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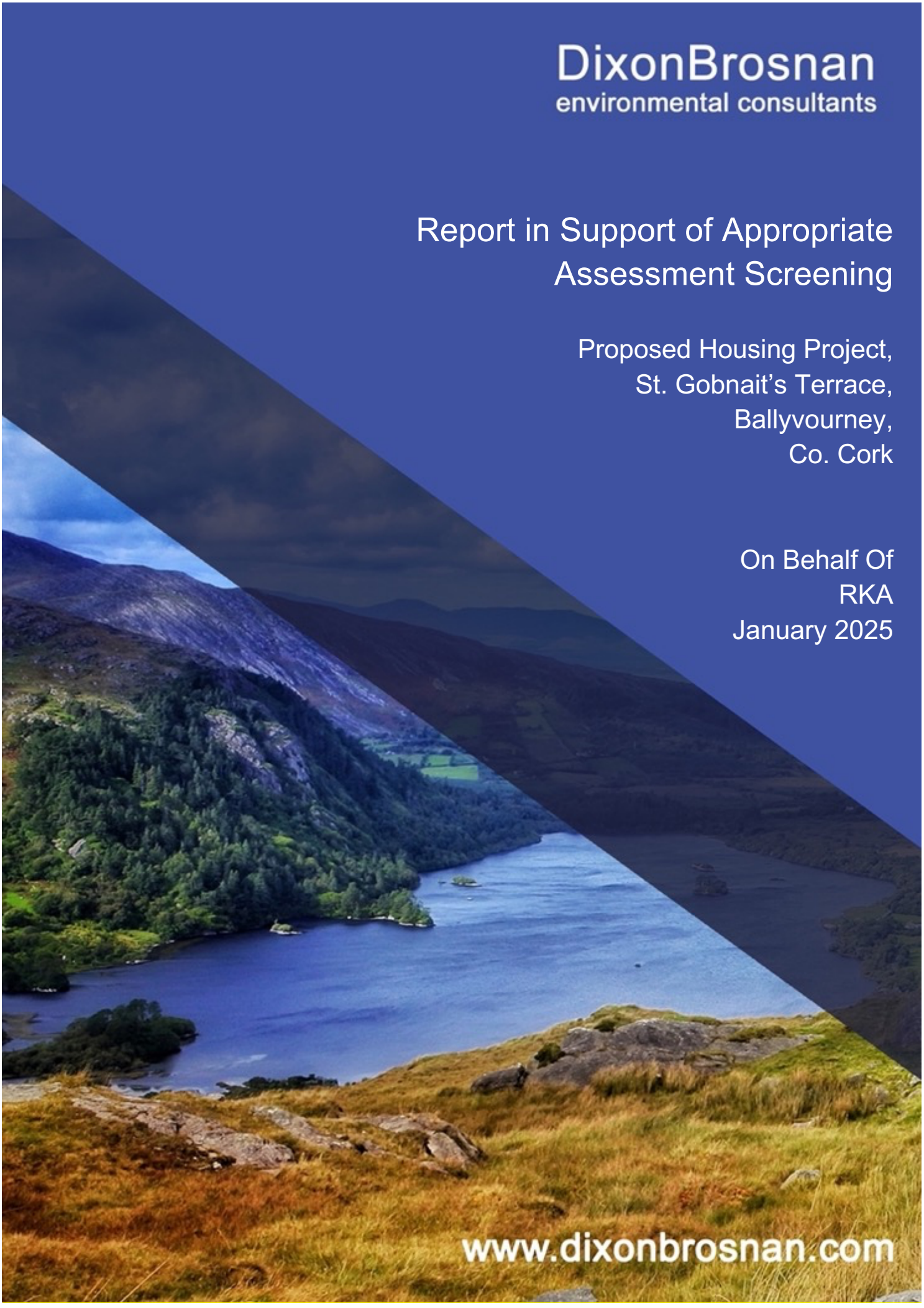
Report in Support of Appropriate Assessment Screening

Proposed Housing Project,
St. Gobnait's Terrace,
Ballyvourney,
Co. Cork

On Behalf Of
RKA
January 2025



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Project	Report in Support of Appropriate Assessment (AA) Screening for Proposed Housing Development at St. Gobnait's Terrace, Ballyvourney, Co. Cork	
Client	RKA	
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05/12/24	First Draft	Sorcha Sheehy BSc PhD
28/01/24	Issue to client	Carl Dixon BSc MSc

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1. Introduction

1.1 Background

The information in this report has been compiled by DixonBrosnan Environmental Consultants, on behalf of the applicant. It provides information on and assesses the Proposed Housing Project at St. Gobnait's Terrace, Ballyvourney, Co. Cork, to impact on any Natura 2000 sites within its zone of influence. The information in this report forms part of and should be read in conjunction with the planning application documentation being submitted to Cork County Council in connection with the application.

The Birds Directive (2009/147/EC) and the Habitats Directive (92/42/EEC) put an obligation on EU Member States to establish the Natura 2000 network of sites of highest biodiversity importance for rare and threatened habitats and species across the EU. In Ireland, the Natura 2000 network of European sites comprises Special Areas of Conservation (SACs, including candidate SACs) and Special Protection Areas (SPAs, including proposed SPAs). SACs are selected for the conservation of Annex I habitats (including priority types which are in danger of disappearance) and Annex II species (other than birds). SPAs are selected for the conservation of Annex I birds and other regularly occurring migratory birds and their habitats. The annexed habitats and species for which each site is selected correspond to the qualifying interests of the sites and from these the conservation objectives of the site are derived. The Birds and Habitats Directives set out various procedures and obligations in relation to nature conservation management in Member States in general, and of the Natura 2000 sites and their habitats and species in particular. A key protection mechanism is the requirement to consider the possible nature conservation implications of any plan or project on the Natura 2000 site network before any decision is made to allow that plan or project to proceed. Not only is every new plan or project captured by this requirement but each plan or project, when being considered for approval at any stage, must take into consideration the possible effects it may have in combination with other plans and projects when going through the process known as Appropriate Assessment (AA).

The obligation to undertake Appropriate Assessment (AA) derives from Article 6(3) and 6(4) of the Habitats Directive, and both involve a number of steps and tests that need to be applied in sequential order. Article 6(3) is concerned with the strict protection of sites, while Article 6(4) is the procedure for allowing derogation from this strict protection in certain restricted circumstances. As set out in Section 177U of the Planning and Development Act 2000 as amended, a screening for appropriate assessment of an application for consent for the development must be carried out by the competent authority to assess, in view of best scientific knowledge, if the development, individually or in combination with another plan or project is likely to have a significant effect on any European site. Each step in the assessment process precedes and provides a basis for other steps. The results at each step must be documented and recorded carefully so there is full traceability and transparency of the decisions made.

1.2 Aim of Report

The purpose of this report is to inform the AA process as required under the Habitats Directive (92/43/EEC) in instances where a plan or project may give rise to significant impacts on a Natura 2000 site. This report aims to inform the Appropriate Assessment process in

determining whether the development, both alone and in combination with other plans or projects, are likely to have a significant impact on the Natura 2000 sites in the study area, in the context of their conservation objectives and specifically on the habitats and species for which the sites have been designated.

This report has been prepared with regard to the following guidance documents, where relevant.

- *Managing Natura 2000 Sites: The Provision of Article 6 of the Habitats Directive 92/43/EEC* (European Commission (EC), 2018);
- *Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC 2021/C 437/01.(Commission notice C/2021/6913. Dated 28.10.2021).*
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodical Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission (EC), 2001);
- *Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC* (European Commission, (EC) 2007);
- *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities* (Department of Environment, Heritage and Local Government, 2010 revision);
- *Appropriate Assessment under Article 6 of the Habitats Directive; Guidance for Planning Authorities. Circular NPW 1/10 and PSSP 2/10* (Department of Environment, Heritage and Local Government, 2010);
- *Guidelines for Good Practice Appropriate Assessment of Plans under Article 6(3) Habitats Directive* (International Workshop on Assessment of Plans under the Habitats Directive, 2011
- *Practice Note PN01 Appropriate Assessment Screening for Development Management Office of the Planning Regulator* (2021) and
- *Communication from the Commission on the precautionary principle. European Commission* (2000).

1.3 Authors of Report

This report was prepared by Carl Dixon MSc. (Ecological Monitoring) and Dr. Sorcha Sheehy PhD (Ecology/Ornithology).

Carl Dixon BSc, MSc (Ecology) is a senior ecologist who has over 20 years' experience in ecological and water quality assessments with particular expertise in freshwater ecology. He also has experience in mammal surveys, invasive species surveys and ecological supervision of large-scale projects. Projects in recent years include the Waste to Energy Facility Ringaskiddy, Shannon LNG Project, supervision of the Fermoy Flood Relief Scheme, Skibbereen Flood Relief Scheme, Upgrade of Mallow WWTP Scheme, Douglas Flood Relief

Scheme, Great Island Gas Pipeline etc. He has carried out ecological surveys and prepared AA/NIS reports for a range of projects.

Sorcha Sheehy BSc, PhD (ecology/ornithology) is an experienced ecological consultant with over ten years' experience. She has worked on Screening/NIS's for a range of small and large-scale projects with particular expertise in assessing impacts on birds. Recent projects include bird risk assessments for Dublin and Cork Airports, Waste to Energy Facility Ringaskiddy and Water Storage Schemes for Irish Water.

2. Regulatory Context and Appropriate Assessment Procedure

2.1 Regulatory Context

The Habitats Directive (Council Directive 92/43/EEC on the *Conservation of Natural Habitats and of Wild Fauna and Flora*) aims to maintain or restore the favourable conservation status of habitats and species of community interest across Europe. The requirements of these directives are transposed into Irish law through the European Communities (Birds and Natural Habitats Regulations; S.I. No. 477 of 2011).

Under the Directive a network of sites of nature conservation importance have been identified by each Member State as containing specified habitats or species requiring to be maintained or returned to favourable conservation status. In Ireland the network consists of SACs and SPAs, and also candidate sites, which form the Natura 2000 network.

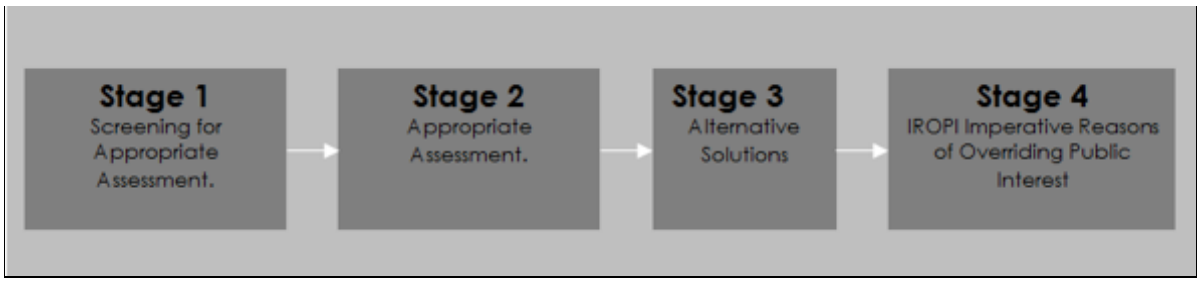
Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the *Conservation of Natural Habitats and of Wild Fauna and Flora* (as amended) (hereafter 'the Habitats Directive') requires that, any plan or project not directly connected with or necessary to the management of a designated site, but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. A competent authority (e.g. the EPA or Local Authority) can only agree to a plan or project after having determined that it will not adversely affect the integrity of the site concerned.

The possibility of a significant effect on a designated or "European" site has generated the need for an appropriate assessment to be carried out by the competent authority for the purposes of Article 6(3). A Stage Two Appropriate Assessment is required if it cannot be excluded, on the basis of objective information, that the development, individually or in combination with other plans or projects, will have a significant effect on a European site. The first (Screening) Stage for appropriate assessment operates merely to determine whether a (Stage Two) Appropriate Assessment must be undertaken on the implications of the plan or project for the conservation objectives of relevant European sites.

2.2 Appropriate Assessment Procedure

The assessment requirements of Article 6(3) establish a stage-by-stage approach. This assessment follows the stages outlined in the 2001 European Commission publications "Assessment of plans and projects significantly affecting Natura 2000 sites: methodological guidance on the provisions of Articles 6(3) and 6(4) of the Habitats Directive 92/43/EEC" (2001) and Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive

92/43/EEC (Draft) Office for Official Publications of the European Communities, Luxembourg (EC, 2015);



The stages are as follows:

Stage One: Screening — the process which identifies any appreciable impacts upon a Natura 2000 site of a project or plan, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant;

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

Stage Three: Assessment of alternative solutions: The process which examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site. It is confirmed that no reliance is placed by the developer on Stage Three in the context of this application for development consent;

Stage Four: Assessment where no alternative solutions exist and where adverse impacts remain — an assessment of compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed (it is important to note that this guidance does not deal with the assessment of imperative reasons of overriding public interest). Again, for the avoidance of doubt, it is confirmed that no reliance is placed by the developer on Stage Four in the context of this application for development consent.

It is the responsibility of the competent authority, in this instance Cork County Council, to make a decision on whether or not the application should be approved, taking into consideration any potential impact upon any Natura 2000 site within its zone of influence.

3. Proposed Development

3.1 Existing site

It is proposed that eight houses will be provided at a site at St Gobnait's Ballyvourney, Co Cork (**Figure 1**). The site is situated adjacent to an existing housing estate in St Gobnait's terrace, and to the south of the Údaras Industrial Estate, and accessed via the National Killarney to Cork Road (N22). This site is within the Ballyvourney/Ballymakeera agglomeration. To the south of the proposed development site on the other side of the N22

lies the Sullane River which flows to join the River Lee river at Macroom and to the west and south west of the site St Gobnait's woods.

The site itself is a relatively flat site, which slopes very gently northwards away from the N22. The lower southern end of the site at the N22 is 119.5m OD rising to the 121.5m OD on the northern end of the site.

Figure 1. Proposed development site location | Source OSI

Figure 2. Proposed Development Site Layout | Source Paul Redmond Architects

3.2 Proposed Development

The proposed development is located in an existing complex of residential development. The proposed development includes 8 houses, divided into a terrace of 4 houses and a separate block of 4 apartments (2 at ground floor and 2 at first floor). It is proposed to build the houses on the northern side of the site, more or less north of, and higher than, the 120.5 contour. The southern side of the site is proposed to remain as a green area.

The site is served by the access road named Gobnait**'s** Terrace, which also serves the existing residential development to the east and north east of the proposed site. The site layout is shown in **Figure 2**.

3.3 Surface Water Drainage Proposals

Based on the topographic survey and the utility survey it appears that the adjoining site to the north is served by an existing soakaway on the proposed site. It also appears that the newer part of the development on St. Gobnait Terrace is served by this existing soakaway. It is proposed to create a new soakaway which will serve the adjoining site to the north, part of existing St. Gobnait Terrace and the new proposed development.

An impermeability factor of 1.0 is used for roofs, 0.9 is used for footpaths and hard standing areas, a factor of 0.2 is used for green areas and back gardens.

- 420sqm of roofs x 1.0= 1,840sqm (x1)= 1,840sqm 1050sqm of footpaths and roads x 0.9= 3,900sqm (x0.9)= 3,510sqm 2650sqm of green area contributing x 0.2= 4,300sqm (x0.2)= 860sqm

Overall Effective Runoff = Total Impermeable area = Ap = 6,210m2 Proposed to use Infiltration Pluvial Cube system which consists of modular polypropylene units, low flow maintenance and self-cleaning channels.

Note prior to discharge to the soakaway, the rainwater runoff from the proposed overall development is proposed to go through a hydrocarbon interceptor & silt trap.

Sewers carrying domestic surface water from the proposed housing development shall have a sewer minimum sewer size of 225mm and the gradients are to achieve self-cleansing velocities.

The soakaway design in accordance with BRE365 is as follows: -

- Infiltration testing in accordance with BRE365 was carried out on the site at two locations by Priority Geotechnical. The results of the testing were variable giving infiltration co-efficients between 4.85E-05 and 2.58E-05 m/sec. The worst result from the testing is conservatively used this design. It is recommended to install a soakaway to approximately 1.8m depth on the southern side of the proposed development. The proposed soakaway is designed for a 10yr storm with 10% allowance for climate change. The proposed plan area of the soakaway is 225sqm and minimum required depth of the soakaway is 660mm, therefore a 800mm deep system is selected.

The soil infiltration rate is taken from the site testing in accordance with BRE365 undertaken by Priority Geotechnical Ltd.

It is proposed to use a pluvial cube attenuation system with 95% voids. The standard dimenions of each crate is 1000x500x400mm deep, the proposed soakaway size is 225sqm x 0.8m deep.

The proposed surface water drainage proposal includes a gravity surface water collection system which incorporates an underground drainage pipe network.

All proposed drainage works is designed to comply with and be carried out in accordance with the current edition of the Recommendations for site development works for Housing Areas published by the Department of Environment and Local Government.

Drainage works also shall comply with Irish Water/Local Authority requirements.

3.4 Foul Drainage Proposal

The new site proposal includes 8 dwellings. The utilities survey indicates a 225mm diameter PVC sewer line running through the site. It appears that this sewer line serves the development adjacent to the north of the proposed site which has 8 dwellings and a community building. It is proposed to divert this sewer line around the proposed development and connect to it. This sewer line is not indicated on Irish Water records, the sewer serving St. Gobnaits Terrace shown on IW records stops approximately 50m before the proposed development.

Sewers carrying domestic wastewater from this proposed housing development should be designed to carry a minimum wastewater volume of six times dry weather flows (6DWF).

Dry weather flows (DWF) is taken as 900 litres per dwelling (four persons per house and a per capita wastewater flow of 225 litres per head per day).

Total Dry weather flow (DWF) = 8 x 900/24/60/60 = 0.083l/s

Foul Pipe Network is designed to carry a minimum wastewater volume of six times dry weather flows (6DWF).

6 DWF = 6 x 0.083 = 0.5 l/s

Details of the proposed foul drainage layout are shown indicatively on proposed services drawing presented in **Appendix 2** of this report. It should be noted that all foul drainage works will be undertaken in accordance with Irish Water standard details and codes of practice for wastewater as required.

4. Screening

4.1 Introduction

This section contains the information required for the competent authority to undertake screening for AA for the development.

The aims of this section are to:

- Determine whether the development is directly connected with, or necessary to, the conservation management of any Natura 2000 Sites;
- Provide information on, and assess the potential for the development to significantly effect on Natura 2000 Sites (also known as European sites); and
- Determine whether the development, alone or in combination with other projects, is likely to have significant effects on Natura 2000 sites in view of their conservation objectives.

The development is not directly connected with, or necessary to the conservation management of any Natura 2000 sites.

4.2 Study Area and Scope of Appraisal

Natura 2000 sites (European sites) are only at risk from significant effects where a source-pathway-receptor link exists between a development and a Natura 2000 site(s). This can take the form of a direct impact (e.g. where the development and/or associated construction works are located within the boundary of the Natura 2000 site(s) or an indirect impact where impacts outside of the Natura 2000 site(s) affect ecological receptors within (e.g. impacts to water quality which can affect riparian habitats at a distance from the impact source).

The Zone of Influence (ZoI) comprises the area within which the proposed development may potentially affect the conservation objectives (or qualifying interests) of a Natura 2000 site. There is no recommended zone of influence, and guidance from the National Parks and Wildlife Service (NPWS) recommends that the distance should be evaluated on a case-by-case basis with reference to the nature, size and location of the project, the sensitivities of the ecological receptors, and the potential for in-combination effects (cumulative). In ecological and environmental impact assessment, for an effect to occur there must be a risk enabled by having a source (e.g. construction works at a proposed development site), a ‘receptor’ (e.g. SAC or other ecologically sensitive feature), and a pathway between the source and the

receptor (e.g. a watercourse which connects the proposed development site to the SAC, ex situ foraging habitat for SCI birds). A 'receptor' is defined as the Special Conservation Interest (SCI) of SPAs or Qualifying Interest (QI) of SACs for which conservation objectives have been set for the European sites being screened. Considering the Natura 2000 sites present in the region, their Qualifying Interests (QIs) and conservation objectives, and any potential impact pathways that could link those sites to the development area, a distance of 15km was considered appropriate to encompass all Natura 2000 sites potentially within the Zone of Influence (ZoI) of the development.

Thus, any appreciable direct, indirect or cumulative impacts which could arise from the development in relation to the designated sites within this zone were considered.

4.3 Field Study

A site walkover survey was carried out on 4th of December 2024 to identify the habitats, flora and fauna present at the site. The surveys assessed the potential for all Qualifying Interests (QIs)/ Special Conservation Interests (SCIs) of European sites and third schedule invasive species to occur within the proposed site.

4.4 Source-Pathway-Receptor Model

The likely effects of the development on any European site has been assessed using a source-pathway-receptor model, where:

A 'source' is defined as the individual element of the proposed works that has the potential to impact on a European site, its qualifying features and its conservation objectives.

A 'pathway' is defined as the means or route by which a source can affect the ecological receptor.

A 'receptor' is defined as the SCI of SPAs or QI of SACs for which conservation objectives have been set for the European sites being screened.

A source-pathway-receptor model is a standard tool used in environmental assessment. In order for an effect to be likely, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism results in no likelihood for the effect to occur. The source-pathway-receptor model was used to identify a list of European sites, and their QIs/SCIs, with potential links to European sites. These are termed as 'relevant' European sites/QIs/SCIs throughout this report.

4.5 Likely Significant Effect

The threshold for a Likely Significant Effect (LSE) is treated in the screening exercise as being above a de minimis level. The opinion of the Advocate General in CJEU case C-258/11 outlines:

"the requirement that the effect in question be 'significant' exists in order to lay down a de minimis threshold. Plans or projects that have no appreciable effect on a European site are thereby excluded.

If all plans or projects capable of having any effect whatsoever on the site were to be caught by Article 6(3), activities on or near the site would risk being impossible by reason of legislative overkill."

In this report, therefore, 'relevant' European sites are those within the potential ZoI of activities associated with the construction and operation of the development, where LSE pathways to European sites were identified through the source-pathway-receptor model.

4.6 Screening Process

The Screening for Appropriate Assessment will incorporate the following steps:

Definition of the zone of influence for the proposed works;

- Identification of the European sites that are situated (in their entirety or partially or downstream) within the zone of influence of the proposed works;
- Identification of the most up-to-date QIs and SCIs for each European site within the zone of influence;
- Identification of the environmental conditions that maintain the QIs/SCIs at the desired target of Favourable Conservation Status;
- Identification of the threats/impacts – actual or potential that could negatively impact the environmental conditions of the QIs/SCIs within the European sites;
- Highlighting the activities of the proposed works that could give rise to significant negative impacts; and
- Identification of other plans or projects, for which in-combination impacts would likely have significant effects.

4.7 Desktop Review

A desktop review facilitates the identification of the baseline ecological conditions and key ecological issues relating to Natura 2000 sites and facilitates an evaluation assessment of potential in-combination impacts. Sources of information used for this report include reports prepared for the Ballyvourney area and information from statutory and non-statutory bodies. The following sources of information and relevant documentation were utilised:

- National Parks & Wildlife Service (NPWS) - www.npws.ie
- Environmental Protection Agency (EPA) – www.epa.ie
- National Biodiversity Data Centre (NBDC)– www.biodiversityireland.ie
- *Cork County Development Plan 2022*;
- Bat Conservation Ireland – http://www.batconservationireland.org;
- Birdwatch Ireland - http://www.birdwatchireland.ie/ and
- Invasive Species Ireland - http://www.invasivespeciesireland.com/.

- *Best Practice Guidance for Habitat Survey and Mapping* (Heritage Council, 2011);
- *Guidelines for Assessment of Ecological Impacts of National Road Schemes* (National Roads Authority, 2009) and
- *Environmental Impact Assessment of Projects Guidance on the preparation of the Environmental Impact Assessment Report (Directive 2011/92/EU as amended by 2014/52/EU)* European Union, 2017.

5. Natura 2000 Sites

5.1 Designated sites within Zone of Influence

In accordance with the European Commission Methodological Guidance (EC 2018), a list of Natura 2000 sites that can be potentially affected by the development has been compiled. All SACs, candidate SAC's (cSAC) and SPAs sites within the zone of influence of the proposed development site have been identified in **Table 1** and shown in **Figure 3** and **Figure 4**.

St. Gobnet's Wood SAC is located 222m west of the proposed development site. Mullaghanish to Musheramore Mountains SPA is located 869m northwest of the proposed development site. Given the proximity of this European site, surface water runoff during the construction or operational phases could potentially impact on water quality within the St. Gobnet's Wood SAC. Noise and disturbance during the construction phase could potentially impacts on SCI species within the Mullaghanish to Musheramore Mountains SPA. Qualifying species and habitats within these sites could therefore potentially be impacted via disturbance/loss of ex situ habitat, reductions in water quality and the spread of invasive species during the construction or operational phases.

Wastewater from the site will also ultimately discharge into the Sullane River via the Ballyvourney/Ballymakeery (D0299) wastewater treatment plant (WWTP).

Therefore, a source-pathway-receptor link has been identified between the source (proposed housing development at St. Gobnait's Terrace) and the receptors (St. Gobnet's Wood SAC, Mullaghanish to Musheramore Mountains SPA) via a potential pathway (surface water runoff during construction and/or operational phases, discharges of wastewater and noise and disturbance during the construction phase). Further information on these sites is provided below. Full site synopses are included **Appendix 1**.

Given the limited scale of the proposed development and the lack of a hydrological or other potential impact pathway, no potential impact has been identified from the proposed development on any other Natura 2000 sites.

Table 1. Designated sites and their location relative to the proposed works area

Natura 2000 sites within the Zone of Influence (ZoI)	Code	Qualifying Interests/Special Conservation Interests	Distance at the closest point
Special Area of Conservation (SAC)			
St. Gobnet's Wood SAC	000106	**Habitats** 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	222m west. A potential source-pathway-receptor link has been identified between the

Natura 2000 sites within the Zone of Influence (Zol)	Code	Qualifying Interests/Special Conservation Interests	Distance at the closest point
			source (proposed development site) and the receptor (St. Gobnet's Wood SAC) via a potential pathway (impacts on water quality or spread of invasive species). Therefore, this site will be considered further in the below impact assessment.
Mullaghanish Bog SAC	001890	**Habitats** 7130 Blanket bogs (* if active bog)	4.5 km NNE. No hydrological or other connection. No pathway for impact.
Killarney National Parks SAC	000365	**Habitats** 3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) 3130 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation 4010 Northern Atlantic wet heaths with Erica tetralix 4030 European dry heaths 4060 Alpine and Boreal heaths 5130 Juniperus communis formations on heaths or calcareous grasslands 6130 Calaminarian grasslands of the Violetalia calaminariae 6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) 7130 Blanket bogs (* if active bog) 7150 Depressions on peat substrates of the Rhynchosporion 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles 91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)*	6.5 km NW. No hydrological or other connection. No pathway for impact.

Natura 2000 sites within the Zone of Influence (ZoI)	Code	Qualifying Interests/Special Conservation Interests	Distance at the closest point
		91J0 Taxus baccata woods of the British Isles* **Species** 1024 Kerry Slug *(Geomalacus maculosus)* 1029 Freshwater Pearl Mussel *(Margaritifera margaritifera)* 1065 Marsh Fritillary *(Euphydryas aurinia)* 1095 Sea Lamprey *(Petromyzon marinus)* 1096 Brook Lamprey *(Lampetra planeri)* 1099 River Lamprey *(Lampetra fluviatilis)* 1106 Salmon *(Salmo salar)* 1303 Lesser Horseshoe Bat *(Rhinolophus hipposideros)* 1355 Otter *(Lutra lutra)* 1421 Killarney Fern *(Trichomanes speciosum)* 1833 Slender Naiad *(Najas flexilis)* 5046 Killarney Shad *(Alosa fallax killarnensis)*	
The Gearagh SAC	000108	**Habitats** 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation 3270 Rivers with muddy banks with Chenopodion rubri p.p. and Bidention p.p. vegetation 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles 91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)* **Species** 1355 Otter *(Lutra lutra)*	11.1 km SE. No hydrological or other connection. Given the distance from the proposed development site and lack of a direct hydrological connection, no potential for effects on Otter have been identified. No pathway for impact.
Blackwater River (Cork/Waterford)	002170	**Habitats** 1130 Estuaries 1140 Mudflats and sandflats	10.9km N. No hydrological or other connection.

Natura 2000 sites within the Zone of Influence (ZoI)	Code	Qualifying Interests/Special Conservation Interests	Distance at the closest point
		not covered by seawater at low tide 1220 Perennial vegetation of stony banks 1310 Salicornia and other annuals colonising mud and sand 1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) 1410 Mediterranean salt meadows (Juncetalia maritimi) 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles 91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)* **Species** 1029 Freshwater Pearl Mussel *(Margaritifera margaritifera)* 1092 White-clawed Crayfish *(Austropotamobius pallipes)* 1095 Sea Lamprey *(Petromyzon marinus)* 1096 Brook Lamprey *(Lampetra planeri)* 1099 River Lamprey *(Lampetra fluviatilis)* 1103 Twaite Shad *(Alosa fallax fallax)* 1106 Salmon *(Salmo salar)* 1355 Otter *(Lutra lutra)* 1421 Killarney Fern *(Trichomanes speciosum)*	Given the distance from the proposed development site and lack of a direct hydrological connection, no potential for effects on Otter have been identified. No pathway for impact.
Special Protection Area (SPA)			
Mullaghanish to Musheramore Mountains SPA	004162	**Birds** A082 Hen Harrier *(Circus cyaneus)*	869m NW. SCI species could potentially forage within the proposed development site. Although unlikely, there is a potential

Natura 2000 sites within the Zone of Influence (ZoI)	Code	Qualifying Interests/Special Conservation Interests	Distance at the closest point
			source-pathway-receptor link between the source (proposed development site) and the receptor (Mullaghanish to Musheramore Mountains SPA) via a potential pathway (disturbance to Hen Harrier).
The Gearagh SPA	004190	**Birds** A050 Wigeon *(Anas penelope)* A052 Teal *(Anas crecca)* A053 Mallard *(Anas platyrhynchos)* A125 Coot *(Fulica atra)* **Habitats** Wetlands	11.4 m SE. No hydrological or other connection. No pathway for impact.

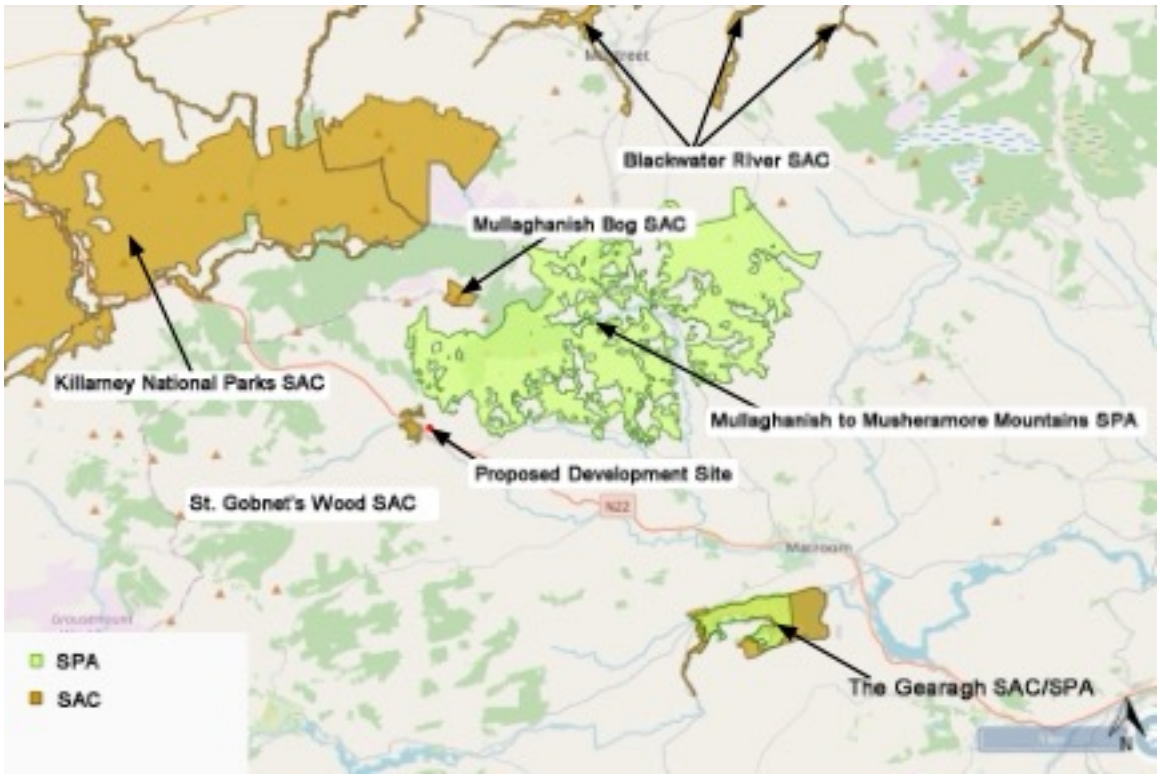


Figure 3. Natura 2000 sites in the vicinity of the proposed development site | Source: EPA Envision mapping https://gis.epa.ie/EPAMaps/) | not to scale

Figure 4. Location of St. Gobnet's Wood SAC in the vicinity of the proposed development site | Source: EPA Envision mapping https://gis.epa.ie/EPAMaps/) | not to scale

5.2 Natura 2000 Sites – Site Synopses, qualifying interests and conservation objectives

As noted above the St. Gobnet's Wood SAC (site code 000106) and Mullaghanish to Musheramore Mountains SPA (site code 004162. The full site synopses for these Natura 2000 sites are included in **Appendix 1**.

5.2.1 St Gobnet's Wood SAC

St. Gobnet's Wood SAC includes St. Gobnet's Wood itself and an area of woodland to the north, called Cascade Wood. St. Gobnet's Wood is situated on the north-east side of a hill immediately south of Ballyvourney village in Co. Cork. Cascade Wood is situated immediately to the north of Ballyvourney. Together they form a relatively large but fragmented stand of woodland. The site is important for the presence of old oak woodlands, a habitat listed on Annex I of the EU Habitats Directive, as well as a small area of alluvial woodland alongside the Sullane River.

In St. Gobnet's Wood the canopy is dominated by a mixture of birch (*Betula* sp.) and oak (*Quercus petraea, Q. robur* and *Q. x rosacea*), with abundant old Beech (*Fagus sylvatica*) and Rowan (*Sorbus aucuparia*). Ash (*Fraxinus excelsior*) and Sycamore (*Acer pseudoplatanus*) occur widely, especially on more fertile soils, and Alder (*Alnus glutinosa*) is occasional, particularly on wetter areas. The underlying rock is Old Red Sandstone and the soil is a mosaic of acidic, shallow brown earths and brown podzolics, locally skeletal, mostly well-drained but with gleys associated with impeded drainage around flushes and watercourses. There is a distinct increase in fertility downslope. The woodland stands support Kerry Slug (*Geomalacus maculosus*), a species listed in Annex II of the E.U. Habitats Directive, and parts of Cascade

Wood are known to be frequented by at least seven species of bat: Soprano and Common Pipistrelle, Brown Long-eared, Leisler's, Daubenton's, Natterer's and Whiskered/Brandt's bat.

A full site synopsis for St. Gobnet's Wood SAC is included as **Appendix 1** of this report.

5.2.2 Mullaghanish to Musheramore Mountains SPA (site code 004162)

The Mullaghanish to Musheramore Mountains SPA comprises a substantial part of the Boggeragh/Derrynasaggart Mountains in Co. Cork. It is divided roughly into two sectors by the R582 road between Macroom and Millstreet. Most of the site is over 200 m in altitude, rising to heights of 475 m in the eastern sector (Musherabeg) and 462 m in the western sector (Knockullane). The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for Hen Harrier. The site is of ornithological importance because it provides excellent nesting and foraging habitat for breeding Hen Harrier. The presence of Merlin, which is listed on Annex I of the E.U. Birds Directive is of note.

The Mullaghanish to Musheramore Mountains SPA has historically been one of the smaller populations within the SPA network, with a maximum of five pairs recorded in 2005. It has declined successively across each of the subsequent national surveys, with the 2022 estimate on pair with 2015 (one pair). Since that 2005 peak of five pairs, there has been an 80% decline in the population of hen harrier. Recent monitoring between 2017 and 2021 revealed a consistent population of only 1-2 pairs, a single year (2020) when the population peaked at five pairs (HHP, 2020) and a decline again in 2021 to three pairs (HHP, 2021). The SPA extends across six 10 km squares, but only a single 10 km contained breeding hen harrier in 2022, with an additional pair recorded beyond the SPA within a second 10 km square. The range of the species at this site has substantially reduced, with hen harrier now occupying only one part of their former range. Surveyors reported a high dependency of harriers on scrub habitats within this SPA. However, the area is frequently subjected to agricultural intensification and activities such as the removal of scrub habitats and over-grazing, are negatively affecting the suitability of breeding and foraging habitats across the SPA resulting in direct and indirect loss of habitats.

A full site synopsis for the Mullaghanish to Musheramore Mountains SPA is included as **Appendix 1** of this report.

5.4 Natura 2000 sites – Features of interests and conservation objectives.

The EU Habitats Directive contains a list of habitats (Annex I) and species (Annex II) for which SACs must be established by Member States. Similarly, the EU Birds Directive contains lists of important bird species (Annex I) and other migratory bird species for which SPAs must be established. Those that are known to occur at a site are referred to as 'qualifying interests' and are listed in the Natura 2000 forms which are lodged with the EU Commission by each Member State. A 'qualifying interest' is one of the factors (such as the species or habitat that is present) for which the site merits designation. The National Parks and Wildlife Service (NPWS) are responsible for the designation of SACs and SPAs in Ireland.

The conservation objectives for St. Gobnet's Wood SAC, Mullaghanish to Musheramore Mountains SPA are included in the following publications:

NPWS (2021) Conservation Objectives: St. Gobnet's Wood SAC 000106. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

NPWS (2022) Conservation Objectives: Mullaghanish to Musheramore Mountains SPA 004162. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network. European and national legislation places a collective obligation on Ireland and its citizens to maintain at favourable conservation status sites designated as Special Areas of Conservation and Special Protection Areas. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. Favourable conservation status of a habitat is achieved when its natural range, and area it covers within that range, is stable or increasing, and the ecological factors that 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 favourable conservation status of a species is achieved when population data on the species concerned indicate that it is maintaining itself, and the natural range of the species is neither being reduced or likely to be reduced for the foreseeable future, and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis. The species and habitats listed as qualifying interests for St. Gobnet's Wood SAC and Mullaghanish to Musheramore Mountains SPA and specific conservation objectives are included in **Tables 2** and **3**.

Table 2. Qualifying Habitats for the St. Gobnet's Wood SAC

Habitat Code	Habitat	Conservation objective
91A0	Old sessile oak woods with Ilex and Blechnum	Maintain/restore

Restore = Restore favourable conservation condition, Maintain = Maintain favourable conservation condition

Table 3. Special Conservation Interests for the Mullaghanish to Musheramore Mountains SPA

Habitat Code	Habitat	Conservation objective
A082	Hen Harrier (*Circus cyaneus)*	Maintain/restore

Restore = Restore favourable conservation condition, Maintain = Maintain favourable conservation condition

The ecological baseline for proposed development site was based on a desktop review and direct surveys of the relevant works area and areas proximate to same. This focused on

habitats and species that are listed as Qualifying Interests (QI) (in the case of SACs) and Special Conservation Interests (SCI) (in the case of SPAs) in the designations for the European sites. Surveys for habitats, mammals, birds and invasive species were undertaken within the study area.

5.5 Status of qualifying interests for St Gobnet's Wood SAC, Mullaghanish to Musheramore Mountains SPA and Cork Harbour SPA

5.5.1 Status of qualifying habitats for St Gobnet's Wood SAC

Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]

Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] is an Annex I habitat under the EU Habitats Directive. The acidophilous *Quercus petraea* woods that conform to Annex I habitat 91A0 in the interpretation manual of European Union habitats (European Commission 2007) correspond most strongly to three vegetation types within the *Quercus petraea – Luzula sylvatica* group described in the National Survey of Native Woodlands (NSNW) report (Perrin *et al.* 2008): *Rubus fruticosus – Corylus avellana* type*; Vaccinium myrtillus – Ilex aquifolium type; and Luzula sylvatica – Dryopteris dilatata* type.

An old sessile oak wood is characterised by a number of diverse elements coming together in a fully functioning system. The soil is usually acidic, often a podzol, brown earth or grey-brown podzol, and generally well drained. This supports a characteristic flora. The woodland itself is typically multilayered, well-developed sessile oak wood having a canopy, understorey, shrub, dwarf shrub, field and ground layers. A good proportion of the canopy should be composed of *Quercus petraea* or the hybrid *Quercus x rosacea*. An oak wood should be structurally diverse, that is, it should have a range of age classes, ideally including seedlings, saplings, poles, young, old and senescent trees.

Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] covers most of the 43ha site St. Gobnet's Wood SAC i.e. 41.01ha. The site has relatively large complex of oakwood developed on brown earth, brown podzolic & gleyed soils, situated on rocky slopes on either side of the Sullane River. Seepage zones, small watercourses, a narrow, rocky defile and areas of rock outcrop occur within these woodlands. Although partially degraded through the presence of exotic trees and an area of dense *Rhododendron ponticum* and *Prunus laurocerasus*, this wood is of value as a good example of old oak woodland. The site is notable for its particularly rich ground flora, including *Saxifraga spathularis*, *Euphorbia hyberna* and a range of bryophytes. It is also habitat for *Geomalacus maculosus* and foraging area for seven species of bat.

5.5.2 Status of qualifying habitats for Mullaghanish to Musheramore Mountains SPA

The Hen Harrier (*Circus cyaneus*) is a species of high conservation concern and is listed on Annex I of the EU Birds Directive. It is a scarce bird of prey that breeds throughout Europe and in the uplands of the UK and Ireland. European Hen Harriers traditionally nest in a variety of habitats, including cereals and grassland. Heather (*Calluna vulgaris*) dominated moorland currently appears to be the preferred breeding habitat of hen harriers in Britain whilst Irish hen harrier populations exhibit a preference towards nesting within pre-thicket forest habitats. The foraging habitat preferences of hen harriers are generally biased towards moorland/grassland mosaic habitats which support larger numbers of hen harrier preferred prey species, such as

Meadow Pipit (*Anthus pratensis*) and Skylark (*Alauda arvensis*). In Ireland the use of afforested habitats for foraging appears to occur more frequently than elsewhere which may be a preference or an artefact of widespread afforestation, the quality of alternative habitats and/or the differences in prey base between Ireland and Britain (and Europe) e.g. absence of short-tailed field vole (*Microtus agrestis*).

The National Hen Harrier Survey (Ruddock *et al.* 2012). estimated 128 to 172 breeding pairs were recorded within 69 10km squares. The national population appears to be stable although there were severe regional declines in the Slieve Aughties and in the Stack's, Glanarudderies, Knockanefune, Mullaghareirks, North of Abbeyfeale complex. The Northern Ireland population was estimated, in a separate survey as, 59 proven and probable territorial pairs, providing an All-Ireland estimate of 158 to 205 pairs. Irish Hen Harriers appear to forage over a greater range than Scottish birds (NPWS 2015). The NPWS (2015) in a study of Hen Harriers in the Ballyhoura Mountains, Co. Cork found the maximum distance travelled from the nest was 7.5 km for females and 11.4 km for males. This is significantly further than the estimates for Scottish breeding birds; 2.5km (female) and 9km (male) (Arroyo *et a*l. 2009). This may be due to Irish Hen Harriers breeding in forested landscapes having to forage over larger areas in order to provision their broods.

The Mullaghanish to Musheramore Mountains SPA covers an area of 4,975 ha and holds an estimated five pairs of Hen Harrier representing 2% of the Irish population. The early stage of new and second-rotation conifer plantation are the most frequently used nesting sites, though some pairs may still nest in tall heather of unplanted bogs and heath.

6. Water Quality

6.1 River Basin Management Plan for Ireland 2022-2027 (3rd Cycle)

The Water Framework Directive (WFD) sets out the environmental objectives which are required to be met through the process of river basin planning and implementation of those plans. Specific objectives are set out for surface water, groundwater and protected areas. The challenges that must be overcome in order to achieve those objectives are very significant. Therefore, a key purpose of the River Basin Management Plan (RBMP) is to set out priorities and ensure that implementation is guided by these priorities.

The EPA has published an updated draft Catchment Assessment for each of our 46 catchments. These assessments provide an overview of the situation in the catchment, draw comparison between Cycle 2 and Cycle 3, and will help support the draft River Basin Management Plan 2022-2027 public consultation process. The third cycle RBMP, which was published in July 2022, aims to build on the progress made during the second cycle. Key measures during the first cycle included the licensing of urban waste-water discharges (with an associated investment in urban waste-water treatment) and the implementation of the Nitrates Action Programme (Good Agricultural Practice Regulations). The former measure has resulted in significant progress in terms both of compliance levels and of the impact of urban wastewater on water quality. The latter provides a considerable environmental baseline which all Irish farmers must achieve and has resulted in improving trends in the level of nitrates and phosphates in rivers and groundwater. It is acknowledged, however, that sufficient progress has not been made in developing and implementing supporting measures during the first and second cycles.

Overall, RBMP assesses the quality of water in Ireland and presents detailed scientific characterisation of our water bodies. The characterisation process also takes into account wider water quality considerations, such as the special water-quality requirements of protected areas. The characterisation process identifies those water bodies that are *At Risk* of not meeting the objectives of the WFD, and the process also identifies the significant pressures causing this risk. Based on an assessment of risk and pressures, a programme of measures has been developed to address the identified pressures and work towards achieving the required objectives for water quality and protected areas. Data relating to the watercourses in the vicinity of the proposed development site are provided in **Table 4** and the location of these shown in **Figure 5.**

Table 4. River Basin Management Plan (RBMP) data

Catchment: Lee, Cork Harbour and Youghal Bay (Code 19) –			
This catchment includes the area drained by the River Lee and all streams entering tidal water in Cork Harbour and Youghal Bay and between Knockaverry and Templebreedy Battery, Co. Cork, draining a total area of 2,153km². The largest urban centre in the catchment is Cork City. The other main urban centres in this catchment are Ballincollig, Macroom, Carrigaline, Crosshaven, Blarney, Glanmire, Midleton, Carrigtohill, Cobh, Passage West and Belvelly. The total population of the catchment is approximately 328,854 with a population density of 153 people per km². **Several small coastal rivers drain the area to the southeast of Cork Harbour and the area at the eastern extreme of the catchment is drained by the Womanagh River which flows into the sea on the western side of Youghal Bay.**			
3rd Cycle Summary.			
Name	**River waterbodies Risk**	**WFD Status 2016-2021**	**Threats/Pressures**
Sullane_020	At risk	Good	Hydrological, morphological
Sullane_030	Not at risk	High	None
Sullane_040	Not at risk	High	None

Source: EPA envision mapping and www.catchments.ie

Figure 5. WFD 3rd Cycle status of waterbodies in the vicinity of the proposed development | Source: EPA Envision mapping https://gis.epa.ie/EPAMaps/) | not to scale

6.2 Urban Wastewater Treatment Directive

The Wastewater Discharge (Authorisation) Regulations 2007 (S.I. 684 of 2007) gives effect to the requirements of the Urban Wastewater Treatment Directive (Directive 91/271/EEC) and the Water Framework Directive (2000/60/EC) in Ireland. The Urban Wastewater Treatment Directive (UWWTD) lays down the requirements for the collection, treatment and discharge of urban wastewater and specifies the quality standards which must be met — based on agglomeration size — before treated wastewater is released into the environment.

The priority objective for this river basin planning cycle is to secure compliance with the Urban Wastewater Treatment Directive and to contribute to the improvement and protection of waters in keeping with the water-quality objectives established by this Plan. Achieving this objective entails addressing waste-water discharges and overflows where protected areas (i.e., designated bathing waters, shellfish waters and Freshwater Pearl-Mussel sites) or high-status waters are at risk from urban waste-water pressures.

As part of the proposed development wastewater discharging from the proposed development will be conveyed to the Ballyvourney and Ballymakeery WWTP (D0299) for treatment prior to discharging into the Sullane River.

7. Site Survey

7.1 Habitats

Habitat surveys were carried out on the 4th of December 2024 in line with the methodology outlined in the Heritage Council Publication, *Best Practice Guidance for Habitat Survey and*

Mapping (Heritage Council, 2011). The habitats within or adjacent to the proposed development site was classified using the classification scheme outlined in the Heritage council publication *A Guide to Habitats in Ireland* (Fossitt, 2000) and cross referenced with Annex I Habitats where required. Habitats recorded within the proposed development site are mapped in **Figure 6**.

The proposed development site is dominated by a mosaic of Dry meadows and grassy verge habitat GS2 and a moderately diverse Amenity grassland GA2. .Species recorded within this habitat include Creeping buttercup, Ribwort plantain, Red fescue, Nettle, Common bent, Spear thistle, Cocksfoot, Yorkshire fog, Sorrel, Self-heal, Buttercup, Rush, Ragweed, and Clover. This habitat has grown over an area of relatively infertile ground, with pockets of deeper, fertile soil where Yarrow and Knapweed are more prevalent. Five planted trees are located along the southern boundary near the road.

Scrub WS2 has developed along the northern and western boundary bordering a post and rail fence. This is dominated by Bramble, with some Couch grass and Cleavers. Buddleia was also recorded here. A small patch of scrub is also located along the southern boundary of the site, which is dominated by Willow and Bramble.

Small sections of concrete block wall (Buildings and artificial surfaces BL3) are located around the boundary of the site. Species recorded along the walls include Spleenwort, Pollypody and Willowherb.

There are no aquatic or wetland habitats within the proposed development site.

Figure 6. Habitats recorded within proposed development site

Plate 1. Scrub has developed along the boundary

Plate 2. Small patch of scrub at south of the site

Plate 3. Mosaic of moderately diverse grassland dominates the site

Plate 4. Concrete block wall along northern boundary

Plate 5. Ornamental trees along southern boundary

Plate 6. Stone wall at south of site

7.2 Mammals

No signs of mammals were noted and the habitats to be affected are generally common. There are no watercourses within or in immediate proximity to the site and the closest watercourse, the Sullane River is located approximately 222m west of the site boundary. This is separated from the site by the national route N22.

7.3 Birds

During the site survey, all birds seen or heard within the development site were recorded. The majority of birds utilising the site were common in the local landscape. Birds species listed in Annex I of the Birds Directive (2009/147/EC) are considered a conservation priority. Species recorded within the site are shown in **Table 5.**

Table 5. Bird Species recorded during site survey

Species		Birds Directive/BOCCI		
		I	Red List	Amber List
Jackdaw	Corvus monedula			
Blue tit	Cyanistes caeruleus			
Robin	Erithacus rubecula			
Starling	Sturnus vulgaris			
Hooded Crow	*Corvus cornix*			
Wren	Troglodytes troglodytes			
Rook	*Corvus frugilegus*			
Woodpigeon	*Columba palumbus*			

Overall, the proposed development site is of a local value for a small number of terrestrial bird species that are common in the Irish countryside. No habitat of value for birds listed as special conservation interests for the Mullaghanish to Musheramore Mountains SPA were recorded. There is limited nesting and foraging potential at the site.

7.4 Invasive Species

No high-risk invasive species were recorded during the site survey. In addition, no species listed under Regulations 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 were recorded. One other invasive species Buddleia, which is classified as a medium impact species by the NDBC was recorded. This species i not included in the Third Schedule of the Birds and Natural Habitats Regulations 2011 (SI 477 of 2011). Therefore, its presence at the site does not have the potential to lead to an offence under the Birds and Natural Habitats Regulations 2011 (S.I. 477 of 2011).

8. Potential Effects

Potential impacts relate to habitat loss, changes to water quality (during construction and operation), the spread of invasive species and disturbance effects during the proposed works. Based on the *Managing Natura 2000 Sites: The Provision of Article 6 of the Habitats Directive 92/43/EEC* (European Commission (EC), 2018 and CIEEM guidelines '*Guidelines for Ecological Impact Assessment*' (CIEEM, 2019) impacts are listed as significant using a combination of professional judgement and criteria or standards where available, if impacts have the potential to have a significant impact on the ecological integrity on the habitats and species for which the site is designated.

The potential impacts associated with the proposed works are discussed in the following sections with respect to their likelihood to have significant impacts on European sites.

As part of the assessment direct, indirect and in-combination impacts on all relevant QIs/SCIs were considered. Direct impacts refer to habitat loss or fragmentation arising from land-take requirements for development. Indirect and secondary impacts do not have a straight-line route between cause and effect, and it is potentially more challenging to ensure that all the possible indirect impacts of the project/plan - in combination with other plans and projects have been established.

Potential effects were identified as follows:

- Potential effects from loss of habitat.
- Potential effects from noise and disturbance
- Potential effects from surface water runoff
- Potential effects from wastewater discharges
- Potential effects from spread of invasive species
- In combination effects

8.1 Potential impacts from loss of habitat

The proposed development site is not located within any European site, the closest site St. Gobnet's Wood SAC is located 222m from the proposed development site boundary. An ecological appraisal of the proposed development site indicates that it supports common habitats which are not of high value in the context of the European designation. The habitats recorded within the proposed development boundary do not correspond to habitats listed on Annex I of the Habitats Directive.

The habitats within the development area may be utilised on occasion by common birds for feeding, however the area to be affected is not likely to be a critical feeding resource for bird species in the context of the wider landscape. No habitat of value for birds listed as special conservation interests for the Mullaghanish to Musheramore Mountains SPA i.e. Hen harrier will be affected. The proposed development will not result in any direct or indirect loss of habitat within Natura 2000 sites. Therefore, likely significant effects on European sites from loss of habitat can be screened out.

8.2 Potential impacts from noise and disturbance

Potentially increased noise and disturbance associated with the development site could cause disturbance/displacement of fauna. If of sufficient severity, there could be impacts on reproductive success. Disturbance can cause sensitive species, such as mammals and birds, to deviate from their normal, preferred behaviour, resulting in stress, increased energy expenditure and, in some cases, species mortality.

It is noted that the proposed development site is located 869m from the Mullaghanish to Musheramore Mountains SPA boundary and is located within an urban setting adjoining an existing housing development. This area is subject to noise disturbance and light pollution from neighbouring buildings. During the construction stage, there may be short-term increases in disturbance, but it will not be significant in the context of existing noise levels. There is no potential for disturbance effects within the Mullaghanish to Musheramore Mountains SPA. There are no ex-situ habitats in the vicinity of the proposed development site and therefore, no potential for ex-situ disturbance.

While the proposed development site is located is proximity to St. Gobnet's Wood SAC, there are no qualifying species for this European site and therefore, no potential for disturbance effects to the SAC.

Given the distance from European sites, the existing noise levels at the site, the absence of suitable habitat for Hen harrier (SCI for Mullaghanish to Musheramore Mountains SPA) there will be no effect on European sites due to noise and disturbance. Therefore, likely significant effects on European sites from loss of noise and disturbance can be screened out.

8.3 Potential impacts on water quality

Potential impacts on aquatic habitats which can arise from surface water emissions associated with the construction and operational phases of the proposed development include increased silt levels in surface water runoff, inadvertent spillages of hydrocarbons from fuel and hydraulic fluid.

Inadvertent spillages of hydrocarbon and/or other chemical substances during construction could introduce toxic chemicals into the aquatic environment via direct means, surface water runoff or groundwater contamination. Some hydrocarbons exhibit an affinity for sediments and thus become entrapped in deposits from which they are only released by vigorous erosion or turbulence. Oil products may contain various highly toxic substances, such as benzene, toluene, naphthenic acids and xylene which are to some extent soluble in water; these penetrate into the fish and can have a direct toxic effect. The lighter oil fractions (including kerosene, petrol, benzene, toluene and xylene) are much more toxic to fish than the heavy fractions (heavy paraffins and tars).

High levels of silt can impact on fish species, in particular salmonids. If of sufficient severity, adult fish could theoretically be affected by increased silt levels as gills may become damaged by exposure to elevated suspended solids levels. If of sufficient severity, aquatic invertebrates may be smothered by excessive deposits of silt from suspended solids. In areas of stony substrate, silt deposits may result in a change in the macro-invertebrate species composition, favouring less diverse assemblages and impacting on sensitive species. Cement can also affect fish, plant life and macroinvertebrates by altering pH levels of the water.

Aquatic plant communities may also be affected by increased siltation. Submerged plants may be stunted and photosynthesis may be reduced. Such runoff if severe could potentially impact on water quality and thus could impact on aquatic species.

Surface water runoff generated during the construction phase will discharge to the existing local-authority sewer and/or will percolate to groundwater via existing green areas and soakaway on the adjoining site.

A flood risk assessment has been carried out for the site. It is recommended that any proposed vulnerable development is done in Zone C; areas with less than 0.1% risk of flooding. To achieve this, it is recommended to have a minimum FFL in the proposed houses of 120.935m OD. The proposed floor levels of 121.5m and 121.35 OD are adequate to exceed flood levels significantly. The development of this site is taking place on the boundary of the 0.1% flood level and there is no interference with any watercourse or water pathway and it will not increase flood risk elsewhere.

During operation SuDS measures are proposed for the development in accordance with the guidance from the County Development Plan 2022 *Advice Note 1 on Surface Water management and the CIRIA SuDS Manual C753*. Surface water drainage includes a gravity fed water collection system (with underground pipes) and SuDS measures i.e. rainwater harvesting, infiltration systems and trees).

The only QI for St.Gobnet's Wood SAC i.e. 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles, which is not an water-dependent habitat and therefore no pathway for impact on this QI habitat from changes in water quality have been identified. Given the small-scale nature of the construction works and existing operational surface-water drainage no potential impacts on water quality within the Sullane River have been identified. No changes in local hydrology or hydrogeology are predicted to occur. Therefore, likely significant effects from changes in water quality (from surface water runoff during construction and operation) can be screened out.

8.4 Potential effects from Wastewater Discharges During Operation

The proposed housing development could potentially result in an increase in nutrients discharging to the Sullane River from Ballyvourney Ballymakeery WWTP (D0299-01). Increased nutrients can potentially impact on freshwater habitats by changing baseline ecological conditions and increasing algal growth.

Wastewater from the proposed development will be conveyed for treatment to Ballyvourney Ballymakeery WWTP. The Ballyvourney Ballymakeery agglomeration is served by a wastewater treatment plant with a Plant Capacity Population Equivalent (P.E.) of 2,600. The WWTP obtained a discharge licence (Reg: D0299-01) from the EPA and has assigned emission limit values (ELV's) for a range of parameters to ensure a high degree of protection to the Sullane River and surrounding waters.

Treated effluent from the proposed development will discharge from the Ballyvourney Ballymakeery WWTP via the main treated effluent line. The discharge licence assigns ELV's for chemical oxygen demand (COD), total suspended solids (TSS), biological oxygen demand (BOD), Ammonia, pH and orthophosphate. The ELVs are set based on the full design capacity (P.E. 2,600) and are aimed at providing a high degree of protection to the receiving waterbody

and to ensure the receiving waterbody is capable of accommodating the proposed discharge without causing or exacerbating a breach in the relevant standards.

It is noted that the proposed occupancy of the housing development is approximately 21.6 PE (based on 2.7 persons per dwelling). In 2023 the agglomeration PE for Ballyvourney WWTP was 675 (Base on EPA AER 2023). The proposed development would increase the current WWTP P.E. from 697 which is well within the 2,600 P.E. design capacity.

The 2023 AER notes that the final effluent from the Primary Discharge Point was non-compliant with the Emission Limit Values in 2023. The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence for the following: Ammonia-Total (as N) mg/l at is it noted that an upgrade is required to the WWTP to meet the ELV.

- The WWTP discharge was not compliant with the ELV's set in the wastewater discharge licence for the following: Ammonia-Total (as N) mg/l.
- The ambient monitoring results meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.
- Based on ambient monitoring results a deterioration in Ortho-phosphate, concentrations downstream of the effluent discharge is noted.
- A deterioration in water quality has been identified, however it is not known if it or is not caused by the WWTP.
- Other causes of deterioration in water quality in the area are unknown.
- The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

The addition of the effluent discharge from the proposed housing development to the Ballyvourney Ballymakeery WWTP is well within its design capacity and will not comprise the operational capability of the WWTP to treat effluent to comply with emission limit values. Therefore, the impacts from the proposed development will be negligible given the current operating conditions at the WWTP.

No likely significant effects on European sites from wastewater discharges during operation have been identified.

8.5 Spread of Invasive Species

No high-risk invasive species were recorded within the development site. The medium impact species Buddleia was recorded within the site. However, it is noted that the proposed development site is separated from St. Gobnet’s Wood SAC by the Sullane River and a busy regional route.

Given the limited potential for medium impact species such as Buddleia to spread over large distances and the separation of the proposed development site from the SAC, no pathway for impact has been identified.

Therefore, likely significant effects from the spread of invasive species on Eureopean sites can be screened out.

8.6 In-combination Impacts

In-combination impacts refer to a series of individually modest impacts that may in combination produce a significant impact. The underlying intention of this in combination provision is to take account of in-combination impacts from existing or proposed plans and projects and these will often only occur over time. Other developments near site and potential in-combination impacts are identified in **Table 6** In the absence of any significant impacts on qualifying interests or conservation objectives associated with this project no significant in-combination impacts have been identified.

Table 6. Other developments near site and potential in-combination impacts

Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Impact
River Basin Management Plan 2022-2027	The project should comply with the environmental objectives of the Irish RBMP which are to be achieved generally by 2027. Ensure full compliance with relevant EU legislation Prevent deterioration Meeting the objectives for designated protected areas Protect high status waters Implement targeted actions and pilot schemes in focus sub-catchments aimed at: targeting water bodies close to meeting their objective and addressing more complex issues which will build knowledge for the third cycle.	The implementation and compliance with key environmental policies, issues and objectives of this management plan will result in positive in-combination effects to European sites. The implementation of this plan will have a positive impact for the biodiversity. It will not contribute to in-combination or cumulative impacts with the proposed development.
Inland Fisheries Ireland Corporate Plan 2021-2025	To ensure that Ireland's fish populations are managed and protected to ensure their conservation status remains favourable. That they provide a basis for a sustainable world class recreational angling product, and that pristine aquatic habitats are also enjoyed for other recreational uses. To develop and improve fish habitats and ensure that the conditions required for fish populations to thrive are sustained and protected. To grow the number of anglers and ensure the needs of IFI's other key stakeholders are being met in a sustainable conservation focused manner. EU (Quality of Salmonid Waters) Regulations 1988. All works during development and operation of the project must aim to conserve fish and other species of fauna and flora habitat; biodiversity of inland fisheries and ecosystems and protect spawning salmon and trout.	The implementation and compliance with key environmental issues and objectives of this corporate plan will result in positive on-combination effects to European sites. The implementation of this corporate plan will have a positive impact for biodiversity of inland fisheries and ecosystems. It will not contribute to in-combination or cumulative impacts with the proposed works.
Irish Water Capital	Proposals to upgrade and secure water services and water treatment services countrywide.	Likely net positive impact due to water conservation and more effective treatment of water.

Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Impact
Investment Plan 2014-2016		
Water Services Strategic Plan (WSSP, 2015)	Irish Water has prepared a Water Services Strategic Plan (WSSP, 2015), under Section 33 of the Water Service No. 2 Act of 2013 to address the delivery of strategic objectives which will contribute towards improved water quality and biodiversity requirements through reducing: Habitat loss and disturbance from new / upgraded infrastructure; Species disturbance; Changes to water quality or quantity; and Nutrient enrichment /eutrophication.	The WSSP forms the highest tier of asset management plans (Tier 1) which Irish Water prepare and it sets the overarching framework for subsequent detailed implementation plans (Tier 2) and water services projects (Tier 3). The WSSP also sets out the strategic objectives against which the Irish Water Capital Investment Programme is developed. The current version of the CAP outlines the proposals for capital expenditure in terms of upgrades and new builds within the Irish Water owned assets. No long-term in-combination effect on Natura 2000 sites will occur.
NPWS Conservation Management Plans	Conservation Management Plans have not been fully prepared for the European sites being assessed. However, conservation objectives are set for all sites.	The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site. The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level. The resultant effects of conservation objectives are a net positive and there is no potential for in combination effects on European sites.
WWTP discharges into Cork Harbour	A number of agglomerations discharge into Cork Harbour including Cork City WWTP, Ballincollig (via River Lee) Carrigtohill and Environs WWTP.	Discharges from municipal WWTPs are required to meet water quality standards. Irish Water Capital Investment Plan proposes to upgrade water treatment services countrywide

Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Impact
		(see above). No long-term in-combination effect on Natura 2000 sites will occur.
Other developments in the vicinity	A search of developments for Ballyvourney in the previous 24 month period (December 2024) was carried out. The following developments were noted. 234202 The retention of a single storey extension to the northern side of the existing dwelling house and a two-storey granny flat extension to the east of the existing dwelling house. Cedarwood Lodge, Flats, Ballymakeera, Macroom, Co.Cork 244800. Permission for the demolition of a 125m2 two-classrooms single storey building, an outdoor covered walkway and a 50m2 shed, the removal of a fuel tank and a gas tank, the refurbishment of the existing school buildings, including the provision of new openings on existing facades, remedial works to existing external access ramp and steps, for provision of a new Part M compliant access, and the construction of a new 2-storey stand-alone extension to the existing school building comprising of 2 no. general classrooms, 9 no. specialist teaching rooms, administrative office, staff room and a PE hall, associated ancillary facilities, together with associated siteworks, including a new outdoor covered walkway, new outdoor social spaces, external paths, pavements, car parking and set-down areas, 2 new fenced ballcourts and new enclosures comprising 2 no. heat pump external units and a new gas tank. Permission for retention for a 3.5m2 extension to the existing school building to form a new UA WC and shower. Coláiste Ghobnatan, Flats, Baile Mhic Íre, Co Cork 244830 1) Demolition of existing single-storey garage at the side elevation, 2) Construction of a single-storey extension to the rear, 3) Internal alterations to existing bungalow and all ancillary site works. Flats, Ballymakeery, Co.Cork,	Future developments will only be granted permission where discharges from same meet with relevant water quality standards. Given the nature, extent and scale of the proposed project, it is not anticipated that it will act in-combination with the plans or projects outlined, or other plans or projects, to give rise to in-combination impacts within European sites

In the absence of any significant impact associated with this project no in-combination impacts on water quality have been identified. Similarly, no significant in-combination impacts in relation to noise and disturbance have been identified. No other significant in-combination impacts have been identified. There are no projects which could have a potential significant in-combination effect along with the proposed development.

Given the nature, extent and scale of the proposed project, it is not anticipated that it will act in-combination with the plans or projects outlined, or other plans or projects, to give rise to in-combination impacts on any European site.

9. Screening conclusion and statement

This AA screening report has been prepared to assess whether the development, individually or in-combination with other plans or projects, and in view of best scientific knowledge, is likely to have a significant effect on any European site(s).

The screening exercise was completed in compliance with the relevant European Commission guidance, national guidance, and case law. The potential impacts of the development have been considered in the context of the European sites potentially affected, their qualifying interests or special conservation interests, and their conservation objectives.

Through an assessment of the source-pathway-receptor model, which considered the ZoI of effects from the development and the potential in-combination effects with other plans or projects, the following findings were reported:

The development site at St. Gobnait's Terrace, Ballyvourney, Co. Cork, either alone or in-combination with other plans and/or projects, does not have the potential to significantly affect any European Site, in light of their conservation objectives.

Therefore, a Stage 2 Appropriate Assessment is deemed not to be required.

References

Environmental Protection Agency Ireland (http://www.epa.ie/). Accessed 03/12/24

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 2020 – 2026". Irish Birds 43: 1-22

Invasive species Ireland. http://invasivespeciesireland.com/. Accessed 03/12/24

Kelly, J., O'Flynn, C. and Maguire, C. (2013). Risk analysis and prioritisation. For invasive and non-native species in Ireland and Northern Ireland. Prepared for: The Northern Ireland Environment Agency and the National Parks and Wildlife Service As part of: Invasive Species Ireland

National Biodiversity Data Centre (http://www.biodiversityireland.ie/) Accessed 03/12/24

Appendices

Appendix 1 Site synopses

Site Name: St. Gobnet's Wood SAC

Site Code: 000106

St. Gobnet's Wood SAC includes St. Gobnet's Wood itself and an area of woodland to the north, called Cascade Wood. St. Gobnet's Wood is situated on the north-east side of a hill immediately south of Ballyvourney village in Co. Cork. Cascade Wood is situated immediately to the north of Ballyvourney. Together they form a relatively large but fragmented stand of woodland. The site supports old oak woodland, as well as a small area of alluvial woodland alongside the Sullane River. The underlying rock is Old Red Sandstone and the soil is a mosaic of acidic, shallow brown earths and brown podzolics, locally skeletal, mostly well-drained but with gleys associated with impeded drainage around flushes and watercourses. There is a distinct increase in fertility downslope.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[91A0] Old Oak Woodlands

In St. Gobnet's Wood the canopy is dominated by a mixture of birch (*Betula* sp.) and oak (*Quercus petraea, Q. robur* and *Q. x rosacea*), with abundant old Beech (*Fagus sylvatica*) and Rowan (*Sorbus aucuparia*). Ash (*Fraxinus excelsior*) and Sycamore (*Acer pseudoplatanus*) occur widely, especially on more fertile soils, and Alder (*Alnus glutinosa*) is occasional, particularly on wetter areas. The trees vary in height from 14 m to 17 m or more in height, although a few old Scots Pine (*Pinus sylvestris*) and fir (*Abies* sp.) occur as emergents. Coppicing has clearly occurred in the past and there are some very large oak and birch stools.

The shrub layer consists mainly of Hazel (*Corylus avellana*), Rusty Willow (*Salix cinerea* subsp. *oleifolia*), Holly (*Ilex aquifolium*), Hawthorn (*Crataegus monogyna*), along with regeneration of the canopy tree species, especially Ash, and locally oak and Rowan. There are also a few Rhododendron (*Rhododendron ponticum*) and Cherry Laurel (*Prunus laurocerasus*) bushes. There is a patchy dwarf shrub layer of Bilberry (*Vaccinium myrtillus*).

The herb layer is species-rich, although Bluebell (*Hyacinthoides non-scripta*), Great Wood-rush (*Luzula sylvatica*) and Bramble (*Rubus fruticosus* agg.) in mosaic tend to dominate. Wood Anemone (*Anemone nemorosa*) is locally frequent. Other species include St. Patrick's-cabbage (*Saxifraga spathularis*) on rock outcrops, Herb-Robert
(*Geranium robertianum*), Cleavers (*Galium aparine*), Yorkshire-fog (*Holcus lanatus*),
Wood-sorrel (*Oxalis acetosella*), Enchanter's-nightshade (*Circaea lutetiana*),

Honeysuckle (*Lonicera periclymenum*), Ivy (*Hedera helix*), Common Dog-violet (*Viola riviniana*) and Irish Spurge (*Euphorbia hyberna*). Ivy is common, both in the field layer and as a liane. Ferns include Lady-fern (*Athyrium filix-femina*), Hard fern (*Blechnum spicant*), Scaly Male-fern (*Dryopteris affinis*), Hay-scented Buckler-fern (*D. aemula*), Broad Buckler-fern (*D. dilatata*) and Tonbridge Filmy-fern (*Hymenophyllum tunbridgense*) on rocks, Polypody (*Polypodium vulgare*) both on the ground and as an epiphyte, and Bracken (*Pteridium aquilinum*). Wet areas are characterised by the local abundance of Meadowsweet (*Filipendula ulmaria*), with Lesser Spearwort (*Ranunculus flammula*), Creeping Buttercup (*R. repens*) and Golden-saxifrage (*Chrysosplenium oppositifolium*). The ground layer is rich in bryophytes, with species such as *Dicranum majus, D. scoparium, Hylocomium brevirostre, Isothecium myosuroides, Polytrichum formosum, Rhytidiadelphus triquetrus, Thuidium tamariscinum, Diplophyllum albicans, Pellia epiphylla* and *Scapania gracilis.* The bog moss *Sphagnum* cf. *quinquefarium* occurs in wet sites.

At the bottom of the hill on the northern edge of the wood is an area of alluvial woodland containing old river channels and hollows. A stand of planted young oak and Ash dominate here with Alder and willow in the

depressions. Large spreading Oaks occur on the margins. The field layer is characterised by species of wet ground such as Remote Sedge (*Carex remota*), Meadowsweet, Creeping Buttercup, Water Mint (*Mentha aquatica*) and Creeping Bent (*Agrostis stolonifera*). An area of wet meadow occurs near the car park, with Common Bent (*A. capillaris*), Bracken and Bramble. At the top of the hill, two fields are being invaded by birch and Gorse (*Ulex europaea*) scrub.

Throughout the wood there is a large amount of dead, wind-thrown and fallen timber. The wood is largely ungrazed, or only very lightly grazed, although signs of deer are present in the upper parts of the wood.

The main body of the woodland conforms to the phytosociological unit *BlechnoQuercetum* sub-association *coryletosum,* while the alluvial woodland is probably close to the *Corylo-Fraxinetum deschampsietosum,* with small pockets of *Carici remotaeFraxinetum*, although this needs confirmation.

Cascade Wood is divided into two sections by a minor road. The eastern section, which is the largest, is an undulating, rocky site with several paths and tracks running through it. The Bohill River skirts the northern edge before flowing through an impressive, narrow defile that divides the wood into two unequal-sized sections. Several houses and gardens have been developed within the wood on both the western and eastern edges. The western section lies on a rocky slope containing numerous springs and seepage areas. As the two sections are very different in character they are described separately.

At Cascade Wood East the canopy consists of an intimate mixture of old Beech, oak (*Quercus robur* and *Q. x rosacea*) and Sycamore. Occasional clumps and individuals of old conifers - Scots Pine, Norway Spruce (*Picea abies*) and firs - emerge above this layer. Birch is common, locally forming almost pure stands, especially towards the western side of the wood. The shrub layer is dominated by dense thickets of Rhododendron and Cherry Laurel, up to 6 m or more in height. Native species, such as Hazel, Holly and Hawthorn are only occasional and chiefly confined to the vicinity of the river where the Rhododendron is more or less absent.

As a consequence of the dense shade cast by the Rhododendron and Cherry Laurel the herb layer is very poorly developed or absent over extensive areas. Like the shrubs, most of the species are confined to a narrow strip alongside the river before it enters the gorge, in the occasional light gaps and along the tracks where there is a certain amount of disturbance. Amongst these are elements typical of woods of the south-west that are also found in St. Gobnet's Wood, including Irish Spurge, St. Patrick's-cabbage and Tonbridge Filmy-fern. The stand of Birch towards the western side partly occurs on old cultivation ridges and is accompanied by Gorse, Heather (*Calluna vulgaris*), Bracken and Purple Moor-grass (*Molinia caerulea*). This area is shown as rough grazing on the O.S.I. six-inch map and is clearly reverting to woodland.

The moss layer is also poorly developed, except on relatively well-lit rock outcrops. Epiphytes are locally abundant, especially near the river, where there are pendulous curtains of mosses in places, a feature of extremely moist and sheltered areas. A recent survey of lichens found over 90 species to be present. There is a considerable amount of dead and fallen timber.

The remnants of the native vegetation here suggest that the wood was originally an example of acid Oak woodland within the phytosociological category *BlechnoQuercetum*.

Cascade Wood West is very different in structure and species composition, consisting of a mosaic of wet and dry stands. An area in the centre has been felled recently. The wet areas, influenced by seepages and small springs, are open and relatively light. Alder dominates with scattered Oak, Ash and Birch. The herb layer is grassy, being dominated by bent grasses (*A. capillaris* and *A. stolonifera*) and Creeping Buttercup with prominent clumps of Lady-fern. The drier areas are dominated by Oak, with occasional Alder, Ash and Rowan. Under the heavier shade the herb layer is poorly developed, the most common species being Common Bent, Foxglove (*Digitalis purpurea*), ferns (mostly Broad Buckler-fern and Lady-fern) and Woodsorrel. Throughout the wood the shrub layer is very poorly developed, with Holly the principal species. The moss layer is well developed, especially on rock outcrops, although in general epiphytes are less abundant than in the eastern section.

In the north-east corner of the wood there is a relatively young stand of Alder and Willow on very wet soil. Associated species include rushes (*Juncus* spp.), Marsh Violet (*Viola palustris*), Lesser Spearwort and abundant *Sphagnum* mosses.

Many of the Alders and some Oak are multi-stemmed, indicating past felling or coppicing. A number of trees, especially Holly, show signs of damage from bark stripping and there are numerous dead and moribund stems. This is undoubtedly a result of past heavy grazing pressure and the sparsely developed herb and shrub layers indicate continued heavy grazing; there were signs of recent cattle grazing in the northern part of the wood. Unlike the eastern section, however, Rhododendron is almost absent and Beech and Sycamore are far less prominent.

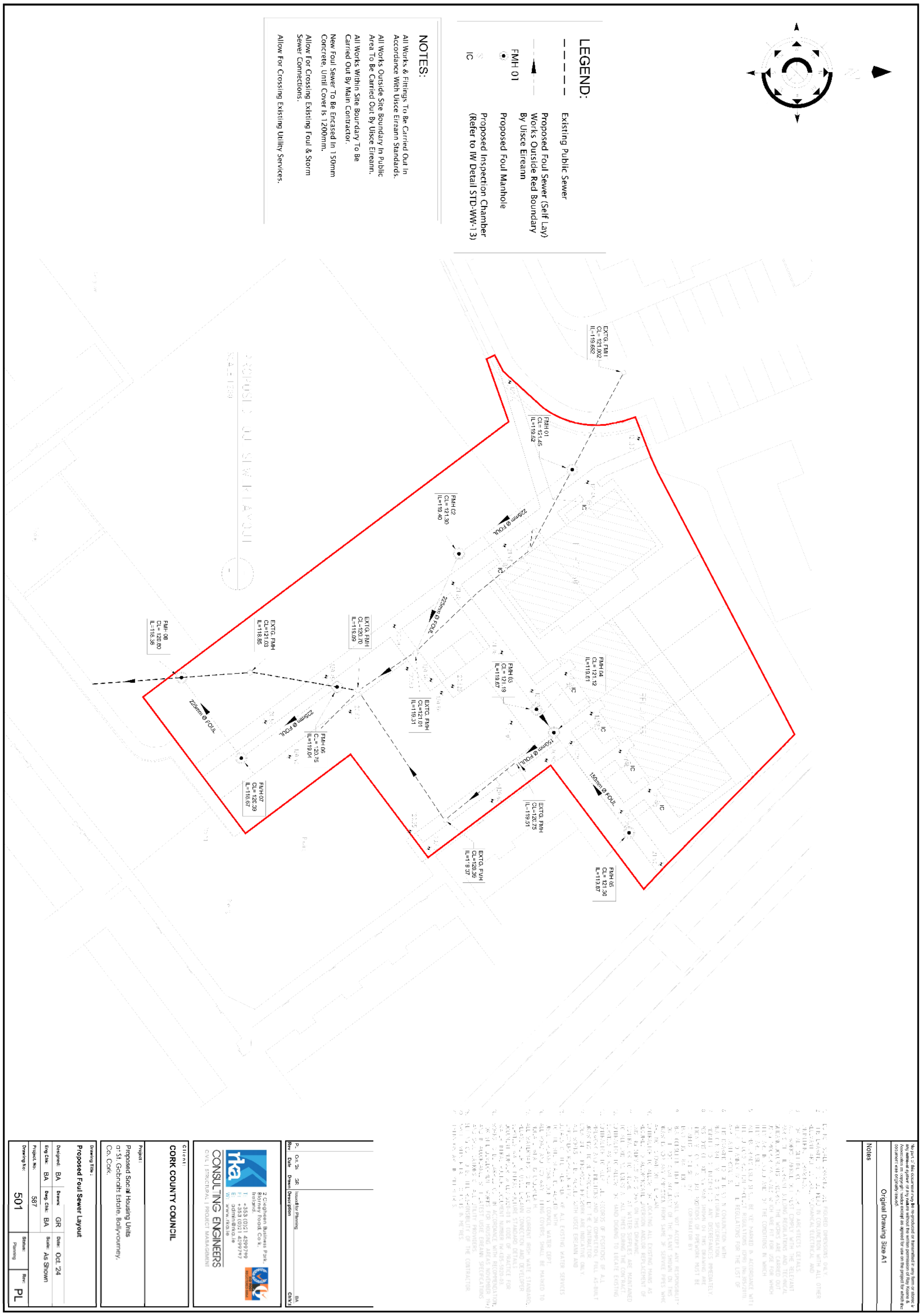
The vegetation on the drier sites falls into the acid Oak woodland category *BlechnoQuercetum* subassociation *coryletosum*; that on the wetter sites is harder to classify but it would appear to be closest to the association *Carici-remotae-Fraxinetum*.

The woodland stands support Kerry Slug (*Geomalacus maculosus*), a species listed in Annex II of the E.U. Habitats Directive, and parts of Cascade Wood are known to be frequented by at least seven species of bat: Soprano and Common Pipistrelle, Brown Long-eared, Leisler's, Daubenton's, Natterer's and Whiskered/Brandt's bat.

St. Gobnet's Wood is a good example of a native woodland typical of the south-west. It contains old oak woodlands, a habitat listed on the E.U. Habitats Directive, and also supports rich herb, bryophyte and lichen communities.

SITE NAME: MULLAGHANISH TO MUSHERAMORE MOUNTAINS SPA
SITE CODE: 004162
The Mullaghanish to Musheramore Mountains SPA comprises a substantial part of the Boggeragh/Derrynasaggart Mountains in Co. Cork. It is divided roughly into two sectors by the R582 road between Macroom and Millstreet. Most of the site is over 200 m in altitude, rising to heights of 475 m in the eastern sector (Musherabeg) and 462 m in the western sector (Knockullane). Several important rivers rise within the site, notably the Foherish and Awboy. The site is underlain by Old Red Sandstone.
The site consists of a variety of upland habitats, though approximately one-third is afforested. The coniferous forests include first and second rotation plantations, with both pre-thicket and post-thicket stands present. The principal tree species present are Sitka Spruce (Picea sitchensis) and Lodgepole Pine (Pinus contorta). Almost one-third of the site is unplanted blanket bog and heath, with both wet and dry heaths present. The vegetation is characterised by such species as Ling Heather (Calluna vulgaris), Cross-leaved Heath (Erica tetralix), Bilberry (Vaccinium myrtillus), Common Cottongrass (Eriophorum angustifolium), Deergrass (Scirpus cespitosus) and Purple Moor-grass (Molinia caerulea).
The remainder of the site is mostly rough grassland that is used for hill farming. This varies in composition and includes some wet areas with rushes (Juncus spp.) and some areas subject to scrub encroachment.
The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for Hen Harrier.
This site is a stronghold for Hen Harrier. A survey in 2005 recorded 5 pairs, which represents over 2% of the all-Ireland total. A similar number had been recorded in the 1998-2000 period. The mix of forestry and open areas provides optimum habitat conditions for this rare bird, which is listed on Annex I of the E.U. Bird s Directive.
The early stages of new and second-rotation conifer plantations are the most frequently used nesting sites, though some pairs may still nest in tall heather of unplanted bogs and heath. Hen Harriers will forage up to c. 5 km from the nest site, utilising open bog and moorland, young conifer plantations and hill farmland that is not too rank. Birds will often forage in openings and gaps within forests. In Ireland, small birds and small mammals appear to be the most frequently taken prey. The site also supports a breeding population of Merlin. The population size is not well known but is likely to be one or two pairs.
The site is of ornithological importance because it provides excellent nesting and foraging habitat for breeding Hen Harrier. The presence of two species, Hen Harrier, and Merlin, which are listed on Annex I of the E.U. Birds Directive is of note.

Appendix 2. Site drawings


LEGEND:
Existing Public Sewer
Proposed Foul Sewer (Self Lay) Works Outside Red Boundary By Uisce Eireann
FMH 01
Proposed Foul Manhole
IC
Proposed Inspection Chamber (Refer to IW Detail STD-WW-13)
NOTES:
All Works & Fittings To Be Carried Out In Accordance With Uisce Eireann Standards.
All Works Outside Site Boundary In Public Area To Be Carried Out By Uisce Eireann.
All Works Within Site Boundary To Be Carried Out By Main Contractor.
New Foul Sewer To Be Encased In 150mm Concrete, Until Cover Is 1200mm.
Allow For Crossing Existing Foul & Storm Sewer Connections.
Allow For Crossing Existing Utility Services.
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FMH 01 CL= 121.45 IL=119.62
FMH 02 CL= 121.30 IL=119.40
FMH 03 CL= 121.19 IL=119.67
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EXTG. FMH CL=121.03 IL=118.85
FMH 08 CL= 120.80 IL=118.38
225mm Ø FOUL
150mm Ø FOUL
Original Drawing Size A1
Notes
Issued for Planning
Rev Date Drawn Description Chk'd
2 Cleghsen Business Park, Blarney Road, Cork, Ireland.
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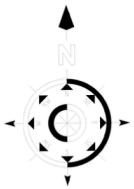
W: www.rka.ie
rka CONSULTING ENGINEERS
CIVIL | STRUCTURAL | PROJECT MANAGEMENT
Client: CORK COUNTY COUNCIL
Project: Proposed Social Housing Units at St. Gobnaits Estate, Ballyvourney, Co. Cork.
Drawing Title: Proposed Foul Sewer Layout
Designed: BA Drawn: GR Date: Oct. '24
Eng Chk: BA Dwg. Chk: BA Scale: As Shown
Project. No: 587
Drawing No: 501 Status: Planning Rev: PL

Original Drawing Size A1

Notes

1. DO NOT SCALE DRAWING, USE FIGURED DIMENSIONS ONLY.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECTURAL, MECHANICAL, ELECTRICAL AND ENGINEERING DRAWINGS.
3. FOR ALL SETTING OUT, REFER TO ARCHITECTS DETAILS.
4. ALL WORKS CARRIED OUT MUST COMPLY WITH THE RELEVANT PARTS OF THE CURRENT BUILDING REGULATIONS AND TECHNICAL GUIDANCE DOCUMENTS, ENSURE THE WORKS ARE CARRIED OUT USING PROPER MATERIALS WHICH ARE FIT FOR USE FOR WHICH THEY ARE INTENDED AND FOR THE CONDITIONS IN WHICH THEY ARE USED.
5. ALL MATERIALS USED SHALL BE CE MARKED IN ACCORDANCE WITH THE EU CONSTRUCTION PRODUCT REGULATIONS (CPR) (No.305/2011). REFER TO ANNEX IV OF THE REGULATIONS FOR THE LIST OF APPLICABLE PRODUCTS.
6. THIS DRAWING TO BE READ IN CONJUNCTION WITH RKA GENERAL CIVIL & STRUCTURAL SPECIFICATION.
7. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES IMMEDIATELY.
8. POSITIONS OF EXISTING MAINS SHOWN ON THIS DRAWING ARE INDICATIVE ONLY. ACTUAL POSITIONS OF PIPEWORK MUST BE ESTABLISHED ON SITE BY THE CONTRACTOR BY HAND DIG TRIAL HOLES.
9. RKA CONSULTING ENGINEERS WILL NOT ACCEPT ANY RESPONSIBILITY FOR THE POSITIONAL ACCURACY OF THE UTILITIES SHOWN ON THIS DRAWING NOR ANY OMISSION FROM SAME, OR SERVICES NOT WHICH ARE NOT SHOWN ON THE PLAN.
10. CONTRACTOR TO ALLOW FOR LOCATING ALL EXISTING MAINS AS REQUIRED TO ACCOMMODATE DIVERSION AND/OR REPLACEMENT OF EXISTING SERVICES AS SHOWN ON THIS DRAWING.
11. CONTRACTOR TO ENSURE THAT WATER SUPPLIES ARE MAINTAINED TO ALL EXISTING USERS AT ALL TIMES DURING THE CONTRACT.
12. CONTRACTOR TO ALLOW FOR HAND DIGGING TO LOCATE EXISTING SERVICES AS REQUIRED.
13. CONTRACTOR TO KEEP FULL RECORDS OF LOCATIONS OF ALL PIPEWORK AND CONNECTIONS ARE ON COMPLETION. FULL AS BUILT DRAWINGS TO BE PRODUCED BY THE CONTRACTOR.
14. LOCATION OF PROPOSED PIPEWORK ARE INDICATIVE ONLY. ALL WORKS TO BE AGREED WITH UISCE EIREANN AND EMPLOYERS REPRESENTATIVE.
15. DETAILS OF THE TREATMENT OF ALL EXISTING WATER SERVICES TO THE SITE SHALL BE AGREED WITH UISCE EIREANN/ CORK COUNTY COUNCIL WATER DEPT.
16. ALL ROAD AND FOOTWAY WITH ANY COVERS, SHALL BE MARKED TO INDICATE WHAT IS UNDERNEATH.
17. ALL WATERMAINS TO BE LAID TO CURRENT IRISH WATER STANDARDS. PLEASE REFER TO UISCE EIREANN CONNECTION AND DEVELOPER SERVICES WATER INFRASTRUCTURE STANDARD IN THE FORM OF DOCUMENT NUMBER IW-CDS-5020-01 & CDS-5030-04 WATER INFRASTRUCTURE DOCUMENT NUMBER IW-CDS-5020-04.
18. WORKS TO BE CARRIED OUT IN ACCORDANCE WITH RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS NOVEMBER 1998 AND IN ACCORDANCE WITH LATEST UISCE EIREANN SPECIFICATIONS AND SPECIFICATIONS OF ALL UTILITY PROVIDERS.
19. SETTING OUT TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
20. SPOT LEVELS RELATE TO UNITS IN METRES.
21. DIMENSIONS ARE IN MILLIMETRES.



LEGEND:

- Existing Storm Sewer
- Proposed Storm Sewer
- SMH 01 — Proposed Storm Manhole
- Proposed Bypass Seperator (See Note 'A')

NOTES:

All Works Outside Site Boundary In Public Area To Be Carried Out By Main Contractor.

All Works Within Site Boundary To Be Carried Out By Main Contractor.

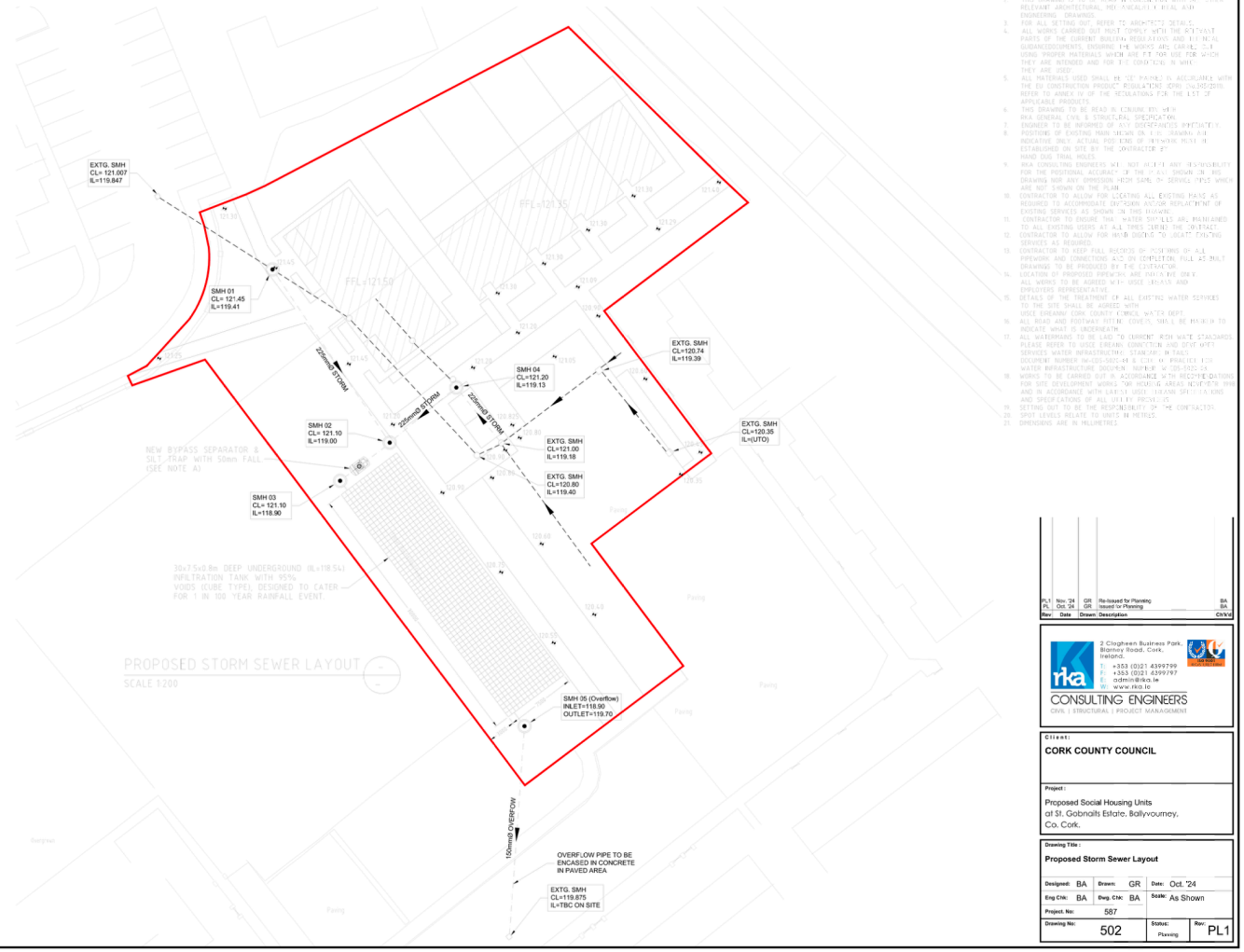
New Storm Sewer To Be Encased In 150mm Concrete, Until Cover Is 1200mm.

Allow For Crossing Existing Foul & Storm Sewer Connections.

Allow For Crossing Existing Utility Services.

NOTE 'A' - The Bypass Seperator Chosen Is To Be In Accordance With ISEN 858-1 & It's Design Is To Include The Necessary Volume Requirements For:

-Oil Seperation Capacity
-Silt Storage Capacity
-Oil Storage Volume
-Coalescer
The Bypass Seperator Chosen, Which Is To Be Agreed With The Clients Representative, Is To Be Of Roto-Moulded Chamber Construction & Is To Cater For An Impermeable Area Up To 5,800 sq.m².



Rev	Date	Drawn	Description	Ch'k'd
PL1	Nov. '24	GR	Re-issued for Planning	BA
PL	Oct. '24	GR	Issued for Planning	BA

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CONSULTING ENGINEERS
CIVIL | STRUCTURAL | PROJECT MANAGEMENT

Client:
CORK COUNTY COUNCIL

Project:
Proposed Social Housing Units
at St. Gobnaits Estate, Ballyvourney,
Co. Cork.

Drawing Title:
Proposed Storm Sewer Layout

Designed:	BA	Drawn:	GR	Date:	Oct. '24
Eng Chk:	BA	Dwg. Chk:	BA	Scale:	As Shown
Project. No:	587				
Drawing No:	502			Status: Planning	Rev: PL1