ATKINS

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# Coastguard Site Crosshaven

## Screening for Appropriate Assessment

Cork County Council

15/06/2022

# Notice

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## Client signoff

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# 1. Introduction

Atkins Ireland have been commissioned by Cork County Council to prepare a Screening for Appropriate Assessment report for the proposed housing project at Crosshaven, Co. Cork. Cork County Council aim to provide a social housing project in Crosshaven. The latter shall be referred to as the 'proposed project' for the purposes of this report.

## 1.1. Background

The social housing project will be situated at the old Coastguard site in Crosshaven, Co. Cork.

Cork County Council prepared a Design Report for a proposed housing project be situated at the old Coastguard site in Crosshaven, Co. Cork (Cork County Council, 2022). The proposed project is located within the settlement area boundary of Crosshaven. Crosshaven is situated in the Bandon Kinsale Municipal District. The County Development Plan 2014[1] identifies Crosshaven and the Bays as a '*rural area under strong urban influence*' and the Local Area Plan[2] (LAP) recognises Crosshaven and the Bays as an area of '*high value landscape*'. Objective BD-01 of the LAP is to encourage the development of up to 286 additional dwelling units within the development boundary of Crosshaven and Bays during the plan period.

The Design Report summarises the project as follow: -

> "*The overall site strategy seeks to rationalize the existing terraced cottages with the brownfield site behind to accommodate high quality housing within the existing urban fabric.*
>
> *The proposed new development to the rear is informed by the existing terraced cottages in the form of two simple terraced rows. The vehicular access to the new terraces is shared where the lower terrace is accessed from 'Lower Road' and the upper terrace is accessed from the existing cul-de-sac road above. The terraces overlook a new public green area to the centre of the site providing a safe, social play area for the whole community.*
>
> *The front terrace was built in the 1860s and is listed on the National Inventory of Architectural Heritage. There are 7 derelict 2 storey cottages within the terrace. It is proposed to sensitively refurbish these cottages as high quality social housing units. These units are currently accessed via a shared right of way to the rear of the terrace. It is proposed to sub-divide the rear passageway into private external patio areas that can facilitate access from the parking area*."

## 1.2. Project Context

The following is abstracted form a Technical Report prepared by Cork County Council, Architects, Housing Directorate in 2022.

**Coastguard Cottages**

The old Coastguard Station and cottages were built in the 1860s comprising of an officer's house and eleven coastguard workers houses laid out as a terrace of identical houses. There was a watch house attached to the station, a rocket house to the eastern end of the cottages and a boat house on the beach opposite the officer's house. With the exception of the larger units at either end, the eleven units have identical plans (laid out as handed plans), each having a living room, kitchen and small pantry (under the stairs) with three bedrooms to the first floor. The small outbuildings seen on the OSI map are likely to have been the outhouses (toilets) and possibly a coal store.

There are 7 derelict cottages within the terrace which form part of this application. The cottages buildings are remarkably intact in terms of their floor plan, timber staircases, pantry cupboards and in many cases timber sash

[1] https://www.corkcoco.ie/en/planning/planning-policy-documents-monard-strategic-development-zone/cork-county-development-plan-2014. Please note the 2022-2028 is currently at public consultation phase.
[2] http://corklocalareaplans.com/wp-content/uploads/2017/08/Bandon-Kinsale-MD-LAP.pdf.

windows, doors, fire surrounds and floor tiles. The Cottages are listed on the National Inventory of Architectural Heritage.

**New Development**

The brownfield site to rear is approximately 0.6 hectares. OSI maps suggest that this site was previously part of the Coastguard cottages accessed directly from the cottage outhouses. This brownfield site is currently in the ownership of the OPW and is completely unoccupied and overgrown. It is a particularly prominent site in Crosshaven that overlooks the Royal Yacht Club and can be seen from Crosshaven Bay. It is proposed to occupy this left over pocket of land with a new high quality infill development that compliments the Coastguard cottages.

The proposed new development to the rear is informed by the existing terraced cottages in the form of two simple terraced rows. The vehicular access to the new terraces is shared where the lower terrace is accessed from 'Lower Road' and the upper terrace is accessed from the existing cul-de-sac road to the south. The terraces overlook a new public green area to the centre of the site providing a safe, social play area for the whole community.


**Figure 1.1 Site Location.**

## 1.3. Project Description

The overall site area is 0.9 hectares. This includes both access roads, foot paths and the Garda car park as shown on the site plan red line boundary. The proposed project includes the following elements: -

- The construction of 26 no. new residential units comprising of 14 no. 1 bed units and 12 no. 3 bed units.
- The refurbishment of 7 no. existing residential cottages comprising of 7 no. 2 bed units.
- New access roads and junctions to connect the north and south of the site to the existing road network (see Figure 1.4).
- Modifications to 'Lower Road' access road junction and Coastguard Station access road (see Figure 1.4).
- Hard landscaping including parking areas, turning bays, footpaths, boundary walls, access steps and street lighting.
- Soft landscaping including green spaces, planting, and tress.
- Connection to public utilities.
- All associated site works.

A detailed Conservation Report accompanies this application – JCA (2021). *7 no. Coastguard Cottages at Lower Road, Crosshaven, Co. Cork (NIAH Reg. Nos. 20848035-6, 20848038-42) Conservation Report*. This reports on the current Structure of the terrace houses and includes recommendations as to their reconstruction. All other construction works are to the rear of this terrace on the upper part of the site. In this respect they represent infill within the urban fabric of outskirts of Crosshaven village.

While a series of site drawings are included for information, the accompanying Drawing Pack should be consulted to view large scale drawings.

It is anticipated that construction works will take 20 months.

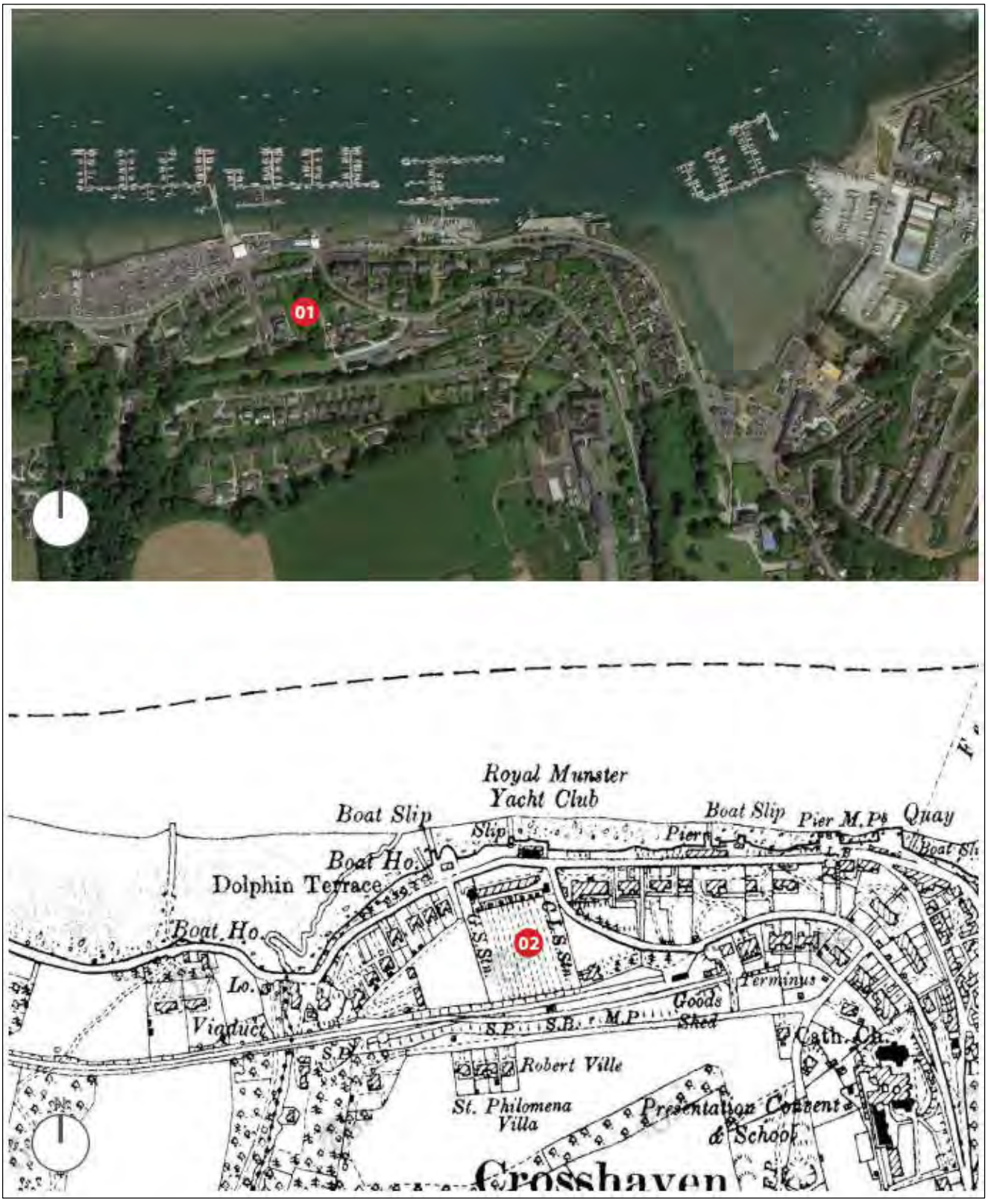


**Figure 1.2 Site Location (from CCC, 2022).**

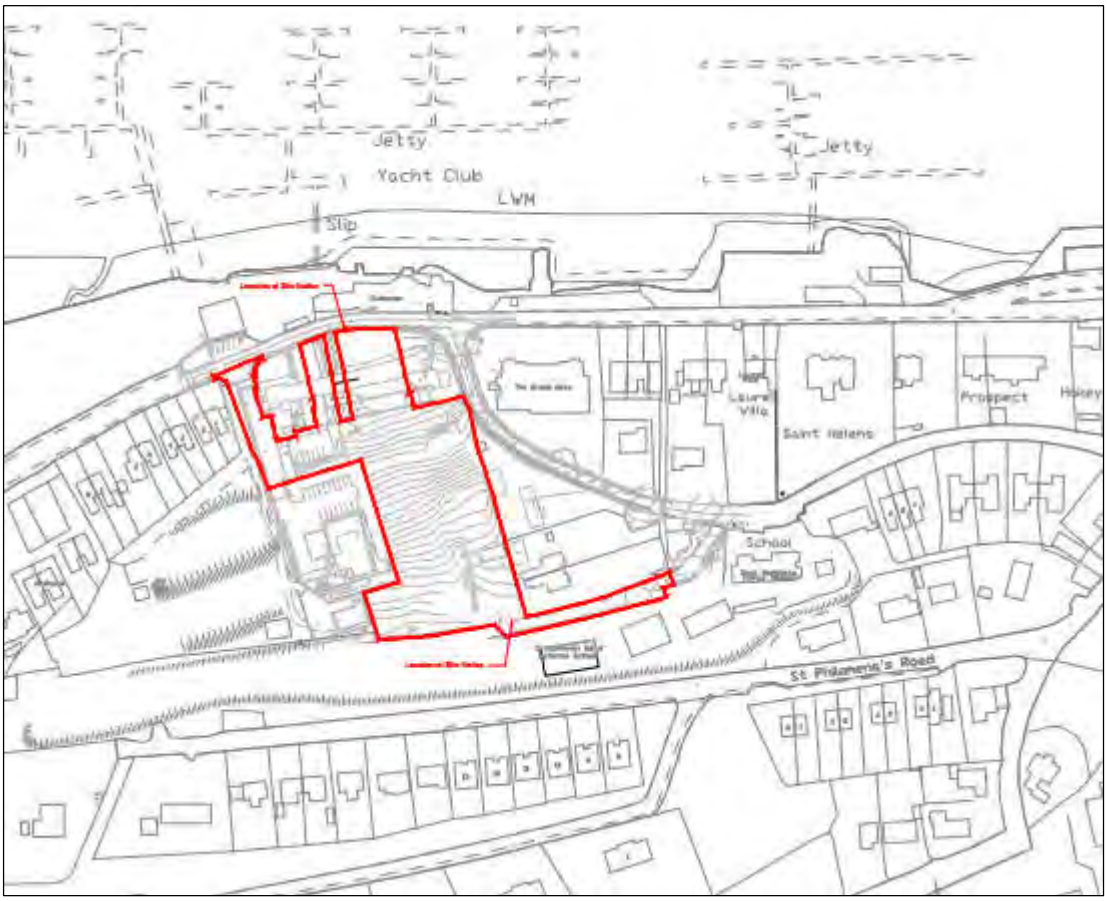


**Figure 1.3 Red line boundary (from CCC, 2022).**


**Figure 1.4 Existing Site layout.**

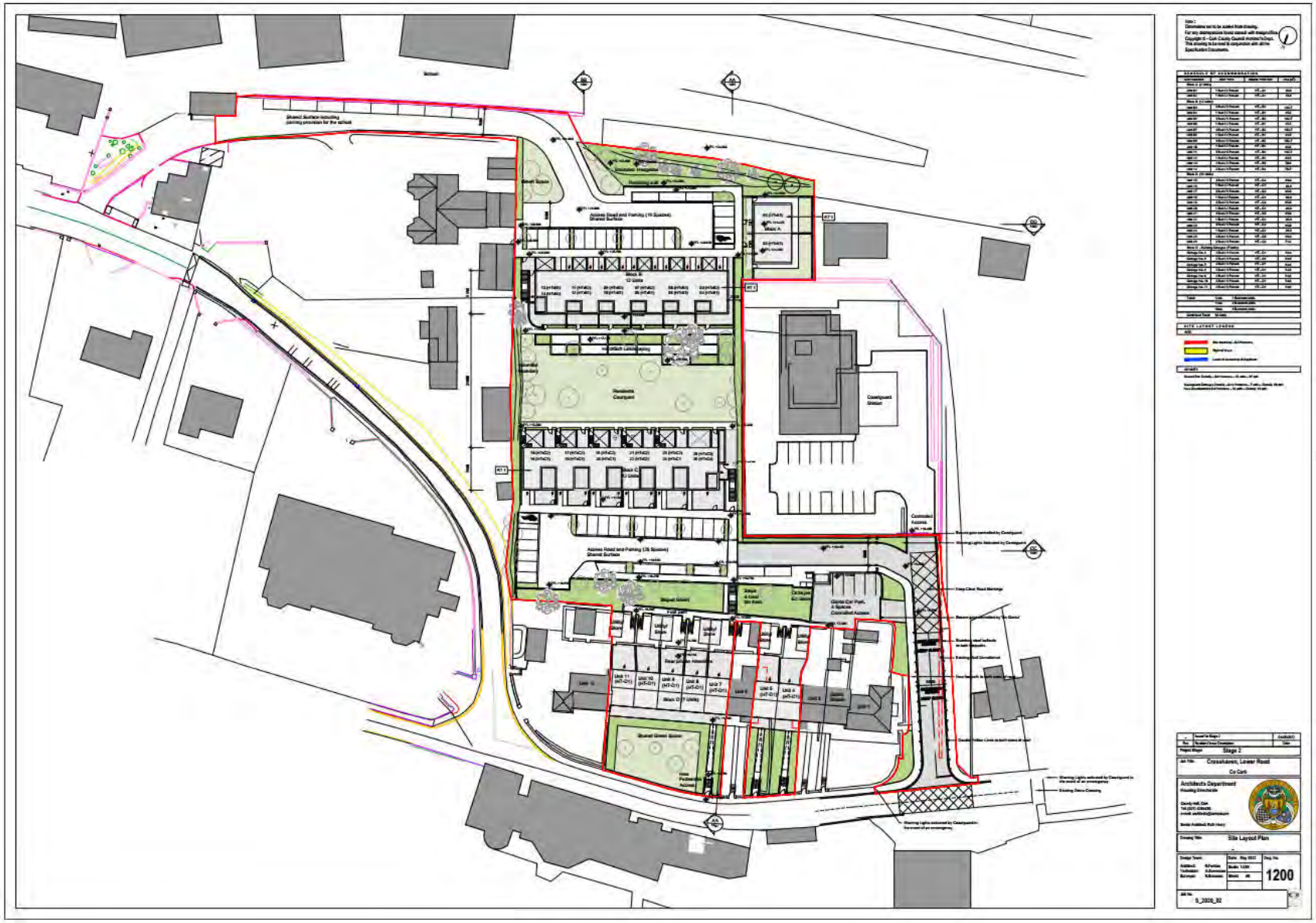


**Figure 1.5 Proposed Site layout.**

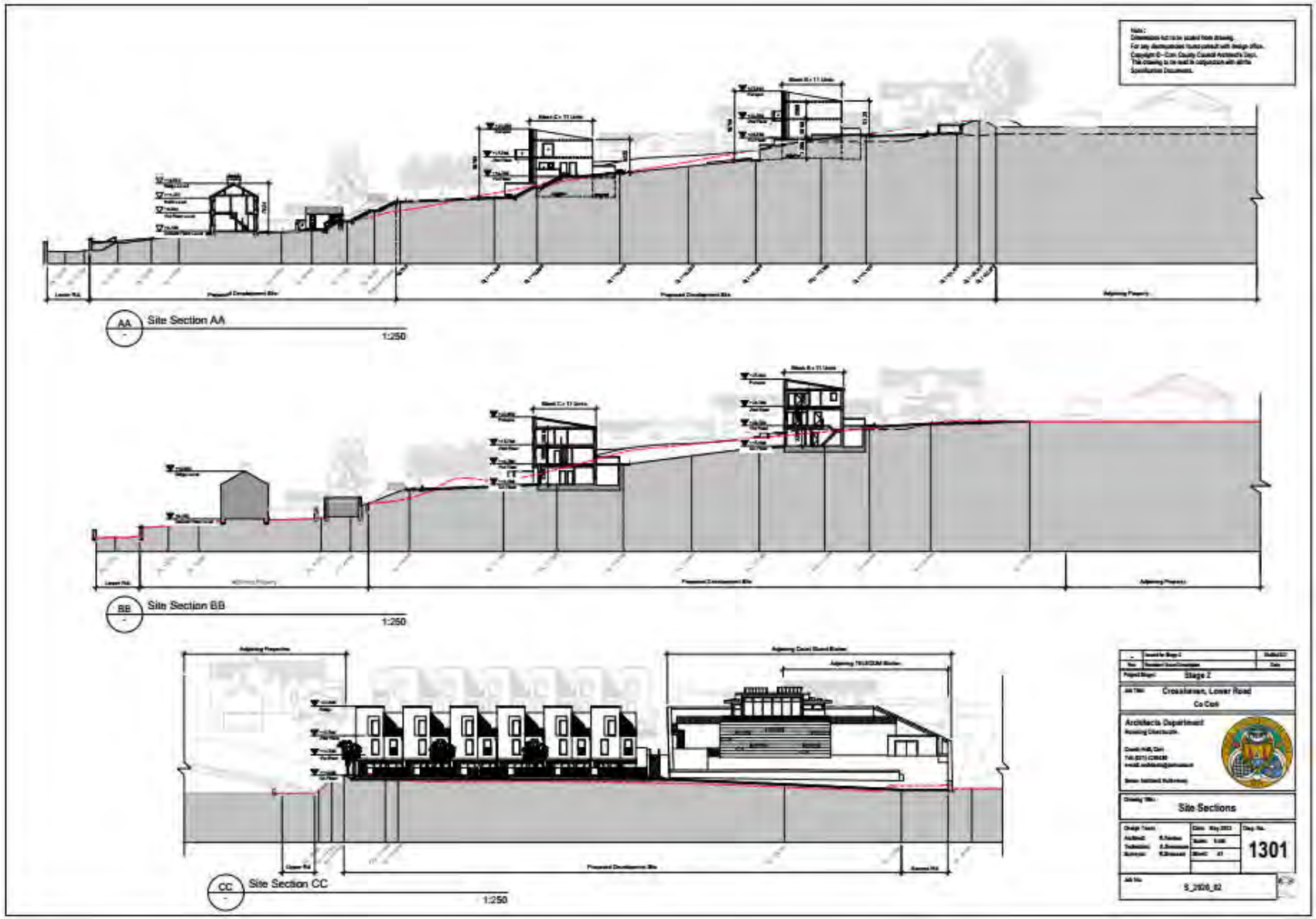


**Figure 1.6 Site Section.**

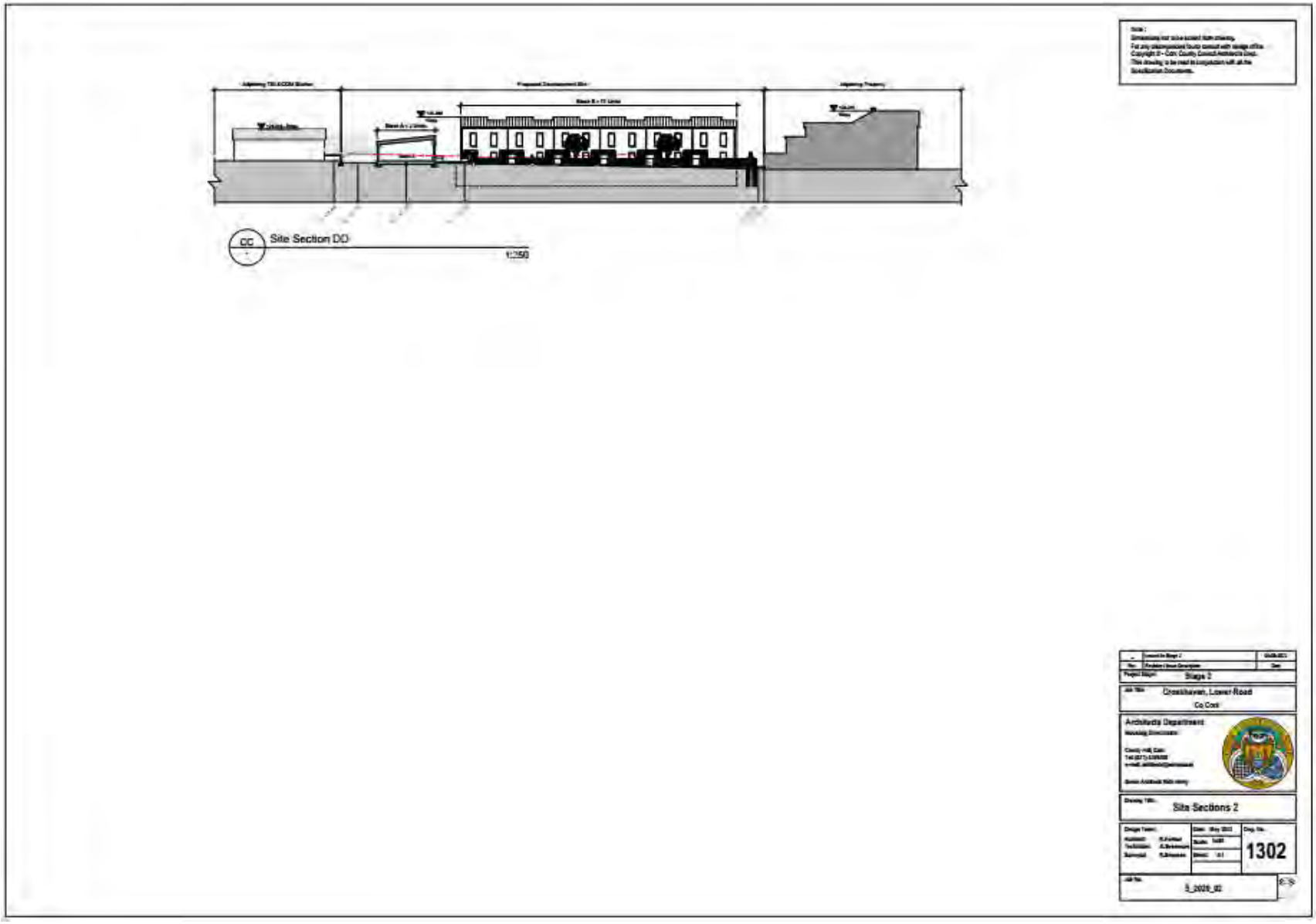


**Figure 1.7 Site Section (continued).**

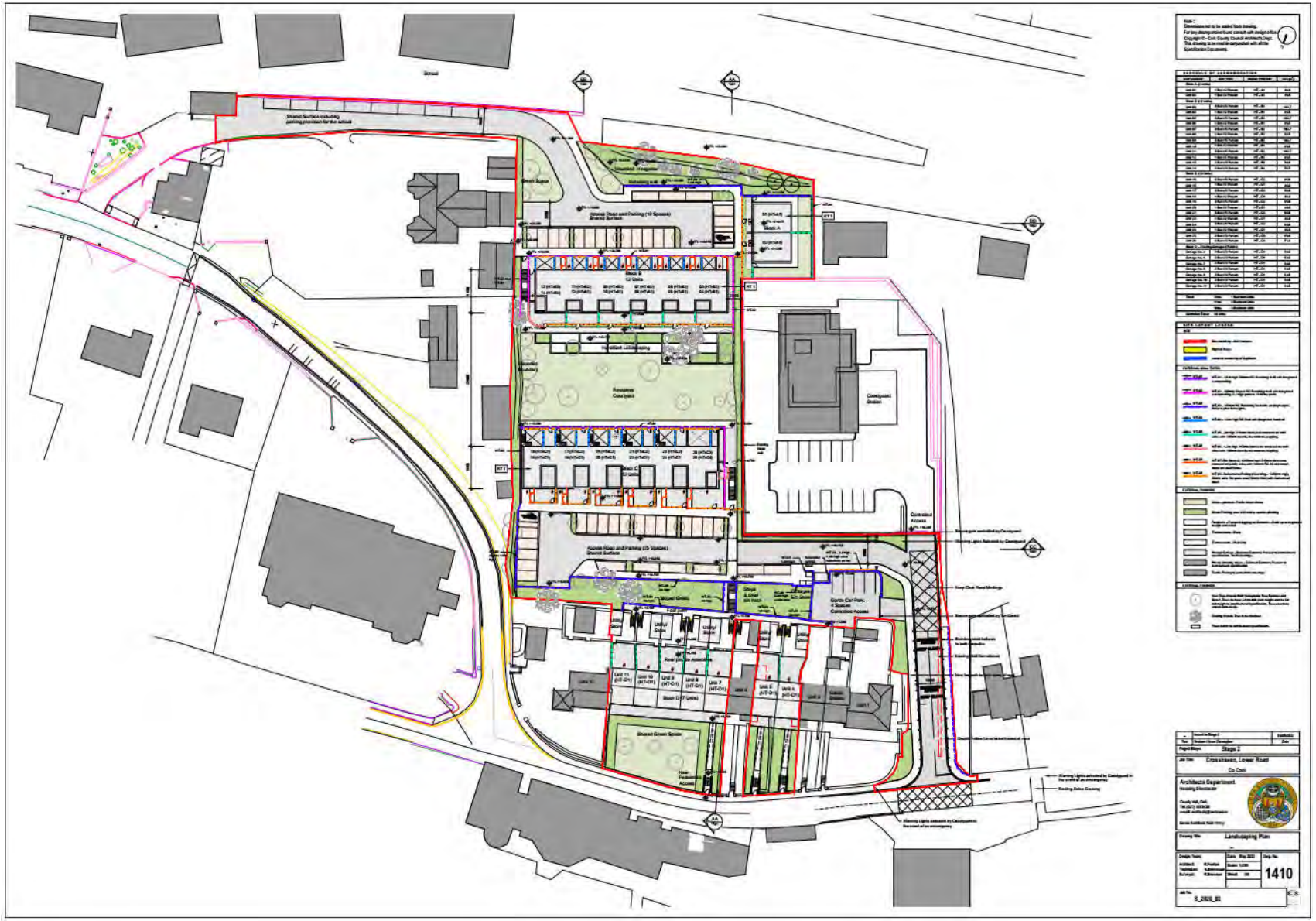


**Figure 1.8 Landscape Plan.**

# 2. Scope of Study

The aim of this report is to provide supporting information to assist the competent authority to carry out an Appropriate Assessment determination with respect to the proposed project.

## 2.1. Legislative Context

Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora, known as the 'Habitats Directive' provides legal protection for habitats and species of European importance. Article 2 of the Directive requires the maintenance or restoration of habitats and species of European Community interest, at a favourable conservation status. Articles 3 – 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservations of an EU-wide network of sites known as European sites. European sites are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC).

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans or projects that could potentially affect European sites. Article 6(3) establishes the requirement for Appropriate Assessment: -

> *"Any plan or project not directly connected with or necessary to the management of the 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. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."*

Article 6 (4) deals with the steps that should be taken when it is determined, as a result of Appropriate Assessment, that a plan or project will adversely affect a European site. Alternative solutions, imperative reasons of overriding public interest (IROPI) and compensatory measures need to be addressed in this case. Article 6(4) states: -

> *"If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.*
>
> *Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest."*

## 2.2. Appropriate Assessment Process

Guidance on the AA process was produced by the European Commission (EC, 2001; 2018), which was subsequently used to develop guidance for Ireland by the Department of Environment, Heritage and Local Government in 2009 (DEHLG, 2009), National Parks and Wildlife Service in 2018[3] (NPWS 2018) and the Office of the Planning Regulator (2021). These guidance documents set out a staged approach to complete the AA process and outline the issues and tests at each stage. The stages outlined below are taken from the guidance document Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (DEHLG, 2009).

[3] https://www.npws.ie/development-consultations

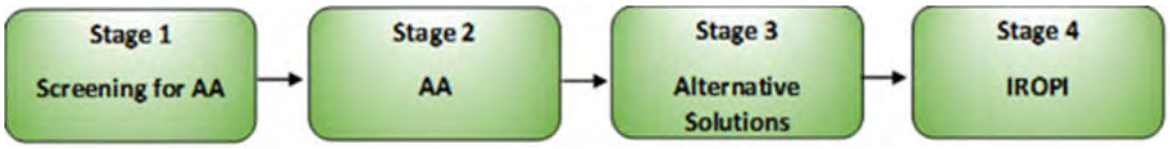


**Figure 2-1 - Appropriate Assessment Process (Source: DEHLG, 2009)**

### 2.2.1. Screening for Appropriate Assessment

Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3): -

i. Whether a plan or project is directly connected to or necessary for the management of the site; and
ii. Whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a European site in view of its conservation objectives.

If the effects are deemed to be significant, potentially significant, or uncertain, then the process must proceed to Appropriate Assessment.

### 2.2.2. Appropriate Assessment

Appropriate Assessment considers whether the plan or project, alone or in combination with other projects or plans, will have adverse effects on the integrity of a European site, and includes any necessary mitigation measures.

The competent authority can only agree to the plan or project after having ascertained that it will not adversely affect the integrity of the site(s) concerned. If this cannot be determined, and where sufficient mitigation cannot be achieved, the alternative solutions need to be considered and the process proceeds to the consideration of alternative solutions.

### 2.2.3. Alternative Solutions

This examines any alternative solutions or options that could enable the plan or project to proceed without adverse effects on the integrity of a European site. The process must return to AA as alternatives will require assessment in order to proceed. Demonstrating that all reasonable alternatives have been considered and assessed, and that the least damaging option has been selected, it is necessary to examine whether there are imperative reasons of overriding interest (IROPI).

### 2.2.4. IROPI

This examines whether there are imperative reasons of overriding public interest for allowing a plan or project that will have adverse effects on the integrity of a European site to proceed in cases where it has been established that no less damaging alternative solution exists. Compensatory measures must be proposed and assessed, of which the Commission must be informed.

The AA process only progresses through the full process for certain plans and projects. For example, for a project not connected with the management of a European site and where no likely significant effects on a European site in view of its conservation objectives are identified, the process stops at Screening for AA. Throughout the process the precautionary principle must be applied, which requires that the conservation objectives of Natura 2000 should prevail where there is uncertainty (EC, 2001; 2018).

# 3. Methods

## 3.1. Legislation & Guidance Documents

This report was prepared with reference and due consideration to the following documents and due regard for relevant case law, including but not limited to: -

- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna (Habitats Directive);
- Statutory Instrument No. 477/2011 — European Communities (Birds and Natural Habitats) Regulations 2011;
- National Parks and Wildlife Service - Development Consultations[4] (NPWS, 2018)
- European Commission (2018). Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC;
- European Commission (2021). Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC;
- Department of the Environment, Heritage and Local Government (2009). Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities; and,
- Office of the Planning Regulator (2021). Appropriate Assessment Screening for Development Management. OPR Practice Note PN01; and,
- Case C-323/17 People Over Wind & anor V. Coillte and other relevant court rulings and case law.

## 3.2. Desk Study

A desk study was carried out to collate information available on European sites in the vicinity of the proposed project. These areas were viewed using Google Earth, Google maps[5] and Bing maps[6] (last accessed on (07/06/2021).

The National Parks and Wildlife Service (NPWS) online databases were reviewed concerning European sites and their features of interest in the vicinity of the proposed project. The Environmental Protection Agency (EPA) mapping[7] system was used to identify any hydrological connection between the proposed project and European sites, this information was supported by site walkover surveys.

Locations and boundaries of all European sites within the potential zone of influence of the proposed project were identified and reviewed using the NPWS online map viewer. Boundary shapefiles were also downloaded from this site to facilitate the preparation of project graphics.

Desktop information on relevant European sites was reviewed on the NPWS website, including the site synopsis for each SAC/SPA, the conservation objectives, the site boundaries as shown on the NPWS online map viewer, the standard European Data Form for the SAC/SPA which details conditions and threats of the sites, and published information and unpublished reports on the relevant European sites.

Relevant planning information for the surrounding area was reviewed using the planning enquiry systems of Cork County Council. Search criteria were implemented to determine whether such projects or plans would be relevant to this study and this information was used to determine potential cumulative impacts from other plans / projects with the proposed project.

[4] https://www.npws.ie/development-consultations
[5] https://www.google.ie/maps
[6] http://www.bing.com/maps/
[7] https://gis.epa.ie/EPAMaps/

## 3.3. Site Visit

The site was originally visited by Niamh Sweeney (Atkins) on the 29th April 2021. The survey followed best practice as set out in CIEEM (2018; *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*); CIEEM (2017; *Guidelines for Preliminary Ecological Appraisal*) and NRA (2009; *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*).

The survey area included the lands within the red line boundary and immediate environs. While on site, semi-natural habitats and their constituent species present on site were mapped and classified according to *A Guide to Habitats in Ireland* (Fossitt, 2000) classification system and following methods outlined in *Best Practice Guidance for Habitat Survey and Mapping* (Smith *et al*., 2011).

Potential sensitive ecological receptors present within the survey area were recorded, including the presence of protected species and habitats or habitats that would support protected species, in addition to noting connectivity to European sites. The presence of non-native invasive species was also recorded. All features of interest were recorded using a handheld Garmin Map 62 device.

A non-native invasive plant species survey were undertaken on the 29th April 2021 and again on the 28th September 2021 by Atkins ecologist Niamh Sweeney. The survey area included the lands within the red line boundary and lands within a 20m buffer of the project's red line boundary. Presence of non-native invasive plant species were recorded using a handheld Garmin GPS map 62 device as were details of the extent of the non-native invasive plant species. Photographs were taken of the site and any non-native invasive plant species recorded. The site visit was conducted within the recommended survey period for habitat surveys; *April – September* (Smith *et al*., 2011). Results are presented in full in the accompanying report (Atkins, 2021).

[**Note:** *The grounds of the primary school adjacent to the south of the site were not accessed. Private residential properties and gardens were also not accessible. Access was not possible to the back or front gardens of the terraced houses as they were either overgrown or the entrances boarded-up. The unoccupied houses were also not accessed. A large portion of the site was covered in dense vegetation. The vegetation edges of areas of dense vegetation were accessed, but access in general was limited within the areas of dense vegetation*].

## 3.4. Statement of Authority

The Screening for Appropriate Assessment report was prepared by Emma Nickelsen, Niamh Sweeney and Paul O'Donoghue. Peer review was undertaken by Paul O'Donoghue. The site visits were undertaken by Niamh Sweeney.

**Niamh Sweeney** (BSc, MSc (Res)) is a freshwater ecologist with over 10 years' experience in ecological consultancy, with specialisms in macroinvertebrate and diatom taxonomy. Niamh has worked on numerous Screenings for Appropriate Assessment, Natura Impact Statements and Ecological Impact Assessments for private architect firms, waste companies, numerous County Councils, the OPW and Inland Fisheries Ireland.

**Emma Nickelsen** has a BSc (Hons) in Environmental Biology and an MSc in Marine Biology. Emma has worked in ecological and environmental consultancy since 2017, working on a wide range of projects including bridge works, road construction, local amenity development and renewable energy. A focus of Emma's work to date has been on conducting Appropriate Assessment screenings, ecological appraisals and supporting the preparation of Natura Impact Statements and Ecological Impact Statements.

**Paul O'Donoghue** has a BSc (Zoology), MSc (Behavioural Ecology) and a PhD in avian ecology and genetics. His is a chartered member of the Society for the Environment (CEnv) and a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM). Paul has over 20 years' experience in ecology; including extensive experience in the preparation of Habitat Directive Assessments / Natura Impact Statements (i.e. Appropriate Assessment under Article 6(3) of the EU Habitats Directive).

# 4. Existing Environment

## 4.1. Desktop review

The proposed project is situated within the settlement boundary of Crosshaven village in Co. Cork. EPA Maps[8] shows Corine 2018 land use in the area of the proposed project as Artificial Surfaces (discontinuous urban fabric).

Crosshaven village is located adjacent to the Owenboy estuary, immediately upstream of where the estuary discharges to Cork Harbour. The Owenboy river flows in a general easterly direction from Crossbarry, via Ballinhassig, Ballygarvan to Carrigaline, where is becomes a transitional waterbody. The Owenboy estuary downstream of Carrigaline is not assigned a Water Framework Directive (WFD) status; however, it's water quality is defined as being 'At Risk'.

The Owenboy River upstream of Carrigaline is of 'Moderate' status (WFD Status 2013-2018); while it's water quality is defined as being 'At Risk'.

Segments of the Owenboy Estuary are part of Cork Harbour Special Protection Area (004030). The lower boundary of the SPA is upstream of Crosshaven village, where the marina of the Royal Cork Yacht Club is situated within the estuary. The proposed development site also lies downstream of Cork Harbour SPA within the Owenboy Estuary. The estuary of the Owenboy is not designated as a Special Area of Conservation.

The Owenboy River proposed Natural Heritage Area (001990) runs from Carrigaline downstream to where the estuary narrows between Frenchfurze and Coolmore. Natural Heritage Areas are sites of national importance. A small section of saltmarsh however occurs east of Morgan's Quay and contains a series of brackish and freshwater communities in microcosm. Owenboy River pNHA is primarily designated for its wintering waterbird community. A small section of saltmarsh, however, also occurs east of Morgan's Quay and contains a series of brackish and freshwater communities in microcosm (NPWS site synopsis). This area of saltmarsh is located close to Kilnaglery Bridge in the upper part of the estuary close to Carrigaline.

[8] https://gis.epa.ie/EPAMaps/

### 4.1.1. Owenboy IWeBS Count Sector

The Irish Wetland Bird Survey of wintering waterbirds is co-ordinated by BirdWatch Ireland. The Owenboy Estuary is counted as a single unit (0L454: Cork Harbour, Owenboy Estuary).

**Table 4.1 Count of waterbirds which are qualifying interests of Cork Harbour SPA within 0L454: Cork Harbour, Owenboy Estuary.**

| Species | 1% Nat. | 1% Inter'l | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | 5 year mean | 5 year peak |
|---|---|---|---|---|---|---|---|---|---|
| Little Grebe | 20 | 4700 | 4 | 4 | 15 | 6 | 7 | 7 | 15 |
| Great Crested Grebe | 30 | 6300 | | | | 1 | | 1 | 1 |
| Cormorant | 110 | 1200 | 18 | 21 | 3 | 54 | 10 | 21 | 54 |
| Grey Heron | 25 | 5000 | 19 | 23 | 30 | 59 | 22 | 31 | 59 |
| Shelduck | 100 | 2500 | 54 | 52 | 20 | 80 | 26 | 46 | 80 |
| Wigeon | 560 | 14000 | | 1 | | | 3 | 2 | 3 |
| Teal | 360 | 5000 | 54 | 91 | 102 | 96 | 152 | 99 | 152 |
| Pintail | n.a. | | | | | | | | |
| Shoveler | 20 | 650 | | | | | 3 | 3 | 3 |
| Red-breasted merganser | n.a. | | | | | | | | |
| Oystercatcher | 610 | 8200 | 35 | 63 | 75 | 49 | 131 | 71 | 131 |
| Golden Plover | n.a. | | | | | | | | |
| Grey Plover | n.a. | | | | | | | | |
| Lapwing | 850 | 72300 | 72 | 30 | 30 | 13 | 13 | 32 | 72 |
| Dunlin | 460 | 13300 | 85 | 80 | 131 | 40 | 61 | 79 | 131 |
| Black-tailed Godwit | 200 | 1100 | 163 | 330 | 107 | 241 | 298 | 228 | 330 |
| Bar-tailed Godwit | n.a. | | | | | | | | |
| Curlew | 350 | 7600 | 84 | 107 | 97 | 89 | 98 | 95 | 107 |
| Redshank | 240 | 2400 | 252 | 240 | 255 | 200 | 201 | 230 | 255 |
| Black-headed Gull | | | 200 | 316 | 490 | 657 | 280 | 389 | 657 |
| Common Gull | | | 22 | 56 | 87 | 45 | 83 | 59 | 87 |
| Lesser Black-backed Gull | | | 20 | 43 | 62 | 122 | 45 | 58 | 122 |

**Table 4.2 Other waterbirds within 0L454: Cork Harbour, Owenboy Estuary.**

| Species | 1% Nat. | 1% Inter'l | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | 5 year mean | 5 year peak |
|---|---|---|---|---|---|---|---|---|---|
| Snipe | | | 7 | | 18 | 60 | 105 | 48 | 105 |
| Mallard | 280 | 53000 | 29 | 28 | 66 | 28 | 39 | 38 | 66 |
| Greenshank | 20 | 3300 | 27 | 18 | 26 | 20 | 21 | 22 | 27 |
| Herring Gull | | | 15 | 13 | 11 | 33 | 34 | 21 | 34 |
| Turnstone | 95 | 1400 | 13 | 16 | 18 | 16 | 40 | 21 | 40 |
| Great Black-backed Gull | | | 29 | 10 | 10 | 7 | 4 | 12 | 29 |
| Little Egret | 20 | 1100 | 14 | 16 | 15 | 6 | 4 | 11 | 16 |
| Mediterranean Gull | | | | | 3 | 11 | 2 | 5 | 11 |
| Light-bellied Brent Goose | 350 | 400 | | | 7 | | 3 | 5 | 7 |
| Cattle Egret | | | | | 8 | | 2 | 5 | 8 |
| Mute Swan | 90 | 100 | 3 | 3 | 3 | 2 | 5 | 3 | 5 |
| Moorhen | | | | | | 4 | 1 | 3 | 4 |
| Kingfisher | | | | 2 | 1 | | | 2 | 2 |
| Whimbrel | | | | 1 | 1 | 2 | 1 | 1 | 2 |
| Common Sandpiper | | | 1 | | 1 | | 1 | 1 | 1 |

## 4.2. Site Visit

### 4.2.1. Preliminary Ecological Appraisal

As noted, the site was initially visited on the 29th April 2021. The south-east portion of the site is characterised by a mosaic habitat of 'recolonising bare ground' (ED3) and 'dry meadows and grassy verges' (GS2). Along the fringes of this habitat, winter heliotrope was present at the base of the hedgerow and treelines. The ED3/GS2 area comprised black medick (*Medicago lupulina*), red clover (*Trifolium pratense*), ribwort plantain (*Plantago lanceolata*), teasel (*Dipsacus fullonum*), herb-robert (*Geranium robertianum*), willowherb (*Epilobium* sp.), daisy (*Bellis perennis*), dandelion (*Taraxacum* app.), creeping buttercup (*Ranunculus repens*), meadow buttercup (*R. acris*), thistle (*Cirsium* sp.), broadleaf plantain (*Plantago major*), dock (*Rumex* sp.), figwort (*Scrophularia nodosa*), ragwort (*Jacobaea vulgaris)*, hawkweeds (*Hieracium* sp.), grasses. The remnants of a building were present within the ED3/GS2 area, along with an area in the centre of the site of bark or wood-chip, concrete blocks and items of plastic pipe and other plastics. Winter heliotrope was abundant in the northern portion of the ED3/GS2 area. Bindweed and Traveller's joy were present along the eastern boundary of the site.

The treeline along the south-east boundary comprised elder, hawthorn and sycamore.

An earth embankment runs along the western side of the ED3/GS2 area and is approximately 30m in length. A treeline was present on the embankment, which comprised fuchsia, bramble (*Rubus fructicosus*), hawthorn (*Crataegus monogyna*), elder (*Sambucus nigra*) and laurel (*Prunus laurocerasus*). The eastern face of the embankment predominantly comprised winter heliotrope (*Petasites pyrenaicus*), bramble, plantains, creeping buttercup and nettle (*Urtica dioica*).

To the west of the embankment lies an area of mature scrub (WS1) that merges into a mature and established treeline. This area comprises elder, hawthorn, ivy, Himalayan honeysuckle, sycamore, butterfly bush with an understory of nettle, bramble, goose-grass (*Galium aparine*), ferns and common hogweed (*Heracleum sphondylium*). The mature treeline and small wooded area comprised beech, sycamore, hawthorn and elder with ivy as dominant groundcover. Three-cornered garlic (*Allium triquetrum*), an non-native invasive species which is

listed on the 3rd Schedule of the Natural Habitats Regulations (S.I. 477/2011) was present within this area at the base of the beech trees (refer to accompanying Invasive Species Report; Atkins, 2021).

Scrub habitat, mainly comprising bramble, thistle, scrub willow and hawthorn, dominated the western part of the site. Adjacent to the boundary wall along the west of the site, a narrow strip of 'dry meadows and grassy verges' GS2 was present. GS2 habitat within the site typically included flora such as grasses, plantains (ribwort and broadleaf), nettle, dock, daisy, dandelion, clover, bush vetch (*Vicia sepium*), germander speedwell (*Veronica chamaedry*) and primrose (*Primula vulgaris*). Winter heliotrope was also present in these GS2 areas.

At the northern end of the site, the areas of scrub contained a larger proportion of woody vegetation and trees (including garden / non-native species), such as bramble, Himalayan honeysuckle (*Leycesteria formosa*), nettle, fuchsia, cherry tree (*Prunus* sp.), sycamore (*Acer pseudoplatanus*), willow (*Salix* sp.) and cotoneaster. Bindweed (*Convolvulus* sp.) and traveller's joy (*Clematis vitalba*) were present, climbing through the shrub vegetation and trees.

Although non-native invasive species such as winter heliotrope, butter-fly bush (*Buddleja davidii*), Himalayan honeysuckle and traveller's joy were present on site, three cornered garlic was the only invasive species recorded that is listed on the 3rd schedule of the EC (Birds and Natural Habitats) Regulations 2001, as amended. Three-cornered garlic was present in the south-west of the site within the wide treeline/ linear woodland area at grid reference 0579064 0561252 ITM. Giant hogweed is potentially present in the scrub area in the north-east of the site. Last year's stem and umbel were present in die-back and leafy growth had started. The grid reference recorded for the location of potential giant hogweed was 0579077 0561315 ITM.

The nature of the site provides good supporting habitat for nesting birds. During the site visit a number of birds were recorded by direct sightings or according to their bird song; blackbird (*Turdus merula*), rook (*Corvus frugilegus*), great tit (*Parus major*), chaffinch (*Fringilla coelebs*), wood pigeon (*Columba palumbus*), wren (*Troglodytes troglodytes*), willow warbler (*Phylloscopus trochilus*), jackdaw (*Corvus monedula*), robin (*Erithacus rubecula*) and goldfinch (*Carduelis carduelis*).

No mammal activity, in the form of droppings, scats, prints, feeding signs, burrows etc., were recorded during the site visit. However, a limitation of the survey was that access was limited in areas of dense vegetation. A track was present from the playing pitches (GA2) to the south of the red line boundary into the WL2/WD1 area; however, given the accessibility from the playing pitches at the south of the site and the occupied houses at the north of the site, this track is most likely due to human activity / dogs.

Derelict houses present in the north of the site have the potential to support bats. Bats can enter buildings through very narrow crevices. It is likely that such crevices are present in the roofs and soffit and facia of the properties. Swift may also nest in the roof soffits.

**Plate 4.1 Areas of 'recolonising bare ground' (ED3) and 'dry meadows and grassy verges' (GS2).**

Plate 4.2 Area of bramble dominated scrub.

Plate 4.3 Area of bare ground.

Plate 4.4 Overgrown hedge along site boundary.

Plate 4.5 Stone wall boundary, with evidence of young willow trees.

**Plate 4.6 Terrace of houses along Lower Road.**

**Plate 4.7 Heavily overgrown gardens on Lower Road terrace.**

**Plate 4.8 View north across the site (Himalayan honeysuckle visible in foreground).**

**Plate 4.9** **Rear view of the terrace on Lower Road.**

**Plate 4.10** **View south towards the southern site boundary.**

**Plate 4.11** **Improved grassland south of the site (adjoining the school).**

### 4.2.2. Invasive Plant Species Survey

The results of the invasive species survey can be read in full in the accompanying Invasive Plant Species Report (Atkins, 2021).

The south-east portion of the site is characterised by a mosaic habitat of 'recolonising bare ground' (ED3) and 'dry meadows and grassy verges' (GS2). Along the fringes of this habitat, winter heliotrope (*Petasites fragrans*) was present at the base of the hedgerow and treelines. Himalayan honeysuckle (*Leycesteria formosa*) and butterfly bush (*Buddleja davidii*) plants were also present along the treeline of the site's southern boundary.


**Plate 4.12 Winter heliotrope and butterfly bush in the southern area of the site.**

The remnants of a building were present within the ED3/GS2 area, along with an area in the centre of the site of bark or wood-chip, concrete blocks and items of plastic pipe and other plastics. Winter heliotrope was abundant in the northern portion of the ED3/GS2 area. Butterfly bush was present adjacent to the building remnants. Traveller's joy (*Clematis vitalba*) was present along the eastern boundary of the site.


**Plate 4.13 Butterfly bush and traveller's joy in the mid and eastern area of the site.**

An earth embankment runs along the western side of the ED3/GS2 area and is approximately 30m in length. A treeline was present on the embankment. Cherry laurel was present in the treeline. Winter heliotrope was present along the eastern face of the embankment.


**Plate 4.14 Winter heliotrope and cherry laurel along the earth embankment within the site.**

To the west of the embankment lies an area of mature scrub that merges into a mature and established treeline. Himalayan honeysuckle, butterfly bush and winter heliotrope were present along the track that runs through the scrub area and in the grassy verges that adjoin the area of scrub. Three-cornered garlic (*Allium triquetrum*) was present within the established treeline at the base of the beech trees. Traveller's joy was also present within the established treeline. Winter heliotrope was present along the south facing bank that adjoins the amenity grassland area of the neighbouring primary school.


**Plate 4.15 Three-cornered garlic and winter heliotrope within the established treeline along the southern boundary of the site with the amenity lands of the adjacent school.**

Scrub habitat dominated the western area of the site. Adjacent to the boundary wall along the west of the site, a narrow strip of GS2 was present. Winter heliotrope was present in the GS2 areas. At the northern and north-eastern end of the site, the areas of scrub contained a larger proportion of woody vegetation and trees. Himalayan honeysuckle, butterfly bush, traveller's joy and winter heliotrope were numerous within these areas.

**Plate 4.16 Himalayan honeysuckle and traveller's joy within scrub area in the north-east of the site.**

Given the frequency of winter heliotrope across the site, and its occurrence within the scrub areas, it should be presumed present across the entirety of the site.

Three-cornered garlic was the only species recorded that is listed on the 3rd Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011, as amended.

Figure 3.1 of the accompanying Invasive Plant Species Report (Atkins, 2022) illustrates the point locations of non-native invasive species within the site, however as stated above, winter heliotrope should be presumed present across the entirety of the site. Table 3.2 and Table 3.3 of the Invasive Plant Species Report (Atkins, 2022) lists the grid references of invasive species recorded within the site.

# 5. Appropriate Assessment Screening

## 5.1. Connectivity to European Sites

The 'zone of influence' (ZoI) for a project is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities. This is likely to extend beyond the project site, for example where there are ecological or hydrological links beyond the site boundaries. The zone of influence will vary for different ecological features depending on their sensitivity to an environmental change (CIEEM, 2018). National Parks and Wildlife Service and Office of the Planning Regulator guidance[9] advises that this must 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.

Thus, given the nature, scale and extent of the proposed project, the potential zone of influence will consider European sites with regard to the location of a European site, the QIs of the site and their potential mobility outside that European site, the Cause-Pathway-Effect model and potential environment effects of the proposed project.

Due to the nature, scale and extent of the proposed project, sources of potential effect during the construction and operational phases include the Zone of Influence is limited to the immediate environs within the Owenboy Estuary / Cork Harbour.

There are two European designated sites within the potential zone of influence of the proposed project; Great Island Channel SAC (001058) and Cork Harbour SPA (004030).

Great Island Channel SAC is situated in the inner area of Cork Harbour, north of Great Island and on the eastern side of Cork Harbour. The SAC is designated for intertidal mudflats and sandflats and Atlantic salt meadows (Table 5.1). Great Island Channel SAC is located ca. 8.6km straight-line distance to the north of the proposed project. There is no direct connection with Great Island Channel SAC. Hydrological connection is via the western passage along the western side of Great Island. It must be assumed that surface water drainage from the environs of the site ultimately reaches the Owenboy Estuary to the north (and hence Cork Harbour); either by direct outfall or via infiltration to groundwater.

Cork Harbour SPA is comprised of a number of discrete elements distributed throughout the harbour. The nearest elements are Owenboy Estuary, which is located 330m to the west of the proposed site. There is no direct overlap with the SPA. There is no suitable habitat within the proposed site which would support the qualifying interests of the SPA. It must be assumed that surface water drainage from the environs of the site ultimately reaches the Owenboy Estuary to the north (and hence Cork Harbour); either by direct outfall or via infiltration to groundwater.

[9] DoEHLG (2009). *Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities*. Department of Environment, Heritage and Local Government, Dublin, Ireland.
OPR (2021) Appropriate Assessment Screening for Development Management. OPR Practice Note PN01. Office of the Planning Regulator. Dublin, Ireland.

**Table 5.1 SACs within ZoI of the proposed project.**

| Site Name | Site Code | Approximate distance | Features of Interest | Within ZoI |
|---|---|---|---|---|
| Great Island Channel SAC | 0010058 | ca. 8.6km by land | • Mudflats and sandflats not covered by seawater at low tide [1140]<br>• Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] | Yes<br>There is no overlap or direct connectivity from the proposed project to the SAC.<br>The SAC is situated within the inner area of Cork Harbour and thus, there are indirect, but remote, hydrological connectivity between the proposed project and the SAC. This link is, however, very remote and via a significant body of water. |

**Table 5.2 SPAs within ZoI of the proposed project.**

| Site Name | Site Code | Approximate distance | Features of Interest | Within ZoI |
|---|---|---|---|---|
| Cork Harbour SPA | 004030 | 330m by land | • Little Grebe (*Tachybaptus ruficollis*) [A004]<br>• Great Crested Grebe (*Podiceps cristatus*) [A005]<br>• Cormorant (*Phalacrocorax carbo*) [A017]<br>• Grey Heron (*Ardea cinerea*) [A028]<br>• Shelduck (*Tadorna tadorna*) [A048]<br>• Wigeon (*Anas penelope*) [A050]<br>• Teal (*Anas crecca*) [A052]<br>• Pintail (*Anas acuta*) [A054]<br>• Shoveler (*Anas clypeata*) [A056]<br>• Red-breasted Merganser (*Mergus serrator*) [A069]<br>• Oystercatcher (*Haematopus ostralegus*) [A130]<br>• Golden Plover (*Pluvialis apricaria*) [A140]<br>• Grey Plover (*Pluvialis squatarola*) [A141]<br>• Lapwing (*Vanellus vanellus*) [A142]<br>• Dunlin (*Calidris alpina*) [A149]<br>• Black-tailed Godwit (*Limosa limosa*) [A156]<br>• Bar-tailed Godwit (*Limosa lapponica*) [A157]<br>• Curlew (*Numenius arquata*) [A160]<br>• Redshank (*Tringa totanus*) [A162]<br>• Black-headed Gull (*Chroicocephalus ridibundus*) [A179] | Yes.<br>The proposed project is located ca. 330m from the SPA and thus, is within the ZoI of the proposed project. |

| Site Name | Site Code | Approximate distance | Features of Interest | Within ZoI |
|---|---|---|---|---|
| | | | • Common Gull (*Larus canus*) [A182]<br>• Lesser Black-backed Gull (*Larus fuscus*) [A183]<br>• Common Tern (*Sterna hirundo*) [A193]<br>• Wetland and Waterbirds [A999] | |


**Figure 5.1 Great Island Channel SAC relative to the Site (Red Circle) (Source: NBDC Mapviewer).**


**Figure 5.2 Cork Harbour SPA relative to the Site (Red Circle) (Source: NBDC Mapviewer).**

## 5.2. Great Island Channel SAC

### 5.2.1. Description of Great Island Channel SAC

Great Island Channel SAC is described as follows in the NPWS site synopsis (NPWS, 2013a; a full copy of the site synopsis is included in Appendix A): -

> *"The Great Island Channel stretches from Little Island to Midleton, with its southern boundary being formed by Great Island. It is an integral part of Cork Harbour which contains several other sites of conservation interest. Geologically, Cork Harbour consists of two large areas of open water in a limestone basin, separated from each other and the open sea by ridges of Old Red Sandstone. Within this system, Great Island Channel forms the eastern stretch of the river basin and, compared to the rest of Cork Harbour, is relatively undisturbed. Within the site is the estuary of the Owenacurra and Dungourney Rivers. These rivers, which flow through Midleton, provide the main source of freshwater to the North Channel.*
>
> *The main habitats of conservation interest in Great Island Channel SAC are the sheltered tidal sand and mudflats and the Atlantic salt meadows. Owing to the sheltered conditions, the intertidal flats are composed mainly of soft muds. These muds support a range of macro-invertebrates, notably* Macoma balthica*,* Scrobicularia plana*,* Hydrobia ulvae*,* Nepthys hombergi*,* Nereis diversicolor *and* Corophium volutator*. Green algal species occur on the flats, especially* Ulva lactuca *and* Enteromorpha *spp. Cordgrass (*Spartina *spp.) has colonised the intertidal flats in places, especially at Rossleague and Belvelly. The saltmarshes are scattered through the site and are all of the estuarine type on mud substrate. Species present include Sea Purslane (*Halimione portulacoides*), Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*), Common Saltmarsh-grass (*Puccinellia maritima*), Sea Plantain (*Plantago maritima*), Greater Sea-spurrey (*Spergularia media*), Lax-flowered Sea-lavender (*Limonium humile*), Sea Arrowgrass (*Triglochin maritimum*), Sea Mayweed (*Matricaria maritima*) and Red Fescue (*Festuca rubra*)."*

### 5.2.2. Conservation Objectives

The Habitats Directive defines when the conservation status of the listed habitats and species is considered as favourable. The definitions it uses for this are specific to the Directive. In summary, they require that the range and areas of the listed habitats, and the range and population of the listed species, should be at least maintained at their status at the time of designation. Site-specific conservation objectives aim to define favourable conservation conditions for a particular habitat or species at that site.

Article (1) of the Habitats Directive (92/43/EEC) describes favourable conservation status for habitats and species as follows.

Favourable conservation status of a habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;
- The natural range of the species is neither being reduced nor is 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 conservation objectives for Great Island Channel SAC, to maintain or restore the favourable conservation condition for each of the qualifying interests of the site, were published by NPWS (2014a) and are as follows: -

- To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Great Island Channel SAC;

- To restore the favourable conservation condition of Atlantic salt meadows in Great Island Channel SAC.

When considering the potential for impacts on annexed habitats in Great Island Channel SAC consideration must be given to each of the Attributes for *Habitat 1140* (Table 5.3) and *1330* (Table 5.4) as set out in the Conservation Objective Supporting documentation (NPWS, 2014a).

**Table 5.3 Attributes of 1140 Mudflats and sandflats not covered by seawater at low tide (from NPWS, 2014a).**

| 1140 | Mudflats and sandflats not covered by seawater at low tide | | |
|---|---|---|---|
| To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Great Island Channel SAC, which is defined by the following list of attributes and targets: | | | |
| Attribute | Measure | Target | Notes |
| Habitat area | Hectares | The permanent habitat area is stable or increasing, subject to natural processes. See Map 3 of NPWS, 2014a. | Habitat area was estimated using as 723ha using OSi data |
| Community distribution | Hectares | Conserve the following community type in a natural condition: Mixed sediment to sandy mud with polychaetes and oligochaetes community complex. See Map 4 of NPWS, 2014a. | Based on intertidal and subtidal surveys undertaken in 2006 (Aquafact, 2007) and 2011 (EcoServe, 2012; MERC, 2012). See marine supporting document for further information. |

**Table 5.4 Attributes of 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) (from NPWS, 2014a).**

| 1330 | Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) | | |
|---|---|---|---|
| To restore the favourable conservation condition of Atlantic salt meadows (*GlaucoPuccinellietalia maritimae*) in Great Island Channel SAC, which is defined by the following list of attributes and targets: | | | |
| Habitat area | Hectares | Area stable or increasing, subject to natural processes, including erosion and succession. For sub-sites mapped: Bawnard - 0.29ha; Carrigatohil - 1.01ha. See Map 5 of NPWS, 2014a. | Based on data from Saltmarsh Monitoring Project (SMP) (McCorry and Ryle, 2009). Two sub-sites that supported Atlantic salt meadow (ASM) were mapped (1.30ha) and additional areas of potential saltmarsh (17.60ha) were identified from an examination of aerial photographs, giving a total estimated area of 18.90ha. Saltmarsh habitat has also been recorded at two other sub-sites within the SAC (Curtis and Sheehy Skeffington, 1998). NB further unsurveyed areas maybe present within the SAC. See coastal habitats supporting document for further details. |
| Habitat distribution | Occurrence | No decline or change in habitat distribution, subject to natural processes. See Map 5 of NPWS, 2014a. | Based on data from McCorry and Ryle (2009). Within the sites surveyed by the SMP, estuary type saltmarsh over a mud substrate is most common and ASM is the dominant saltmarsh habitat. NB further unsurveyed areas maybe present within the SAC. See coastal habitats supporting document for further details. |
| Physical structure: sediment supply | Presence/ absence of physical barriers | Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions | Based on data from McCorry and Ryle (2009). At Bawnard there is a seawall that was constructed in the 18th-19th centuries. At Carrigatohil the northern and eastern shorelines have been significantly modified by road construction. Part of the saltmarsh has also been infilled. See coastal habitats supporting document for further details |
| Physical structure: creeks and pans | Occurrence | Maintain/restore creek and pan structure, subject to natural processes, including erosion and succession | Based on data from McCorry and Ryle (2009). The ASM at Carrigatohil is poorly developed, though some of the larger sections contain salt pans. The smaller sections, however, tend to be quite uniform in topography. The saltmarsh topography at Bawnard is poorly developed with few typical saltmarsh features. See coastal habitats supporting document for further details |
| Physical structure: flooding regime | Hectares flooded; frequency | Maintain natural tidal regime | Based on data from McCorry and Ryle (2009). At Bawnard, the entire bay empties at low tide to expose soft intertidal mudflats. See coastal habitats supporting document for further details |
| Vegetation structure: zonation | Occurrence | Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession | Based on data from McCorry and Ryle (2009). Zonations to Salicornia flats and intertidal mudflats occurs at Carrigatohil. At Bawnard, there is succession from saltmarsh to brackish saltmarsh and wet grassland as well as zonation to intertidal mudflats at the lower saltmarsh boundary. See coastal habitats supporting document for further details |

| 1330 | Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) | | |
|---|---|---|---|
| To restore the favourable conservation condition of Atlantic salt meadows (*GlaucoPuccinellietalia maritimae*) in Great Island Channel SAC, which is defined by the following list of attributes and targets: | | | |
| Vegetation structure: vegetation height | Centimetres | Maintain structural variation within sward | Based on data from McCorry and Ryle (2009). At Carrigatohil, the sward height is quite tall due to lack of grazing. At Bawnard only part of the site is grazed. See coastal habitats supporting document for further details |
| Vegetation structure: vegetation cover | Percentage cover at a representative number of monitoring stops | Maintain more than 90% area outside creeks vegetated | Based on data from McCorry and Ryle (2009). Some poaching was noted in places at Bawnard. See coastal habitats supporting document for further details |
| Vegetation composition: typical species and subcommunities | Percentage cover at a representative number of monitoring stops | Maintain range of subcommunities with typical species listed in SMP (McCorry and Ryle, 2009) | See coastal habitats supporting document for further details |
| Vegetation structure: negative indicator species - *Spartina anglica* | Hectares | No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1% where it is known to occur | Based on data from McCorry and Ryle (2009). Spartina occurs at both sub-sites in this SAC. See coastal habitats supporting document for further details |

### 5.2.3. Potential Threats

The site synopsis for the Great Island Channel SAC describes the land use and threats to the SAC as follows; *'While the main land use within the site is aquaculture (oyster farming), the greatest threats to its conservation significance come from road works, infilling, sewage outflows and possible marina developments.'*

The threats, pressures and activities with impacts on the SAC (NPWS, 2019) are itemised in Table 5.5.

**Table 5.5 Threats, pressures and activities with impacts on the SAC.**

| Rank | Threats and pressures (code) | Threats and pressure (type) | Inside/outside/both (i/o/b) |
|---|---|---|---|
| M | A08 | Fertilisation | o |
| H | F01 | Marine and freshwater aquaculture | i |
| H | J02.01.02 | Suppression of natural fires | i |
| H | D01.02 | Roads and motorways | i |
| H | E01 | Urbanised areas and human habitation | o |
| M | I01 | Invasive non-native species | i |
| M | A04 | Grazing | i |
| M | K02.03 | Eutrophication (natural) | i |

## 5.3. Brief Description of Cork Harbour SPA

Cork Harbour SPA is described as follows in the NPWS site synopsis[10]: -

> *"Cork Harbour is a large, sheltered bay system, with several river estuaries - principally those of the Rivers Lee, Douglas, Owenboy and Owennacurra. The SPA site comprises most of the main intertidal areas of Cork Harbour, including all of the North Channel, the Douglas River Estuary, inner Lough Mahon, Monkstown Creek, Lough Beg, the Owenboy River Estuary, Whitegate Bay, Ringabella Creek and the Rostellan and Poulnabibe inlets.*
>
> *Owing to the sheltered conditions, the intertidal flats are often muddy in character. These muds support a range of macro-invertebrates, notably* Macoma balthica, Scrobicularia plana, Hydrobia ulvae, Nepthys hombergi, Nereis diversicolor *and* Corophium volutator. *Green algae species occur on the flats, especially* Ulva *spp. Cordgrass (*Spartina *spp.) has colonised the intertidal flats in places, especially where good shelter exists, such as at Rossleague and Belvelly in the North Channel. Salt marshes are scattered through the site and these provide high tide roosts for the birds. Some shallow bay water is included in the site. Rostellan Lake is a small brackish lake that is used by swans throughout the winter. The site also includes some marginal wet grassland areas used by feeding and roosting birds.*
>
> *Cork Harbour is of major ornithological significance, being of international importance both for the total numbers of wintering birds (i.e. > 20,000) and also for its populations of Black-tailed Godwit and Redshank. In addition, it supports nationally important wintering populations of 22 species, as well as a nationally important breeding colony of Common Tern. Several of the species which occur regularly are listed on Annex I of the E.U. Birds Directive, i.e. Whooper Swan, Little Egret, Golden Plover, Bar-tailed Godwit, Ruff, Mediterranean Gull and Common Tern. The site provides both feeding and roosting sites for the various bird species that use it. Cork Harbour is also a Ramsar Convention site and part of Cork Harbour SPA is a Wildfowl Sanctuary."*

### 5.3.1. Conservation Objectives of Cork Harbour SPA

The Conservation Objectives for Cork Harbour SPA are to maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA[11] (last accessed 16/05/22).

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;
- the natural range of the species is neither being reduced nor is 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 conservation objective for non-breeding birds Special Conservation Interests of Cork Harbour SPA[12] are summarised in Table 5.6.

[10] https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004030.pdf
[11] https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004030.pdf
[12] https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004030.pdf

**Table 5.6 Conservation Objectives of Cork Harbour SPA.**

| Objective 1: To maintain the favourable conservation condition of the waterbird Special Conservation Interest species listed for Cork Harbour SPA, which is defined by the following list of attributes and targets: | | | |
|---|---|---|---|
| **Parameter** | **Attribute** | **Measure** | **Target** |
| Population | Population Trend | Percentage change as per population trend assessment using waterbird count data collected through the Irish Wetland Bird Survey and other surveys | The long term population trend should be stable or increasing |
| Range | Distribution | Range, timing or intensity of use of areas used by waterbirds, as determined by regular low tide and other waterbird surveys | There should be no significant decrease in the range, timing or intensity of use of areas by the waterbird species of Special Conservation Interest other than that occurring from natural patterns of variation. |
| Area | Wetland habitat | Area (Ha) | The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 2,587 Ha, other than that occurring from natural patterns of variation. |

## 5.3.2. Potential Threats

The threats, pressures and activities[13] with impact on Cork Harbour SPA are itemised in Table 5.7.

**Table 5.7 Threats, pressures and activities with impacts on the SPA.**

| Rank | Threats and pressures (code) | Threats and pressures (type) | Inside/outside/both (i/o/b) |
|---|---|---|---|
| M | F02.03 | Leisure fishing | i |
| H | E02 | Industrial or commercial areas | o |
| M | G01.01 | Nautical sports | i |
| M | D03.02 | Shipping lanes | i |
| M | G01.02 | Walking, horse riding and non-motorised vehicles | i |
| H | D01.02 | Roads, motorways | o |
| H | E01 | Urbanised areas, human habitation | o |
| L | E01.03 | Dispersed habitation | o |
| H | F01 | Marine and Freshwater Aquaculture | i |
| M | G01.06 | Skiing, off-piste | i |
| M | A08 | Fertilisation | o |
| H | D03.01 | Port areas | o |

[13] https://www.npws.ie/sites/default/files/protected-sites/natura2000/NF004030.pdf

## 5.4. Likelihood of Significant Effects on European sites

The available information on European sites was reviewed to establish whether or not the proposed project is likely to have a significant effect on the conservation objectives of the designated sites. The likelihood of impacts on the qualifying interests of the European sites identified in this report is based on information collated from the desk study, site visit, site plans, design information and reports and other available existing information.

The likelihood of impacts occurring are established in light of the type and scale of the proposed works, the location of the proposed works with respect to European sites and the features of interest and conservation objectives of the European sites.

This screening report is prepared following the Cause – Pathway – Effect model. The potential impacts are summarised into the following categories for screening purposes.

- Direct impacts refer to habitat loss or fragmentation arising from land-take requirements for development or agricultural purposes. Direct impacts can be as a result of a change in land use or management, such as the removal of agricultural practices that prevent scrub encroachment.

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

### 5.4.1. Identification of Potential Impacts

#### 5.4.1.1. Great Island Channel SAC

**Construction**

The proposed works area is not located within a European site (neither SAC nor SPA).

There will be no direct impacts to the River Owenboy / Owenboy Estuary due to the geographical location of the proposed project relative to the estuary; i.e. no works are proposed in or close to the estuary. The site is separated from the estuary by the R612 and Royal Cork Yacht Club (buildings and carpark; marina) (i.e. 50-60m to the shore; ca. 155m to outer edge of the marina).

There is no watercourse or open drain within the site boundary.

The only connection to European sites would be via surface water flows off the site or potentially via any existing outfalls to the estuary. Due to the age of the terrace, historical drains could be encountered during works on site. Where any such drains are encountered they will be closed off and isolated from any construction works. Even were some runoff to occur any hydrological linkage through the surface water drainage system from the site via Lower Road to the River Owenboy / Owenboy Estuary is extremely remote. Along watercourses the site is ca. 8.6km from Great Island Channel SAC. When considering *1140 - Mudflats and sandflats not covered by seawater at low tide* – the proposed development would not affect either of the listed Attributes for this habitat – i.e. either *Habitat Area* or *Distribution* of this habitat within the SAC; nor would they affect any of the Attributes listed for *1330 Atlantic salt meadows* (see Table 5.3 and 5.4). Even in a worst case scenario where silt laden waters might enter the River Owenboy / Owenboy Estuary, the dilution offered by the distance along the River Owenboy / Owenboy Estuary to Cork Harbour (and volume of water) is such that negative impacts to Great Island Channel SAC are not anticipated; nor to the Wetlands for which Cork Harbour SPA is also designated.

During the construction phase of the project, and as set out above, a construction compound will be established within the site boundary (see Figure 1.3); this will not be located in proximity to any drains or surface water features through which sediment or other pollutants such as hydrocarbons could be discharged to the River Owenboy / Owenboy Estuary and ultimately to Cork Harbour.

The scheme will not include any demolition. An old shed on the northern side of the site is already demolished. The foundations are still in place which will need to be removed. Excavation of the proposed site will also involve the removal of the existing topsoil and subsoil (as noted, one area of wood mulch was also noted on the site). Excavated material will be temporarily stored at suitable locations within the site only and then removed from site to appropriately licenced waste facilities. No negative impacts to European sites are anticipated from these activities.

The proposed development is underlain by Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zone. Groundwater is classified as Extremely Vulnerable (Source: EPA Maps). There is no evidence of any karst features being present within the general vicinity of the proposed development. The proposed project will involve shallow excavations. Any localised / temporary alteration of ground water levels on-site is expected to be minor and of short duration, and will not have a significant impact on groundwater levels during site operation. Following completion of works, in landscaped areas of the site surface water will naturally infiltrate to soils and ultimately groundwater; all other waters will be intercepted by the surface water management system as discussed above. Risk to groundwater quality will be of limited duration; occurring during site excavations. As noted the site is a significant distance from the site to Great Island Channel SAC and the estuary offers significant dilution of any inputs relative to the nearby Cork Harbour SPA.

The proposed residential development will be modular and utilise off-site construction methods, either 2D panelised (typically Light Gauge Steel) or 3D volumetric (Light Gauge Steel or concrete). No negative impacts to European sites are anticipated from these construction activities or from works within the terrace on Lower Road.

Access to the site will be from the public road; Lower Road at the western end of the terrace.

The introduction and spread of invasive species can also result in negative impacts within a designated site. Three-cornered garlic was the only species listed on the 3rd Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011, as amended, that was recorded on site (Atkins, 2021). The location of Three-cornered garlic plants, together with other invasive plant species not listed on the 3rd Schedule (e.g. winter heliotrope; Himalayan honeysuckle, butterfly bush, traveller's-joy and Cherry laurel) are included in the Invasive Species Report that accompanies this application (Atkins, 2021). This report will inform plans to control invasive species on site to be developed by Cork County Council. However, the distance to Great Island Channel SAC is such that no adverse effects are likely to occur on the Great Island Channel SAC as a result of the potential spread of invasive species. These species would not be supported by the wetland habitats within Cork Harbour SPA. However, as is good practice strict biosecurity measures will be implemented on site.

**Operation**

The majority of surface water from the site will discharge to a public storm sewer on Lower Road (please refer to drainage drawing accompanying the planning application). The surface water will first pass through a sump manhole to aid with removal of sediment and then through a by-pass separator to remove hydrocarbons before being collected in an attenuation tank. From here it will discharge to the public sewer at green field run off rate by means of a hydrobreak. Surface water from the terraced house on the north of the site will discharge into the combined sewer on Lower Road.

With respect to foul effluent, Irish Water have confirmed to Cork County Council the feasibility of the proposed scheme connecting into the public foul sewer on Lower Road (dated 31st May 2022).

As such negative impacts to Great Island Channel SAC are not anticipated; nor to the Wetlands for which Cork Harbour SPA is also designated.

#### 5.4.1.2. Cork Harbour SPA

**Construction & Operation**

Cork Harbour SPA is designated for several wintering waterbirds. As noted, there is no overlap with the SPA. While several species for which the SPA has been designated do feed in fields outside of the SPA (e.g. Curlew, Oystercatcher, and Black-tailed Godwit) the proposed works area does not support suitable habitat for these species (see Section 4.2.1). There are no works proposed close to the estuary. The terrace on Lower Road effectively screens all works to the rear from the estuary, while the terrace is separated by the R612 and Royal Cork Yacht Club (buildings and carpark; marina) (i.e. 50-60m to the shore; ca. 155m to outer edge of the marina).

The SPA is also designated for Wetland and Waterbirds [A999]; however, as noted above for Great Island Channel SAC no impact to wetland habitats within the SPA are anticipated.

During the operation phase, the majority of surface water from the site will discharge to a public storm sewer on Lower Road (please refer to drainage drawing accompanying the planning application). The surface water will first pass through a sump manhole to aid with removal of sediment and then through a by-pass separator to remove hydrocarbons before being collected in an attenuation tank. From here it will discharge to the public sewer at green field run off rate by means of a hydrobreak. Surface water from the terraced house on the north of the site will discharge into the combined sewer on Lower Road.

With respect to foul effluent, Irish Water have confirmed to Cork County Council the feasibility of the proposed scheme connecting into the public foul sewer on Lower Road (dated 31st May 2022).

No impacts are therefore anticipated during the operational phase of the proposed project as this project will not significantly affect water quality or the hydrological regime of River Owenboy / Owenboy Estuary and ultimately to Cork Harbour.

It is therefore considered that the proposed development will not negatively impact on groundwater quality within Great Island Channel SAC; nor will it impact, directly or indirectly, any of the habitats or species listed as features of interest for Great Island Channel SAC.

In summary, due to the nature of proposed works; i.e. no in-stream works along the River Owenboy / Owenboy Estuary; the distance between the site on Lower Road and Great Island Channel SAC / Cork Harbour SPA, as well as the extent and duration of the proposed works; no negative impacts to European sites, notably Great Island Channel SAC / Cork Harbour SPA through surface waters or via disturbance are anticipated during construction or operation of this scheme.

## 5.5. In-Combination Impacts

In-combination impacts with the following plans and projects were considered during the preparation of this report. The search of Cork County Council's planning database was map-based.

The Cork County Development Plan 2022-2028 sets out policies and objectives for the development of the County during the period of the Plan. The Plan seeks to secure the sustainable development and improvement of the economic, environmental, cultural and social assets of Cork County. The Plan has outlined objectives for biodiversity within the county. These include: -

- Providing protection to all designated sites, national and European, and to maintain or develop linkages between these,
- Providing protection to protected plants and animals in accordance with legal requirements, and
- Retain areas of local biodiversity value, ecological corridors and habitats which contribute to the county ecological network, to protect them from inappropriate development.

A NIS was prepared for the Cork County Development Plan which assessed the Plan and its potential to adversely affect the integrity of European sites. The findings of the NIS were integrated into the Plan, ensuring that potential impacts were avoided, reduced or offset. Thus, an AA determination was made by Cork County Council that the Plan will not adversely affect the integrity of European sites due to the incorporation of mitigation measures into the Plan as a result of the AA process.

The site at Crosshaven is also within the 2017 Local Area Plan development boundaries.

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 above, or other plans or projects, to give rise to cumulative impacts on a European site, including Great Island Channel SAC or Cork Harbour SPA.

## 5.6. Consideration of Findings

This Screening for Appropriate Assessment report is based on the best available scientific information. It is concluded by the authors of this report that, on the basis of objective information, the proposed project, individually or in-combination with other plants and projects, will not have likely significant effects on a European site, including Great Island Channel SAC or Cork Harbour SPA, in view of their conservation objectives. Thus, it is concluded that the proposed project does not need to proceed to Appropriate Assessment.

Should the scope or nature of the proposed project change, a new Screening for Appropriate Assessment report shall be required.

# 6. Appropriate Assessment Screening Matrix

Presented below is a summary screening matrix for the proposed project at Crosshaven, Co. Cork. As discussed above, this summarises the assessment of potential impacts on Great Island Channel SAC or Cork Harbour SPA, or any other European site.

| **1. Description of the project or plan** | |
|---|---|
| *Location* | Crosshaven, Co. Cork |
| *Distance from designated site* | Great Island Channel SAC – ca. 8.6km<br>Cork Harbour SPA – 330m |
| *Brief Description of the project or plan* | See Section 1.2 |
| *Is the plan directly connected with or necessary to the site management for nature conservation?* | No |

| **2. Brief Description of the Natura 2000 site(s)** | |
|---|---|
| *Name* | Great Island Channel SAC (001058)<br>Cork Harbour SPA (004030) |
| *Site designation status* | SAC<br>SPA |
| *Qualifying interests* | Refer to Section 5.2 & 5.3 |
| *Unit size* | Great Island Channel SAC<br>– Area: 1442.6 ha; of which marine: 86.139%<br>Cork Harbour SPA (004232)<br>– Area: 2660.3 ha; of which marine: 90.792% |

| **3. Assessment Criteria** | |
|---|---|
| *Other plans or projects which may have a cumulative impact* | A map-based planning search was conducted on Cork County Council's planning system. There are no plans and projects identified in the immediate environs of the proposed project that could provide a pathway for other plans and projects to act in-combination and to give rise to in-combination impacts on Cork Harbour SPA. |
| *Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 sites.* | See Section 1.2 for description of the proposed project. |
| *Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site by virtue of:*<br>- *Size and scale*<br>- *Land-take*<br>- *Distance from Natura 2000 site or key features of the site*<br>- *Resource requirements* | No land-take of Great Island Channel SAC or Cork Harbour SPA is required for the proposed project.<br>There are no water abstraction requirements for the proposed project.<br>There are no excavation requirements within or adjacent to the SAC / SPA.<br>Excavations within the site are shallow.<br>Traffic both during the construction and operation of the proposed project will use the existing road network in the environs of Carrigaline and Crosshaven to access the site. |

| 3. Assessment Criteria | |
|---|---|
| - *Emissions*<br>- *Excavation requirements*<br>- *Transportation requirements*<br>- *Duration of construction, operation etc.*<br>- *Others* | The majority of surface water from the site will discharge to a public storm sewer on Lower Road (please refer to drainage drawing accompanying the planning application). The surface water will first pass through a sump manhole to aid with removal of sediment and then through a by-pass separator to remove hydrocarbons before being collected in an attenuation tank. From here it will discharge to the public sewer at green field run off rate by means of a hydro break. Surface water from the terraced house on the north of the site will discharge into the combined sewer on Lower Road.<br>With respect to foul effluent, Irish Water have confirmed to Cork County Council the feasibility of the proposed scheme connecting into the public foul sewer on Lower Road (dated 31st May 2022).<br>The construction period for the proposed project is approximately 20 months. The proposed project is permanent in nature and located outside the boundary of the SAC and SPA. |
| *Describe any likely changes to the site arising as a result of:*<br>- *Reduction of habitat area*<br>- *Disturbance of key species*<br>- *Habitat or species fragmentation*<br>- *Reduction in species density*<br>- *Changes in key indicators of conservation value*<br>- *Climate change* | There shall be no reduction of habitat area within either the SAC or SPA as a result of the proposed project.<br>Disturbance to SPA bird species is not anticipated due to the nature, scale and location of the proposed project.<br>During construction, the proposed works have the potential to release silt-laden runoff and accidental spills of hydrocarbons locally within the red line boundary of the proposed project. However, the risk is not significant, and the perceived risk posed by the works to the SAC and SPA is negligible. Thus, likely significant effects are not anticipated.<br>With respect to foul effluent, Irish Water have confirmed to Cork County Council the feasibility of the proposed scheme connecting into the public foul sewer on Lower Road (dated 31st May 2022). |
| *Describe any likely impacts on the Natura 2000 site as a whole in terms of:*<br>- *Interference with the key relationships that define the structure of the site*<br>*Interference with key relationships that define the function of the site.* | There are no likely changes to the WSAC or SPA as a result of the proposed project with respect to the key relationships that define the structure or function of the SAC or SPA. |
| *Provide indicators of significance as a result of the identification of effects set out above in terms of:*<br>- *Loss*<br>- *Fragmentation*<br>- *Disruption*<br>- *Disturbance*<br>- *Change to key elements of the site* | There shall be no effects of loss, fragmentation, disruption or disturbance as a result of the proposed project.<br>As set out above, there is potential for silt-laden runoff and accidental hydrocarbon spills during construction to the local environment within the red line boundary of the proposed project; however due to the nature, extent and scale of the proposed project, likely significant effects are not anticipated. |
| *Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale of magnitude of impacts is not known.* | None of the potential impacts outlined above are likely to be significant in nature. |

| Data collected to carry out the assessment | | | |
|---|---|---|---|
| *Who carried out the assessment* | *Sources of data* | *Level of assessment completed* | *Where can the full results of the assessments be accessed and viewed?* |
| Atkins<br>Unit 2B<br>2200 Cork Airport Business Park, Cork | Desktop data derived from the NPWS – Natura 2000 form, site synopsis, SAC reports etc.<br>National Biodiversity Date Centre online data.<br>EPA Envision Mapping system; Google maps; Bing Maps etc.<br>Cork County Council Planning Enquiry System<br>Field survey work | Screening for Appropriate Assessment | Atkins, Unit 2B<br>2200 Cork Airport Business Park, Cork |

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# Appendices

# Appendix A. Site Synopses

# SITE SYNOPSIS

**Site Name: Great Island Channel SAC**

**Site Code: 001058**

The Great Island Channel stretches from Little Island to Midleton, with its southern boundary being formed by Great Island. It is an integral part of Cork Harbour which contains several other sites of conservation interest. Geologically, Cork Harbour consists of two large areas of open water in a limestone basin, separated from each other and the open sea by ridges of Old Red Sandstone. Within this system, Great Island Channel forms the eastern stretch of the river basin and, compared to the rest of Cork Harbour, is relatively undisturbed. Within the site is the estuary of the Owennacurra and Dungourney Rivers. These rivers, which flow through Midleton, provide the main source of freshwater to the North Channel.

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):

| |
|---|
| [1140] Tidal Mudflats and Sandflats |
| [1330] Atlantic Salt Meadows |

The main habitats of conservation interest in Great Island Channel SAC are the sheltered tidal sand and mudflats and the Atlantic salt meadows. Owing to the sheltered conditions, the intertidal flats are composed mainly of soft muds. These muds support a range of macro-invertebrates, notably *Macoma balthica*, *Scrobicularia plana*, *Hydrobia ulvae*, *Nepthys hombergi, Nereis diversicolor* and *Corophium volutator*. Green algal species occur on the flats, especially *Ulva lactua* and *Enteromorpha* spp. Cordgrass (*Spartina* spp.) has colonised the intertidal flats in places, especially at Rossleague and Belvelly.

The saltmarshes are scattered through the site and are all of the estuarine type on mud substrate. Species present include Sea Purslane (*Halimione portulacoides*), Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*), Common Saltmarsh-grass (*Puccinellia maritima*), Sea Plantain (*Plantago maritima*), Greater Sea-spurrey (*Spergularia media*), Lax-flowered Sea-lavender (*Limonium humile*), Sea Arrowgrass (*Triglochin maritimum*), Sea Mayweed (*Matricaria maritima*) and Red Fescue (*Festuca rubra*).

The site is extremely important for wintering waterfowl and is considered to contain three of the top five areas within Cork Harbour, namely North Channel, Harper's Island and Belvelly-Marino Point. Shelduck is the most frequent duck species with 800-1,000 birds centred on the Fota/Marino Point area. There are also large flocks of Teal and Wigeon, especially at the eastern end. Waders occur in the greatest density

north of Rosslare, with Dunlin, Godwit, Curlew and Golden Plover the commonest species. A population of about 80 Grey Plover is a notable feature of the area. All the mudflats support feeding birds; the main roost sites are at Weir Island and Brown Island, and to the north of Fota at Killacloyne and Harper's Island. Ahanesk supports a roost also but is subject to disturbance. The numbers of Grey Plover and Shelduck, as given above, are of national importance.

The site is an integral part of Cork Harbour which is a wetland of international importance for the birds it supports. Overall, Cork Harbour regularly holds over 20,000 waterfowl and contains internationally important numbers of Black-tailed Godwit (1,181) and Redshank (1,896), along with nationally important numbers of nineteen other species. Furthermore, it contains large Dunlin (12,019) and Lapwing (12,528) flocks. All counts are average peaks, 1994/95 – 1996/97. Much of the site falls within Cork Harbour Special Protection Area, an important bird area designated under the E.U. Birds Directive.

While the main land use within the site is aquaculture (oyster farming), the greatest threats to its conservation significance come from road works, infilling, sewage outflows and possible marina developments.

The site is of major importance for the two habitats listed on Annex I of the E.U. Habitats Directive, as well as for its important numbers of wintering waders and wildfowl. It also supports a good invertebrate fauna.

# SITE SYNOPSIS

## SITE NAME: CORK HARBOUR SPA

## SITE CODE: 004030

Cork Harbour is a large, sheltered bay system, with several river estuaries - principally those of the Rivers Lee, Douglas, Owenboy and Owennacurra. The SPA site comprises most of the main intertidal areas of Cork Harbour, including all of the North Channel, the Douglas River Estuary, inner Lough Mahon, Monkstown Creek, Lough Beg, the Owenboy River Estuary, Whitegate Bay, Ringabella Creek and the Rostellan and Poulnabibe inlets.

Owing to the sheltered conditions, the intertidal flats are often muddy in character. These muds support a range of macro-invertebrates, notably *Macoma balthica*, *Scrobicularia plana*, *Hydrobia ulvae*, *Nepthys hombergi*, *Nereis diversicolor* and *Corophium volutator*. Green algae species occur on the flats, especially *Ulva* spp. Cordgrass (*Spartina* spp.) has colonised the intertidal flats in places, especially where good shelter exists, such as at Rossleague and Belvelly in the North Channel. Salt marshes are scattered through the site and these provide high tide roosts for the birds. Some shallow bay water is included in the site. Rostellan Lake is a small brackish lake that is used by swans throughout the winter. The site also includes some marginal wet grassland areas used by feeding and roosting birds.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Little Grebe, Great Crested Grebe, Cormorant, Grey Heron, Shelduck, Wigeon, Teal, Mallard, Pintail, Shoveler, Red-breasted Merganser, Oystercatcher, Golden Plover, Grey Plover, Lapwing, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Greenshank, Black-headed Gull, Common Gull, Lesser Black-backed Gull and Common Tern. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

Cork Harbour is an internationally important wetland site, regularly supporting in excess of 20,000 wintering waterfowl. Of particular note is that the site supports internationally important populations of Black-tailed Godwit (1,896) and Redshank (2,149) - all figures given are five year mean peaks for the period 1995/96 to 1999/2000. Nationally important populations of the following 19 species occur: Little Grebe (57), Great Crested Grebe (253), Cormorant (521), Grey Heron (80), Shelduck (2,009), Wigeon (1,791), Teal (1,065), Mallard (513), Pintail (57), Shoveler (103), Red-breasted Merganser (121), Oystercatcher (1,809), Golden Plover (3,342), Grey Plover (95), Lapwing (7,569), Dunlin (9,621), Bar-tailed Godwit (233), Curlew (2,237) and Greenshank (46). The Shelduck population is the largest in the country (over 10% of national total). Other species using the site include Mute Swan (38), Whooper Swan (5), Pochard (72), Gadwall

(6), Tufted Duck (64), Goldeneye (21), Coot (53), Ringed Plover (73), Knot (26) and Turnstone (113). Cork Harbour is an important site for gulls in winter and autumn, especially Black-headed Gull (3,640), Common Gull (1,562) and Lesser Black-backed Gull (783), all of which occur in numbers of national importance. Little Egret and Mediterranean Gull, two species which have recently colonised Ireland, also occur at this site.

A range of passage waders occurs regularly in autumn, including such species as Ruff (5-10), Spotted Redshank (1-5) and Green Sandpiper (1-5). Numbers vary between years and usually a few of each of these species over-winter.

Cork Harbour has a nationally important breeding colony of Common Tern (102 pairs in 1995). The birds have nested in Cork Harbour since about 1970, and since 1983 on various artificial structures, notably derelict steel barges and the roof of a Martello Tower. The birds are monitored annually and the chicks are ringed.

Cork Harbour is of major ornithological significance, being of international importance both for the total numbers of wintering birds (i.e. > 20,000) and also for its populations of Black-tailed Godwit and Redshank. In addition, it supports nationally important wintering populations of 22 species, as well as a nationally important breeding colony of Common Tern. Several of the species which occur regularly are listed on Annex I of the E.U. Birds Directive, i.e. Whooper Swan, Little Egret, Golden Plover, Bar-tailed Godwit, Ruff, Mediterranean Gull and Common Tern. The site provides both feeding and roosting sites for the various bird species that use it. Cork Harbour is also a Ramsar Convention site and part of Cork Harbour SPA is a Wildfowl Sanctuary.

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