July 2022

# Stage 2: Appropriate Assessment -

# Natura Impact Statement

# Strategic Housing Development (SHD)

## On behalf of

## Bellmount Developments Limited

## Wilton Road, Victoria Cross, Bishopstown, Cork

MALONE O'REGAN ENVIRONMENTAL

QUALITY
I.S. EN ISO 9001:2015
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**Job Number: E1976**

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**Approved By: Kathryn Broderick** **Signed:** _____

## Revision Record

| Issue No. | Date | Description | Remark | Prepared | Checked | Approved |
|---|---|---|---|---|---|---|
| 01 | 25/07/22 | Report | FINAL | JB | KB | KB |
| | | | | | | |
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**Stage 2: Appropriate Assessment - Natura Impact Statement**

**Bellmount Victoria Cross Strategic Housing Development**

**Wilton Road, Victoria Cross, Bishopstown, Cork**

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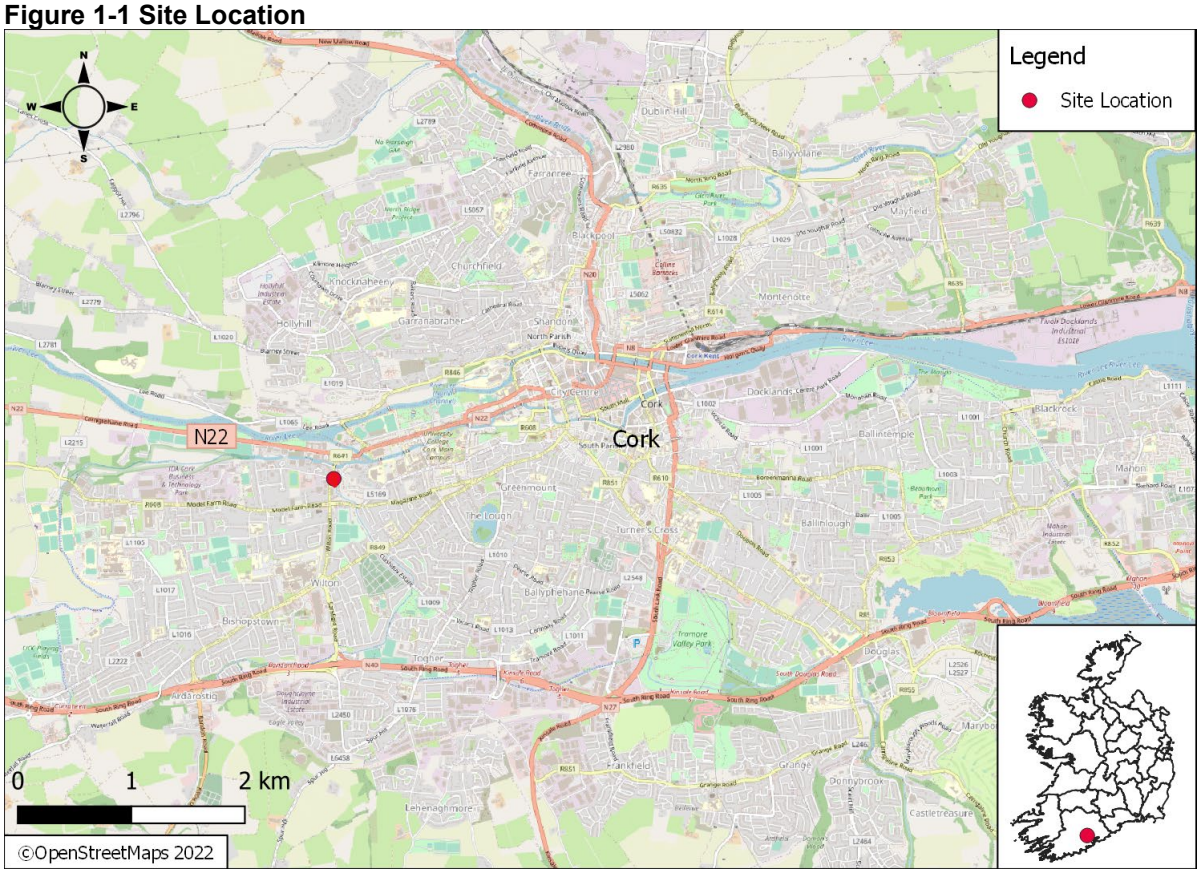
## 1.1 Introduction

## 1.2 Background

Malone O'Regan Environmental (MOR) was commissioned by Bellmount Developments Limited ('the Applicant') to undertake an Appropriate Assessment to assess the potential adverse effects, if any, of the proposed Strategic Housing Development (SHD) and all associated works on lands at Wilton Road, Victoria Cross, Bishopstown, Cork (OS Reference W 65206 71067) on nearby sites with European conservation designations (i.e. Natura 2000 sites).

The location of the proposed development ('the Site') is shown in Figure 1-1.

**Figure 1-1 Site Location**




The purpose of this assessment was to determine the appropriateness, or otherwise, of the proposed development in the context of the conservation objectives of such sites.

## 1.3 Statement of Authority

The report was prepared by Ms. Jessica Beresford, Environmental Consultant. Jessica is a qualifying member of the Chartered Institute of Ecology and Environmental Management and has over a years' experience working in the ecological consultancy sector, including the preparation of AAs, habitat surveys and protected species surveys.

The report was reviewed and approved by Mr. Dyfrig Hubble, Principal Ecologist. Dyfrig is a full member of the Chartered Institute of Ecology and Environmental Management. Dyfrig has over 15 years' experience working in the ecological consultancy sector, including habitat surveys and appraisals and specialist protected species surveys in support of Appropriate Assessments.

## 1.4 Regulatory Context

This Natura Impact Statement (NIS) was prepared in accordance with Article 33 of the Planning and Development Regulations 2001 and in compliance with the following legislation:

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna better known as "The Habitats Directive". This provides the framework for legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. These are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC as amended 2009/149/EC) (better known as "The Birds Directive").

Article 6(3) and 6(4) of the Habitats Directive sets out the decision-making tests for plans and projects likely to affect Natura 2000 sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment (now termed Natura Impact Statement):

> "*Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implication 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."*

The Habitats Directive promotes a hierarchy of avoidance, mitigation, and compensatory measures. First, the project should aim to avoid any negative impacts on European sites by identifying possible impacts early in the planning stage and designing the project in order to avoid such impacts. Second, mitigation measures should be applied, if necessary, during the Appropriate Assessment (AA) process to the point, where no adverse impacts on the site(s) remain. If the project is still likely to result in adverse effects, and no further practicable mitigation is possible, it is rejected. If no alternative solutions are identified and the project is required for imperative reasons of overriding public interest (IROPI test) under Article 6 (4) of the Habitats Directive, then compensation measures are required for any remaining adverse effect.

## 1.5 Stages of Appropriate Assessment

There are four distinct stages to undertaking an AA as outlined in current European Union (EU) and Department of Environment, Heritage, and Local Government (DOEHLG) guidance:

**Stage 1: Screening**

This process identifies the potential impacts of a plan or project on a Natura site, either alone or in combination with other plans and projects and considers whether these impacts are likely to be significant. If potential significant impacts are identified the plan or project cannot be screened out and must proceed to Stage 2.

**Stage 2: Appropriate Assessment**

Where potential significant impacts are identified, an assessment of the potential mitigation of those impacts is required; this stage considers the appropriateness of those mitigation measures in the context of maintaining the integrity of the Natura 2000 sites. If potential significant impacts cannot be eliminated with appropriate mitigation measures, the assessment must proceed to Stage 3.

**Stage 3: Assessment of Alternatives Solutions**

This process examines alternative ways to achieve the objectives of the plan or project that avoid adverse impacts on the integrity of the Natura 2000 site if mitigation measures are deemed insufficient.

**Stage 4: Imperative Reasons of Overriding Public Interest (IROPI)**

Assessment where no alternative solution exists for a plan or project and where adverse impacts remain. This includes an assessment of compensatory measure where in the case of projects or plans which can be considered to be necessary for IROPI.

This report has been prepared to inform the planning authority with regard to Stage 1 (Screening) and Stage 2 (Appropriate Assessment) of the proposed development through the research and interpretation of available scientific, geographic, and engineering knowledge. This report seeks to determine whether the installation of the proposed development will, on its own or in combination with other plans / projects have a significant effect on Natura 2000 sites within a defined radius of the subject Site.

# 2 METHODOLOGY

## 2.1 Desk Based Study

A desk-based review of information sources was completed, which included the following sources of information:

- The National Parks and Wildlife Service (NPWS) website was consulted to obtain the most up to date detail on conservation objectives for the Natura 2000 sites relevant to this assessment [1];
- The National Biodiversity Data Centre (NBDC) website was consulted with regard to species distributions within 2km of the Site [2]; and,
- The EPA Envision website was consulted to obtain details about watercourses in the vicinity of the Site (https://gis.epa.ie/EPAMaps/) [3].

## 2.2 Field Based Studies

In order to establish baseline conditions at the Site, a field survey was undertaken by one (1No.) MOR Ecologist on the 14th June 2022.

### 2.2.1 Habitat Survey

A Habitat Survey was undertaken using the Fossitt's Guide to Habitats in Ireland [4]. The survey aimed to identify the extent and quality of habitats present on the Site. The survey was carried out by one (1No) suitably qualified and experienced MOR ecologist on the 14th of June 2022.

The assessment was extended to also identify the potential for these habitats to support other features of nature conservation importance, such as species afforded legal protection under either Irish or European legislation.

### 2.2.2 Invasive Species

The Site was also assessed for the presence of any noxious / invasive species such as Japanese knotweed (*Fallopia japonica*) and any other invasive species within the Site and adjacent area.

## 2.3 Survey Limitations

No survey limitations were encountered.

# 3 DESCRIPTION OF THE PROJECT

## 3.1 Site Context and Description

The Site is located at Victoria Cross (South), Bishopstown, Cork, within a predominately urban landscape. The Site is ca. 0.29 ha. in size. The Site is currently occupied by a Car Sales garage and is predominately comprised of areas of hardstanding with sections of treeline and vegetation along the eastern perimeter, followed by Glasheen River.

The Site is bordered to the west by Victoria Cross Road and to the north by Orchard Road, and existing buildings to the south. The surrounding area is a mix of private residential and university campus accommodation as well as restaurants, retailers, and other amenities due to the close proximity of University College Cork (UCC).

## 3.2 Watercourses within the Vicinity of the Site

The Site and adjacent watercourses are located within the Glasheen [Cork City] _SC_010 sub-catchment, forming part of the overall Lee, Cork Harbour and Youghal Bay WFD Catchment [5].

As per EPA maps, one (1 no) watercourse was identified adjacent to the Site along the eastern perimeter, the Glasheen (Cork City) River, please refer to Figure 3-1 below. It should be noted that this river is culverted under Orchard Road to the north of the Site. Glasheen (Cork City) River [6] flows in a northerly direction for ca. 100m before reaching a confluence with the Curragheen River.

The Curragheen River converges with the Glasheen (Cork City) River which continues in an easterly direction before forming part of the River Lee (south channel) ca. 300m downstream. It should be noted that this section of the Glasheen (Cork City) River is known colloquially as the Curragheen River until its confluence with the River Lee, ca. 340m north of the Site. To avoid confusion, from this point onwards the river that flows in an easterly direction ca. 100m north of the Site will be known as the 'Curragheen River.'

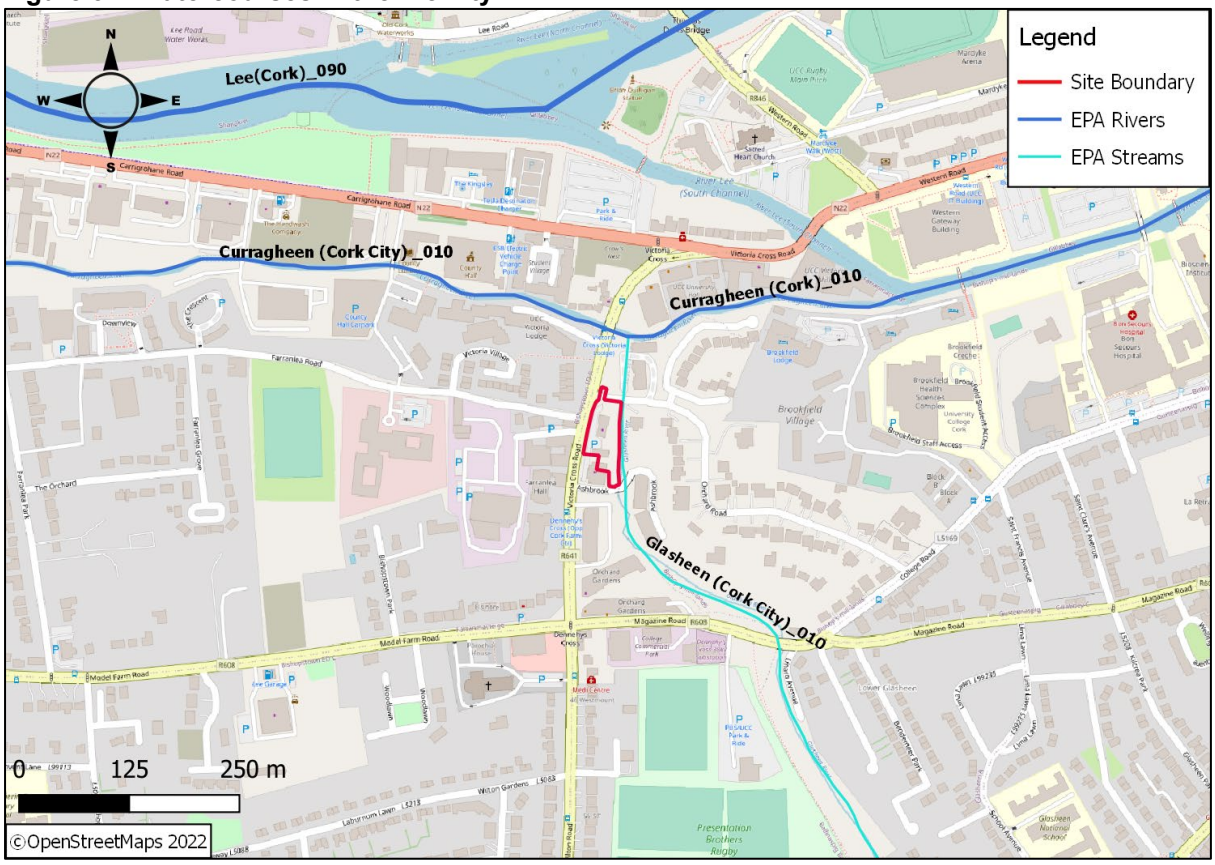
The River Lee continues in an easterly direction for ca. 8km before discharging into Cork Harbour.

According to the Water Framework Directive 2013–2018 (WFD), the status of both the Curragheen River and Glasheen (Cork City) River are currently '*poor'* and are both considered to be '*at risk.*'

According to the Water Framework Directive 2013–2018 (WFD), the status of the River Lee is '*moderate*' and is considered to be '*at risk.*'

The location of the key surface water features in the vicinity of the Site are illustrated in Figure 3-1 below.

**Figure 3-1 Watercourses in the Vicinity***




*It should be noted that the surface waterbody labels in this Figure are as per the EPA names [3].

## 3.3 Proposed Development

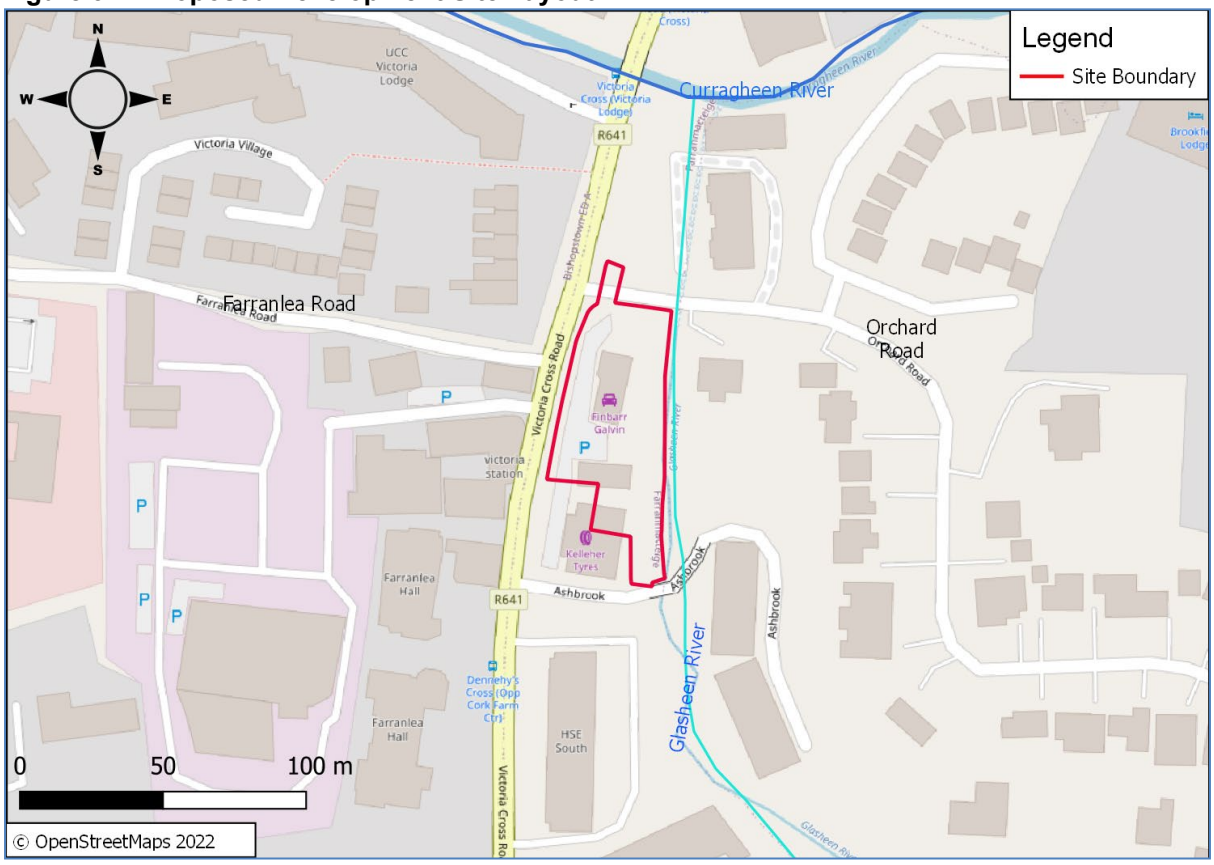
The Proposed Development is for a Strategic Housing Development (SHD) at Wilton Road, Victoria Cross (South), Cork and will comprise of:

1. The demolition of existing structures on site; and
2. The construction of 78 no. student accommodation apartments (ranging in size from single bed studio apartments to 8-bed apartments) comprising a total of 206 no. bed spaces in 1 no. 6 storey block;
3. Student amenity facilities including a study area, games room, lounge space, laundry room and server/ICT room;
4. The provision of landscaping and amenity areas including a courtyard space (including modifications to the external amenity area of the student accommodation scheme permitted under An Bord Pleanála Ref. 19/38385), 1 no. rooftop terrace and a riverfront amenity incorporating a pedestrian and cycle path accessing onto Ashbrook Heights and Orchard Road;
5. The provision of a set down area, 1 no. access point (for emergency vehicles only), footpaths and repositioned pedestrian crossing and associated tactile paving on Orchard Road;
6. The provision of a new junction build out at the junction of Orchard Road and Victoria Cross Road;
7. The provision of footpaths and landscaped areas along Victoria Cross Road; and

8. All associated ancillary development including pedestrian/cyclist facilities, lighting, drainage, boundary treatments, bin and bicycle storage and plant at ground and roof top levels.

Figure 3-2 below shows an outline site layout of the Proposed Development. A detailed drawing can be seen by referring to Drawing A01-10 submitted as part of the planning package.

**Figure 3-2: Proposed Development Site Layout**




### 3.3.1 Drainage

Surface Water Drainage

It is proposed to divert the existing storm water pipe moving along the western boundary of the Site and re-locate it under the existing footpath to get a sufficient distance to the edge of the foundation of the building in accordance with Section 3.5.9 of the Irish Water Code of Practice for Wastewater Infrastructure.

The proposed surface water drainage will discharge to the existing stormwater network northwest of the Site. The surface water drainage system will collect storm-water run-off from the Proposed Development, collecting run-off from impermeable road surfaces via gullies and adjoining areas. An attenuation tank has been proposed for the Site to provide flow attenuation and to limit the discharge of surface water from the Site to the Glasheen River during any storm event. Furthermore, a Class 1 Klargester bypass hydrocarbon and silt interceptor will further serve to filter and retain contaminants. Refer to JODA Engineering Consultants Engineering Report for further details.

Foul Water Drainage

It is proposed to divert the existing storm water pipe moving along the western boundary of the Site and re-locate it under the existing footpath to get a sufficient distance to the edge of

the foundation of the building in accordance with Section 3.5.9 of the Irish Water Code of Practice for Wastewater Infrastructure.

The proposed surface water drainage will discharge to the existing stormwater network northwest of the Site. The surface water drainage system will collect storm-water run-off from the Proposed Development, collecting run-off from impermeable road surfaces via gullies and adjoining areas. An attenuation tank has been proposed for the Site to provide flow attenuation and to limit the discharge of surface water from the Site to the Glasheen River during any storm event. Refer to JODA Engineering Consultants Engineering Report for further details.

### 3.3.2 Flood Risk Assessment

A Flood Risk Assessment (FRA) has been prepared by JODA Engineering Consultants and has been submitted as part of the overall planning application alongside this report. The FRA included an examination of Lee CFRAMS mapping and concluded that the Site is within an AEP Flood Extent zone between that predicted flood extents for the 0.1% AEP and the 1% AEP will include the site of the Proposed Development. Please refer to drawing M8/UA/EXT/CURS/009 included in Appendix B of the FRA. Therefore, the risks of the Site flooding as a result of fluvial and tidal flooding are moderate.

The ground floor level for the proposed building has been determined based on the 1% AEP for the mid-range future scenario of 5.20m OD for the River Lee and applying a freeboard of 0.3m giving a final level of 5.50m OD. This level is below the proposed flood defence level of 5.80m OD for the Lower Lee Drainage Scheme in the vicinity of the site. A finished floor level of 5.90m OD is deemed acceptable for the Proposed Development. The proposed drainage system has been designed in accordance with the relevant standards and regulations. Therefore, the flood risk arising from the proposed drainage infrastructure will be negligible and no further mitigation is proposed.

## 3.4 Demolition and Construction Procedures

During the demolition and construction phases of the Proposed Development potential environmental effects will be short-term and localised. Nonetheless, all works will comply with the relevant legislation, construction industry guidelines and best practice in order to reduce potential environmental impacts associated with the works. Where remaining potential impacts have been identified, additional mitigation measures will be employed to reduce, as far as practicable potential impacts.

All potential demolition phase environmental impacts will be addressed through the implementation of a comprehensive Construction and Demolition Resource Waste Management Plan (C&D RWMP) in accordance with current best practice guidelines. This plan will be agreed with Cork City Council (CCC) and relevant statutory bodies for the proposed works.

A Construction Environmental Management Plan (CEMP) will be prepared by the appointed contractor and will be submitted to the planning authority in advance of works commencing at the Site. The following guidance will be referred to and will be followed during the demolition and construction phases of the project to prevent water pollution that may occur within the area

- C532 – Control of Water Pollution from Construction Sites. Guidance for Consultants and Contractors (Construction Industry Research and Information Association (CIRIA, 2001);
- C741 - Environmental Good Practice on Site (4th edition) (CIRIA, 2015);
- C698 - Site Handbook for the Construction of SUDS (CIRIA, 2007); and,
- C697 – The SUDS Manual (CIRIA, 2007).

A construction compound and site offices will be set up at the proposed lay-by on the eastern boundary of the Site.

Works are proposed to be completed by the beginning of the of 2024/25 3rd level term. Works will be limited to 08:00 – 18:00 hours Monday to Friday, 08:00 hours – 14:00 hours on Saturday and closed for Sundays and Public Holidays.

Working hours will generally be agreed in advance with the Planning Authority. Should construction work be required outside of these hours, they shall be subject to agreement with the Local Authority. Refer to the Construction and Environment Management Plan (CEMP) submitted with the planning application for further details.

An Environmental clerk of works (ECoW) will inspect the Sites in advance of works commencing and will undertake Site inspections as required during the works, to ensure that they are completed in line with the mitigation measures detailed within the CEMP.

### 3.4.1 Waste Management

A preliminary Demolition and Construction Waste Management Plan (D&CWMP) has been submitted with the planning application.

### 3.4.2 External Lighting

Lanterns proposed for the Proposed Development are to be LED, 3000K. Column heights are to be 6m. Refer to JODA Engineering Consultants Outdoor Lighting Report, submitted as part of the overall planning submission.

## 3.5 Landscaping

A Landscape Plan has been developed for the Site. The Landscape Plan can be seen in Appendix B.

# 4 IDENTIFICATION OF NATURA 2000 SITES

In accordance with the European Commission Methodological Guidance [7] a list of European sites that can be potentially affected by the proposed development has been compiled. Guidance for Planning Authorities prepared by the Department of Environment Heritage and Local Government [8] states that defining the likely zone of impact for the screening and the approach used will depend on the nature, size, location, and the likely effects of the project. The key variables determining whether or not a particular Natura 2000 site is likely to be negatively affected by a project are:

- the physical distance from the project to the site;
- the presence of impact pathways the sensitivities of the ecological receptors; and,
- the potential for in-combination effects.

Adopting the precautionary principle, all SAC and SPA sites within a 15km radius of the proposed development Site have been considered (Refer to Figure 4-1).

Two (2No.) Natura 2000 designated sites were identified within 15km of the Site (Table 4-1, Figure 4-1).

**Table 4-1: Designated Natura 2000 Sites within 15km of the Site**

| Site Name | Site Code | Distance (km) | Direction from the Site |
|---|---|---|---|
| **Special Area of Conservation (SAC)** | | | |
| Great Island Channel SAC | 001058 | 11.6km | E |
| **Special Protection Area (SPA)** | | | |
| Cork Harbour SPA | 004030 | 4.8km | SE |

The Site is not located within or directly adjacent to any Natura 2000 sites, however, the boundaries of one (1No.) SAC and one (1No.) SPA are located within 15km of the Site.

There is a potential hydrological connection between the Site the Great Island Channel SAC and Cork Harbour SPA, located approximately 8km downstream of the Site, (refer to section 3.2 and Figure 4-2). Further consideration will therefore be given to these Natura 2000 sites, to assess potential adverse effects resulting from the proposed development. Further details are provided below.

**Figure 4-1 Natura 2000 Sites within 15km**

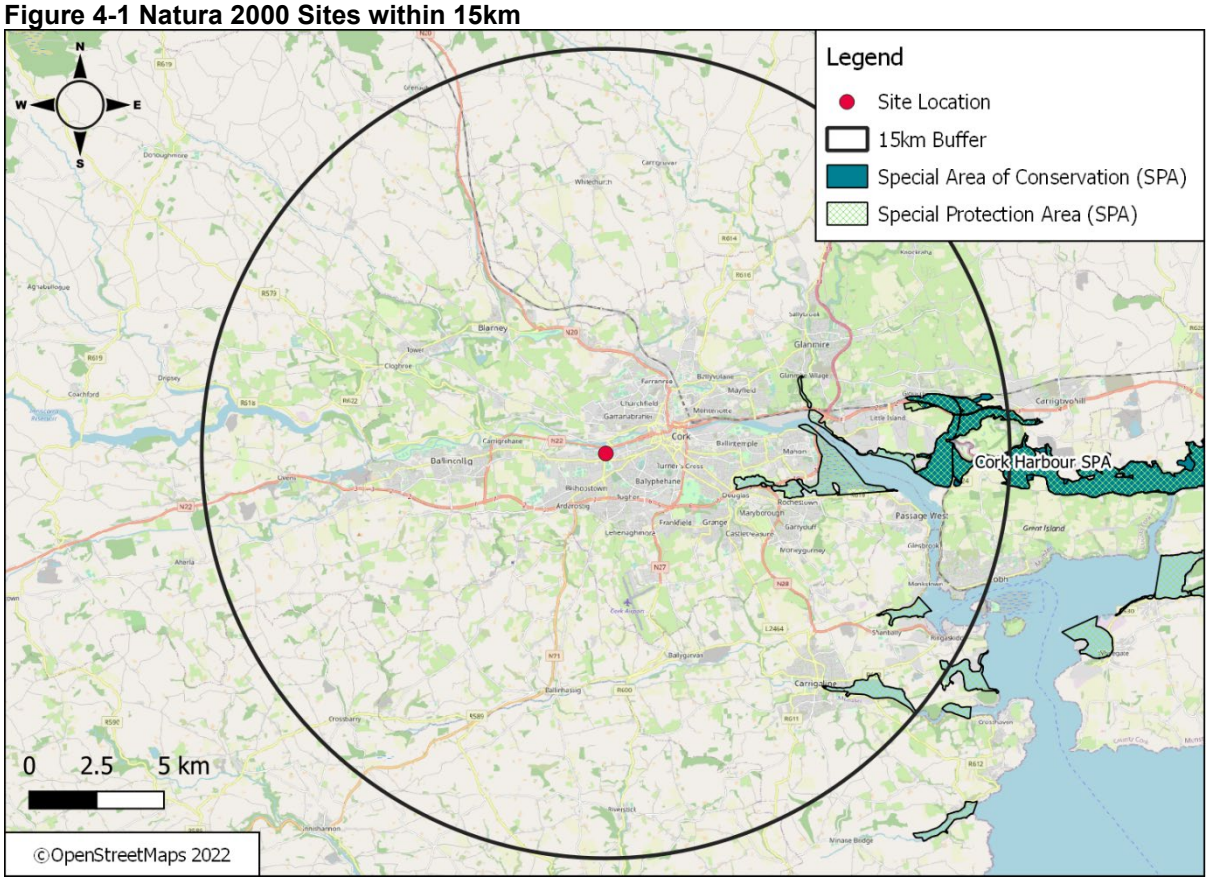
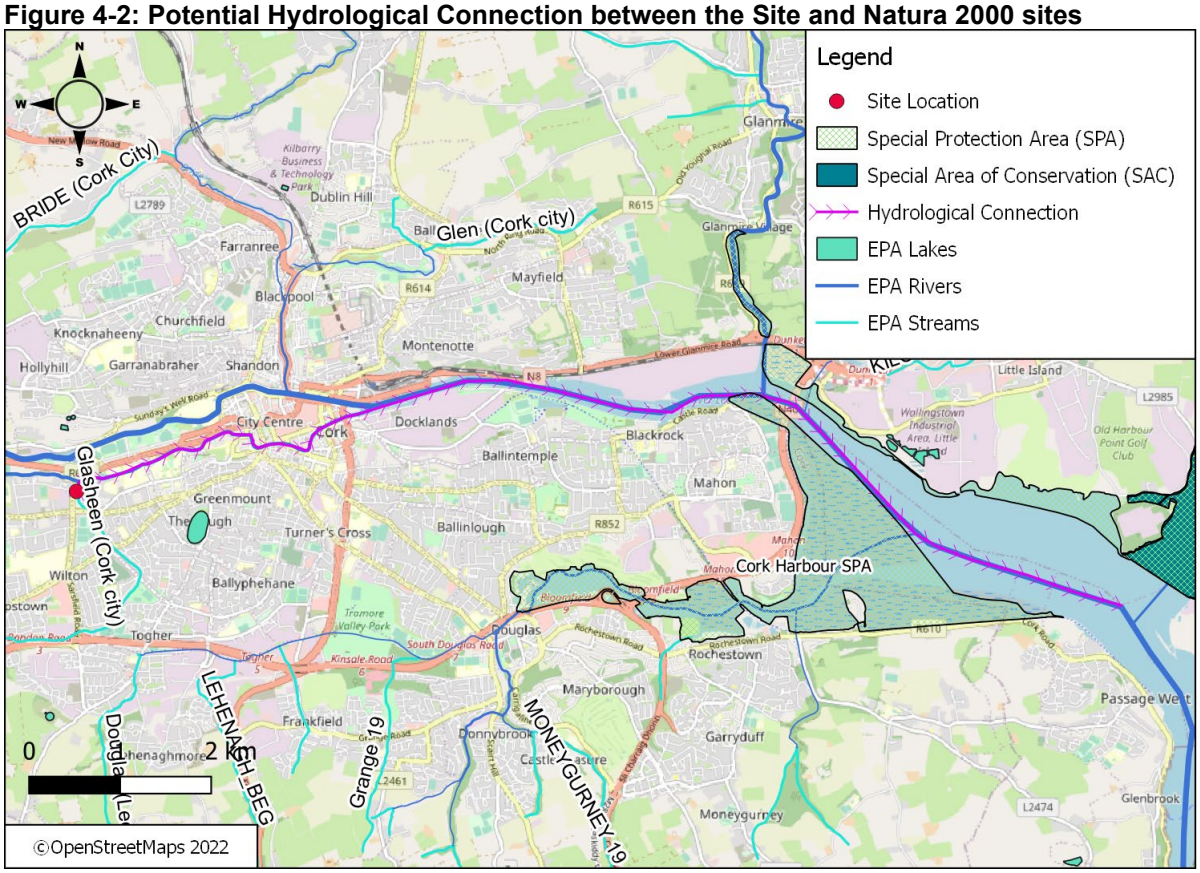



**Figure 4-2: Potential Hydrological Connection between the Site and Natura 2000 sites**



## 4.1 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.

The main habitats of conservation interest are the sheltered tidal sand and mudflats and the Atlantic salt meadows. Both of these habitats are listed on Annex I of the E.U. Habitats Directive (Refer to Table 4-2).

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*, and *Scrobicularia plana* as well as green algal species particularly *Ulva lactua* and *Enteromorpha* spp. The saltmarshes scattered throughout the SAC support a number of species including Sea Purslane (*Halimione portulacoides*), Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*) and Common Saltmarsh-grass (*Puccinellia maritima*).

The site is extremely important for wintering waterfowl and supports large populations of Shelduck, Teal and Grey Plover. In addition, much of the site falls within Cork Harbour Special Protection Area, an important bird area designated under the E.U. Birds Directive.

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

**Table 4-2: Qualifying Annex I Habitats for the Great Island Channel SAC**

| ***Qualifying Habitats*** | **Code** |
|---|---|
| Mudflats and sandflats not covered by seawater at low tide | 1140 |
| Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) | 1330 |

## 4.2 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.

The site is a SPA under the E.U. Birds Directive, of special conservation interest for a number of species including Little Grebe, Great Crested Grebe, Cormorant, Grey Heron, Shelduck, Wigeon, Teal, Mallard, Pintail and Shoveler (Refer to Table 4-3). 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 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.

Cork Harbour is also a Ramsar Convention site, part of Cork Harbour SPA, and is a Wildfowl Sanctuary.

**Table 4-3: Qualifying Annex I Species of Birds for Cork Harbour SPA**

| **Species Name** | **Scientific Name** | **Code** |
|---|---|---|
| Little Grebe | *Tachybaptus ruficollis* | A004 |

| Species Name | Scientific Name | Code |
|---|---|---|
| Great Crested Grebe | *Podiceps cristatus* | A005 |
| Cormorant | *Phalacrocoraax carbo* | A017 |
| Grey Heron | *Ardea cinerea* | A028 |
| Shelduck | *Tandorna tadorna* | A048 |
| Wigeon | *Anas penelope* | A050 |
| Teal | *Anas crecca* | A052 |
| Pintail | *Anas acuta* | A054 |
| Northern Shoveler | *Anas clypeata* | A056 |
| Red-breasted Merganser | *Mergus serrator* | A069 |
| Oystercatcher | *Haematopus ostralegus* | A130 |
| Golden Plover | *Pluvialis apricaria* | A140 |
| Grey Plover | *Pluvialis squatarola* | A141 |
| Lapwing | *Vanellus vanellus* | A142 |
| Dunlin | *Calidris alpine* | A149 |
| Black-tailed Godwit | *Limosa limosa* | A156 |
| Bar-tailed Godwit | *Limosa lapponica* | A157 |
| Curlew | *Numenius arquata* | A160 |
| Redshank | *Tringa totanus* | A162 |
| Black-headed Gull | *Chroicocephalus ridibundus* | A179 |
| Common Gull | *Larus canus* | A182 |
| Lesser Black-backed Gull | *Larus fuscus* | A183 |
| Common Tern | *Sterna hirundo* | A193 |
| Wetland and Waterbirds | | A999 |

## 4.3 Conservation Objectives of Natura 2000 sites

European and national legislation places a collective obligation in Ireland and its citizens to maintain at favourable conservation status areas designated as Special Areas of Conservation and Special Protection Areas. The Irish Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

According to the EU Habitats Directive, favourable conservation status of a habitat is achieved when:

Its natural range, and area it covers within that range, is 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 as defined below.

The favourable conservation status of a species is achieved when:

Population data on the species concerned indicate that it is maintaining itself;

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 full report for the conservation objectives for the Great Island Channel SAC[1] and the Cork Harbour SPA[2] can be found on the NPWS website.

[1] https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001058.pdf
[2] https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004030.pdf

# 5 STUDY RESULTS

## 5.1 Desk Based Results

Table 5-1 provides a summary of records of protected species that occur within a 2km grid square of the Site that are designated under Cork Harbour SPA [2].

**Table 5-1 NBDC Cork Harbour SPA designated Species within 2km of the Site**

| Common Name | *Scientific Name* | Date of last record | Designation |
|---|---|---|---|
| **Bird Species** | | | |
| Black-headed Gull | *Larus ridibundus* | 19/02/2016 | Wildlife Acts 1976 / 2000<br>Birds of Conservation Concern Red List |
| Black-tailed Godwit | *Limosa limosa* | 19/02/2016 | Wildlife Acts 1976 / 2000<br>Birds of Conservation Concern Amber List |
| Common Coot | *Fulica atra* | 20/03/2020 | Wildlife Acts 1976 / 2000<br>Birds of Conservation Concern Amber List |
| Common Greenshank | *Tringa nebularia)* | 20/11/2016 | Wildlife Acts 1976 / 2000<br>Birds of Conservation Concern Amber List |
| Common Gull | *Larus canus* | 20/03/2020 | Wildlife Acts 1976 / 2000<br>Birds of Conservation Concern Amber List |
| Common Redshank | *Tringa totanus* | 20/11/2016 | Wildlife Acts 1976 / 2000<br>Birds of Conservation Concern Red List |
| Cormorant | *Phalacrocorax carbo* | 20/03/2020 | Wildlife Acts 1976 / 2000<br>Birds of Conservation Concern Amber List |
| Dunlin | *Calidris alpina* | 20/11/2016 | EU Birds Directive Annex I Bird Species<br>Wildlife Acts 1976 / 2000<br>Birds of Conservation Concern Amber List |
| Eurasian Curlew | *Numenius arquata* | 20/11/2016 | Wildlife Acts 1976 / 2000<br>Birds of Conservation Concern Red List |

| **Common Name** | ***Scientific Name*** | **Date of last record** | **Designation** |
|---|---|---|---|
| Eurasian Oystercatcher | *Haematopus ostralegus* | 320/11/2016 | EU Birds Directive Annex II and III Bird Species<br>Wildlife Acts 1976 / 2000<br>Birds of Conservation Concern Amber List |
| Herring Gull | *Larus argentatus* | 20/03/2020 | Wildlife Acts 1976 / 2000<br>Birds of Conservation Concern Red List |
| Lesser Black-backed Gull | *Larus fuscus* | 20/03/2020 | Wildlife Acts 1976 / 2000<br>Birds of Conservation Concern Amber List |
| Little Egret | *Egretta garzetta* | 10/02/2017 | Wildlife Acts 1976 / 2000<br>Birds of Conservation Concern Green List |
| Little Grebe | *Tachybaptus ruficollis* | 20/11/2016 | Wildlife Acts 1976 / 2000<br>Birds of Conservation Concern Amber List |
| Mallard | *Anas platyrhynchos* | 23/03/2020 | Wildlife Acts 1976 / 2000<br>Birds of Conservation Concern Green List |
| Mute Swan | *Cygnus olor* | 20/03/2020 | Wildlife Acts 1976 / 2000<br>Birds of Conservation Concern Amber List |
| Northern Lapwing | *Vanellus vanellus* | 20/11/2016 | Wildlife Acts 1976 / 2000<br>Birds of Conservation Concern Red List |
| Northern Shoveler | *Anas clypeata* | 20/03/2020 | Wildlife Acts 1976 / 2000<br>Birds of Conservation Concern Red List |

Note that only species recorded within the past 10 years were included in this table.

## 5.2 Field Studies Results

### 5.2.1 Habitat Survey

Site Context and Surrounding Habitats

The Site is located in Cork City, and the Site and surrounding areas are heavily built-up with urban development. The Site is bordered to the west by the R641, to the east by the Glasheen River and to the north and south by roads that lead to residential areas. A wooden fence separates the Site boundary to the east and a metal fence separates it from the R641to the west

Buildings and Artificial Surfaces (BL3)

The majority of the Site is made of hard surfacing, concrete, and the disused car centre building. Much of the hardstanding is overgrown, dominated by weedy and recolonising species such as autumn hawkbit (*Scorzoneroides autumnalis*), butterfly bush, (*buddleja*), common nettle (*Urtica dioica*), common velvet grass (*Holcus lanatus*), dandelion (*Taraxacum officinale*), fireweed (*Epilobium angustifolium*), herb Robert (*Geranium robertianum*), ivy (*Hedera helix*), meadow grass (*Poa spp.*), red valerian (*Centranhus ruber*), smooth cat's ear (*Hypochaeris glabra*), willow spp. (*Salix)*. Brambles (*Rubus fructicosus*), ivy spill over the top of the wooden fence to the east of the Site. Areas that are particularly densely vegetated are shown as 'Buildings and Artificial Surfaces (BL3) / Recolonising bare ground (ED3)' in the habitat map (Figure 5-1).

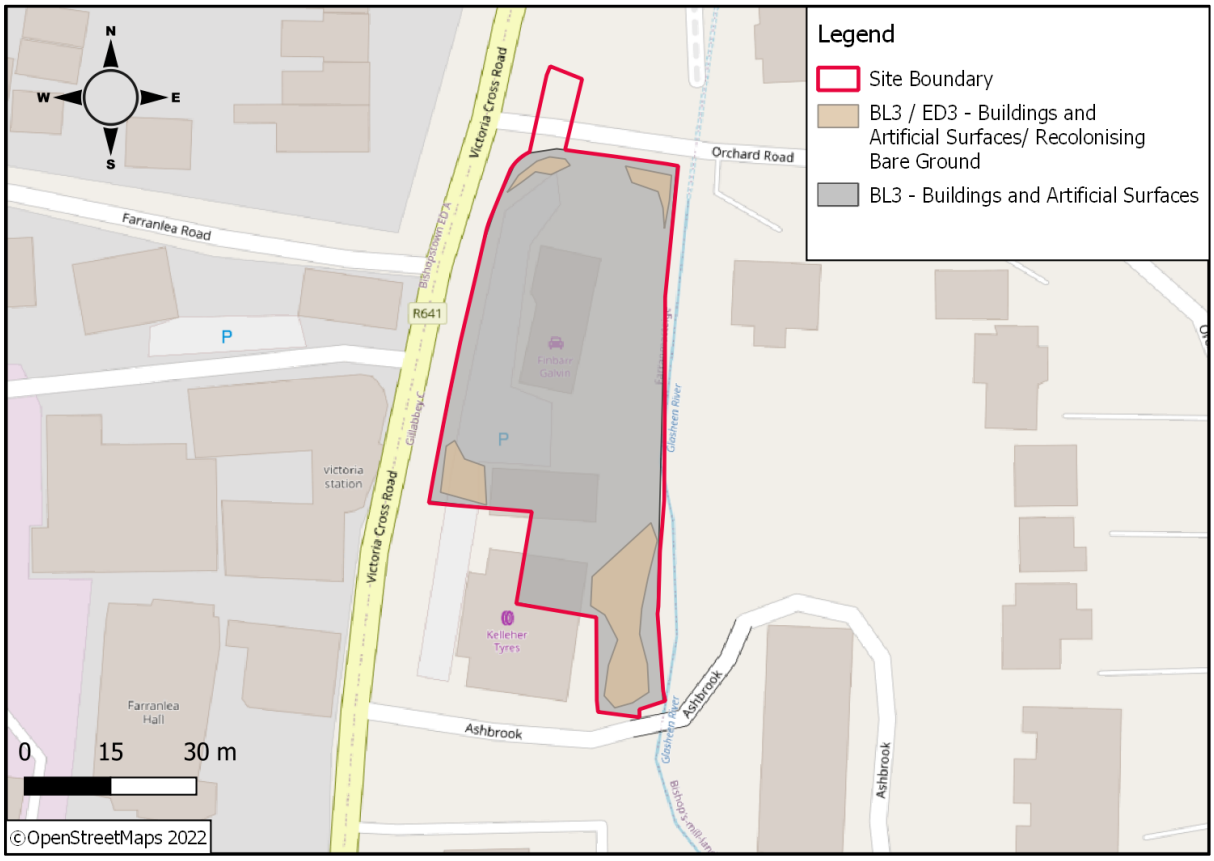
Buildings and Artificial Surfaces (BL3) / Recolonising bare ground (ED3)

As noted above certain areas of the hardstanding are dominated by common recolonising species. These do not exceed the '50% vegetation cover' as defined by Fossitt 2000 [4] to be included in Recolonising bare ground (ED3). The larger sections of vegetation have however been illustrated on the habitat map (Figure 5-1).

Treeline (WL1)

The canopies of the treeline to the east of the Site boundary spills over the fence. This included species such as elder (*Sambucus*) and sycamore (*Acer pseudoplatanus*). There is no treeline within in the Site boundary.

**Figure 5-1 Habitat Map**



# 6 STAGE 1 SCREENING: IDENTIFICATION OF POTENTIAL SIGNIFICANT EFFECTS

## 6.1 Potential Significant Impacts

Potential significant effects, if any, on the Great Island Channel SAC or Cork Harbour SPA, were considered further in this section. The key output of this stage of the assessment is the identification of the significant effects of the proposed development, either alone or in-combination with other plans or projects, on relevant Natura 2000 sites so that those effects can be assessed to determine if they will have an adverse effect on the integrity of the Natura 2000 sites in view of their conservation objectives.

A number of effects were examined at this stage and dismissed due to the very low risk associated with them. Table 6-1 and 6-2 present further details and rationale of the screening assessment undertaken for each of the qualifying interests of each of the Natura 2000 sites identified as having the potential to be adversely affected.

These effects were screened in or out, based on whether or not it was concluded that they are likely to be affected by the proposed development if no mitigation measures were applied, and if progression to Stage 2 is required. The rationale for these conclusions is based on results from the aforementioned desk study, literature search and field survey result.

**Table 6-1: Screening Assessment: Annex I Habitats – Great Island Channel SAC**

| Qualifying Feature of Interest | Baseline | Potential Adverse effects | Screening Rationale | Screening Conclusion |
|---|---|---|---|---|
| Mudflats and sandflats not covered by seawater at low tide | The Conservation Objectives Report [9] show that this habitat is not present in the immediate vicinity of the Site.<br><br>This habitat is limited to the intertidal reaches of the Great Island Channel SAC with the nearest habitat in excess of 10km east of the Site. | **Main threats to habitat include:** Adverse effects associated with pollution during the construction / operation works. | Adverse effects during construction such as siltation and pollution are not likely to adversely affect this habitat.<br><br>This conclusion is based on the absence of this habitat within close proximity to the Site and the distance (>10km) separating this habitat from the Site. Therefore, it is reasonable to assume that pollutants will either dilute within the watercourse or settle to the bottom of the waterbody before reaching Cork Harbour ca. 8km downstream of the Site.<br><br>Therefore, further assessment will not be required. | **Screened Out** |
| Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) | The Conservation Objectives Report [9] show that this habitat is not present in the immediate vicinity of the Site.<br><br>This habitat is limited to small stretches within the Great Island Channel SAC with nearest habitat in excess of 5km east of the Site. | N/A | As Above. | **Screened Out** |

**Table 6-2: Screening Assessment: Annex I Species -Cork Harbour SPA**

| Qualifying Feature of Interest | Baseline | Potential Impacts | Screening Rationale | Screening Conclusion |
|---|---|---|---|---|
| Little Grebe | The NBDC holds recent records for Little Grebe within a 2km grid square of the Site [2].<br><br>Little grebe have a preference for nesting mostly on floating plant material hidden in dense vegetation at the margins of shallow, freshwater rivers, streams, loughs and ponds. In the winter, this bird species is typically found in coastal habitats [10].<br><br>The habitats within the Site and the watercourse directly south were considered unsuitable for this species. | **Main / Possible threats to the species include:**<br><br>1 Impairment to water Quality; and,<br><br>2 Indirect impacts on food supply chain. | The Cork Harbour SPA is located ca.8km downstream of the Site. Therefore, should potential pollutants flow downstream and lead to a deterioration of water quality, this could indirectly affect the food supply and foraging habitat of bird species within the SPA and designated birds that utilise the wider river network.<br><br>Limited stormwater will be discharged to the Glasheen River during the operational phase of the proposed development. Therefore, a precautionary approach has been taken and mitigation measures to protect local and downstream water quality will be implemented.<br><br>As such, further consideration will be given to this species. (See Sections 7.2 and 7.3). | **Screened In** |
| Great Crested Grebe | The NBDC does not hold recent records for Great Crested Grebe within a 2km grid square of the Site [2].<br><br>Great crested grebe have a preference for breeding on large, shallow eutrophic loughs, but will also nest in aquatic vegetation within open waters [11]. In the winter, this bird species is typically found in coastal habitats [11].<br><br>The Site is considered unsuitable for this species. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |

| Qualifying Feature of Interest | Baseline | Potential Impacts | Screening Rationale | Screening Conclusion |
|---|---|---|---|---|
| Cormorant | The NBDC holds recent records for Cormorant within a 2km grid square of the Site [2].<br><br>This species is known to breed in colonies around the Irish coastline. However, some birds have been noted nesting inland in trees [12]. In addition, cormorant are known to winter at sea, although this species has been observed wintering inland in Ireland [12].<br><br>The habitats onsite are considered unsuitable for this species. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |
| Grey Heron | The NBDC does not hold recent records for Grey Heron within a 2km grid square of the Site [2]. No grey herons were observed within the mature willow tree onsite or within any of the surrounding habitats along the Curragheen River across from the Site.<br><br>Grey heron are known to nest in large trees, sometimes with multiple birds in the same tree [13]. Also, grey herons are typically found wintering in the same areas they utilised for breeding purposes [13].<br><br>Overall, the Site is considered unsuitable for this species. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |

| Qualifying Feature of Interest | Baseline | Potential Impacts | Screening Rationale | Screening Conclusion |
|---|---|---|---|---|
| Shelduck | The NBDC does not hold recent records for Shelduck within a 2km grid square of the Site [2].<br><br>This species typically breeds in open areas associated with the Irish shoreline, large lakes and rivers [14]. Similarly, Shelduck are known to winter in estuaries and along tidal mudflats [14].<br><br>The Site is considered unsuitable for this species. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |
| Wigeon | The NBDC does not hold recent records for Wigeon within a 2km grid square of the Site [2].<br><br>Wigeon is a wintering species that migrates from the Icelandic region to utilise the coastal marshes, lagoons, estuaries, bays, inland wetlands, lakes, rivers and turloughs [15].<br><br>The Site is considered unsuitable for this species. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |
| Teal | The NBDC does not hold recent records for Teal within a 2km grid square of the Site [2].<br><br>Small numbers of this species breed in Ireland, within thick cover in small freshwater lakes and upland streams [16]. The majority of teal migrate to Ireland in the winter to wetland areas with large reedbeds, which can include coastal lagoons, estuaries, marshes, or inland lakes, ponds and turloughs [16].<br><br>The Site is considered unsuitable for this species. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |

| Qualifying Feature of Interest | Baseline | Potential Impacts | Screening Rationale | Screening Conclusion |
|---|---|---|---|---|
| Pintail | The NBDC does not hold recent records for Pintail within a 2km grid square of the Site [2].<br><br>This species migrates to Ireland to winter in brackish lagoons, estuaries and large inland lakes. This species is known to form large flocks of birds [17].<br><br>The Site is considered unsuitable for this species. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |
| Shoveler | The NBDC does not hold recent records for Shoveler within a 2km grid square of the Site [2].<br><br>This species is known to breed in Ireland around the Lough Neagh and the Shannon basin [18], neither of which are located within close proximity to the Site. Shoveler are known to winter in eutrophic waters that are rich in plankton, however, they can also occur on inland lakes and callows [18].<br><br>The Site is considered unsuitable for this species. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |

| Qualifying Feature of Interest | Baseline | Potential Impacts | Screening Rationale | Screening Conclusion |
|---|---|---|---|---|
| Red-breasted Merganser | The NBDC does not hold recent records for Red-breasted Merganser within a 2km grid square of the Site [2].<br><br>This species is known to nest in sheltered lakes and rivers typically in the west and north of Ireland and winters exclusively in brackish and marine waters [19].<br><br>Therefore, the Site is considered unsuitable for breeding red-breasted merganser given the fact it is not located in this species typical breeding location. Similarly, as the river is freshwater, it is considered unsuitable for wintering red-breasted merganser. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |
| Oystercatcher | The NBDC holds recent records for Oystercatcher within a 2km grid square of the Site [2].<br><br>This species breeds predominantly on the Irish coastline within beaches, dunes, salt marshes and rocky shores. However, it has been noted nesting on large inland lakes. Oystercatchers are also known to winter in coastal habitats, preferably on sandy coasts [20].<br><br>The Site is considered unsuitable for this species. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |

| Qualifying Feature of Interest | Baseline | Potential Impacts | Screening Rationale | Screening Conclusion |
|---|---|---|---|---|
| Golden Plover | The NBDC does not hold recent records for Golden Plover within a 2km grid square of the Site [2].<br><br>Golden plover are known to breed in heather moors, blanket bogs and acidic grasslands predominantly in the west / northwest of Ireland [21]. This species typically winters in harvest fields, stubbles, mown grass, close-grazed pastures, fallows and other open farmland including flood lands [22].<br><br>Therefore, the Site is considered unsuitable for both breeding and wintering golden plover. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |
| Grey Plover | The NBDC does not hold recent records for Grey Plover within a 2km grid square of the Site [2].<br><br>This species breeds in the high artic regions of Russia and North America, and winters within coastal areas in Ireland [23].<br><br>Therefore, the Site is considered unsuitable for breeding and wintering grey plover. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |
| Lapwing | The NBDC holds recent records for Lapwing within a 2km grid square of the Site [2].<br><br>This species is known to breed in open farmland and winter in large flocks in predominantly wetland, pasture and rough land [24].<br><br>The Site is considered unsuitable for this species. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |

| Qualifying Feature of Interest | Baseline | Potential Impacts | Screening Rationale | Screening Conclusion |
|---|---|---|---|---|
| Dunlin | The NBDC holds recent records for Dunlin within a 2km grid square of the Site [2].<br>Dunlin breed in sparse low vegetation and have shown a preference for machair habitats and typically winter along coastal areas, specifically mudflats and estuaries [25].<br>Therefore, the Site is considered unsuitable for breeding and wintering Dublin. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |
| Black-tailed Godwit | The NBDC holds recent records for Black-tailed Godwit within a 2km grid square of the Site [2].<br>This species breeds in lowland wet grassland and marshes, but predominantly in Iceland. In the winter, this species prefers estuarine coasts but can also be found in grasslands and river deltas [26].<br>Therefore, the Site is considered unsuitable for breeding and wintering black-tailed godwit. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |
| Bar-tailed Godwit | The NBDC does not hold recent records for Bar-tailed Godwit within a 2km grid square of the Site [2].<br>This species breeds in northern Europe, Norway and Finland, and winters entirely along Irish coastlines predominantly in sandy estuaries [27].<br>Therefore, this Site is considered unsuitable for breeding and wintering bar-tailed godwit. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |

| Qualifying Feature of Interest | Baseline | Potential Impacts | Screening Rationale | Screening Conclusion |
|---|---|---|---|---|
| Redshank | The NBDC holds recent records for Redshank within a 2km grid square of the Site [2].<br><br>Redshank are a ground nesting bird that prefer to nest in grassy tussocks in wet marshy areas. However, this species has been noted occasionally nesting in heather. Redshank prefer to winter in mudflats, estuaries and inlets; however, small numbers have been noted in lakes and rivers [28].<br><br>The Site is considered unsuitable for breeding redshank based on the onsite habitats. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |
| Common Gull | The NBDC holds recent records for Common Gull within a 2km grid square of the Site [2].<br><br>The Common gull breeds in colonies predominantly along the coastline. Inland breeding can occur on islands in lakes although these populations have declined due to predation [29]. Common gulls utilise a range of wintering habitats including coastal areas, heather moorlands, meadowlands and urban areas [30].<br><br>The Site is considered unsuitable for this species. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |

| Qualifying Feature of Interest | Baseline | Potential Impacts | Screening Rationale | Screening Conclusion |
|---|---|---|---|---|
| Common Tern | The NBDC does not hold recent records for Common Tern within a 2km grid square of the Site [2].<br><br>This ground nesting species breeds in colonies along the Irish coastline and colonies have been recorded in Co. Dublin, Co. Wexford and Co. Galway [31]. It should be noted that some birds have been noted breeding on islets in freshwater lakes in Co. Galway and Co. Mayo. This species also winters in west and south Africa [31].<br><br>Therefore based on the onsite habitats, this Site is not considered suitable for breeding and wintering common tern. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |
| Lesser Black-backed Gull | The NBDC holds recent records for Lesser Black-backed Gull within a 2km grid square of the Site [2].<br><br>This ground nesting species typically breeds in colonies often with other gulls species. Most colonies are on the coastline; however, inland colonies have been recorded in Co. Mayo and Co. Donegal [32].<br><br>The habitats utilised by lesser black-backed gulls include offshore islands, islands in lakes, sand dunes and coastal cliffs [32]. This species winters both inland and on coastal habitats [32].<br><br>The Site is considered unsuitable for this species. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |

| Qualifying Feature of Interest | Baseline | Potential Impacts | Screening Rationale | Screening Conclusion |
|---|---|---|---|---|
| Curlew | The NBDC does not hold recent records for Curlew within a 2km grid square of the Site [2].<br><br>This species is not a common breeding bird, given the decline in the breeding population. However, the habitats utilised for breeding by this ground nesting bird include rough pastures, meadows and heather [33]. The wintering population of curlew is supplemented by Scottish and Scandinavian birds that typically winter in wetland habitats, both coastal and inland [33].<br><br>The Site is considered unsuitable for this species. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |
| Black-headed Gull | The NBDC holds recent records for Black-headed Gull within a 2km grid square of the Site [2].<br><br>This species typically nests in large colonies on the coasts and inland in wetland areas such as bogs, marshes, and manmade lakes [34]. However, it should be noted that inland breeding populations have declined dramatically due to predation [34]. The largest inland colonies are located in Galway, Monaghan and Mayo. This species is known to winter in both coastal and inland areas [34].<br><br>The Site is considered unsuitable for this species. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |

| Qualifying Feature of Interest | Baseline | Potential Impacts | Screening Rationale | Screening Conclusion |
|---|---|---|---|---|
| Wetland and Waterbirds | It should be noted that the NBDC holds records for common coot and mallard within 2km of the Site [2].<br>The Site is considered unsuitable for these species. | See above as per Little Grebe. | See above as per Little Grebe. | **Screened In** |

# 7 STAGE 2: ASSESSMENT OF POTENTIAL IMPACTS

This section provides recommendations for measures which will mitigate against potential adverse effects of the proposed works on qualifying habitats and species throughout the duration of the project. The following impacts with potential to adversely affect the conservation objectives of the identified Natura 2000 sites were considered:

- Loss of, or disturbance to habitats and species during construction;
- Potential impairment of water quality during construction phase; and,
- Potential impairment of water quality during the operation phase.

## 7.1 Loss of, or Disturbance to Habitats and Species during Construction

The proposed development will not result in any direct loss of habitats for which the Great Island Channel SAC is designated, as the proposed Site is not located within close proximity to any of the Annex I habitats. In addition, the Site does not offer any supporting habitat for wintering waterbirds designated under the Cork Harbour SPA.

All construction works will take place within areas of existing hardstanding. Therefore, given the distance between the Site and the Natura sites, it can be concluded that no direct loss or adverse effects on Annex I habitats or species will result from the construction works.

## 7.2 Potential Impairment of Water Quality during Construction

As the proposed development will take place within close vicinity to the Glasheen River which discharges into Cork Harbour, potential runoff of pollutants from the Site reaching the surface water into the river could adversely affect the water quality within the river and further downstream to Cork Harbour, subsequently impacting protected habitats and species within the Cork Harbour SPA.

Potential pollutants resulting from the installation of the proposed development include suspended solids, cementitious materials, silt, or hydrocarbon leaks or spills. If water quality is affected by the proposed development, this could directly affect bird species utilising the river or its margins and possibly indirectly affect these species by changing the populations of their food supply.

In order to ensure that the works do not have an impact on the surface water surrounding the Site or further downstream into Cork Harbour, mitigation measures will be put in place in accordance with best practice guidance to avoid impacts on these receptors. These measures will include:

- All construction works associated with the new drainage infrastructure onsite will be completed, checked and cleaned where required, in advance of discharging to the Glasheen River;
- Adequate spill kits including absorbent booms and other absorbent material will be maintained onsite;
- All contractor workers will be appropriately trained in the use of spill kits;
- Any accidental spillage of cementitious materials will be cleaned-up immediately;
- Any sediments adversely effected by contamination will be excavated and stored in appropriate sealed containers for disposal offsite in accordance with all relevant waste management legislation.
- The working area will be clearly defined, and construction activities will be carefully planned to minimise ground disturbance;

- Stockpiles of material will be covered during periods of prolonged or heavy rain and will be located away from the river as far as practically possible;
- A silt fence or similar sediment control structure will be installed along the southern boundary of the Site to prevent sediment running off into the Glasheen River;
- Concrete pours will be adequately planned and executed;
- Washouts of equipment used for concrete operations will be done either offsite or within a designated washout area, which will comprise of a container that will capture the washout material / water for reuse or disposal offsite;
- Adequate fuel storage facilities and re-fuelling protocols will be provided; and,
- Silt traps will be installed at appropriate locations to mitigate against any potential impacts to water quality associated with suspended solids in runoff from the construction area.

The following best practice guidelines will be followed, which are based on Inland Fisheries Ireland [35] and National Roads Authority [36] guidance documents:

- All materials shall be stored at the main contractor compound and transported to the works zone immediately prior to construction;
- Only emergency breakdown maintenance will be carried out on-site. Emergency procedures and spill kits will be available and construction staff will be familiar with emergency procedures;
- Any pouring of concrete will only be carried out in dry weather. Washout of concrete trucks will not be permitted on the Site;
- Fuels, lubricants and hydraulic fluids for equipment used in the construction site will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment according to current best practice;
- Fuelling and lubrication of equipment will be carried out withing a designated refuelling area protected from spillage to ground or the river;
- Prior to any works commencing, all construction equipment will be checked to ensure that they are mechanically sound, to avoid leaks of oil, fuel, hydraulic fluids and grease; and,
- Measures will be implemented to minimise waste and ensure correct handling storage and disposal of waste.

Periodic monitoring will be undertaken during the construction works to ensure that the above measures are effective.

## 7.3 Potential Impairment of Water Quality during Operation

As the proposed development will discharge surface water runoff to the Glasheen River during the operational phase of the proposed development, there is potential for adverse effects on the water quality within the Glasheen River and further downstream in Cork Harbour.

However, as described in Section 3.3.1, a hydrocarbon and silt interceptor will be installed onsite to filter the stormwater runoff before discharging to the Glasheen River.

As the foul drainage will connect into the existing services (subject to a valid connection agreement), which have sufficient capacity to support the proposed development, it is not considered that further mitigation is required.

In conclusion, there will be no adverse effects on the water quality to the Glasheen River following the installation of a Class 1 bypass hydrocarbon and silt interceptor and the operational activity at the Site will not cause any adverse effects to qualifying species of the Great Island Channel SAC or Cork Harbour SPA.

## 7.4 Analysis of 'In-Combination' Effects

The Habitats Directive requires that an appropriate assessment of any plan or project takes into consideration effect alone or in-combination with other plans and projects.

Wastewater from the proposed development will discharge to Carrigrennan Wastewater Treatment Plant (WWTP). The feedback from the pre connection enquiry to Irish Water have been considered with regard to the wastewater connection layout. Irish water has confirmed that there is capacity for the proposed connection to the Irish Water network(s) to be facilitated. Full correspondence with Irish water is shown in Appendix F of the Engineering Report.

A review of the 2020 Annual Environmental Report (AER) for the WWTP (which was the most up-to-date report available online at the time of writing this report) found that the discharge from the WWTP was not compliant with the ELVs set out in the wastewater discharge licence (D0033-01) [37]. In particular, the WWTP has exceedances for both phosphorous, nitrogen and suspended solids [37]. However, according to the 2020 AER, these exceedances do not have an observable impact on water quality, or an observable negative impact on the Water Framework Directive Status of the receiving waters i.e. Cork Harbour [37].

As described above, the project alone is unlikely to have any direct or indirect significant effects on the identified Natura 2000 sites with the implementation of specific mitigation measures. Taking the above into account, and considering the localised nature of the proposed development within a predominantly urban / industrial environment, adherence to the mitigation measures listed within this NIS and the best practice measures that will be implemented during both the construction and operation phase of the development, it is concluded there will not be any significant in-combination contribution by the project to possible adverse effects on the Great Island Channel SAC and Cork Harbour SPA.

# 8 CONCLUSIONS

A detailed assessment of the layout and nature of the proposed development, the environmental management plan to be employed and the overall activities that will occur at the Site during construction and operation has been carried out and the potential for adverse effects on the Great Island Channel SAC or Cork Harbour SPA have been examined in detail.

It is considered reasonable to conclude that the proposed development will not result in any adverse effects on the basis that the specific mitigation measures will be implemented. Specifically, the proposed construction works will be undertaken to avoid impairment of water quality.

In terms of significance with regard to adverse effects on Natura 2000 sites, the NPWS Guidance (2009) uses an EC definition as follows:

> *"Any element of a plan or project that has the potential to affect the conservation objectives of a Natura 2000 Site, including its structure and function, should be considered significant (EC, 2006)".*

It can be concluded that the proposed Strategic Housing Development and associated works alone or in-combination with other projects, will not adversely affect the integrity, and conservation status of any of the qualifying interests of any Natura 2000 sites.

Accordingly, progression to Stage 3 of the Appropriate Assessment process (i.e. Assessment of Alternatives Solutions) is not considered necessary.

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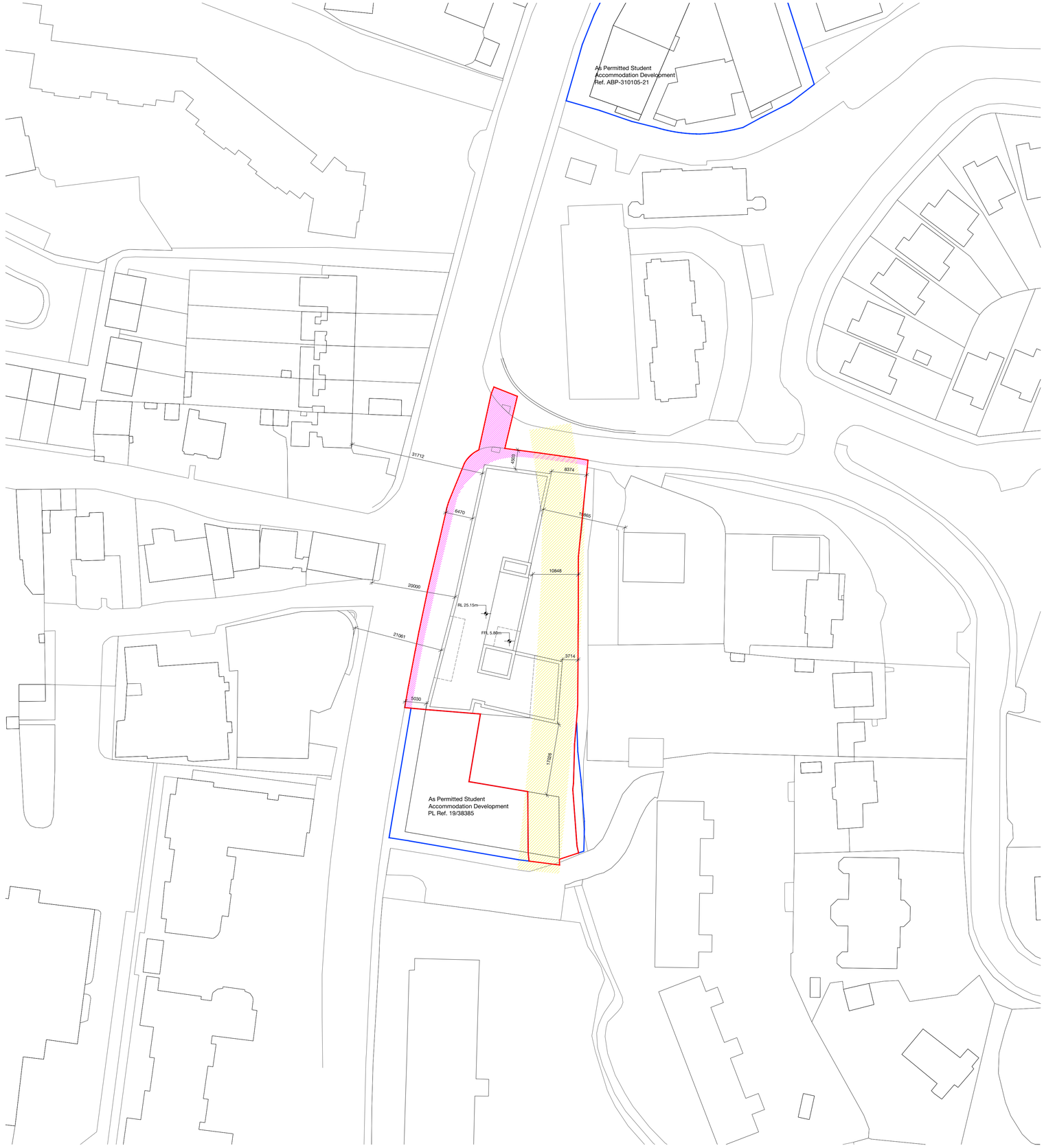
# APPENDICES

# APPENDIX A

# PROPOSED SITE PLAN




Proposed Development Site Boundary 2882m$^2$ / 0.29ha

Boundary of land in ownership of Applicant

Land within ownership of Cork City Council 247m$^2$

Irish Water foul sewer clearance

**Notes**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RIAI Practice Member 2021

**Project name**
Wilton Road Garage

**Project no**
21125

**Client**
Bellmount Developments Limited

**Drawing**
Proposed Site Plan

**Series**
Planning

**Scale**
1:500 @ A1

**Drawing no.**
A01-10

**Revision**
A

**Date**
2022/07/13

# APPENDIX B


Landscape Layout, Scale 1:200, @ A1

## KEY

- Precast concrete slab with textured aggregate finish, 400x200x80mm, stretcher bond pattern, all build up layers to engineers spec. Product: A&G plaza colour 30% Lakrids, 30% Salt, 40% Pepper or equal and approved.
- Precast concrete slab with textured aggregate finish, 400x200x80mm, stretcher bond pattern, all build up layers to engineers spec. Product: A&G plaza colour Lakrids or equal and approved.
- Precast concrete slab with textured aggregate finish, 200 x100 x 80mm, stretcher bond pattern, all build up layers to engineers spec. Product: A&G plaza colour Pepper or equal and approved.
- Precast concrete slab with textured aggregate finish, 200 x100 x 80mm, stretcher bond pattern, all build up layers to engineers spec. Product: A&G plaza colour Salt or equal and approved.
- Tactile Paving, 400mm x400 mm x50mm, precast concrete slab in buff colour, stack bond pattern, blister to crossings/corduroy to steps.
- Precast concrete slab with formed voids, 600x400x100mm, stack bond pattern, all build up layers to engineers spec, Kilsarran turfstone or equal & approved.
- Upstand Kerb, concrete kerb with natural stone aggregates, 145mm wide x 915mm long x 250mm high (125mm upstand), Textured kerb by Tobermore or equal and approved.
- Flush Kerb, concrete kerb with natural stone aggregates, 145mm wide x 915mm long x 150mm high, Textured kerb by Tobermore or equal and approved.
- **Quayside railings, 1.2M high, designed to Part M & Part K Technical guidelines, all fixings to manufacture/engineers spec.**
- Handrail/Safety rail, stainless steel frame with fsc hardwood timber hand rail, 1.0M high designed to Part M & Part K Technical guidelines, all fixings to manufacture/engineers spec.
- Existing Riverside Planting : To be maintained and protected, with bramble, non-natives and evasive plants removed any clearings will be planted with native seedlings if required.
- Planting 1: Mixed Shrub, Perennial and Ornamental grass mix, 450mm BS certified topsoil, as per planting schedule.
- Planting 2: Ornamental grass block, 450mm BS certified topsoil, as per planting schedule.
- Planting 3: Native riverside mix, 450mm BS certified topsoil, as per planting schedule.
- Grass Lawn: Low maintenance grass seed mix, 200mm BS certified topsoil.
- Climbing Plants: Single species climbers on steel frame system, 450mm BS certified topsoil, as per planting schedule.
- Tc — Tilla Cordata 'Greenspire', 20-25cm girth, 5-5.5M high, 2.0M clear stem, wire rootballed with underground anchor guying.
- Pt — Populus tremula , 40-45cm girth, 7M high, 3.5M clear stem, wire rootballed with underground anchor guying.
- Rp — Robinia pseudoacacia, 40-45cm girth, 7M high, 3.5M clear stem, wire rootballed with underground anchor guying.
- Bp — Betula pendula, 16-18cm girth, 4-4.5M high, 2M clear stem, with timber stake securing system.
- Existing tree to be retained and protected, limb and pruning work as per arborculturists report.
- Existing tree to be removed (Class C as per arboriculturalists report) including all roots except where intertwined with retained trees where stump should be left but ground down.
- Bollard, 1M high, painted galvanized steel with polished cap top, Root fixed to manufactures recommendations. Product: s26 bollard by Omos or equal & approved.
- Recycling bin, 2 compartment galvanized steel and aluminium with powder coated finish. Root mounting & foundations to manufactures specification. Product: S45bin by Omos or similar and approved.
- Cast stone seat, 450mm high x 810mm x 710mm wide , Boxland nexus by Escofet or equal and approved
- Cast stone cube seat, 450mm high x 500mm x 500mm wide , Boxland cube by Escofet or equal and approved
- Cast stone bench with timber slat seat, 450mm high x 500mm x 2500-3000mm, Boxland by Escofet or equal & approved

Notes: For all lighting and drainage details see engineers drawings and specifications.

PLANTING SCHEDULE

Large Specimen Shrubs 1 per symbol.
To be planted at 1-1.5M high, container grown.
Hamamelis × intermedia 'arnold promise'
Corylus avellana 'Contorta'

Planting 01: Perennial and Ornamental grass mix.
25% Stipa arundinacea, 2L Pot, @8/M2
25% Libertia chilensis, 2L Pot, @8/M2
10% Gaura lindheimeri whirling butterflies 2L Pot @8/M2
10% Salvia nemerossa 'cardonna' 2L Pot @8/M2
10% Echinacea purpurea 'Magnus', P9 Pot @9/M2
10% Achillea 'Credo', P9 Pot @9/M2
10% Penstemon 'Raven', P9 Pot @9/M2

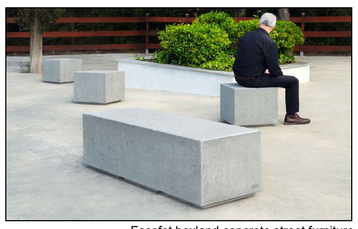
Planting 02: Ornamental grass block.
100% Stipa tenuissima, 2L Pot, @8/M2

Planting Mix 03: Native riverside mix
25% Carex Pendula, 3L Pot, @5/M2
25% Carex Remota, 3L Pot, @5/M2
10% Filipendula ulmaria, 2L Pot, @9/M2
10% Angelica sylvestris, 2L Pot, @7/M2
15% Asplenium scolopendrium, 2L Pot, @7/M2
15% Polystichum setiferum, 2L Pot, @7/M2

Climbing Plants 1
Planted at 1M centres in single species groups.
100% Parthenocissus tricuspidata


Concrete table tennis tables


Concrete aggregate paving exemplar


Escofet boxland concrete street furniture

**PLANTING NOTES**

All plant material to be inspected by the Landscape Architect prior to planting.
**-Rasied Planters:** Infilled with certified topsoil to BS 3882: 2007, depth of 450mm min.
**-Topsoil:** Topsoil shall be to BS 3882: 2007, medium texture with a high proportion of loamy material, free from subsoil, rubbish, roots of perennial weeds and other injurious to plant growth. All topsoil shall be stacked in heaps, not exceeding 2m high. During storage, topsoil heaps shall be kept free from contamination, compaction and weeds. Imported topsoil shall be from an approved source and a sample submitted and analyzed/tested at an independent approved laboratory. Soil Handling: Soil handling shall only take place during the driest parts of the year to prevent compaction of the insitu soils.

**-Backfilling with Topsoil:** Tree pits and Shrub beds shall be backfilled, in 200mm layers, with certified Topsoil.
The plants shall be shaken during backfilling to avoid air pockets and the soil must be firmed as the hole is filled.

**-Plant Stock and Timing:** Plant material shall conform to BS 3936 Part 1: 1992, Part 2: 1990; Part 9: 1998; Part 10: 1990 and BS4043: 1989 and shall be protected at all times in transit to the site. The planting season shall be from 1st October to the 31st March. Planting shall not be carried out during periods of frost, drought, cold drying winds, or when the soil is waterlogged. Planting outside the planting season will require adequate watering to ensure establishment. All planting shall be planted upright at the same depth as the nursery soil level and evenly spaced, leaving room for growth.

**-Trees**: Trees to be planted upright with collar at finished substrate level and back filled with Topsoil. Immediately following planting, all trees shall be watered-in to field capacity. Irrigation pipes: shall be included at the base of each individual tree and shall be have a 35mm irrigation pipe and feed cup using Rootrain Metro Irrigation system by Greenleaf or equal and approved.

**-Mulching:** Prior to the application of mulch, the planting areas shall be completely weed free and watered sufficiently to achieve field capacity. The surface of the planting areas shall be mulched with a layer of Organic Compost Mulch or Fine Composted Bark Mulch composted for 2-4 weeks with a particle size of 0-8mm, to a depth of 50mm, ensuring that the low branches of shrubs and herbaceous plants are not smothered. The mulch shall be topped-up to maintain, after settlement, a depth of not less than 50mm.

**-After Care Period:**The Aftercare Period shall extend for an 18 month period. During the Aftercare Period maintenance visits shall be carried out, at least monthly from April to September and twice during the dormant season to carry out the following operations to establish healthy growing plants in weed free areas. Maintenance operations shall include: watering, firming-up, pest and disease control, grass cutting, general pruning, weed control, top up mulch and autumn tidying. Replacement Planting. All plants, which have died, are missing or have failed to thrive, shall be noted and replaced with the same size and species as originally planted, in the following planting season.

PAVING AND EDGING

-Paving to have a minimum cross fall of 1:100, maximum cross fall of 1:40 from the back of footpath towards the kerb.
-Tolerances in surface levels of pavement courses shall be as Table 7/1, TII Specification for Roadworks
Pavement surfaces Basecourse
Sub-bases
+/- 6mm +/- 6mm
+/- 10mm
-All slabs to be cut to best fit around manholes, signage and other street furniture and cored around circular fittings such as poles and bollards.
-Spacing/joints between paving units 5-6mm.
-Kerbs, Precast concrete textured kerb, bullnose profile, 900x255x145mm, Product: Textured kerb, by Tobermore or equal & approved. Kerb level 125mm above road level with drop and flush as required. Radius kerbs to be used on all corners to avoid excess cutting, contractor to measure for best fit. Kerb haunching, build up and jointing details to engineers specifications.
-Edging, Precast concrete flush kerb, square edge, 900x150x145mm, flush where adjoining paving. Product: Textured kerb by Tobermore or equal & approved, Kerb haunching, build up and jointing details to engineers specifications.
-Cementitious material must not be permitted to enter the drainage system or flow onto adjacent paving surfaces. All cementitious material to be removed from surface of all paving prior to and upon completion of laying and jointing.
-All construction works to be carried out to manufactures recommendations regarding climatic conditions and controls.
-Adverse Weather General: Do not use frozen materials or lay on frozen surfaces.
-A trial panel 4m x 4m (min) of paving shall be constructed at an agreed location including tree pit and manhole cover for inspection by the Employer's Representative.

STANDARDS
-The following standards or the latest versions thereof shall apply:
BSEN1342 BSEN1343 BS435:1975 BS7533:Part 4:2006 Pavements constructed with clay, natural stone or concrete pavers. Code of practice for construction of pavements of precast concrete flags or natural stone slabs.
-BS7533:Part 6:1999 Pavements constructed with clay, natural stone or concrete pavers. Code of practice for laying natural stone, precast concrete and clay kerb units. BS7533:Part 7:2005 Pavements constructed with clay, natural stone or concrete pavers. Code of practice for construction of pavements of natural stone setts and cobbles.
-BS6717: Part 1 1993 BS6717: Part 3 1989 BS7263:Part 1:2001 unreinforced concrete paving flags and complementary fittings. Requirements and test methods. Precast Concrete Paving Blocks-Code of Practice for Laying Precast Concrete. Paving Blocks Precast concrete flags, kerbs, channels, edgings and quadrants.
-BS7263:Part 2:1990 Precast concrete flags, kerbs, channels, edgings and quadrants, unreinforced concrete paving flags and complementary fittings. Code of practice for laying. BS7263:Part 3:2001 Precast concrete flags, kerbs, channels, edgings and quadrants, unreinforced concrete paving flags and complementary fittings.
Specification. -BSEN197-1 2000 Composition, specification and conformity criteria for common cements.

MANHOLE COVERS
-All recessed covers to be clearly marked with appropriate utility suppliers with lockable lids used where required. Contractor to seek approvals for all work to manhole covers from appropriate service providers.
-10 Ton GLVW Recessed Manhole cover supplied by Manhole Covers Ireland LTD or equal and approved infilled with corrib paving cut from adjacent paving for continuity in size/paving pattern.
-All angled service covers to be realigned with paving where possible and chamber walls reinstated where required.

GENERAL
-All Lighting as per M&E Engineers drawings/specification
-All cabling, ducting, junction boxes and accessories as per manufactures recommendations/M&E engineers specifications.
-All drainage to engineers drawings/specification.
-400mm wide reinstatement strip to match existing road surface to be included around all footpath/road works to include repainting of road markings/surface to cycle path, where required.
-All levels are as per Architects/Engineers Drawings
-Any changes to specified materials to be approved by Contract Administrator and should be of equal quality meeting all relevant BS standards

**THIS IS NOT FOR CONSTRUCTION**



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**Chartered member of the Irish Landscape Institute**

**Client:** Bellmount Development

**Project:** Wilton Road/ Victoria Cross

**Drawing:** Landscape Layout

**Date:** 25/07/ 2022

**Drawn By:**
Wendy Kirkpatrick

**Checked By:**
Cathal O'Meara

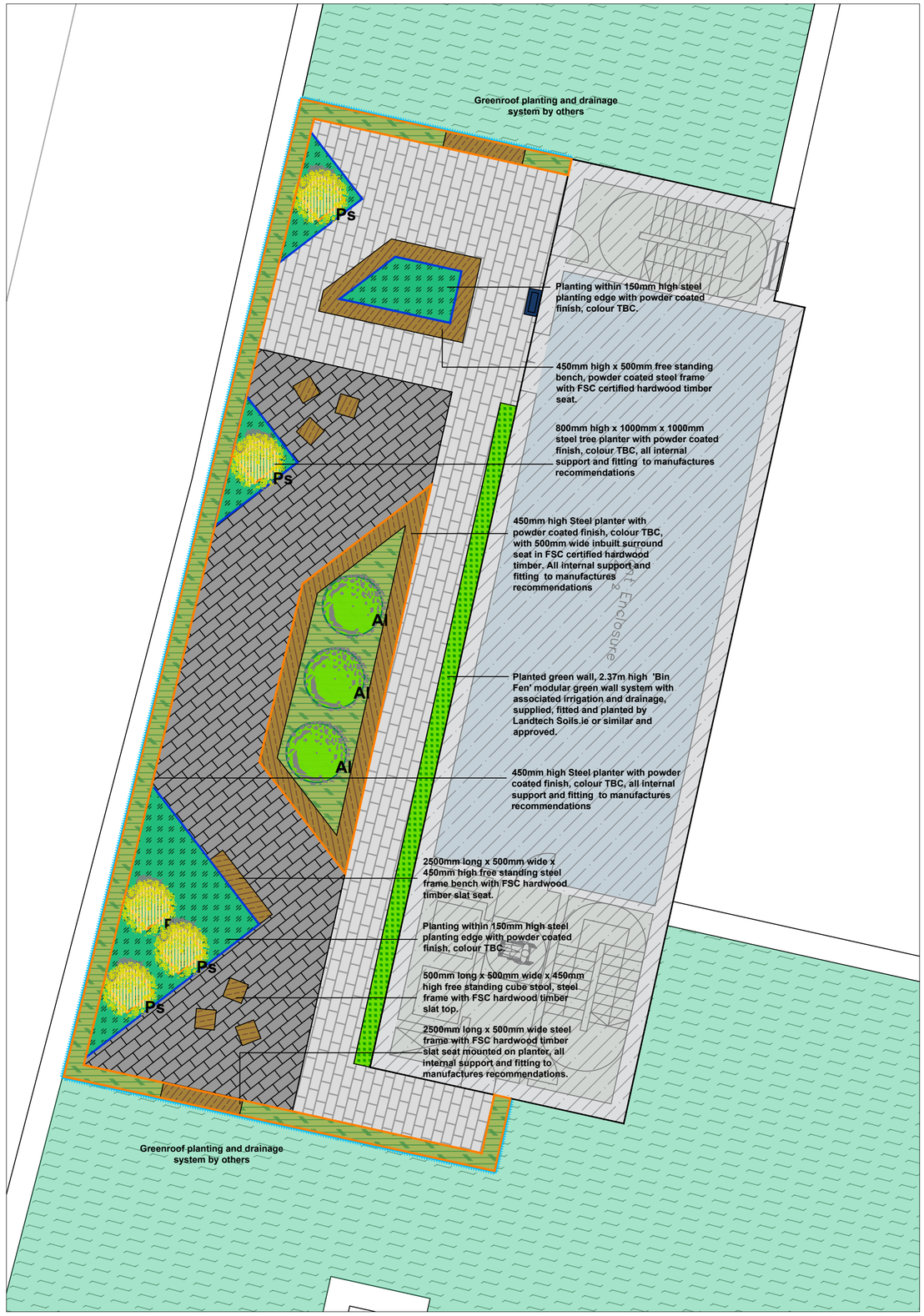
**Issue:** Planning

**Dwg No:**2130-LA-P001

cathal o meara landscape architects

N

Scale 1:200, @ A1




Landscape Layout, Scale 1:100, @ A2

## Landscape Key

- 450mm high x 500mm wide, mild steel plate planter , S21 by OMOS or equal and approved, powder coated finish ral colour to be confirmed.
- 150mm high mild steel plate edge with folded top, powder coated finish ral colour to be confirmed.
- 1.8M high Ezi-Glass Rail and Post balustrade system with toughened laminated glass and stainless steel posts by Sligo Glass or equal & approved.
- Precast concrete slab with natural stone aggregate, ground finish, square edge, 600x400x50mm, laid in a stretcher bond pattern. Product: Kilsaran 'Shelbourne' , black granite, or equal & approved.
- Precast concrete slab with natural stone aggregate, ground finish, square edge, 600x400x50mm, laid in a stretcher bond pattern. Product: Kilsaran 'Shelbourne', silver granite, or equal & approved.
- Planting 1: Mixed Shrub, Perennial and Ornamental grass mix, 450mm BS certified topsoil, as per planting schedule.
- Planting 2: Sedum, Perennial and Ornamental grass mix, 450mm BS certified topsoil, as per planting schedule.
- Al — Amelanchier lamarckii, multi stem, 3-5breaks, 2M high, 1M clear stem, rootballed, with underground guying system.
- Ps — Prunus serrula, multi stem, 3-5breaks, 2M high, 1M clear stem, rootballed with underground guying system within steel tree box.

PLANTING SCHEDULE

Planting Mix 01: Perennial and Ornamental grass mix.
25% Stipa tenuissima, 2L Pot, @8/M2
25% Libertia chilensis, 2L Pot, @8/M2
10% Gaura lindheimeri whirling butterflies 2L Pot @8/M2
10% Salvia nemerossa 'cardonna' 2L Pot @8/M2
10% Echinacea purpurea 'Magnus', p9 Pot @9/M2
10% Achillea 'Credo', p9 Pot @9/M2
10% Penstemon 'Raven', p9 Pot @9/M2

Planting Mix 02: Sedum Perennial and Ornamental grass mix.
30% Stipa arundinacea, 2L Pot, @8/M2
20% Alchemilla mollis, p9 Pot @7/M2
15%Hylotelephium 'herbstfreude' autumn joy, 2L Pot @8/M2
15% Hylotelephium spectabile 'Stardust', 2L Pot @8/M2
10% Achillea 'Walther Funcke', p9 Pot @9/M2
10% Geranium dragon heart , p9 Pot @9/M2

**Planting Notes:**

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**-Rasied Planters:** Infilled with certified topsoil to BS 3882: 2007, depth of 450mm min.
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**-Trees**: shall be guyed using underground anchors installed to manufactures instruction. Trees to be planted upright with collar at finished substrate level and back filled with Topsoil. Immediately following planting, all trees shall be watered-in to field capacity. Irrigation pipes: shall be included at the base of each individual tree and shall be have a 35mm irrigation pipe and feed cup using Rootrain Metro Irrigation system by Greenleaf or equal and approved.

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Cube seating stool


Multi stem Prunus serrula

Multi stem Amelanchier lamarckii

Raised steel planter boundary in front of safety rail

**THIS IS NOT FOR CONSTRUCTION**



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**Chartered member of the Irish Landscape Institute**

**Client:**
Bellmount Development

**Project:** Wilton Road/ Victoria Cross

**Drawing:** 6th Floor Landscape Layout

**Date:** 25/07/ 2022

**Drawn By:**
Wendy Kirkpatrick

**Checked By:**
Cathal O'Meara

**Issue:** Planning

**Dwg No:**2130-LA-P002

cathal meara landscape architects

N

Scale 1:100, @ A2