EIAR SCREENING ASSESSMENT

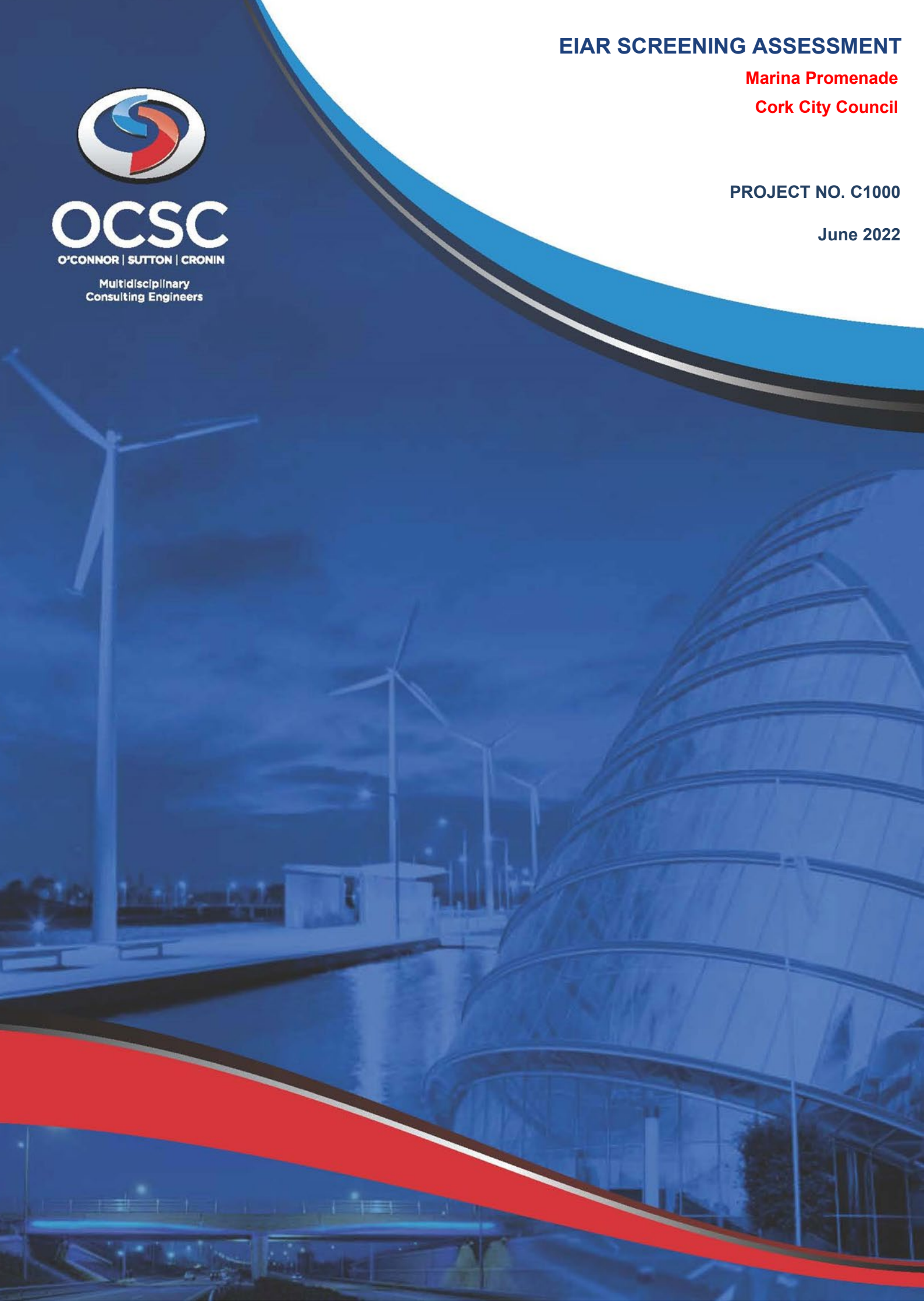
Marina Promenade

Cork City Council

PROJECT NO. C1000

June 2022

OCSC
O'CONNOR | SUTTON | CRONIN
Multidisciplinary
Consulting Engineers



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NOTICE

DOCUMENT CONTROL & HISTORY

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EIAR SCREENING ASSESSMENT

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1 INTRODUCTION

1.1 Project Contractual Basis & Parties Involved

This report has been prepared by O'Connor Sutton Cronin Associates Ltd. (OCSC) at the request of their Client, Cork City Council. The site for assessment comprises of the Marina Promenade which is located between Centre Park Road and Blackrock Harbour in Cork City. The project consists of repurposing approximately 1.8km of the existing promenade (The Marina Road) to deliver a combined footpath-cycle path and improved public spaces. Improvements will involve the replacement of public lighting between Church Avenue and Blackrock Harbour, the addition of further public lighting between Centre Park Road and Church Avenue and the installation of plazas and balconies. The regulatory authority for the site is Cork City Council.

The purpose of this report is to determine whether the project requires the preparation of an Environmental Impact Assessment Report (EIAR). This report documents the screening completed to provide a summarised overview of the potential impacts on the receiving environment whilst taking cognizance of the relevant statutory requirements.

A Stage 1 Screening for Appropriate Assessment has also been prepared (OCSC, 2022). A Stage 1 Screening exercise assesses the likely significant effects of the development on Natura 2000 sites within zone of influences of the proposed project.

1.2 Study Area

The study area is the Marina Promenade which consists of the Marina Road which is bounded by a footpath on both sides from Blackrock Village to the junction with Centre Park Road, the green area between the path and the quay wall, the green area between the path and the greenway extending from the Hut to Pairc Ui Chaoimh, the green area between the path and the Pairc Ui Chaoimh entrance road and the Green area and adjoining gravel track/parking between Pairc Ui Chaoimh and the junction with Centre Park road. Trees line the path on each side and few small parking areas are located on the southern side of the road in Figure 1.1

Figure 1.1 Study Area; site location indicated in red (Source: Google Maps, 2022)

1.3 Surrounding Land Use

The surrounding area consists of industrial, residential, educational, recreational/community and commercial/retail business land uses. There are some clubs and businesses located along the Marina Road such as the Cortado Coffee and the three rowing clubs; Shandon Boat Club & Naomhóga Chorcaí, Lee Rowing Club, and Cork Boat Club. To the north, the study area is bounded by the Lee River. Further north are residential areas and the Tivoli Docks and Industrial Estate. Páirc Uí Chaoimh, The Atlantic Pond, Galweys Dundanion Castle, Holland Park, Lee Rowing Club, and residential areas all lie to the south of the promenade. To the east is Cork Boat Club, residential housing, and Lough Mahon. Marina Commercial Park, Shandon Boat Club & Naomhóga Chorcaí, and Kennedy Quay are located to the west of the site as well as a brownfield site which may have been previously used development land. Refer to Table 1.1 for a full list of adjacent land uses.

Table 1.1: Adjacent Land uses

BOUNDARY	LAND USE
North	Bounded by the River Lee, the Tivoli Docks and Industrial Estate, and residential housing
South	Páirc Uí Chaoimh, The Atlantic Pond, Galweys Dundanion Castle, Holland Park, Lee Rowing Club, and residential areas
East	Cork Boat Club, residential housing, and Lough Mahon
West	Marina Commercial Park, Shandon Boat Club & Naomhóga Chorcaí, and Kennedy Quay

Figure 1.2: Surrounding Land Use (Google Maps, 2022)

1.4 Project Description

This Environmental Impact Assessment Report (Screening) has been prepared for the proposed repurposing of the Marina Road in Cork City into a combined footpath and cycle path and improved public spaces. Improvements will involve the replacement of public lighting between Church Avenue and Blackrock Harbour, the addition of further public lighting between Centre Park Road and Church Avenue, and the installation of plazas and study balconies. The proposed work area extends along approximately 1.8km of the existing promenade (the Marina Road).

1.5 Project Objectives

The proposed development consists of the following:

- Creation of a high-quality amenity for pedestrians, cyclists and disabled users along the Marina from the junction with Centre Park Road to Blackrock Harbour.
- Provision of new seating areas, plazas, and balconies at intervals along the proposed promenade.
- Provision of new pedestrian and cycle access points from the Marina Promenade into the adjacent Marina Park including Atlantic Pond and the Cork City to Passage West Greenway.
- Retention of the formal tree planting along the route
- Protection and enhancement of the natural heritage, green space and biodiversity of the area.
- Provision of an access road serving Lee Rowing Club, Pairc Ui Chaoimh/Atlantic Pond and the lands in between.
- Provision of public lighting and feature lighting along the length of the Marina

- Other associated works including street furniture, utility ducting, etc

The objectives of the proposed scheme are:

1. Provide a unique attraction for Cork City which will serve to integrate the Marina Park, the Passage Railway Greenway, Blackrock Village and Docklands.
2. Provide significantly improved infrastructure for cyclists and pedestrians along the Marina and improve its commuter, recreation and amenity value.
3. Create a sense of space for visitors of the area.
4. Provide for improved integration with the greenway by providing a focal point at the main entrance to the improved Greenway on the Marina.
5. Provide for protection and an enhanced appreciation of the formal tree planting along the Marina.
6. Deliver measures to improve the travel experience along the corridor to enhance the user's journey, safety and convenience.
7. Provide a safe, attractive and enjoyable riverside experience for users of the Promenade.

1.6 Methodology and Approach

The methodology and approach used in the preparation of this report will follow:

- Guidelines on the Information to be contained in Environmental Impact Assessment Reports, Irish Environmental Protection Agency, May 2022.
- European Commission (2015) Environmental Impact Assessment – EIA, Over, Legal Context
- European Union EIA Directive (85/337/EEC) and its amendments in 1997, 2003 and 2009
- Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment;
- Planning and Development Act 2000 (as amended)
- Planning and Development Regulations 2001 (as amended);
- Directive 2014/52/EU;
- Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licensing Systems – Key Issues Consultation Paper (2017; DoHPCLG)
- Preparation of guidance documents for the implementation of EIA directive (Directive 2011/92/EU as amended by 2014/52/EU) – Annex I to the Final Report (COWI, Milieu; April 2017)
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018)
- Environmental Impact Assessment – Guidance for Consent Authorities regarding Sub-threshold Development (2003; DoEHLG)

Using the above documents, it has been possible to carry out a desktop EIAR Screening using the best available guidance and operating within the applicable legislation. The methodology employed in this screening exercise updates previous guidance in line with the new Directive 2014/52/EU.

1.7 Scope of Works

To meet the project objectives, the following scope of works were completed and are presented in this report:

- A review of the current site status and key environmental influences around the site;
- A historical site and area review, primarily referring to old Ordinance Survey Ireland maps but utilising other sources as appropriate and readily available;
- A discussion of the general soil and groundwater conditions within the topographical and area context; and
- An overview if any significant negative environmental impacts can arise from the proposed project.

1.8 Limitations

This Environmental Impact Assessment Screening Report has been prepared for the sole use of Cork City Council ("the Client"). No other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by OCSC.

This assessment is based on a review of available historical information, environmental records, consultations, relevant guidance information, and reports from third parties. All information received has been taken in good faith as being true and representative.

This report has been prepared in line with best industry standards. The methodology adopted and the sources of information used by OCSC in providing its services are outlined in this Report. The assessment undertaken by OCSC and described was undertaken in May 2022 and is based on the information available during that period. The scope of this Report and the services are accordingly factually limited by these circumstances.

OCSC disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report which may come or be brought to OCSC's attention after the date of the Report.

The conclusions presented in this report represent OCSC's best professional judgement based on review of the relevant information available at the time of writing. The opinions and conclusions presented are valid only to the extent that the information provided was accurate and complete.

The findings of the EIA screening assessment prepared for the project has informed our professional opinion as to whether an EIAR is warranted for the proposed project, with due regard to all relevant statutory requirements and technical guidance. However, it is ultimately the responsibility of the relevant planning authority to make a determination as to whether an EIAR is required for a particular project, based on screening conducted by the planning authority.

2 EIA SCREENING PROCESS

2.1 Introduction

This section of the report discusses the legislative basis for screening used to decide if the proposed project requires the preparation of an Environmental Impact Assessment Report (EIAR). It also sets out the project in terms of planning context.

This project has been screened in accordance with Section 3.2 of the 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (EPA, 2022), the Environmental Impact Directive (85/337/EEC) and all subsequent relevant amendments, and Planning and Development regulations (2001-2018), including S.I. No. 296 of 2018 - European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018, which came into operation on 1st September 2018.

2.2 EIA Applicable Legislation

The Environmental Impact Assessment (EIA) Directive 85/337/EEC has been in force across the European Union since 1985 and applies to a wide range of defined public and private projects which are defined in Annexes I (Mandatory EIA) and II (Screening-Discretion of Member States) of the directive. The EIA Directive of 1985 has been amended three times: 97/11/EC, 2003/35/EC, and 2009/31/EC. These amended directives have been coded and replaced by Directive 2011/92/EU of the European Parliament and Council on the assessment of the effects of certain public and private projects on the environment (and as amended by Directive 2014/52/EU). Directive 2014/52/EU has been transposed in 2018 in Irish law under the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (SI 296 of 2018).

2.3 Mandatory EIAR Review

Annex I of the European Communities (EIA) Directive lists the activities for which an EIA is required. The proposed project is not listed in Annex I; therefore, it is not mandatory for an EIA to be carried out.

The proposed development is also not on the list of road projects requiring an EIA as outlined in Section 50 of the Roads Act, 1993 (as amended) and in Article 8 of the Roads Regulations, 1994. Road projects requiring mandatory EIA is listed in Table 2.1. This has been assessed due to the change in design from road to the creation of a high-quality amenity for pedestrians, cyclists and disabled users along the Marina from the junction with Centre Park Road to Blackrock Harbour.

Table 2.1: Road projects requiring mandatory EIA

Mandatory Threshold	Reference
Construction of a Motorway.	S. 50(1)(a) of the Roads Act, 1993, as substituted by S. 9(1)(d)(i) of the Roads Act, 2007
Construction of a Busway.	S. 50(1)(a) of the Roads Act, 1993, as substituted by S. 9(1)(d)(i) of the Roads Act,

	2007
Construction of a Service Area.	S. 50(1)(a) of the Roads Act, 1993, as substituted by S. 9(1)(d)(i) of the Roads Act, 2007
Prescribed type of proposed road development: 1. The construction of a new road of four or more lanes, or the realignment or widening of an existing road so as to provide four or more lanes, where such new, realigned or widened road would be eight kilometres or more in length in a rural area, or 500 metres or more in length in an urban area. 2. The construction of a new bridge or tunnel which would be 100 metres or more in length.	Article 8 of the Roads Regulations, 1994 (Road development prescribed for the purposes of S. 50(1)(a) of the Roads Act, 1993

Where a project is listed on Annex II or is a development that is not exempted, the national authorities of the member state must decide whether an EIA is needed for a proposed project. This is done by the "screening procedure", which determines the effects of project on the basis of thresholds/criteria or a case-by-case examination. Annex III of the Directive outlines the specific criteria that must be considered when a sub-threshold project is being examined for Environmental Impact Assessment.

The screening procedure investigates whether the project has significant potential negative impact on the environment using different criteria including:

- Characterisation of the proposed development
- Location of proposed development
- Type and Characteristics of the potential impact

The relevant information to be provided Information for the Purposes of Screening Sub-threshold Development for Environmental Impact Assessment include:

1. A description of the proposed development, including in particular—

(a) A description of the physical characteristics of the whole proposed development and, where relevant, of demolition works and
(b) A description of the location of the proposed development, with particular regard to the environmental sensitivity of geographical areas likely to be affected.

2. A description of the aspects of the environment likely to be significantly affected by the proposed development.

3. A description of any likely significant effects, to the extent of the information available on such effects, of the proposed development on the environment resulting from—

(a) The expected residues and emissions and the production of waste, where relevant, and
(b) The use of natural resources, in particular soil, land, water, and biodiversity.

4. The compilation of the information in paragraphs 1 to 3 shall take into account, where relevant, the criteria set out in Schedule 7".

3 CHARACTERISTICS OF PROPOSED DEVELOPMENT

3.1 Size and Design

The study area consists of Marina Road in Cork City which is to be repurposed. into a combined footpath and cycle path and improved public spaces. Improvements will involve the replacement of public lighting between Church Avenue and Blackrock Harbour, the addition of further public lighting between Centre Park Road and Church Avenue, and the installation of plazas and study balconies. The proposed work area extends along approximately 1.8km of the existing promenade (the Marina Road).

3.2 Cumulation with other Existing Developments/ Development the Subject of a Consent

A review of Cork City Council planning records for the area was undertaken. The review covered projects which are in receipt of a grant of planning within the last 7 years. None of these are to the scale and nature of this application and generally relate to construction of or amendments to individual properties. Ongoing planning applications in the site area are as follows;

Vacant lands to the east of Lee Rowing Club, The Marina;

- Permission for the construction of a 1 no. storey, 405sqm boat storage shed, with associated compound and set-down area, internal access road, lighting, replacement of existing boundary treatments, 2 no. new gated pedestrian and vehicular access points at the northern boundary of the site, providing access to the Marina, signage, SUDs, service provision, and all associated site works above and below ground. Planning Application granted on 3/5/2022.

Páirc Ui Chaoimh, Monahan Road, Ballintemple (Completed);

- a 10 year Planning Permission for the refurbishment and expansion of Pairc Ui Chaoimh and for the provision of a new All Weather Playing pitch at the Showgrounds, with ancillary works, as part of the creation of a Centre of Excellence at Monahan Road, Ballintemple, Cork. This application is accompanied by an Environmental Impact Statement and Natura Impact Statement. Planning Application granted on 27/11/2014 and expires on 26/11/2024.

National Seaways (Freight) Ltd., Merchant House, Tivoli Industrial Estate

- Permission is sought for the following (1) The construction of a new warehouse and loading bay extension, total 1,546.6 sqm, to the rear of the existing warehouse complex, (2) Raising the roof level over the footprint of the existing warehouse building and, (3) All necessary ancillary site works and landscaping to complete the development. Decision on planning application due on 20/6/2022.

In addition the following two SHD projects are located in the vicinity of the site:

313277: Former Tedcastles Yard, Centre Park Road and the Marina, Cork: Lodged

The demolition of existing structures and the construction of a strategic housing development of 823 no. apartments in 6 no. buildings ranging in height from part-1 to part-35 no. storeys over lower ground floor level. The development will contain 282 no. 1 bedroom apartments, 414 no. 2 bedroom apartments and 127 no. 3 bedroom apartments. The development will also include 3. no café/restaurants and 2 no. public houses, 7 no. retail units, a library, medical centre, pharmacy, post office and dentist, 2 no. crèches and amenity spaces.

309059: The Former Ford Distribution Site, Fronting on to Centre Park Road, Marquee Road and Monahan's Road, Cork: Granted

The subject application seeks 10-year permission for a strategic housing development comprising the following: The demolition of existing structures, construction of 1,002 no. apartments in 12 no. blocks, ranging in height from 4 to 14-storeys and the construction of commercial and community facilities as well as internal and external amenities for residents

No effects are foreseen to occur as the result of the in-combination works to Marina Promenade, Marina Park Phase II, or any other local planning projects.

The proposed development is short term by its very nature as it plans to transform the area which is bounded by a footpath on both sides and there are a few small parking areas. Based on a review of planning applications, it is considered unlikely that any of the committed developments in the immediate vicinity will result in a significant potential for cumulative environmental impacts (including potential cumulative traffic impacts, surface water quality, etc) with the proposed development during either the construction or operational phases.

The existing Cork City Development Plan 2015-2021 identifies the areas as Public Open Space, as an area of high landscape value with existing and proposed/upgraded amenity paths. For reference, the adopted Cork City Development Plan 2022-2028 will replace the current Cork City Development Plan 2015-2021. The draft Cork City Development Plan 2022-2028 also identifies the areas as high landscape value with existing amenity paths.

3.3 The nature of any associated Demolition Works

It is not anticipated that any buildings will require demolition as there are no buildings within the study area.

3.4 The use of Natural Resources, in particular Land, Soil, Water and Biodiversity

There will be no long-term use of any natural resource as this project is of short-term duration.

3.5 Production of Waste

Any waste generated during the construction will firstly be reused on-site where possible, e.g. topsoil generated will be reused to provide landscaping and excavated material will be reused for backfill where this material meets acceptable construction criteria. However, if offsite disposal is required for any material, it will be managed in accordance with all relevant waste management legislation. There will be no generation of waste following the completion of the works.

3.6 Pollution and Nuisances

There is the potential that there will be a temporary increase in noise during the proposed works. However, they will not exceed levels typical of construction works and are short-term in nature. There will be a slight increase in traffic disturbance during the construction activities, i.e. bringing supplies to site and removal of material if required. However, this disturbance will be short term in duration. Some dust will likely be generated during the works; however, this nuisance will be managed in line with best practice. There will be no pollution or nuisance after operations, i.e. following the completion of works.

It is not anticipated that any discharge from site work will cause any surface water pollution via runoff, due to the small scale of the project. This will be managed in accordance with the best practice. The risk of surface water pollution during the construction stage is considered to be low.

During the operational phase, no additional water drainage system will be required for the site. The current drainage system in the project area will drain into the existing gullies and outfalls which discharge into the Lee Estuary Lower.

The magnitude of discharge is likely to be small and will not contribute to additional surface water discharge to rivers. Given the distance (minimum of 0.8km to Cork Harbour SPA) to the nearest European site and the large dilution capacity of the estuary it is considered unlikely that any surface water discharge would give rise to potential impacts on nearby European sites. Therefore, the risk of impact on European designated site are deemed to be negligible.

3.7 The Risk of Major Accidents or Disasters including those caused by Climate Change

There is minimal risk of major accidents or disasters including those caused by climate change given the small-scale and temporary nature of the construction works. Any risks that are present are associated with typical construction activities including working with machinery.

However, the appointed contractor will be required to prepare a site-specific CEMP clearly detailing all necessary environmental control measures. There will be no risks following construction above that which would be expected for the existing condition.

3.8 Risks to Human Health – e.g. Water Contamination/Air Pollution

Risks to surface water during the operations phase will be minimised via construction in line with best practice. In addition, contractors will be required to implement construction methods in line with best practice regarding fuel and chemical storage and use on the site and any other items that may pose a risk to water.

There are no reported groundwater source protection zones (SPZs) within a 2km radius of the proposed site.

There are no boreholes located within the site boundary and eleven within a 2km radius. Given the short-term nature of the works and the works being conducted in accordance with best practice guidance, it is not anticipated that the works will pose a risk to groundwater quality during either the construction or operations phase of the works. In addition, air pollution will be limited to typical construction nuisance such as dust. The same best practice guidelines will be applied to noise nuisance. Overall, the risk to human health is low.

4 LOCATION OF THE PROPOSED DEVELOPMENT

4.1 Information Sources

An understanding of the site setting, and history was gained by undertaking a review of the following primary sources including:

- A review of available extracts of historical Ordnance Survey of Ireland (OSI) maps;
- National Monuments Service (NMS) viewer;
- A review of information held by the Environmental Protection Agency (EPA) EnVision online Mapping;
- Aerial images available of the site (OSI and Google);
- The Geological Survey of Ireland (GSI) and GeoHive online mapping tools; and
- The National Parks and Wildlife Service online map tool.

4.2 Abundance, Availability, Quality, and Regenerative Capacity of Natural Resources

Limited natural resources will be required to complete the works. It is proposed that material generated during the works is reused on site. The relevant natural resources have been looked at in more detail in the following sections.

4.3 The Absorption Capacity of the Natural Environment

In the description of the site, the absorption capacity of the natural environment has been screened in accordance with Regulations paying particular attention to:

(i) Wetlands, riparian areas, river mouths;
(ii) Coastal zones, and the marine environment;
(iii) Mountain and forest areas;
(iv) Nature reserves and parks;
(v) Areas classified or protected under legislation, including Natura 2000 areas designated pursuant to the Habitats Directive and Birds Directive;
(vi) Areas in which there has already been a failure to meet the environmental quality standards laid down in legislation of the European Union and relevant to the project, or in which it is considered that there is such a failure;
(vii) Densely populated areas; and
(viii) Landscapes and sites of historical, cultural or archaeological significance.

4.4 Surrounding Land Use

The terrestrial environment is characterized not only by its physical land cover, but also from a human/social perspective by its land use which is distinguished by its designated or identifiable purpose (EPA, 2008).

The site and immediate surrounding area are comprised of residential, commercial/retail businesses, sporting facilities, and agricultural/ horticultural land uses. Refer to Section 1 for a full list of adjacent land uses.

4.5 Site Development

A review of the OSI historical maps dataset has found that the study area has been structurally unoccupied from 1830's until the 1930's. The following sections outlines the historically mapped features in the immediate environs of the study area.

The 6" inch (1837-1842) shows the sites area of Marina Promenade with the Dundanion Castle and the Lee River labelled as well as the ground of the site being labelled as mud and gravel. This can be seen in Figure 4.1.

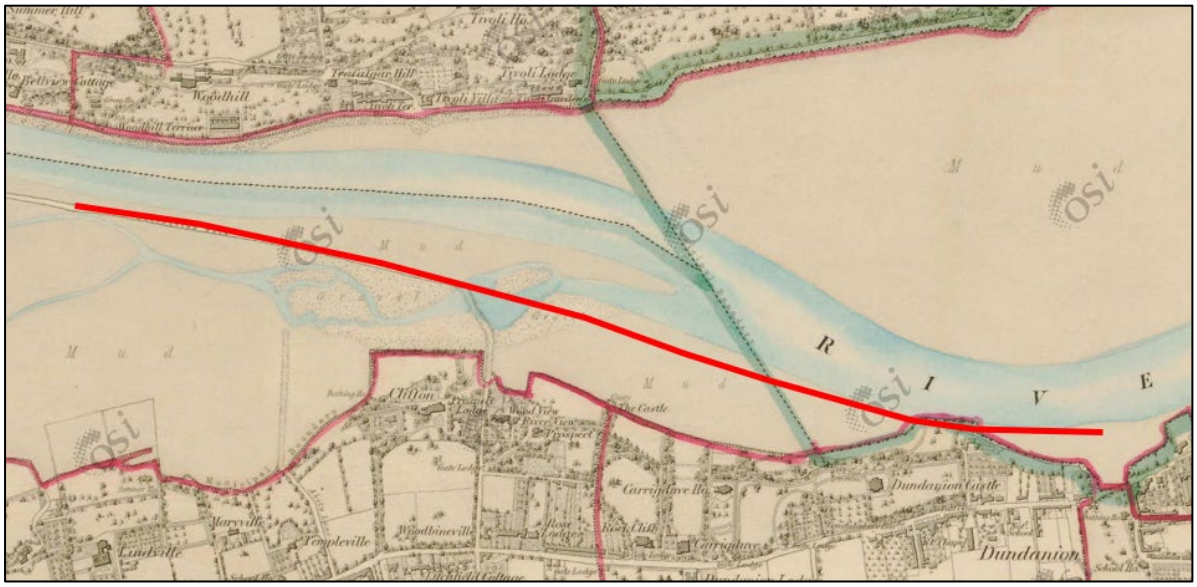

Figure 4.1: Study Area Location on 1837-1842 6-inch OS Map; site location indicated by red line (Source: OSI, 2022)

The 25-Inch Map (1888-1913) shows the study area and immediately surrounding areas of Marina Promenade with greenery being added to the promenade. And a railway has been constructed south of the site location as shown in Figure 4.2.

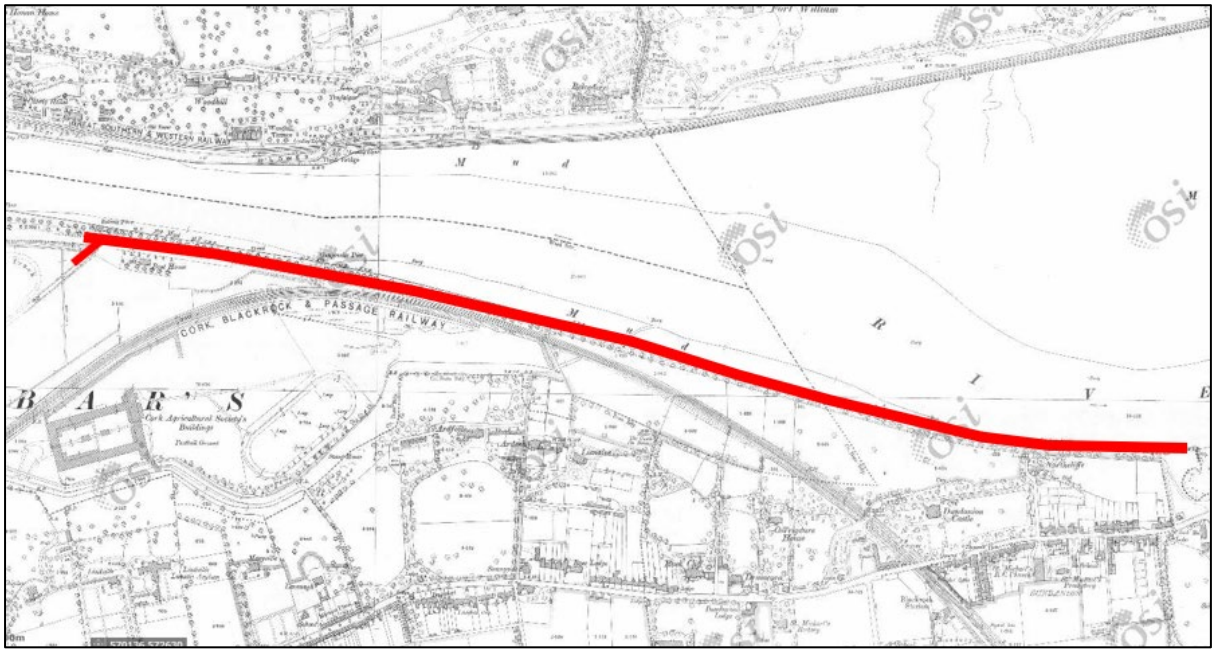

Figure 4.2: 1888-1913 25 inch OSI Map; site location shown by red line (Source: OSI, 2022)

The 6-inch Cassini Map (1830s to 1930s) shows the study area with the Galweys Dundanion castle now in ruins. And the mud land across the Lee River has become an oil storage tank area as shown in Figure 4.3.

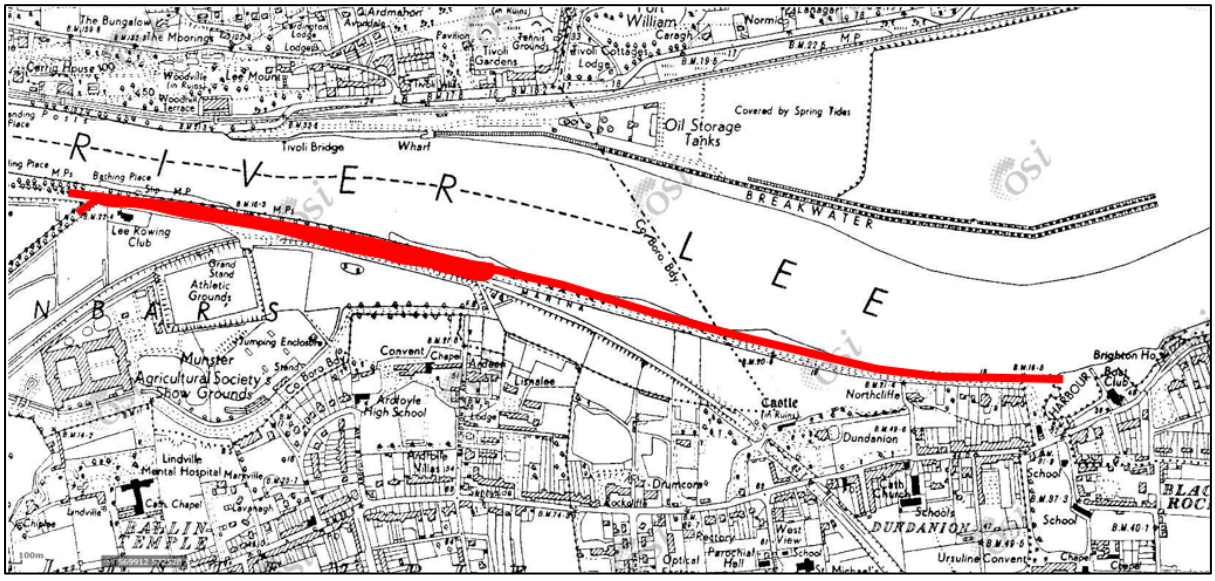

Figure 4.3: 6 Inch Cassini Map; site location shown by red line (Source: OSI, 2022)

The aerial photograph for 1995 in Figure 4.4, some residential housing as built on the east side of the study area. The oil storage tank area across the river has become more industrialized.

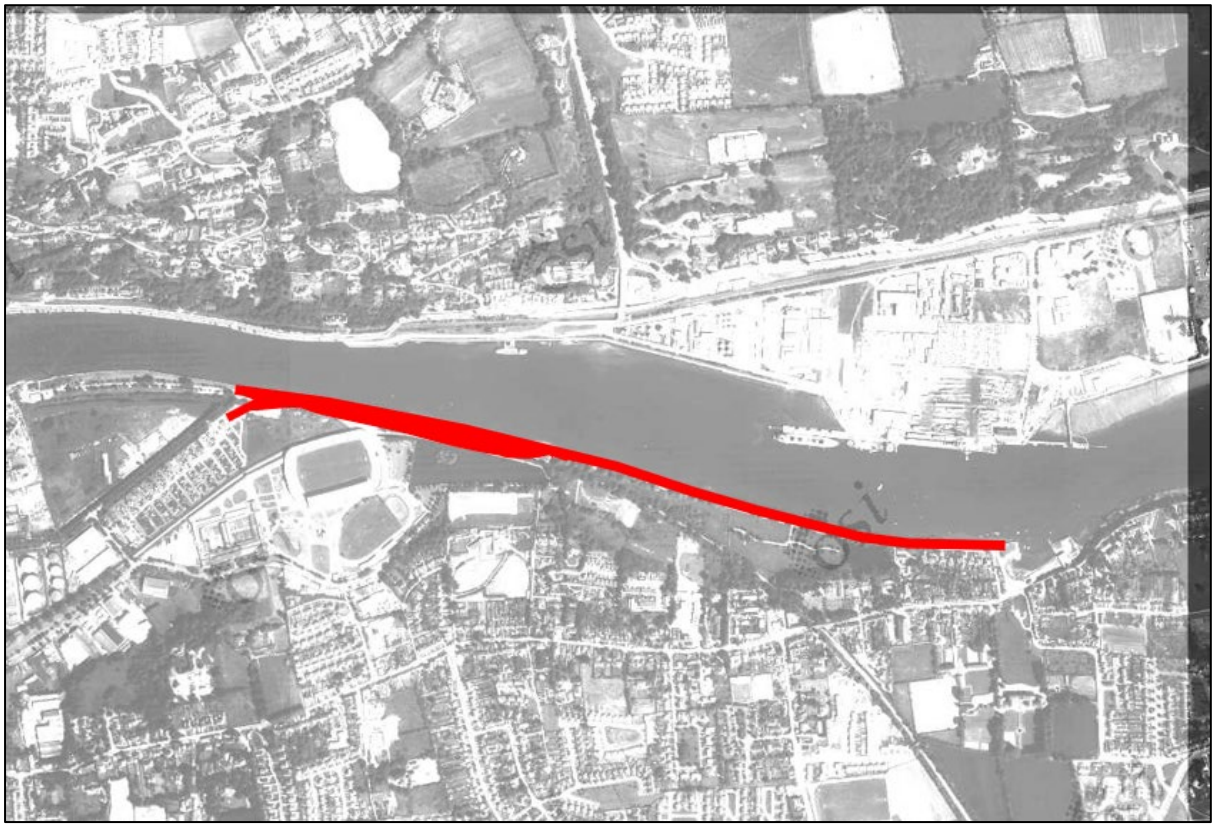

Figure 4.4: Aerial photograph for 1995; site location shown by red line (Source: GeoHive, 2022)

The aerial photograph for 1995 (Figure 4.4), shows no changes to the site boundaries or its surroundings, apart for some construction densification in the surrounding area. Further analysis to 2000 to 2013 aerial photographs reveals that there have been no significant changes to the site or surrounding area since the 1995 aerial photo was taken.

4.6 Site Physical Setting

Information regarding the site topography, hydrology, geology, hydrogeology, and ecology of the area has been obtained from records held by the Geological Survey of Ireland (GSI), Environmental Protection Agency (EPA) Envision online mapping tool, Ordnance Survey of Ireland (OSI), GeoHive, Water Framework Directive Maps, and National Parks and Wildlife Service (NPWS) databases.

4.7 Biodiversity

An Appropriate Assessment (AA) Screening Report has been prepared by OCSC which concluded repurposing of the road into a combined footpath and cycle path as well as the addition of study balconies and plazas for public uses with improved street lighting shows that implementation of the proposed project is not foreseen to have any likely significant effects on any European sites.

The nearest European site or qualifying habitat feature is located 0.8 kilometres from the proposed development site. The distance to the downstream SAC 4.95km direct to The Great Island Channel SAC. See Figure 4.5.

There are three European sites located within the 15km radius of the site location: Cork Harbour SPA (0.8km east), Great Island Channel SAC (4.95km east), and Blackwater River (Cork/Waterford) SAC (14.7km north).

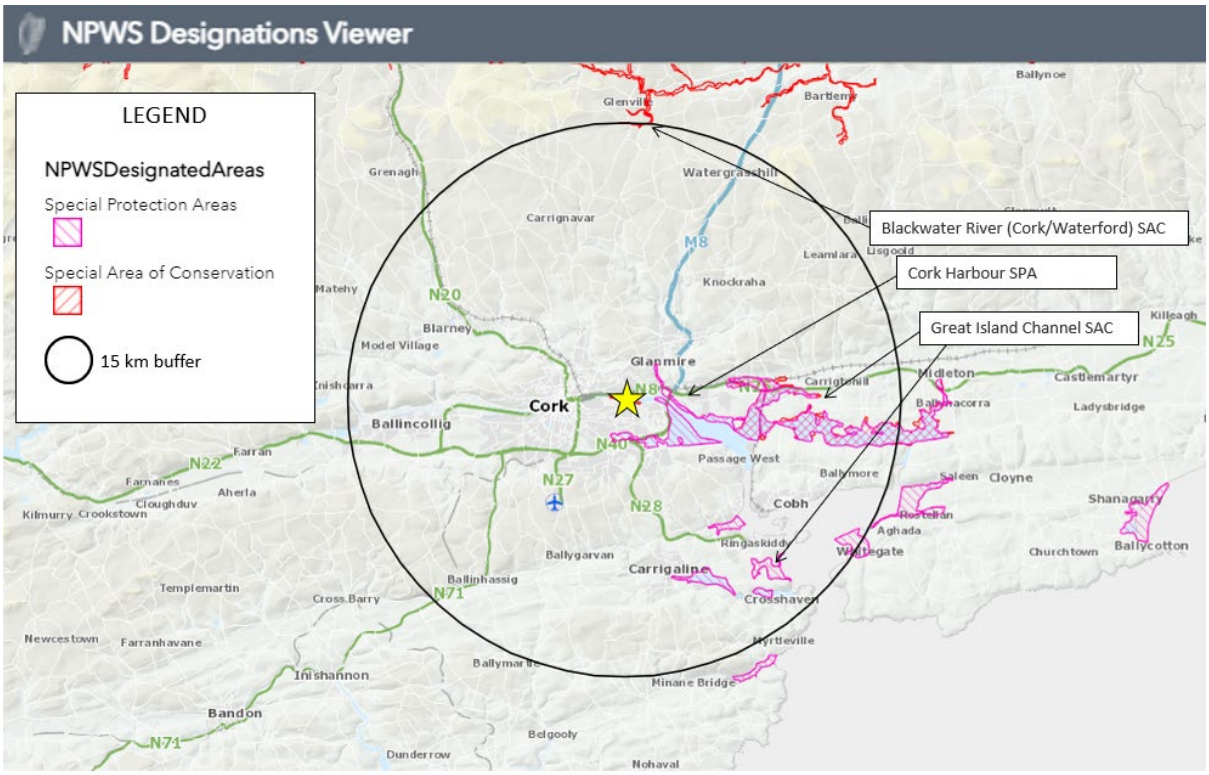

Figure 4.5: Designated Sites within 15km radius; site location shown as a yellow star (Source: NPWS Maps, 2022).

4.8 Topography

The topography of the site is generally flat.

4.9 Unconsolidated Geology

The site is underlain by made ground as shown on Figure 4.6.

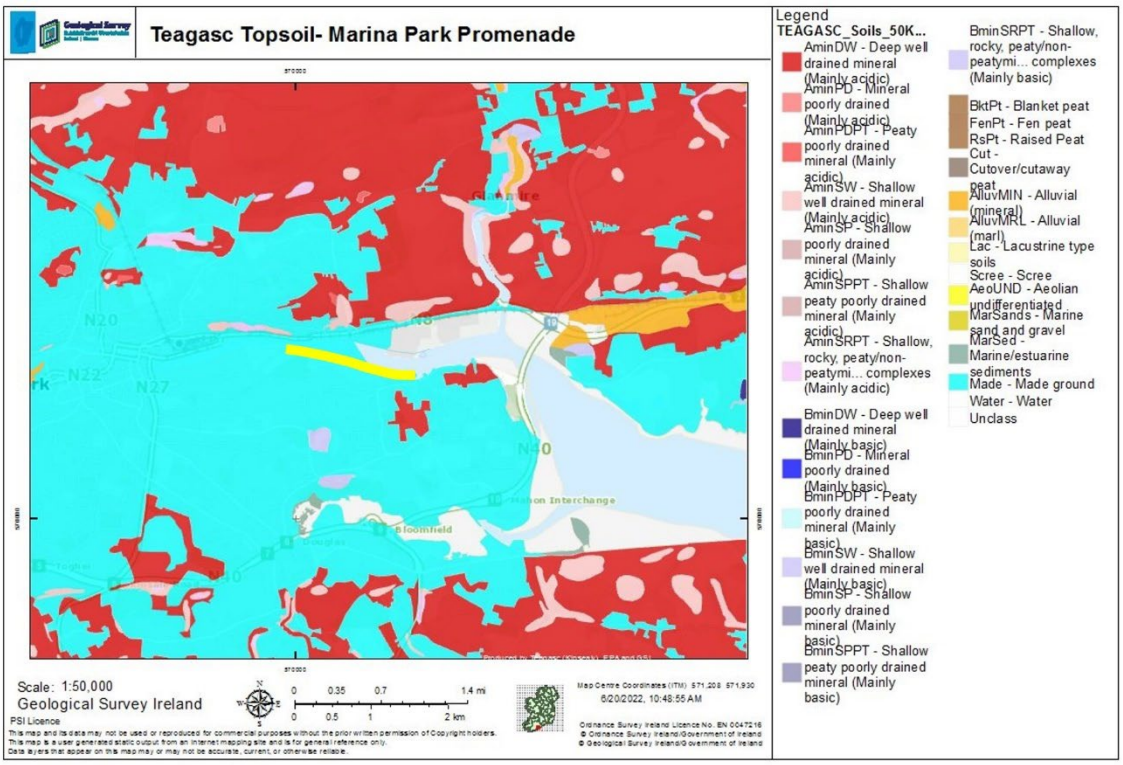

Figure 4.6: Teagasc Topsoil Classification; approximate site location indicated by yellow line (Source: GSI, 2022)

4.10 Geology

The western portion of the site is underlain by Cuskinny Member of the Kinsale Formation; the central portion is underlain by the Ballysteen Formation; and the eastern is underlain by the Waulsortian Limestones, as shown in Figure 4.7.

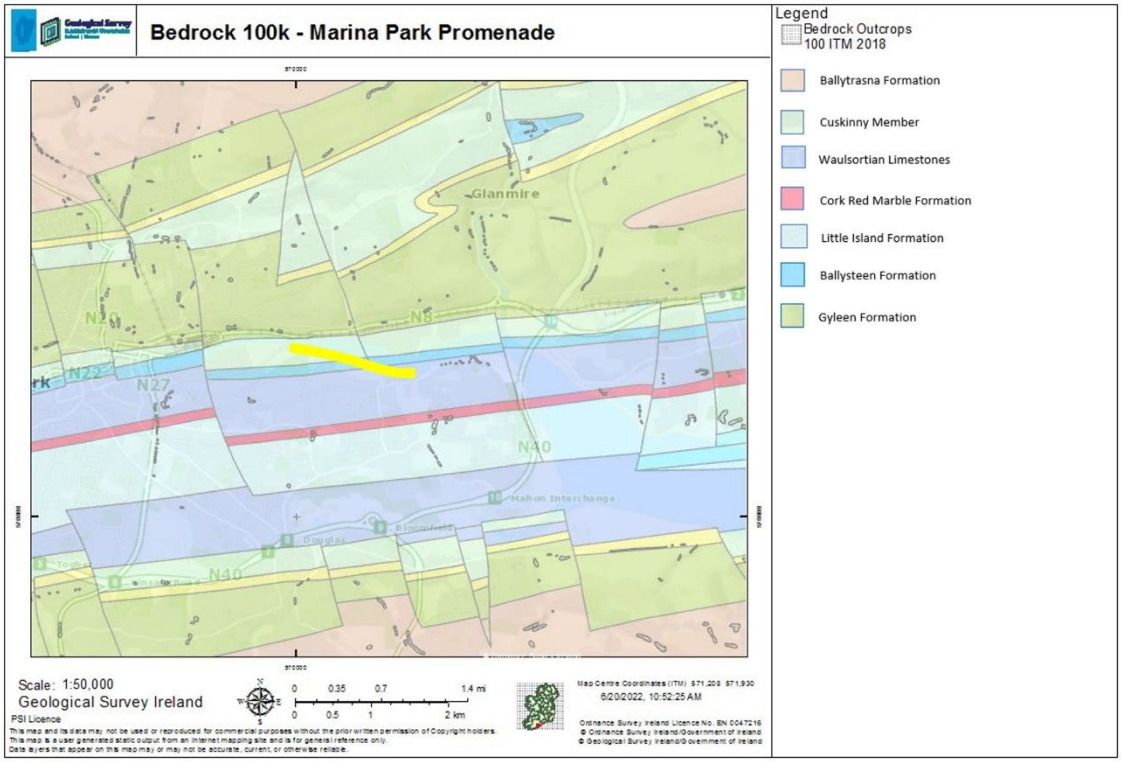

Figure 4.7: Bedrock Geology; approximate site location indicated by the yellow line (Source: GSI, 2022)

4.11 Areas of Geological Interest

The GSI online mapping service was consulted regarding areas of geological interest in the vicinity of the site. The nearest area of geological interest is Blackrock Diamond Quarry (site code CC003) which is located approximately 0.5km south of the site and is a designated County Geological Site (CGS). Blackrock Diamond Quarry is an historical quarry where amethyst was found. It has largely been built over, though some portions of quarry walls are still visible. The next nearest area of geological interest is Beaumont Quarry (site code CC002) which is located approximately 0.9km south of the site and is a CGS. Beaumont Quarry is a partially revegetated quarry of historical importance with accessible cave systems. See Figure 4.8.

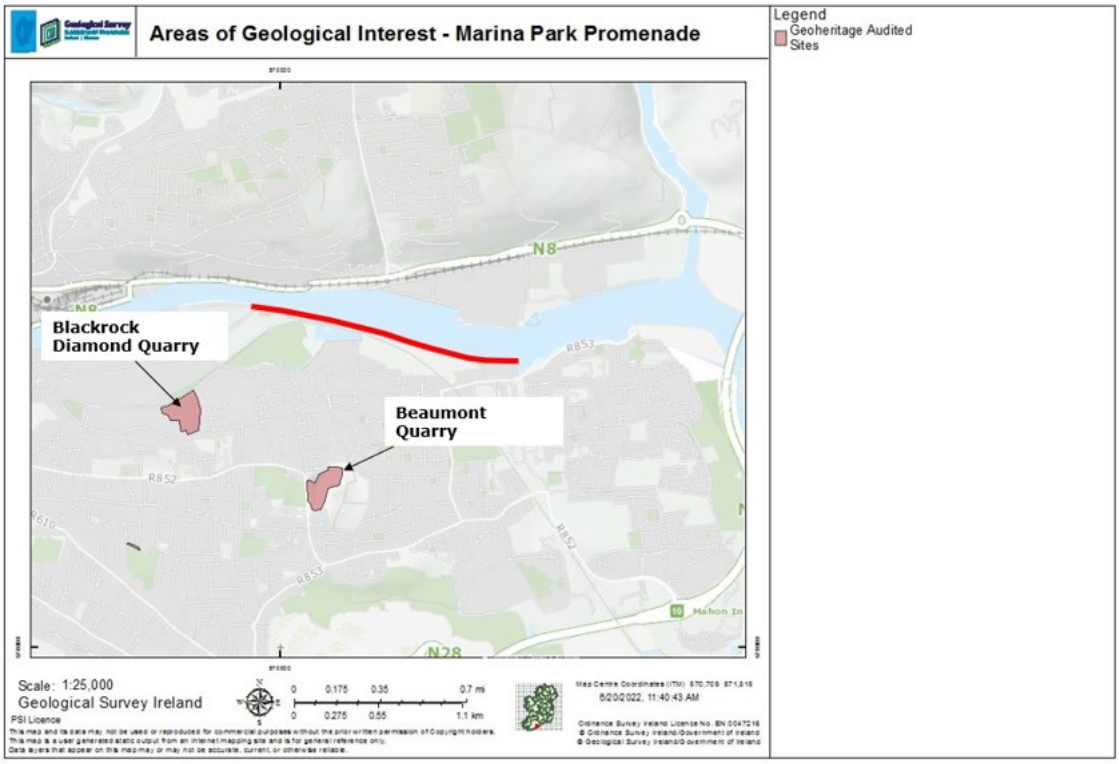

Figure 4.8: Areas of geological Interest; approximate site location indicated by the yellow star (Source: GSI, 2022).

4.12 Aquifers

The GSI provides a methodology for aquifer classification based on resource value (Regionally Important, Locally Important, and Poor) and vulnerability (Extreme, High, Moderate, or Low). Resource value refers to the scale and production potential of the aquifer whilst vulnerability refers to the ease with which groundwater may be contaminated by human activities (vulnerability classification primarily based on the permeability and thickness of subsoils). The site is underlain by a locally important gravel aquifer as shown in Figure 4.9.

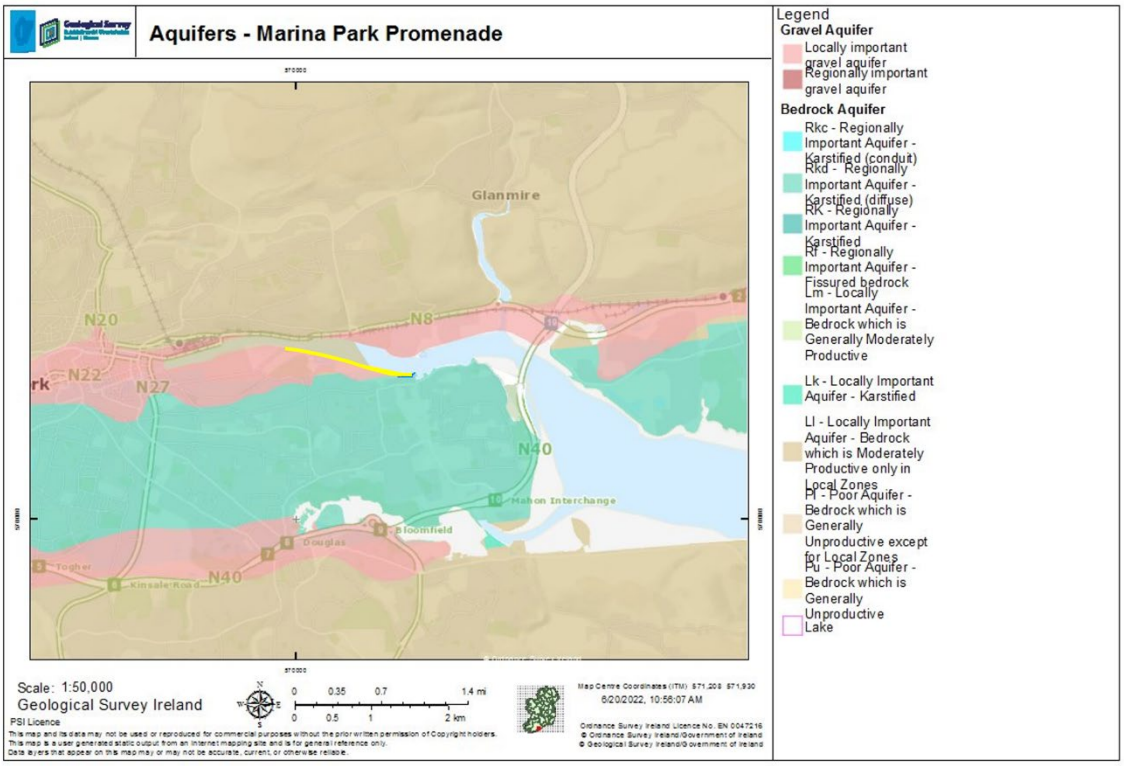

Figure 4.9: Aquifers; approximate site location indicated by the yellow line (Source: GSI, 2022).

4.13 Groundwater Vulnerability

The GSI resources describe the groundwater vulnerability beneath the site as Moderate "M" in the western to central portions of the site and High "H" in the central to eastern portions of the site and as shown in Figure 4.10.

Vulnerability ratings are related to a function of overburden thickness and permeability which might offer a degree of protection and/or attenuation to the underlying aquifer from surface activities and pollution. There are no karst features identified in the vicinity of the site.

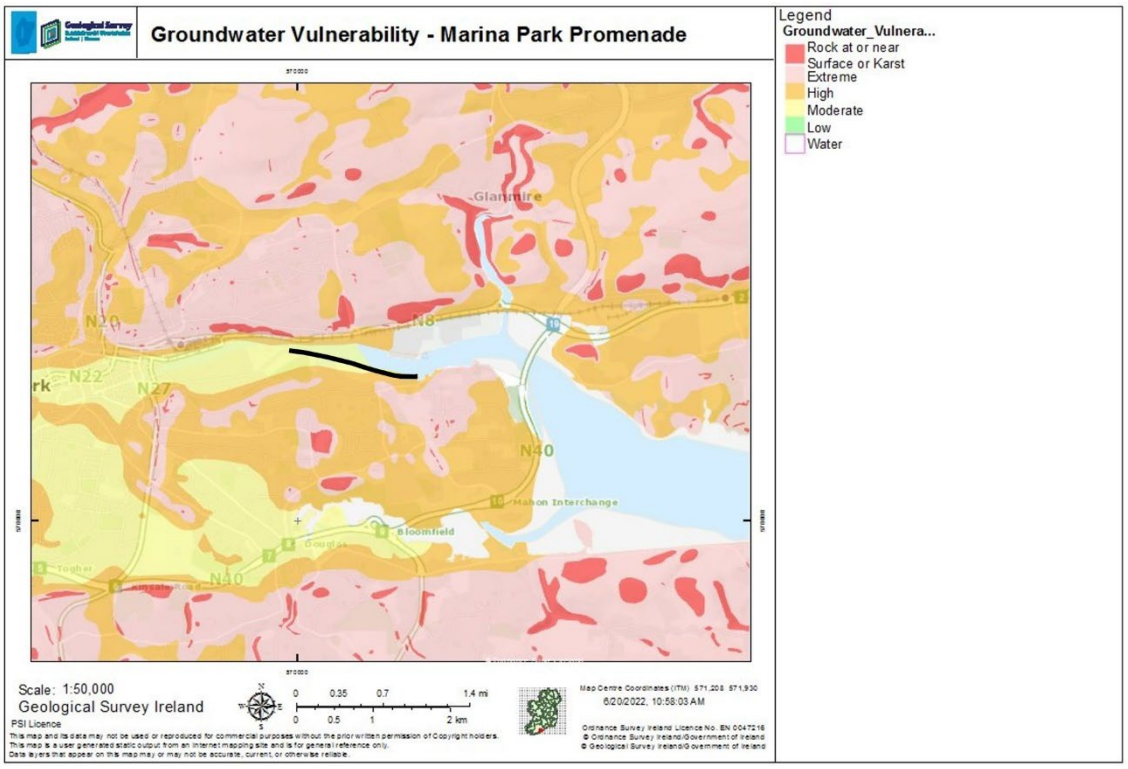

Figure 4.10: Groundwater Vulnerability; approximate site location indicated by black line (Source: GSI, 2022).

4.14 Groundwater Recharge

Diffuse recharge generally occurs via rainfall percolating through the subsoil with its rate being higher in areas where the subsoil in thinner and/or more permeable. The proportion of effective rainfall that recharges the aquifer is largely determined by the thickness and permeability of the soil and subsoil and by the slope. The groundwater recharge zones associated with the site are shown in Figure 4.11. GSI groundwater recharge model parameters for these zones are summarised in Table 4.1.

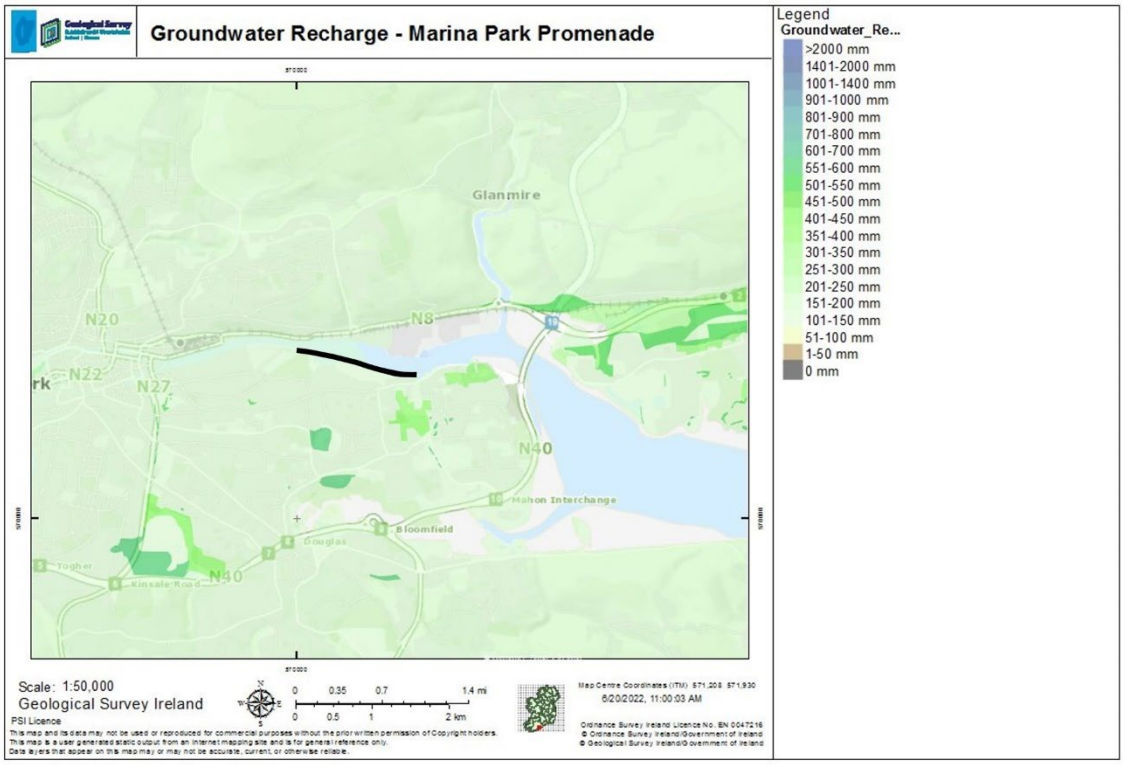

Figure 4.11: Groundwater Recharge; approximate site location by the black line (Source: GIS, 2022).

Table 4.1: GSI Groundwater Recharge Parameters

Groundwater Recharge Parameters	
Average Recharge (mm/yr):	126
Hydrogeological Setting:	1. M
Hydrogeological Setting Description:	E Vul: Made ground
Recharge Coefficient (%):	20.00
Effective Rainfall (mm/yr):	631.100
Recharge (mm/'yr):	126
Subsoil Permeability Description:	Moderate
GW Vulnerability:	Extreme
Aquifer Category:	Lg/LI
Aquifer Category Description:	Locally Important Gravel Aquifer underlain by Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones

4.15 Wells & Springs

A search of the GSI groundwater well database was conducted to identify registered wells within the site footprint and/or the surrounding area.

There are no boreholes located within the site boundary. The nearest borehole to the site is located approximately 0.4km north on the opposite side of the River Lee. This borehole (1707SWW0115) was drilled on December 1st 1995, to 11.2m as part of a site investigation.

The next nearest boreholes to the site (1407SEW074, 1407SEW075, and 1407SEW095-1407SEW098) located approximately 0.9-1.1km south and drilled on 1st April and 1st September 1988 as part of a geotechnical investigation for Boreenmanna Road. One other borehole (1707SWW085) is located near the site, approximately 0.8km south, and was drilled on 29th of December 1899 for public supply. This borehole is reportedly owned by Cork County Council and is part of the Ballyphilips Water Scheme as seen in Figure 4.12.

The GSI database also provides a framework for the protection of groundwater source zones (e.g., areas of contribution to water supply bores). There are no reported source protection zones (SPZs) within a 2km radius of the proposed site. The nearest SPZ is Carraignabhfear PWS which is situated approximately 11 km north-northwest of the site.

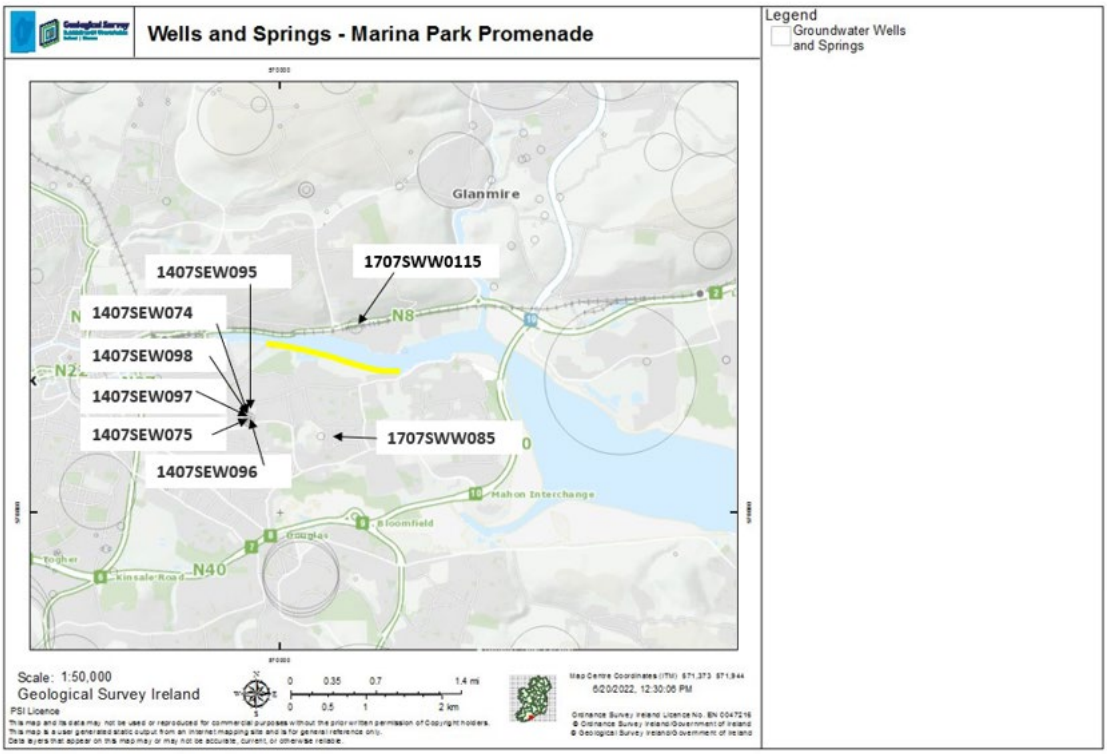

Figure 4.12: Wells and Springs; approximate site location indicated by the yellow line (Source: GSI, 2022)

4.16 Hydrology

There is a surface water feature mapped in the immediate vicinity of the site area. The EPA designated transitional waterbody Lee (Cork) Estuary Lower (Code IE_SW_060_0900) flows from west to east along the northern site boundary and into Lough Mahon. Both the Cork Harbour SPA and the Great Island Channel SAC border Lough Mahon in portions of its route. Based on the most recent water quality information 2013-2018, the Lee (Cork) Estuary Lower has an overall Water Framework Directive (WFD) Status of 'Moderate' as shown in Figure 4.13. The EPA spatial dataset shows that the WFD Transitional Waterbody Risk associated with the river is 'At Risk' of not meeting its 2027 WFD objectives (EPA 2022) as shown in Figure 4.14. WFD summary information for this stream is summarised in Table 4.2.

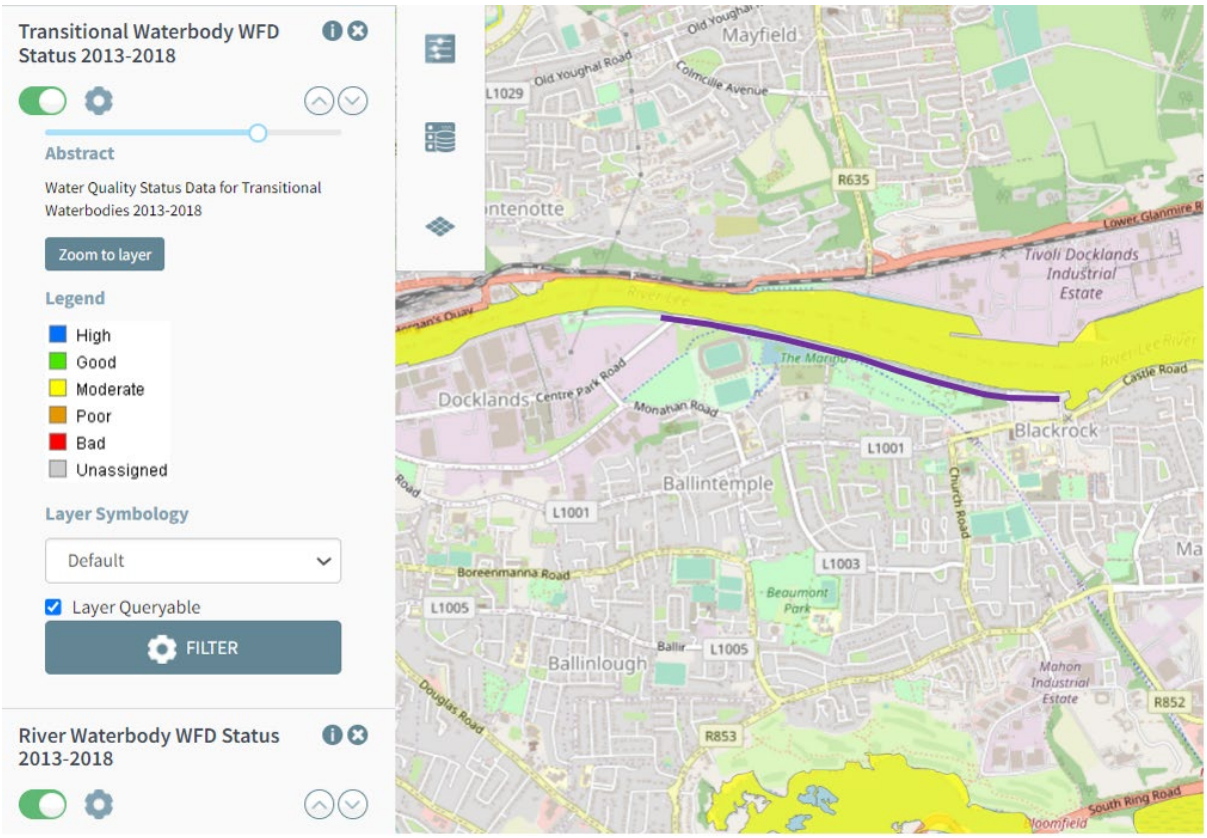

Figure 4.13: River Waterbody WFD Status; approximate site location indicated by the purple line (Source: EPA Maps).

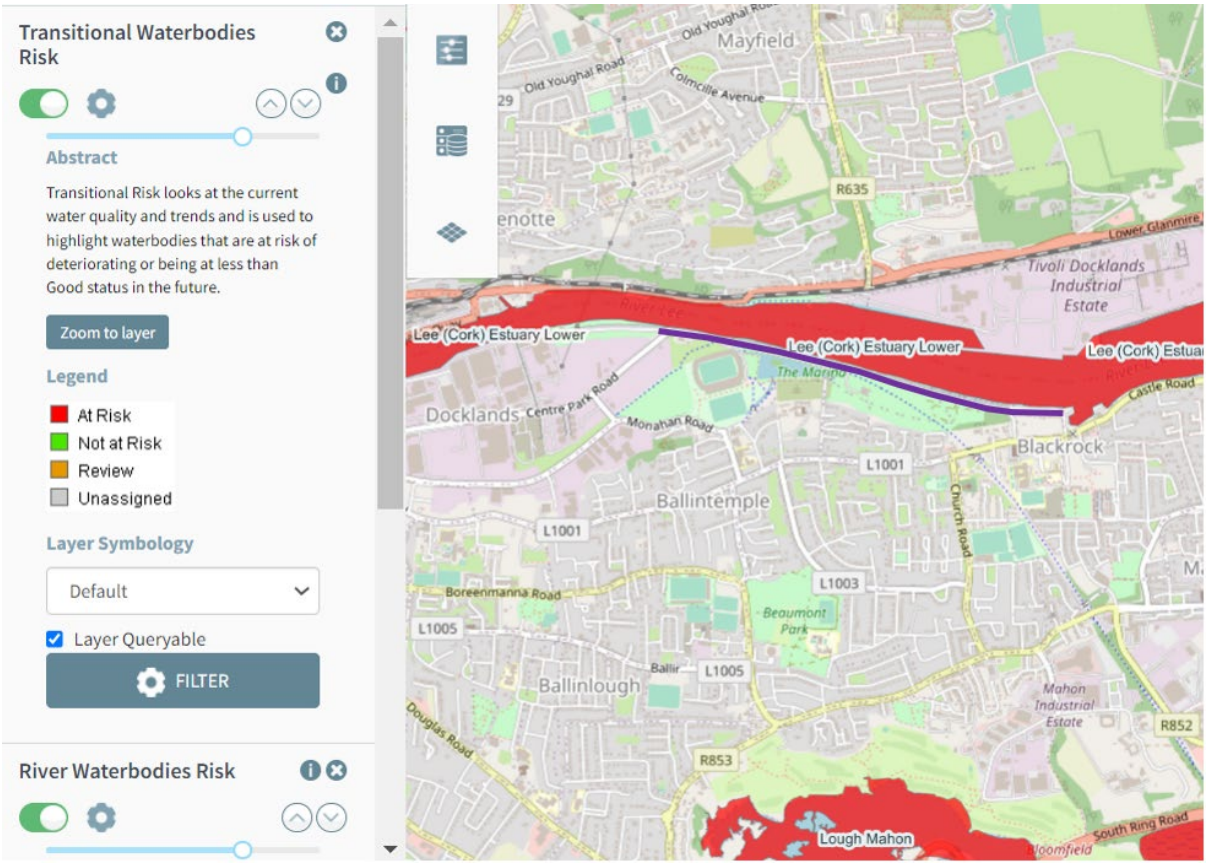

Figure 4.14: River Waterbodies Risk; approximate site location indidicated by the purple line (Source: EPA Maps, 2022).

Table 4.2: WFD Summary Information

Waterbody Code	IE_SW_060_0900
Waterbody Name	Lee (Cork) Estuary Lower
Waterbody Type	Transitional
Iteration	SW 2013-2018
Status	Moderate
Risk	At Risk

4.17 Radon

According to the EPA (now incorporating the Radiological Protection Institute of Ireland), about one in five homes in this area is likely to have high radon level as shown in Figure 4.15. This is a High Radon Area, therefore the Building Regulations in Ireland require radon protection to be installed – the requirement applies to areas of high radon risk, where 10% to 30% of homes exceed the reference level. of 200 Bq/m^3.

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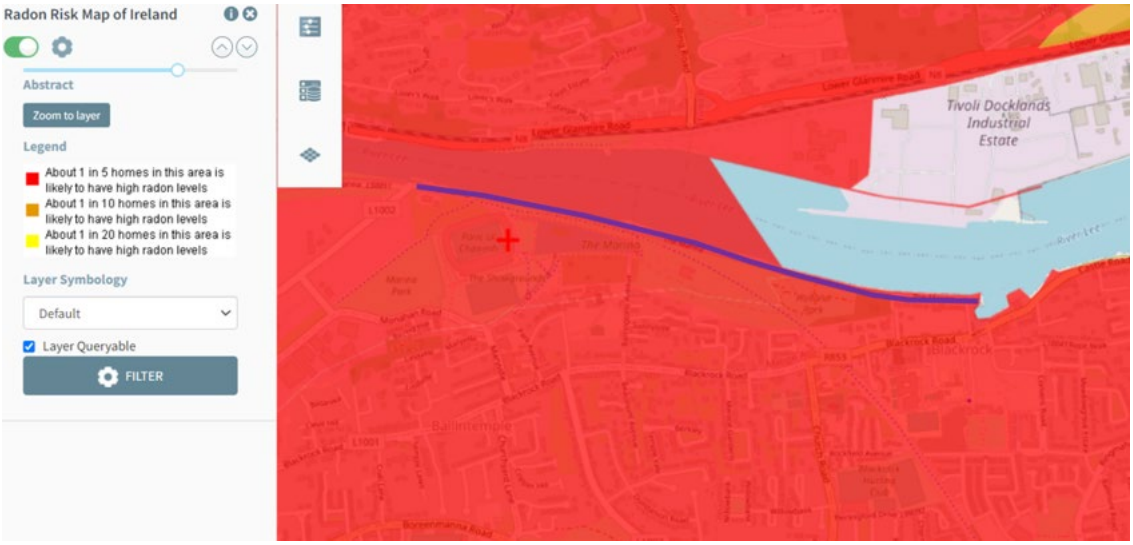

Figure 4.15: Radon Risk; approximate site location indicated by the purple line (Source: EPA Maps).

4.18 Protected Structures

The National Monuments Service (NMS) maps show that there are five protected structures adjacent to the proposed works. These protected structures are comprised of five houses built between 1800 and 1940. The locations of these structures in relation to the site are shown on Figure 4.16. Details on these properties are included in Table 4.3.

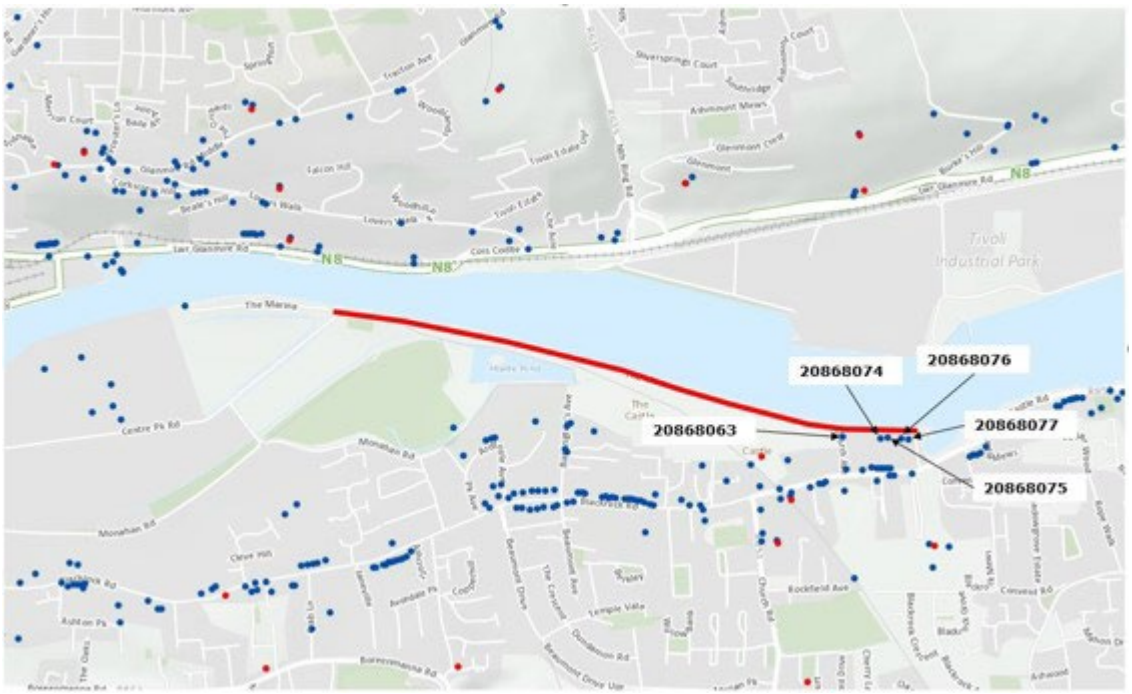

Figure 4.16: National Monument Service Protected Structures; approximate site location indicated by the red line (Source: NMS, 2022).

Table 4.3: National Monument Service Protected Structures.

National Monument Service Protected Structures			
Identification	Date	Original Use	In Use as
Reg. No. 20868074	1890 - 1910	House	House
Reg. No. 20868075	1900 - 1910	House	House
Reg. No. 20868076	1900 - 1940	House	House
Reg. No. 20868077	1900 - 1940	House	House
Reg. No. 20868063	1800 - 1840	House	House

4.19 Nearby Site Investigations

The GSI have compiled a database from site investigations carried out in Ireland. There are a number of boreholes located adjacent to the site as shown in Figure 4.17. Those immediately to the southwest are associated with a geotechnical site investigation at Cork Athletic Grounds (ID 1,265). Those immediately to the south are associated with a geotchnical investigation as part of the gas pipeline route from Powerhead Bay to Cork, Aghada and Marino Point (ID 1,530). Numerous boreholes are also located to the north of the site within the River Lee and associated with a River Channel Investigation (ID 3,090).

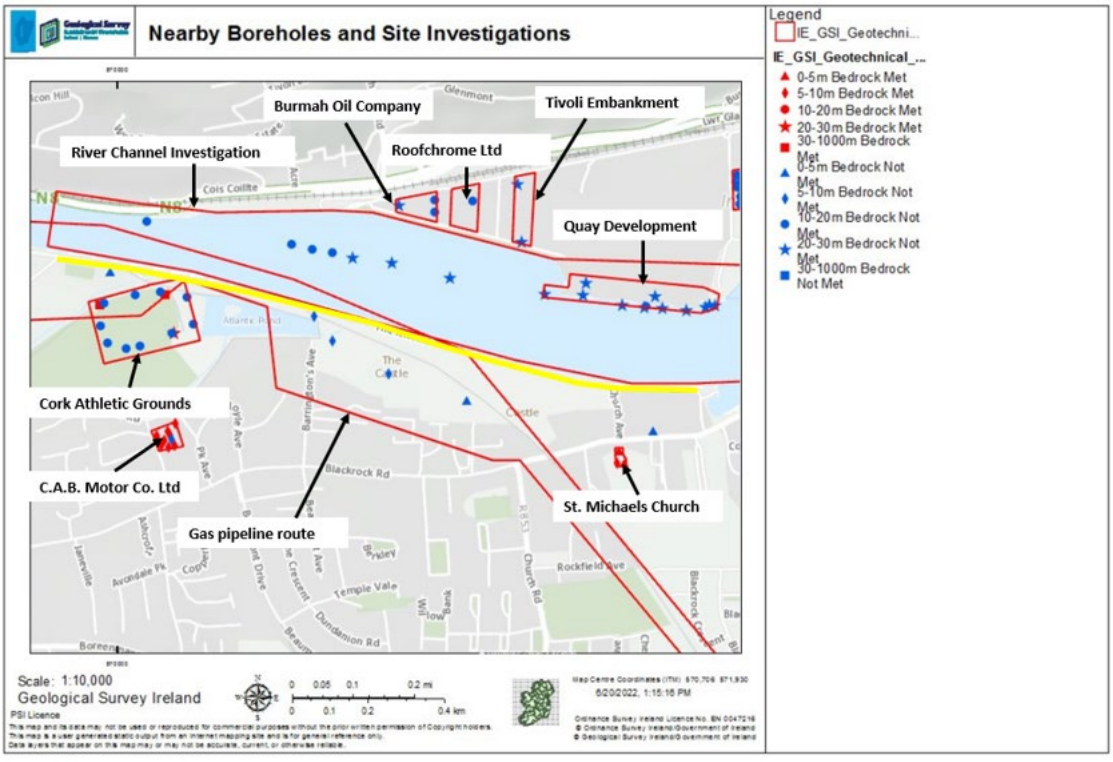

Figure 4.17: Nearby Boreholes and Site Investigations; approximate site indicated by the yellow line (Source: GSI, 2022).

4.20 Summary of the Physical Site Setting

Summary of the site physical setting are outlined in Table 4.4.

Table 4.4: Summary Site Setting

FEATURE	DETAILS & COMMENTS
Topography	The topography of the site is generally flat.
Geology	**Topsoil:** The site is underlain by made ground.
	Solid Geology: The site is underlain by the Cuskinny Member of the Kilsale Formation in the west, the Ballysteen Formation in the centre of the site, and the Waulsortian Limestones in the east.
Hydrogeology	**Aquifer Classification:** A site is underlain by a locally important gravel aquifer (Lg).
	Vulnerability & Recharge: Groundwater vulnerability is Moderate 'M' to High 'H' beneath the site. The average recharge has been modelled at 126 mm/yr.
	Well Search: There are no wells or springs located within the site boundary.
Hydrology	**Surface Water Courses:** There is a surface water feature immediately adjacent to the site area. The EPA designated transitional waterbody Lee (Cork) Estuary Lower (Code IE_SW_060_0900) flows from west to east along the northern site boundary and into Lough Mahon. Both the Cork Harbour SPA and the Great Island Channel SAC border Lough Mahon.

5 TYPES AND CHARACTERISTICS OF POTENTIAL IMPACTS

The likely significant effects on the environment of proposed development in relation to specified criteria are outlined below.

5.1 Magnitude and Spatial Extent of Impact

The project consists of repurposing approximately 1.8km of the existing promenade (the Marina Road) to deliver a combined footpath-cycle path and improved public spaces. Improvements will also involve the replacement of public lighting between Church Avenue and Blackrock Harbour, the addition of further public lighting between Centre Park Road and Church Avenue and the installation of plazas and study balconies. As these projects are small in magnitude and extent, any potential impacts are not likely to be significant.

5.2 The Nature of the Impact

This project relates to the repurposing of the Marina Road in Cork City into a combined footpath and cycle path and improved public spaces. The proposed project will provide public open space with high landscape value and amenity paths for the residents of Cork as well as tourists. This project is small in magnitude and extent. Any potential impacts are not likely to be significant.

5.3 The Transboundary Nature of Impact

There is no potential for transboundary impacts.

5.4 The Intensity and Complexity of the Impact

The size of each work areas within the site has been limited to that required to improve pedestrian and cycle access and safety in the area and to construct other aforementioned upgrades to the site. Any potential impacts are not likely to be significant.

5.5 The Probability of the Impact

The probability of impacts are not likely to be significant based on the following considerations:

- Through an assessment of the pathways for effects and an evaluation of the project characteristics, taking into account the processes involved and the distance of separation from European sites, it has been determined that there are no likely significant adverse effects on the qualifying interests, special conservation interests, or conservation objectives of any designated European site. The ecological integrity of the European sites is not foreseen to be significantly affected by the project.

5.6 Expected Onset, Duration, Frequency and Reversibility of the Impact

Based on the limited work areas required to undertake the proposed enhancement works and the short duration of the projects, no significant or long-term potential impacts are anticipated.

Furthermore, the ecological integrity of the European sites is not foreseen to be significantly affected by the project.

5.7 The Cumulation of the Impact with the Impacts of other Existing and/or Future Developments

There are no likely cumulative impacts of the proposed works in conjunction with committed developments based on a review of planning grants.

5.8 The Possibility of Effectively Reducing the Impact

The small area affected has been limited to that required for the construction of a pedestrian and cycle facility and associated upgrades to the public open space along the Marina Promenade. These works will affect a small area and are not foreseen to have any likely significant effects on any European sites.

5.9 Screening Decision

Table 5.1: Environmental Impact Assessment of Projects Screening Checklist.

Checklist	Response
Will there be a large change in environmental conditions?	No
Will new features be out-of-scale with the existing environment?	No, repurposing of the Marina Road
Will the impact be unusual in the area or particularly complex?	No
Will the impact extend over a large area?	No
Will there be any potential for transboundary impact?	No
Will many people be affected?	Minor temporary impacts. New improvements to the pedestrian and cycle traffic in the area.
Will many receptors of other types (fauna and flora, businesses, facilities) be affected?	No (refer to AA screening)
Will valuable or scarce features or resources be affected?	No (refer to AA screening)
Is there a risk that environmental standards will be breached?	No (refer to AA screening)
Is there a risk that protected sites, areas, features will be affected?	No (refer to AA screening)
Is there a high probability of the effect occurring?	No
Will the impact continue for a long time?	No significant or long-term potential impacts are anticipated
Will the effect be permanent rather than temporary?	No (refer to AA screening)
Will the impact be continuous rather than intermittent?	The probability of impacts are not likely to be significant.
If it is intermittent will it be frequent rather than rare?	-

Will the impact be irreversible?	-
Will it be difficult to avoid, or reduce or repair or compensate for the effect?	-