., Rymszewicz, A., Conroy, L., O'Sullivan, J., Bruen, M., Turner, M., Kelly-Quinn, M. (2017). SILTFLUX Literature Review. EPA Research Programme 2014–2020. Environmental Protection Agency, An Ghníomhaireacht Um Chaomhnú Comhshaoil PO Box 3000, Johnstown Castle, Co. Wexford, Ireland

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

Lenton, E.J., Chanin, P.R.F. & Jefferies, D.J. (1980). Otter Survey of England, 1977-79. Nature Conservancy Council, London

Lundy, M.G., Aughney, T., Montgomery, W.I., & Roche, N., (2011). Landscape conservation for Irish bats & species specific roosting characteristics. Bat Conservation Ireland.

Marine Institute, 2022. The National Crayfish Plague Surveillance Programme, Ireland – 2020-2021. Report. Available via: https://www.fishhealth.ie/fhu/sites/default/files/FHU_Files/Report%20National%20Crayfish%20Plague%20Surveillance%20Programme%202020-2021.pdf

Matson, R., Delanty, K., Gordon, P., O'Briain, R., McCarthy, E., Cierpal, D., Connor, L., Corcoran, W., Coyne, J., McLoone, P., Morrisey-McCaffrey, E., Brett, T., Gavin, A and Kelly, F.L., (2019) Sampling Fish in Rivers 2018 - Suir, Factsheet No. 7. National Research Survey Programme. Inland Fisheries Ireland.

NPWS (2017) Conservation Objectives: Lower River Suir SAC 002137. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

NPWS (2019a). The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments. Unpublished NPWS report

NPWS (2019b). The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments. Unpublished NPWS report

NPWS (2023) Site Synopsis: Lower River Suir SAC 002137. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

NRA (2009a): Ecological Surveying Techniques for Protected Flora and Fauna on National Road Developments. National Roads Authority.

NRA (2009b) *Guidelines for Assessment of Ecological Impacts of National Roads Developments*. Guidelines. National Roads Authority. Available at: https://www.tii.ie/technical-services/environment/planning/Guidelines-for-Assessment-of-Ecological-Impacts-of-National-Road-Developments.pdf..

NRA (2010) *The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads*. 1. Available at: https://www.tii.ie/technical-services/environment/construction/Management-of-Noxious-Weeds-and-Non-Native-Invasive-Plant-Species-on-National-Road-Developments.pdf.

OPR (2021) Practice Note: Appropriate Assessment Screening for Development Management. Office of the Planning Regulator Fourth Floor (West Wing), Park House, Grangegorman, 191-193A North Circular Road, Dublin 7, D07 EWV4

Reid, N., Hayden, B., Lundy, M.G., Pietravalle, S., McDonald, R.A. & Montgomery, W.I. (2013) National Otter Survey of Ireland. Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

Waterford CCC Planning Authority - Inspection Purposes Only!

RECEIVED: 20/03/2026

Rooney, S.M., O'Gorman, N.M., Greene, F., King, J.J. (2013) Aspects of brook lamprey (*Lampetra planeri* Bloch) spawning in Irish waters. Proc R Irish Acad B 113:13–2.

Ross, E.D. (2006). Initiation of a monitoring program for the freshwater pearl mussel, *Margaritifera margaritifera* (L.) in the Clodiagh River (Suir). Internal National Parks and Wildlife Service Report.

Ross, E. (2009) Survey and condition assessment of the freshwater pearl mussel, *Margaritifera margaritifera* (L.) in the Clodiagh River (Suir, Portlaw). Unpublished Report to the National Parks and Wildlife Service, DAHRRGA, Dublin.

Ross, E. (2017) Survey and condition assessment of the freshwater pearl mussel, *Margaritifera margaritifera* (L.) in the Clodiagh River (Suir, Portlaw). Unpublished Report to the National Parks and Wildlife Service, DAHRRGA, Dublin.

Uisce Éireann (2017) *Water Infrastructure Standard Details*. Technical Documentation. Úisce Eireann, p. 18. Available at: water.ie/iw-documents/help-resources/connections/Water-Standard-Details.pdf.

Waterford CCC Planning Authority - Inspection Purposes Only!