Cork County Council

Carrigaline TPREP Phase 1A

Appropriate Assessment Screening Report

Issue 2 | 9 June 2022

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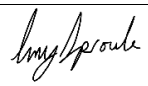
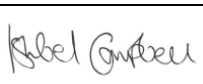
		Signature			
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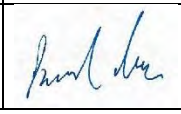
		Name	Amy Sproule	Donncha Madden	Fraser Maxwell
		Signature			
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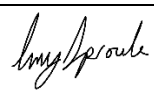
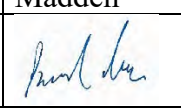
		Signature			
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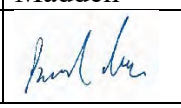
		Signature			

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Contents

1 Introduction

1.1 óóóóBackground

Ove Arup and Partners Ltd (Arup) has been appointed by Cork County Council (CCC), which is acting as the Competent Authority, to produce an Appropriate Assessment (AA) Screening Report for Phase 1a delivery of projects emanating from the Carrigaline Transportation and Public Realm Enhancement Plan (TPREP).

1.2 Site Description

The site is situated in Carrigaline, a town 10km south of Cork city, Ireland (W727625). There are two site areas under the TPREP considered part of Phase 1a and assessed as "the project" in this report (Main Street and Bridgemount Link). Please see **Figure 1** for the site locations.

The Main Street Public Realm Enhancement Plan

The Main Street Public Realm Enhancement Plan includes Main Street, and parts of Ballea Road, Crosshaven Road, Lower Kilmoney Road and Church Hill Road. It is bordered by the junction of Kilmoney Road Upper and Ferney Road in the South. The Ballea Road (R613) borders the Main Street site in the North. The site crosses the Owenabue River via Main Street (W 72986 62360). The total length of this element of the project is 1,216 metres.

Main Street (South) and Lower Kilmony Road is defined by two storey buildings with retail and commercial activity on the ground floor. The section of Crosshaven Road is edged by the Owenabue River to the north. The Ballea Road is characterised by commercial buildings set back from the roadway with surface parking. Main Street (North) has more residential land use. Two storey terraces are set back behind front gardens on the eastern side along with a church, school and garda station. The west side of Main Street currently accommodates a large development site, including a car sales garage and hotel. The north section of Church Hill Road is defined by two storey buildings with retail and commercial activity on the ground floor. Moving south the road is edged by residential properties, predominantly detached housing with front gardens.

The site is highly urbanised and heavily car dominated. It is surrounded by buildings, parking spaces and footways. There is little green space in the surrounding area, except for scattered roadside trees and landscaped flowerbeds. Therefore, there is poor habitat connectivity.

The Bridgemount Link

The Bridgemount Link connects Heron's Wood with Bridgemount via a disused Cork to Crosshaven rail line and open green area in Heron's Wood. It is bordered by the Cork Road in the south and Heron's Wood in the north. The extent of the site is approximately 450 metres in length.

The south of the site includes an abandoned railway line which is enclosed to prevent unauthorised access. The railway line cuts to the rear of existing homes in Bridgemount and Heatherfield Lawn. There is an old cattle crossing located in proximity to Heatherfield Lawn. The site extends north in front of Mulberry Lane but is screened by an existing boundary wall. The alignment of the railway cutting is significantly lower (~4– 5m) than the rear of the neighbouring properties and is heavily vegetated. The area also has a large amount of excess soil located along the route associated with historic construction activity in the area. The open green area in Heron's Wood lies between The Walk and The Oaks. The green area is slightly sloping and supports areas of landscaping. The site includes green space with highly vegetated areas.

Figure 1: Site Location

1.3 Proposed Scheme

The TPREP will provide the traffic management and public realm upgrade to Carrigaline, Co. Cork, Ireland. The TPREP Phase 1a, (hereafter referred to as the 'Proposed Scheme'), is proposing to introduce the traffic management changes and public realm works on Main Street in tandem with the provision of a new pedestrian and cycle link connecting Bridgemount and Heron's Wood.

1.3.1 Description Of TPREP

The Carrigaline TPREP was completed and endorsed by the Carrigaline Municipal District Elected members in July 2021. The Carrigaline Transportation and Public Realm Enhancement Plan (TPREP) is an integrated transportation

framework focused on addressing the transportation infrastructure and public realm enhancement required to support the sustainable development of Carrigaline. The TPREP included a comprehensive pedestrian and cycle network for Carrigaline.

The Carrigaline TPREP and supporting infrastructure is in line with the 2040 National Planning Framework, National Development Plan 2018 – 2027, Cork Metropolitan Area Strategic Strategy (CMATS), National Strategic Outcomes including Sustainable Mobility and Enhanced Regional Mobility.

The stated vision for the Carrigaline Transportation Public Enhancement Plan is: "*This Plan will provide the framework for an integrated transport network for Carrigaline with the purpose of rejuvenating the town centre, enhancing cycle and pedestrian amenities for residents and promoting connectivity with surrounding destinations by sustainable travel modes*."

The projects identified under Phase 1a will assist deliver on this vision and include the following key objectives:

- Connecting schools, the town centre and other community facilities to residential areas with a comprehensive active mode network;
- Create an attractive town centre, providing space for outdoor eating and enhanced amenity through the introduction of street furniture and new landscaping;
- Develop a transport hierarchy focused on pedestrians, cyclists and public transport through the provision of wider, continuous and clutter free footways; providing shorter and more direct walking and cycling connections in the town and providing cycle parking at key destinations in Carrigaline; and
- Reduce the number of cars within the town centre by managing access to Main Street.

1.4 Aims and Objectives

This report has been prepared by Arup on behalf of CCC and contains the information required for CCC to undertake Screening for AA for the Proposed Scheme.

The aims of this report are to:

- Outline the Proposed Scheme;
- Describe baseline conditions at the Proposed Scheme site;
- Identify Natura 2000 sites physically or ecologically connected to the Proposed Scheme;
- Provide information on, and assess the potential for the Proposed Scheme to significantly impact the identified Natura 2000 sites;
- Determine whether the Proposed Scheme is directly, or is necessary to be, connected with the conservation management of any Natura 2000 sites; and

- Determine whether the Proposed Scheme, alone or in combination with other projects, is likely to have significant effects on Natura 2000 sites in view of their conservation objectives.

Natura 2000 is a European network of important ecological sites across the European Union. The network is made up of Special Protection Areas (SPAs), established under the EU Birds Directive (79/409/EEC), and Special Areas of Conservation (SACs), established under the Habitats Directive.

1.5 Competent Expert Evidence

Donncha Madden (BSc, MCIEEM, CEcol) has reviewed this report as a competent expert. Donncha is a senior consultant with over 15 years' experience carrying out Ecological Impact Assessments (EcIA). He is an experienced leader of technical projects including high profile projects and has provided expertise internationally. Donncha has a strong track record in delivering reports to inform AA Screening and full AA Natura Impact Statements on complex projects.

2 Legislation and Guidance

2.1 Background

This section provides details on the adopted methodology and the information gathered to inform the overall assessment process.

2.2 Legislative Background

According to the EU Habitats Directive (92/43/EEC) and the EU Birds Directive (79/409/EEC), Member States are required to establish a Natura 2000 network of sites of highest biodiversity importance for rare and threatened habitats and species across the EU.

In Ireland, the Natura 2000 network of European sites includes Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

SACs are selected for the conservation of Annex I habitats (including priority types which are in danger of disappearance) and Annex II species (other than birds). SPAs are selected for the conservation of Annex I birds and all migratory birds and their habitats. The Annex habitats and species, for which each site is selected, are the *qualifying interests* (QI) of the SAC and special conservation interest (SCI). *Conservation objectives* for the site are defined for these qualifying interests.

A key requirement of the Habitats and Birds Directives is that the effects of any plan or project, alone, or in combination with, other plans or projects, on the Natura 2000 site network, should be assessed before any decision is made to allow that plan or project to proceed. This process is known as AA. The obligation to undertake an AA derives from Article 6(3) and 6(4) of the Habitats Directive (92/43/EEC) and both involve a number of steps and tests that need to be applied in sequential order.

Article 6(3) is concerned with the strict protection of sites, while Article 6(4) is the procedure for allowing derogation from this strict protection in certain restricted circumstances.

Article 6(3) of the Habitats Directive states:

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

Article 6(4) states:

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

Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission to other imperative reasons of overriding public interest."

On the 12th of April 2018, a precedent was set by a decision made by the Court of Justice of the European Union (CJEU) in the case of People Over Wind and Sweetman v Coillte Teoranta (C-323/17). The CJEU issued a judgement which ruled that Article 6(3) of the Habitats Directive must be interpreted as meaning that best practice construction and operation mitigation measures (measures which are intended to avoid or reduce effects) should be assessed within the framework of AA. As such it is now not permissible to take account of measures intended to avoid or reduce the harmful effects of the plan or project on a European Site at the Screening for AA stage. As a consequence, this Screening for AA report does not take into account mitigation measures, including aspects such as timing restrictions.

2.3 Assessment Methodology

The Competent Authority is required to carry out the Screening for AA, as required by Article 6(3) and 6(4) of the Habitats Directive, as fitting into the process as follows:

Stage 1 - Screening for Appropriate Assessment – to assess, in view of best scientific knowledge, if the project, individually or in combination with another plan or project is likely to have a significant effect on the Natura 2000 site.

Stage 2 - Appropriate Assessment – This is required if it cannot be excluded, on the basis of objective information, that the project, individually or in combination with other plans or projects, will have a significant effect on a Natura 2000 site. The AA must include a final determination by the Competent Authority as to whether or not a proposed project would adversely affect the integrity of a Natura 2000 site. In order to reach a final determination, the Competent Authority must undertake an examination, analysis and evaluation, followed by findings, conclusions and a final determination. The AA must contain complete, precise and definitive findings and conclusions, and may not have spaces or gaps.

Stage 3 – Assessment of Alternative Solutions- the process which examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site.

Stage 4 - Assessment of Compensatory Measures - where no alternative solutions exist and where adverse impacts remain, an assessment of compensatory

measures is undertaken where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

Each stage determines whether the next stage in the process is required. If, for example, it is concluded, with thorough reasoning and justification that, at the end of Stage 1 there will be no significant impacts on Natura 2000 sites, there is no requirement to proceed to Stage 2.

2.4 Guidance and Data Sources

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

- *Office of the Planning Regulator Practice Note PN01 - Appropriate Assessment Screening for Development Management* (OPR, 2021);
- *Managing Natura 2000 Sites: The Provision of Article 6 of the Habitats Directive 92/43/EEC* (EC Environment Directorate-General, 2018); [hereafter referred to as MN 2018];
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodical Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission Environment Directorate-General, 2001);
- *Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC* (European Commission, 2007);
- *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities* (Department of Environment, Heritage and Local Government, 2010 revision);
- *Appropriate Assessment under Article 6 of the Habitats Directive; Guidance for Planning Authorities.* (Department of Environment, Heritage and Local Government) Circular NPW 1/10 and PSSP 2/10;
- *Guidelines for Good Practice Appropriate Assessment of Plans under Article 6(3) Habitats Directive* (International Workshop on Assessment of Plans under the Habitats Directive, 2011); and
- *Communication from the Commission on the precautionary principle* (European Commission, 2000).

Sources of information that were accessed in February 2022 to collect data on the Natura 2000 network of sites and on the existing ecological environment are listed below:

- Bing aerial photography – www.bing.com/maps (Viewed March2022);
- BirdWatch Ireland - www.birdwatchireland.ie/ (Viewed March 2022);
- Environmental Protection Agency (EPA) – www.epa.ie (EPA Online Environmental Map Viewer) (Viewed March 2022);

- Fossit (2000) *A Guide to Habitats in Ireland.* The Heritage Council(Viewed March 2022);
- Google aerial photography – www.googlemaps.com (Viewed March 2022);
- Google Earth aerial photography (Viewed March 2022);
- Information on environmental water quality data available from (EPA, www.catchments.ie) (Viewed March 2022);
- National Biodiversity Data Centre – www.biodiversityireland.ie (Viewed March 2022);
- National Parks & Wildlife Service (NPWS) - www.npws.ie (Viewed March 2022);
- National Parks and Wildlife Service online data on protected flora and fauna (Viewed March 2022);
- NPWS (2014) Conservation Objectives: Cork Harbour SPA 004030. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. - https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004030.pdf (Viewed March 2022);
- NPWS (2014) Conservation Objectives: Great Island Channel SAC 001058. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. - https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001058.pdf (Viewed March 2022); and
- Ordnance Survey Ireland OSI mapping and aerial photography – www.osi.ie (Viewed March 2022).

Other sources of information include:

- Cork County Council ePlan – ttp://planning.corkcoco.ie/ePlan/searchresults/application_status (Viewed March 2022);
- Amharcóir Pleanála - Planning Viewer - https://corkcoco.maps.arcgis.com/apps/webappviewer/index.html?id= (Viewed March 2022);
- The Wildlife Act 1976, available at https://www.irishstatutebook.ie/eli/1976/act/39/enacted/en/html#zza39y1976 (Viewed March 2022);
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments. Available at https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2019_Vol3_Species_Article17.pdf (Viewed March 2022);
- Birds of Conservation Concern 5th Review (BoCC5) (2021) available on https://britishbirds.co.uk/sites/default/files/BB_Dec21-BoCC5-IUCN2.pdf (Viewed March 2022);
- European Commission (2017), Invasive Alien Species of Union Concern https://ec.europa.eu/environment/nature/pdf/IAS_brochure_species.pdf (Viewed March 2022);

- S.I. No. 477 Regulations 49 and 50 (2011), European communities (Birds and Natural Habitats Regulations 2011);
- CCC, Ballincollig Carrigaline Municipal District Local Area Plan (2017) Volume 2 Environmental Reports on Proposed Amendments, Proposed Amendments to the Draft Plan, http://corklocalareaplans.com/wp-content/uploads/2017/08/Ballincollig-Carrigaline-MD-LAP.pdf (Viewed March 2022); and
- TII Strategic Noise Modelling 2017availbel on https://tii-gis.maps.arcgis.com/apps/StorytellingSwipe/index.html?appid=b73a34d41dc942aa959d318214a53acf (Viewed March 2022).

Guidance related to Conservation objectives is listed below:

The conservation objectives for any designated site are to ensure that the integrity of a site is maintained or restored as appropriate, and ensure that a site contributes to achieving the favourable conservation status of its qualifying features, by maintaining or restoring:

- The extent and distribution of qualifying natural habitats and habitats of qualifying species;
- The structure and function (including typical species) of qualifying natural habitats;
- The structure and function of the habitats of qualifying species;
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely;
- The populations of qualifying species; and
- The distribution of qualifying species within the site.

The conservation objectives are to ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features;
- The structure and function of the habitats of the qualifying features;
- The supporting processes on which the habitats of the qualifying features rely;
- The population of each of the qualifying features; and
- The distribution of the qualifying features within the site.

There are two Natura 2000 sites within the potential zone of influence of the Proposed Scheme. These sites are listed in

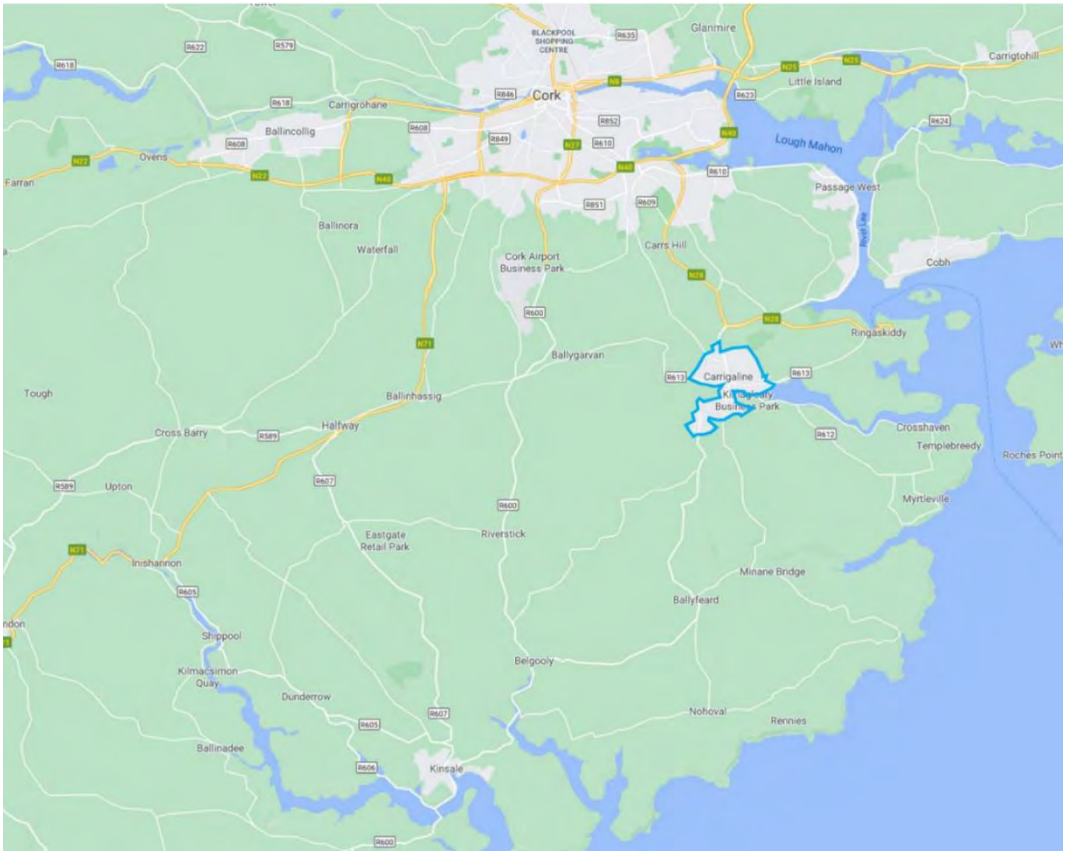
Table 4.

3 Proposed Scheme and Local Site Characteristics

3.1 General Site Context

Carrigaline is situated 10km from Cork City, Ireland (IGR W727625). **Figure 2** shows the location of Carrigaline, within the wider region of County Cork. There are a number of towns and villages located to the south of Cork City, with Carrigaline forming the largest town. Carrigaline can be described as a Metropolitan Town within the Cork Gateway area. Carrigaline is situated in a limestone region in the Owenabue Valley. It is located at the head of the Owenabue River and Estuary which forms part of Cork's lower harbour.

The town has a population of 15,770 people according to the 2016 census. Both



the town centre and Main Street are currently heavily car dominated with relatively poor provision of pedestrians, social and commercial activity along the street.

Figure 2: Location of Carrigaline in context of County Cork

The Proposed Scheme is situated within an urban setting. **Figure 1** shows the scheme location in two separate areas (Main Street and Bridgemount Link). Both areas were included as part of the overall Carrigaline Transportation and Public

Realm Enhancement Plan. **Figure 1** also shows the location of the two site that encompass the Proposed Scheme.

The adjacent land-use surrounding Main Street site includes commercial and residential property, with the site crossing the Owenabue River. The site is bounded in the north by the Ballea Road (R613) and to the south by the Kilmoney Rod Lower (R611). The site at Bridgemount Link is mainly surrounded by residential properties. It is bounded to the north by Heron Wood and in the south by the Cork Road.

The Proposed Scheme is approximately 200m from the western extent of Cork Harbour SPA at the Proposed Scheme's closest point

3.2 Proposed Scheme Description and Context

The key parts of the Proposed Scheme include;

- New pedestrian and cycle facility;
- New traffic management arrangements; and
- Public realm upgrades.

3.2.1 Main Street Public Realm Enhancement Plan

As noted, the work encompasses two sites; the traffic management and public realm upgrade to Main Street and the provision of a new pedestrian and cycle facility connecting Bridgemount with Heron's Wood. Descriptions of the Proposed Scheme elements are outlined below:

- **Ballea Road** between the New Western Inner Relief Road and Main Street;
- **Main Street** between Ballea Road and Lower Kilmoney Road;
- **Crosshaven Road** between Main Street and the entrance to Dunnes Stores; and
- **Lower Kilmoney Road** between the entrance to the Dairygold Co-op and Main Street.

The proposal includes the public realm upgrades to the following streets as identified in the attached drawings**.**

The total length of this element of the project is 1,216 metres and primarily includes the widening of existing footpaths, relocation of existing kerbside parking and loading bays, the provision of enhanced facilities for public transport users and the creation of spill out areas for local traders. The options developed for this project were based on street design typologies introduced by the Chartered Institution of Highways & Transportation (CIHT) in its 2018 publication `Creating better streets: Inclusive and accessible places'. The three typologies used were enhanced street typology, pedestrian priority street typology, and informal street typology. These are discussed in more detail in **Section 3.4**.

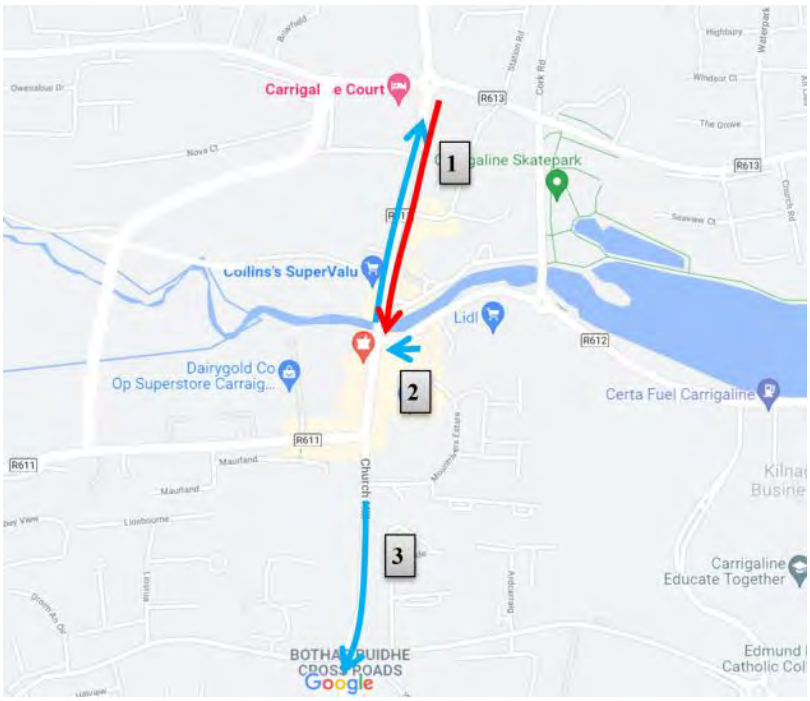


Figure 4: Proposed Traffic Management Changes

Figure 3: Main Street Location

3.2.2 Bridgemount Link

The Proposed Scheme includes a new pedestrian and cycle facility connecting Heron's Wood and Bridgemount. The extent of the proposed new pedestrian and cycle facility is approximately 450 metres in length and can be seen in **Figure 5**.

The proposal includes the provision of a 4m wide shared pedestrian/ cycle facility with associated hard and soft landscaping enhancements, street lighting, close circuit television and enhanced boundary protection to neighbouring properties.

3.3 Storm Water and Wastewater Drainage Systems

3.3.1 Main Street

There is an existing site drainage system in place within the Main Street site. Surface water run off is currently gathered by side street gullies connected by an underground storm water network flowing into the Owenabue River.

During the operation the surface water and storm water drainage systems will operate as they currently do, however minor adjustments will be made to the location of street gullies to accommodate changes in surface levels and the widening of footpaths. The Proposed Scheme is not expected to increase the flow of water into the Owenabue River.

During the construction, works will take place along footpaths at the walled boundary to the Owenabue River, however there will be no instream works. Construction run off will be minimal and will drain through the existing stormwater drainage system into the Owenabue River where it is diluted and dispersed without any potential for significant effects owing to the scale of the works proposed along Main Street. The extent of the works within this urbanised area are relatively minor and will not have any significant impact on water quality within the Owenabue River.

3.3.2 Bridgemount Link

There is currently no drainage system in place along the alignment of the Bridgemount Link site. The proposed scheme will include some linear drainage along the cycle/pedestrian route to ensure water does not pond on the facility itself.

3.4 Construction

The schedule for construction is to be confirmed. However, the potential construction start dates and duration are outline below for each element of the Proposed Scheme:

- Main street: Q3 2022 (duration of 12 months)
- Bridgemount Link: Q3 2022 (duration of 6 months)

Figure 5: Bridgemount Link site location

3.4.1 Works to occur: Main Street

The key areas of construction involved at Main Street are outlined below:

- Creation of rain gardens;
- Excavation of the street surfacing and sub-base (maximum depth of excavation will be 1.0m below the existing surface level, with the majority of the excavations approximately 500mm below the existing surface level. This excludes excavation over the Owenabue Bridge where between 100mm and 200mm will be planed off to ensure not structural impacts on the existing bridge);
- Installation of barriers and hoardings during construction;
- Installation of new street furniture;
- Installation of new utilities with cables placed under ground;
- Installation of street lighting (The exact location of structural supports for e.g., street lighting will be determined as part of the detailed design process);
- Planting trees and other decorative plants (The exact location of trees will be determined as part of the detailed design process);
- Removal of existing surface materials; and
- Repaving the street to include installation of new high quality public realm.

No demolition works will be required to facilitate the Proposed Scheme.

3.4.2 Works to occur: Bridgemount Link

The key areas of construction involved at Bridgemount Link are outlined below:

- Excavation of grass, topsoil and some ground layers to provide a route through the neighbourhood park areas to the north and south of the rocky outcrop. The maximum depth of excavation will be between 200 – 300mm below the existing surface level through the residential park areas. Within the vicinity the northern section of the railway cutting (opposite the Pines residential estate), the rocky outcrop will be cut to a depth of approximately 1.5m to achieve a desirable gradient along the route;
- Clearance of debris, garden, domestic waste and vegetation on railway track through the rocky outcrop;
- Installation of a signalised crossing at Bridgemount Street to the south;
- Installation of anti-climb fences;
- Installation of associated landscaping enhancements, street lighting, close circuit television and enhanced boundary protection to neighbouring properties. Excavation of grass, topsoil and some ground layers to provide a route through the neighbourhood park areas;
- Installation of CCTV;
- Installation of drainage;
- Installation of public lighting;
- Levelling of route e.g., building up to include a new sub base, cut or filled to acquire the designed surface level;
- Planting new deciduous hedgerows and trees;
- Provision of a retaining structure at Firgrove Mews;
- Provision of a shared crossing over Heron's Wood Link Road to the north;
- Removal of an existing security fences;
- Removal of an old cattle crossing; and
- Tree removal.

3.4.3 Land-Use Requirements

Land requirements for the Main Street enhancements will be provided through:

- Reduction in on-street parking provision;
- Reduction in width of the existing road carriageway; and
- Replacement of roundabout.

Land requirements for Bridgemount Link will be provided through:

- The open green landscaping area in Heron's Wood lies between The Walk and The Oaks; and
- Disused railway line.

3.4.4 Construction Site Access and Car Parking

Where possible already established construction entrances, parking, lay down area will be used during construction phase. The Contractors Traffic Management Plan will include construction site offices, the location of which will be agreed with CCC. Staff parking arrangements will need to form part of the Contractor's Traffic Management Plan, and this will also be subject to agreement with CCC. Construction vehicles will require access to works areas for delivery and removal of materials, but it is anticipated that these will require parking for a short duration only for loading and unloading of material.

3.4.5 Construction Compounds

A construction compound will be required to store construction vehicles, materials, equipment, fuel etc. The location of the compound will be on Council owned land and will be located away from the Owenabue River.

3.4.6 Construction Surface and Wastewater

During construction, surface water run-off will be managed using existing drainage systems. The Contractor will ensure that the proposed works are carried out in accordance with the Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013). The probability of accidents or pollution spillages occurring is very low as the construction works are standard in nature and are minor (such as footpath replacement, road resurfacing and service excavations). Standard pollution control measures, not included to protect any Natura 200 site, will be in place during construction.

The construction to occur on the bridge at Main Street will be contained between the parapet walls with no instream work. Surface water run-off will be managed as it is currently, through the stormwater drainage system into the Owenabue River. Rainwater will fall on the exposed surface and filtrate through the ground and make its way to the lowest point i.e., the river. The ground will therefore remove any minimal particles from the water moving through it. Surface water will be discharged into Owenabue River where any remaining minimal pollutants will be adequately diluted and dispersed resulting in no significant effects.

At the Bridgemount Link site during construction surface water will drain into the exposed soil. Any water run off on new hard surfacing will filter into green areas adjacent to the route.

3.4.7 Resources and Waste

Labour

The number of construction staff on site will vary throughout the works. Typically, crews would have 4-5 members, plus the operator of an excavator and/or mini-excavator. For resurfacing of asphalt, a typical crew would consist of 12-15 members plus associated plant, and delivery trucks. At any one time on a typical day, no more than 20-25 staff would be on site.

Materials

At Main Street, waste will be generated through minor excavations and removal existing street surface materials. At Bridgemount Link there will be waste produced as a result of clearance of vegetation, debris, garden and domestic waste. There will also be waste generated from excavation of grass, topsoil and ground layers. All waste materials will be segregated and removed from site for appropriate re-use or disposal. Materials will be re-used where possible.

3.4.8 Noise

There will be some localised noise emissions generated by construction works listed above. According Lden Results (2017)[1] baseline noise emissions from Main Street in the north and south section of the street is 70 dB to 74 dB. Along the bridge this falls to 65 dB to 69 db. Main Street is characterised by commercial and urban use with a high level of traffic including the Cork Road. There are numerous shops along Main Street including Carrigaline shopping centre in proximity to the works which is a significant noise generator. There is no noise data provided for the area of Bridgemount Link. The area is residential in nature and so construction work here is expected to be carried out in daytime hours. Noise will be deflected by the existing wall along Mulberry Lane, green areas between the pathway and Heatherfield Lawn, the existing railway cutting and the wall at the back of The Pines.

It is expected that the noisier activities will need to be phased and planned to ensure that the nearest noise sensitive receptors such as residential buildings and schools, do not experience significant disturbance.

Construction work will predominately occur during day-light hours. Night working will only occur on occasions of final surfacing, utility installation in the vicinity of property entrances.

3.4.9 Air

Some localised dust emissions may be generated as a result of the construction works listed above. Any airborne concentrations of particulate matter arising from construction would be small and very local to the construction activity.

3.5 Operation

3.5.1 Operation Surface Water

Within the Main Street site, surface run-off from roads and the footpath will be collected via the existing storm water drainage system. The surface water flow route will need to be repositioned to suit the new alignment but will at least

[1] TII Strategic Noise Modelling 2017availbel on https://tii-gis.maps.arcgis.com/apps/StorytellingSwipe/index.html?appid=b73a34d41dc942aa959d318214a53acf (Viewed March 2022)

replicate if not potentially improve existing surface water drainage systems. Operational stage surface water drainage will involve less emissions to drainage systems than existing as there will less vehicles on the road and more bicycles. Raingardens are proposed as a Sustainable Drainage Systems (SuDS) measures along sections of the scheme.

At Bridgemount Link, the Proposed Scheme will include new drainage along the cycle/pedestrian route in the form of a filter drain. A small proportion of the route (start and end points) may need to be connected back to the existing drainage system however there will no contaminated emissions arising from the filter drain as the users will not create and pollution sources.

There will be a marginal increase in discharge volume during operation as the majority of the facility will have its own filter drain. However, given the operational use for pedestrian and cyclists, surface water will not be contaminated with oil and substance associated with motorised vehicles.

3.5.2 Resource and Waste

With increased cycle traffic and pedestrians due to the Proposed Scheme there may be increased waste produced during operation in the form of litter. There will be no significant difference to the existing baseline with regard to resource and waste. There are no implications for operational wastewater arising from the scheme.

3.5.3 Noise

The proposed scheme will aim to reduce traffic by promoting forms of active travel resulting in less motorised vehicles in the town and therefore a quieter environment.

3.5.4 Air

There is likely to be a reduction in local emissions to air once the new scheme is implemented as there will likely be a reduction in vehicle traffic volumes.

4 Ecological Overview

4.1 General Landscape Within Proposed Scheme

Both sites of the Proposed Scheme are within an urban setting, located south of Cork City. The majority of the site consists of road and footpath (Fossit's Guide to Habitat Classification - BL3). Main Street is between approximately 12m-16m wide and accommodates footways, carriageway and parking/loading bays. There are very few street trees although there is some planting in tubs and baskets (BC4). The landscape at the Bridgemount Link site includes a slightly sloping open green area in Heron's Wood (GA2). There is an enclosed railway cutting to the rear of existing homes in Bridgemount and Heatherfield Lawn. This area is heavily vegetated and included trees (WS1). The area also has a large amount of excess soil located along the route associated with historic construction activity in the area (ED2).

The section of Crosshaven Road is edged by the Owenabue River (FW2). This river flows under Main Street bridge and parallel to the Crosshaven Road. The Owenabue River originates north of Crossbarry and flows easterly direction before it discharges into Cork Harbour SPA (approximately 0.21km at its nearest point from Proposed Scheme on the Crosshaven Road).

There was no specific ecological survey undertaken as part of this report however a qualified ecologist visited the woodland as part of an ecological walk-over for the Bridgemount link site

4.2 Species

Species records have been compiled using the National Biodiversity Data Centre (NBDC)[2]. The Proposed Scheme at Main Street comprised of three 1km^2 grid squares named W7262 (**Figure 6**), W7362 (**Figure 7**) and W7261 (**Figure 8**). The Proposed Scheme at Bridgemount Link comprised of one 1km^2 area named W7363 (**Figure 9**). These were selected and species lists created. Protected species records from these grid squares are outlined in the following sections.

[2]National Biodiversity Data Centre (NBDC), Biodiversity Maps, available on https://maps.biodiversityireland.ie/Map (Viewed March 2022)

Figure 6: Location of square W7262

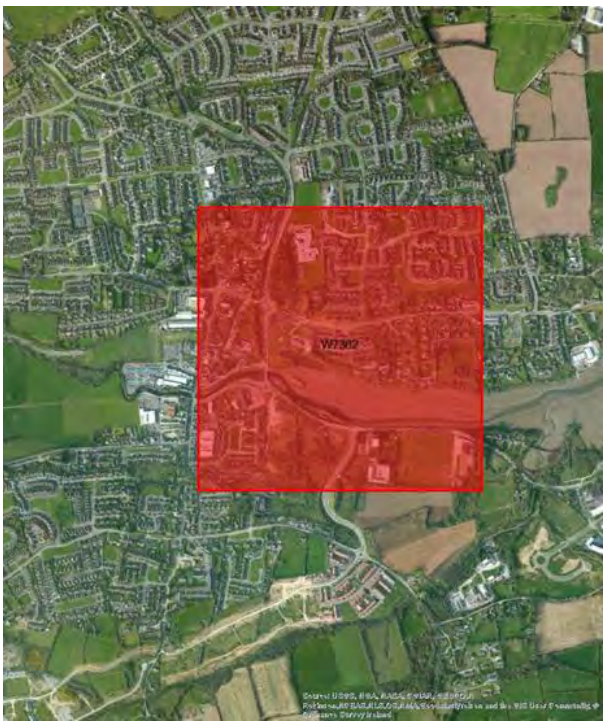


Figure 7: Location of square W7362

Figure 8: Location of square W7261

Figure 9: Location of square W7363

Amphibians

Common frog *Rana temporaria* is protected by the Wildlife Act[3] and EU Habitat Directive[4] as an Annex V species. It was recorded within 1km of the Proposed Scheme.

Birds

Several protected bird species were identified using the NBDC[2]. **Table 1** shows notable bird species identified as being recorded in squares W7262, W7362 and W7363.

Other bird species recorded include; Eurasian golden oriole (*Oriolus oriolus*), Franklin's gull (*Larus pipixcan*) and great grey shrike (*Lanius excubitor*).

[3] The Wildlife Act 1976, available at https://www.irishstatutebook.ie/eli/1976/act/39/enacted/en/html#zza39y1976 (a Viewed March 2022)
[4] NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments. Available at https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2019_Vol3_Species_Article17.pdf (Viewed March 2022)

Table 1 Notable bird species identified in proximity to Proposed Scheme

Species	**EU Birds Directive Annex listing**	**Irish Legislation**	**Birds of Conservation Concern[5]**	**Approximate location of record in relation to Proposed Scheme**
Black-headed Gull (*Larus ridibundus*)	Annex II listed	Wildlife Act 1976	Amber List	266m east from Proposed Scheme (W733624-2017)
Common Buzzard (*Buteo buteo*)	Species covered by the general protection regime provided by Article 1 of the Directive to all species of birds	Wildlife Act 1976	Green List	552m east from Proposed Scheme (W736624 - 2019)
Common Moorhen (*Gallinula chloropus*)	Annex II listed	Wildlife Act 1976	Green List	266m east from Proposed Scheme , (W733624 - 2017)
Eurasian Curlew (*Numenius arquata*)	Annex II listed	Wildlife Act 1976	Red List	782m east form Proposed Scheme (W738623-2019)
Great Cormorant (*Phalacrocorax carbo*)	Species covered by the general protection regime provided by Article 1 of the Directive to all species of birds	Wildlife Act 1976	Amber List	162m east from Proposed Scheme W732624 – 2016)

[5] Birds of Conservation Concern in Ireland 4: 2020-2026 available on https://birdwatchireland.ie/app/uploads/2021/04/BOCCI-2020-2026.pdf?msclkid=e0079d7acfab11ecb08d0f56838612db (Viewed March 2022)

Species	EU Birds Directive Annex listing	Irish Legislation	Birds of Conservation Concern[5]	Approximate location of record in relation to Proposed Scheme
Mallard (*Anas platyrhynchos*)	Annex II listed (Section I) Annex III listed (Section I)	Wildlife Act 1976	Amber list	253m east from Proposed Scheme (W733624 – 2017)
Pied Wagtail (*Motacilla alba subsp. yarrellii*)	Species covered by the general protection regime provided by Article 1 of the Directive to all species of birds	Wildlife Act 1976	Green List	253m east from Proposed Scheme (W733624 – 2017)
Northern Goshawk (*Accipiter gentilis*)	Species covered by the general protection regime provided by Article 1 of the Directive to all species of birds	Wildlife Act 1976	Amber List	Covering Bridgemount Link (W7363 – 2005)
Red-billed Chough (*Pyrrhocorax pyrrhocorax*)	Annex 1 listed	Wildlife Act 1976	Amber List	30m west of Proposed works (W732632 – 2016)
Eurasian Golden Oriole (*Oriolus oriolus*)	Species covered by the general protection regime provided by Article 1 of the Directive to all species of birds			Covering Bridgemount Link (W7363 – 1992)
Franklin's Gull (*Larus pipixcan*)				Covering Bridgemount Link (W7363 – 2006)

Species	EU Birds Directive Annex listing	Irish Legislation	Birds of Conservation Concern[5]	Approximate location of record in relation to Proposed Scheme
Great Grey Shrike (*Lanius excubitor*)				Covering Bridgemount Link (W7363 – 1844)

Invasive Species

There were no species identified within the three square grids that are listed under EU[6] and Irish law[7] as invasive and a concern to biodiversity.

Invertebrates

Invertebrate species of conservation concern that were recorded in squares W7262, W7362 and W7363 are listed in **Table 2**. These species are listed on the International Union for Conservation Concern (IUCN) Regional Red List, as at risk of extinction on the island of Ireland.

Other common butterfly species located in proximity to the Proposed Scheme were Green-veined White (*Pieris napi*) and Holly Blue (*Celastrina argiolus*).

Marsh fritillary (*Euphydryas aurinia*) is the only Annex II listed invertebrate species protected under the EU Habitats Directive in Ireland. This species was not recoded in any of the squares.

Table 2: Invertebrate species located in proximity to the Proposed Scheme

Species	Red List Status	Approximate location of record in relation to Proposed Scheme
Dark Green Fritillary (*Argynnis aglaja*)	Vulnerable	530m east from Proposed Scheme (W736627 - 2017)
Gatekeeper (*Pyronia tithonus*)	Near threatened	10m west from Proposed works (W727621 - 2020)
Scarce Blue-tailed Damselfly (*Ischnura pumilio*)	Vulnerable	515m east from Proposed Scheme (W739639 - 2013)

[6] European Commission (2017), *Invasive Alien Species of Union Concern* https://ec.europa.eu/environment/nature/pdf/IAS_brochure_species.pdf (Viewed March 2022)
[7] S.I. No. 477 Regulations 49 and 50 (2011), European communities (Birds and Natural Habitats Regulations 2011)

Terrestrial Mammals

There were a number of terrestrial mammal records within the squares W7262, W7362 and W7363. **Table 3** shows the notable mammal recordings in proximity to the Proposed Scheme and outlines the legislation protecting these species.

Table 3: Notable mammal recording location in proximity to Proposed Scheme

Species	**EU Legislation**	**Irish Legislation**	**Approximate location of record in relation to Proposed Scheme**
Eurasian Badger (*Meles meles*)	N/A	Wildlife Act 1976	215m south west from Proposed Scheme (W727620 - 2018) 893m east from Proposed Scheme (W739621-2016)
European Otter (*Lutra lutra*)	EU Habitats Directive - Annex II and Annex IV	Wildlife Act 1976	Over Proposed Scheme area (not specific) 210m south west of Proposed Scheme (W727620-2016) 154m east from Proposed Scheme (W732623-2018)
Irish Stoat (*Mustela erminea* subsp. *hibernica*)	N/A	Wildlife Act 1976	200m south west from Proposed Scheme (W727620 - 2017)
Leisler's Bat (*Nyctalus leisleri*)	EU Habitats Directive - Annex IV	Wildlife Act 1976	893m east from Proposed Scheme (W739621-2005)
Red Fox (*Vulpes vulpes*)	N/A	Wildlife Act 1976	Over proposed site area (not specific) 157m east from Proposed Scheme (W732626 – 2018)
Soprano Pipistrelle (*Pipistrellus pygmaeus*)	EU Habitats Directive - Annex IV	Wildlife Act 1976	893m east from Proposed Scheme (W739621-2012)
West European Hedgehog (*Erinaceus europaeus*)	N/A	Wildlife Act 1976	Over Proposed Scheme area (not specific) 206m south east from Proposed Scheme (W727620-2020)

Species	EU Legislation	Irish Legislation	Approximate location of record in relation to Proposed Scheme
			381m west from Proposed Scheme (W734622-2021)

4.2.1 Cork Harbour SPA

The NBDC show a number of SCIs of Cork Harbour SPA have been recorded in proximity to the Proposed Development: black-headed gull, Eurasian curlew and great cormorant. The most recent being 2019, Eurasian curlew located approximately 782m from the Proposed Scheme. However, to achieve an accurate reflection of how such birds use the Cork SPA and Owenabue Estuary, further data sources have been consulted. Data sources reviewed include; Cork Harbour SPA Conservation Objectives, Irish Wetland Bird Survey (I-WeBS) data and the Natura Impact Statement (NIS) published on behalf of the proposed Bóthar Guidel Pedestrian and Cycle Bridge planning application.

Irish Wetland Bird Survey (I-WeBS)

Table 9 in Appendix D shows the average counts recorded on the Irish Wetland Bird Survey (I-WeBS) for 0L403 Cork Harbour from 2011-2020. A variety of bird species were recorded with several red and amber listed species of BOCC. Largest count records included teal (BOCC amber listed), black-tailed godwit and dunlin (BOCC red list).

Bóthar Guidel Pedestrian and Cycle Bridge, Carrigaline (NIS)

The Natura Impact Statement (NIS), prepared by DixonBrosnan environmental consultants[8] provides bird data recorded for the Proposed Bóthar Guidel Pedestrian and Cycle Bridge, Carrigaline, Co. Cork which is located approximately 200m downstream of Main Street Bridge. This report included the I-WeBS subsite 0L454 (Owenabue Estuary),Wintering Bird Survey Data 2020/2021 and Breeding Bird Survey 2020/2021.

Subsite A of the estuary in **Error! Reference source not found.** covers the area between Proposed Scheme on the bridge at Main Street and the Cork SPA boundary (approximately 200m east). Section A has Wintering Bird Survey records of mallard, grey heron, black-headed gull and herring gull. Grey heron and black-headed gull are SCIs of Cork Harbour SPA.

The wintering bird surveys found: '*The most valuable habitat for wintering birds in the study area is located in Subsite C with large areas of exposed mudflat at low tide and has the lowest level of disturbance within the site. Relatively few birds were recorded near Subsite B. The habitats here are less valuable for waterbirds with smaller areas of foraging habitat largely confined to the margins of the river. Disturbance from road traffic and walkers may be a factor in the distribution of birds in this area. However, it is noted that birds forage in close proximity to walkers to the north of the island, where a small patch of mudflat foraging habitat is located along the outfall from the pond and this may suggest that birds which forage within this section of the Owenabue Estuary are habituated to existing levels of human activity.*'(Source: DixonBrosnan 2021)

[8] Dixon Brosnan environmental consultants. *Report in Support of Appropriate Assessment (AA) Screening & Natura Impact Statement (NIS) Proposed Bóthar Guidel Pedestrian and Cycle Bridge, Carrigaline, Co. Cork on Behalf of Arup October 2021*. Accessed 17.05.2022.

Breeding Bird Surveys in 2021 recorded Cork Harbour SPA SCIs such as black-headed gull, cormorant and lesser black-backed gull.

Figure 10: Wintering Bird Survey Subsites (Source: DixonBrosnan environmental consultants. Report in Support of Appropriate Assessment (AA) Screening & Natura Impact Statement (NIS) Proposed Bóthar Guidel Pedestrian and Cycle Bridge, Carrigaline, Co. Cork on Behalf of Arup October 2021)

The study area was divided into four subsites as shown in Figure 10. These subsites, which were divided based on their habitat types, are as follows:

- Subsite A. Upstream of the existing Bóthar Guidel Bridge. This includes a relatively narrow tidal river channel with little exposed mudflat.
- Subsite B. Immediately downstream of the existing Bóthar Guidel Bridge. The Owenabue River widens into estuarine habitat. This includes small/moderate areas of exposed mudflat at low tide along the northern and southern banks as well as a small island to the north of the subsite.
- Subsite C. Here the estuary widens with larger areas of mudflat at low tide. An area to the north of the island is also included here, which has a small freshwater outfall from the Carrigaline Skatepark ponds
- Subsite D. Carrigaline Skatepark and Pond. Includes large tidal pond, amenity grassland/parkland and skatepark.

The results of the surveys for the Proposed Bóthar Guidel Pedestrian and Cycle Bridge indicate that the estuarine habitat in the immediate vicinity of the works area is not regularly used as a foraging area for SCI birds. Relatively low numbers of birds were recorded here (Subsite A and Subsite B), although a number of SCI species use this area. Higher numbers of birds foraged within 300m of the works area in Subsite C including Greenshank, Black-tailed godwit.

5 Natura 2000 Sites

5.1 Zone of Influence

The zone of influence comprises the area within which the proposed project may potentially affect the conservation objectives, QI or SCI of a Natura 2000 site. There is no recommended zone of influence, and guidance from the National Parks and Wildlife Service (NPWS) recommends that the distance should be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in-combination effects (cumulative).

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

The identification of risk does not automatically mean that an effect will occur, nor that it will be significant. The identification of these risks means that there is a possibility of environmental or ecological damage occurring. The level and significance of the effect depends upon the nature of the consequence, likelihood of the risk and characteristics of the receptor.

The precautionary principle is applied for the purposes of Screening for AA to ensure that consideration and pre-emptive action is undertaken where there is a lack of scientific evidence. The first stage in determining the zone of influence is to determine what the effects of the proposed project will be on biodiversity generally.

5.2 Natura 2000 Sites

There are no Natura 2000 sites within the construction footprint boundary, or the wider proposed scheme boundary and no habitat loss will occur within any Natura 2000 site as a result of this proposed scheme. The habitats within the proposed project site are not significant foraging/breeding/community habitats for any mobile QI or SCI species.

There are two Natura 2000 sites within the potential zone of influence of the Proposed Scheme. These sites are listed in Table 4 with a description of potential source-pathway-receptor connections and the nearest distance to Proposed Scheme. The location of the two Natura 2000 sites can be seen in **Figure 12** in Appendix B. The Proposed Scheme is 270m upstream and therefore hydrologically linked with the Cork Harbour SPA.

Table 4 SPA/SAC sites within 15m radius to Proposed Scheme

Site Name and Code	QIs and SCIs	Approximate Distance from Proposed Scheme	Conservation Objectives	Source-Pathway-Receptor
Great Island Channel SAC (1058)	Mudflats and sandflats not covered by seawater at low tide [1140] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]	7.4 km from the Northern point of Bridgemount link.	The site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site. To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in Great Island Channel SAC, which is defined by the following list of attributes and targets: To restore the favourable conservation condition of Atlantic salt meadows (Glauco Puccinellietalia maritimae) in Great Island Channel SAC, which is defined by a list of attributes and targets: https://www.npws.ie/sites/default/files/protected-	There is a very weak theoretical hydrological connection between the Proposed Scheme and Great Island Channel SAC. The Owenabue River flows into Cork Harbour near Curraghbinny close to where Cork Harbour discharges to the Atlantic, approximately 10km south of the Great Island Channel SAC. The flushing of the Cork Harbour to the Atlantic would mean that any discharges to the Owenabue would not be transported to the Great Island Channel SAC and therefore there is no aquatic pathway for likely significant effects. Given the scale and distance between the Proposed Scheme and the Great Island Channel SAC it is considered that there is no aerial pathway for likely significant effects.

Site Name and Code	QIs and SCIs	Approximate Distance from Proposed Scheme	Conservation Objectives	Source-Pathway-Receptor
			sites/conservation_objectives/CO001058.pdf	
Cork Harbour SPA (4030)	Little Grebe (*Tachybaptus ruficollis*) [A004] Great Crested Grebe (*Podiceps cristatus*) [A005] Cormorant (*Phalacrocorax carbo*) [A017] Grey Heron (*Ardea cinerea*) [A028] Shelduck (*Tadorna tadorna*) [A048] Wigeon (*Anas penelope*) [A050] Teal (*Anas crecca*) [A052] Pintail (*Anas acuta*) [A054] Shoveler (*Anas clypeata*) [A056] Red--breasted Merganser (*Mergus serrator*) [A069]	0.21km from the Crosshaven Road.	The site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site which for this site is to maintain the favourable conservation condition of the bird species for which Cork Harbour SPA is designated. A series of attribute, measures and targets which are available at: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004030.pdf	There is an indirect surface water pathway between the Proposed Scheme and Cork Harbour SPA. Surface water that falls on the bridge is drained into the stormwater drainage system that is discharged into the Owenabue River. The Owenabue River then flows 0.27km and into Cork Harbour SPA. The section of the Owenabue River from the bridge at Main Street to Cork Harbour SPA boundary is referred to as Subsite A (Figure 10: Wintering Bird Survey Subsites (Source: DixonBrosnan environmental consultants. Report in Support of Appropriate Assessment (AA) Screening & Natura Impact Statement (NIS) Proposed Bóthar Guidel Pedestrian and Cycle Bridge, Carrigaline, Co. Cork on Behalf of Arup October 2021)**Figure 10**).

Site Name and Code	QIs and SCIs	Approximate Distance from Proposed Scheme	Conservation Objectives	Source-Pathway-Receptor
	Oystercatcher (*Haematopus ostralegus*) [A130] Golden Plover (*Pluvialis apricaria*) [A140] Grey Plover (*Pluvialis squatarola*) [A141] Lapwing (*Vanellus vanellus*) [A142] Dunlin (*Calidris alpina*) [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]			The section of the estuary with Subsite A would be considered within the zone of influence for disturbance to bird species. Air may also be a pathway for pollutants to reach Cork Harbour SPA due to the proximity to the Proposed Scheme (0.21km at its closest point). Any of the SCIs could be affected by the Proposed Scheme.

Site Name and Code	QIs and SCIs	Approximate Distance from Proposed Scheme	Conservation Objectives	Source-Pathway-Receptor
	Common Gull (*Larus canus*) [A182] Lesser Black-backed Gull (*Larus fuscus*) [A183] Common Tern (*Sterna hirundo*) [A193] Wetland and Waterbirds [A999]			

The nearest Natura 2000 site is Cork Harbour SPA 210m East from Crosshaven Road (Figure 13).

6 Likely Significant Effects (LSE) Assessment

6.1 LSE from Loss of Habitat

Loss or deterioration of habitat within Natura 2000 sites could lead to reduced foraging, breeding and sheltering habitat available for SCI species. This could also decrease the viability of existing QI habitats by increasing pressure that could result in further deterioration.

Construction

Construction at both Main Street and Bridgemount Link will not involve the removal of land from a Natura 2000 site. The land requirements of both sites do not correspond to habitats listed on Annex I of the Habitats Directive or to QI habitats for either Cork Harbour SPA or the Great Channel Island SAC. The habitats recorded within the Proposed Scheme are considered of a low ecological value. Land take will be from re-allocation of current traffic lanes, disused railway line and open green space. As noted in **Error! Reference source not found.** the current high levels of human activity on Main Steet does not offer the habitat required by the SCIs of Cork Harbour SPA.

Operation

The boundary of Cork Harbour SPA is located approximately 200m from the nearest point of the Proposed Scheme which is the bridge on Main Street. During the operational phase the proposed scheme will not require land take from any Natura 2000 site.

Therefore, there will be no likely significant effect on the conservation objectives of the Cork Harbour SPA or Great Island Channel SAC as a result of habitat loss or fragmentation during construction and operation.

6.2 LSE from Surface Water Run-off During Construction and Operation

During construction and operation phases of developments surface water run-off may transport harmful pollutants to Natura 2000 sites. Pollutants included hydrocarbons from sources of fuel, increased levels of silt, construction materials such as cement, hydraulic fluid, lubricants and other chemicals. Accidental spills, washing of vehicles and surface run-off from the site can all lead to these substances being transported in surface run-off. These can impact the aquatic elements by lowering water quality and ultimately lead to negative effects on QI habitat and SCI species.

The Great Island Channel SAC is located a considerable distance from the proposed scheme (7.4km from Bridgemount Link). Given the dilution available within the Owenabue Estuary and Cork Harbour. There will be no likely significant effect on the conservation objectives of the Great Island Channel SAC is predicted to occur due to surface water runoff during the construction or operational phase.

Construction

The construction phase at Bridgemount Link surface water run-off at construction will drain into the exposed soil during construction. Any water run off on new hard surfacing will filter into green areas adjacent to the path.

During the construction phase at Main Street, surface water will drain into existing stormwater drainage system. The site at Main Street has a hydrological connection through the stormwater drainage system which is discharged into the Owenabue River. This river then flows a distance of 0.27km to reach Cork Harbour SPA. Construction works on the bridge will be contained to the road area with no works proposed for the parapets our directly over the river and the works are modest in scale and extent. Despite the hydrological connection downstream from Main Street to the Cork Harbour SPA, pollutants from construction are considered very unlikely to enter the Owenabue River via surface water run-off at the bridge on Main Street. There is a low probability that accidents or pollution spillages will occur as the construction works are standard in nature, minor (See section 3.4.1) and short in duration. Even if minimal pollutants entered the Owenabue River it is considered that these would not have likely significant effects on Cork Harbour SPA as pollutants would readily be diluted and dispersed across a wide area.

Operation

The operational phase of the scheme will involve surface water being directed to the existing drainage system at Main Street. Bridgemount link will require a drainage system to tie into the existing drainage network. The Proposed Scheme aims to reduce vehicle traffic and increase cycling and pedestrian use. This in turn will reduce pollutants in surface water arising from motor vehicles.

Therefore, there will be no likely significant effect on the conservation objectives of the Cork Harbour SPA or Great Island Channel SAC as a result of surface water run-off during construction and operation.

6.3 LSE from Visual Disturbance and Lighting

Visual disturbances associated with construction include plant equipment, high vibration tools, lighting, workers in high vis clothing. During operation an increase in human activity and presence can be a visual disturbance for some species.

As mentioned in (Section 6.2) the location of the Great Island Channel SAC is a considerable distance from the proposed scheme to ensure no visual disturbance and no likely significant effect to the Great Island Channel SAC during the construction or operational phase.

Construction

The work proposed at Bridgemount Link is located a considerable distance from the Cork SPA (approximately 0.8 km). Due to the woodland/scattered scrub nature of its habitat it does not offer suitable habitat for the SCI species of Cork

Harbour. It is unlikely for wading birds to habituate this area. Suitable habitat would be mudflat and estuaries.

The works at Main Street, in particular the bridge on Main Street, poses the most potential for visual disturbance at construction due to the proximity of the Cork Harbour SPA (approximately 0.2km). However, due to the reasons listed below visual disturbance is will not cause likely significant to the Cork Harbour SPA. The nature of the work is minor (see section 3.4.1), with activities such as resurfacing. The works on the bridge will be short in duration, estimated to last 2-3 weeks in total. Work will occur during day-light hours with no night time working. No significant increase in lighting will be required for day light working. The number of construction workers will be limited to 20-25 staff at any one time. In addition, the area is already exposed to high level of disturbance through traffic, commercial activities and pedestrians. Other activities in the area, such as three large supermarkets (Dunnes, Lidl and SuperValu) require frequent delivery trucks and noise throughout the day.

Subsite A from AA Screening & NIS Bóthar Guidel Pedestrian and Cycle Bridge (see section 4.2.1) encompasses the section of the Owenabue River between the Proposed Scheme at the Bridge and Cork Harbour SPA. The Bother Bridge AA describes Subsite A of the Owenabue River as a relatively narrow tidal river with little exposed mudflat. Moving towards Cork Harbour SPA the area of mudflat habitat increases. The presence of more suitable habitat downstream resulted in fewer birds being recorded in Subsite A, this was mainly used by Black-headed Gull, Mallard and Grey Heron. The most valuable habitat for wintering birds in the study area is located in Subsite C (337m east). High levels of human activity at Main Street would suggest that bird species are already habituated to the existing high of human activity. Visual disturbance is already generated by traffic, pedestrians, fire and garda stations. Other activities in the area, such as three large supermarkets (Dunnes, Lidl and SuperValu) with frequent delivery trucks and shoppers.

The research evidence on visual disturbance to waterbirds from construction work by Cutts et al. (2013)[9] suggests typical response distances to visual disturbance impacts of 275m for Curlew, 250m for Redshank, 117m for Dunlin, and 110.5m for Oystercatchers. These are distances at which alert responses occur in birds that are not habituated to disturbance, and disturbance response distances are highly variable within species. As mentioned above these species were not recorded within Subsite A during the wintering bird surveys as part of the Bother Bridge AA. There is also an embankment with some trees along the Owenabue River road that will reduce the visual disturbance effects on the SPA.

Operation

Given that SCI species are already habituated to a high level of human activity, existing street lighting and the reduced traffic once in operation, it is considered

[9] Cutts, N., Hemingway, K. and J Spencer (2013). Waterbird Disturbance Mitigation Toolkit Informing Estuarine Planning & Construction Projects. Institute of Estuarine & Coastal Studies (IECS) University of Hull.

that the operational phase of the Proposed Scheme does not have the potential to cause disturbance to SCIs using Cork Harbour SPA.

Therefore, there will be no likely significant effect on the conservation objectives of the Cork Harbour SPA or Great Island Channel SAC as a result visual disturbance during construction and operation.

6.4 LSE from Noise Disturbance

Increased noise associated with construction and operation phases of developments could cause disturbance and displace species and SCIs. Some species may be more sensitive than others to noise disturbance.

As mentioned in (Section 6.2) the location of the Great Island Channel SAC is a considerable distance from the proposed scheme to ensure no noise disturbance and no likely significant effect to the Great Island Channel SAC during the construction or operational phase.

Construction

As mentioned in section 6.3 SCI species are unlikely to use habitat at the Bridgemount Link site. Noise generated at Bridgemount Link will be deflected by the existing walls, green areas and the existing railway cutting.

The construction of the Proposed Scheme at Main Street is not expected to increase to cause noise disturbance to SCI of Cork Harbour SPA. According to noise maps, Main Street has existing noise levels can reach 70-79dB[10].

Construction noise emitting activities are outlined in 3.4.1. The most significant noise will be removal of existing material using mechanical equipment such as JCBs and jackhammers. There will be no construction activity with noise emissions similar to piling.

There will also be a low number of construction vehicles/plant and construction staff required to carry out the works. For excavation, crews would have 4-5 members, plus the operator of an excavator and/or mini-excavator. For resurfacing of asphalt, a typical crew would consist of 12-15 members plus associated plant, and delivery trucks. At any one time on a typical day, no more than 20 staff would be on site at Bridgemount Link and 20-25 at Main Street.

Works will be short in duration (12 months at Main Street and only 2-3 weeks on the bridge element). Whilst increased noise and disturbance is predicted to occur during construction any local populations of SCIs are likely to habituated to a higher level of disturbance. Noise is already generated by traffic, pedestrians, fire and garda stations. Other activities in the area, such as three large supermarkets (Dunnes, Lidl and SuperValu) require frequent delivery trucks and noise throughout the day.

Subsite A from AA Screening & NIS Bóthar Guidel Pedestrian and Cycle Bridge (see section 4.2.1) encompasses the section of the Owenabue River between the

[10] Environmental Protection Agency Maps, Noise layers. Available on https://gis.epa.ie/EPAMaps/ . Accessed February 2022

Proposed Scheme at the bridge on Main Street and Cork Harbour SPA. The Bother Bridge AA describes Subsite A of the Owenabue River as a relatively narrow tidal river with little exposed mudflat. Moving towards Cork Harbour SPA the area of mudflat habitat increases. The presence of more suitable habitat downstream resulted in fewer birds being recorded in Subsite A, this was mainly used by Black-headed Gull, Mallard and Grey Heron. The most valuable habitat for wintering birds in the study area is located in Subsite C (337m east).

Cutts et al. (2013) has identified general threshold noise levels for varying degrees of impacts, which also take into account habituation effects. They state that "*noise between 55-72dB in some highly disturbed areas e.g., industrial or urban areas and adjacent to roads, may feature a low level of disturbance provided the noise level was regular as birds will to often habituate to a constant noise level*". High levels of human activity at Main Street would suggest that bird species are already habituated to the existing high of human activity. There is also an embankment with some trees along the Owenabue River road that will reduce the noise disturbance effects on the SPA. Noise levels would also attenuate quickly moving away from the works area.

Operation

No significant sources of noise have been identified during the operational phase with maintenance works will be limited. Given the urban setting and that the Proposed Scheme will reduce vehicle traffic, no disturbance impacts will occur. Therefore, no impacts are predicted to occur to the conservation objectives of Cork Harbour SPA from operational noise.

Therefore, there will be no likely significant effect on the conservation objectives of the Cork Harbour SPA or Great Island Channel SAC as a result of noise disturbance during construction and operation.

6.5 LSE from Spread of Invasives

New plans and projects have the potential to spread invasive species outside a works area, particularly in the vicinity of a watercourse. Disturbance of invasive species within the proposed development area could lead to the dispersal of scheduled invasive species either via machinery, materials, clothing or wild animals.

There are no records on the NBDC database of invasive species occurring on the site of the Proposed Scheme. An ecological walkover of Bridgemount Link recorded no invasives species. Ground works (minor excavations) will occur on artificial surface on Main Street.

Construction

The Proposed Scheme at Main Street will not require removal of soil as part of work. At Bridgemount Link there will be top-soil removal and vegetation clearance. With no record of invasive species, it is highly unlikely invasive species will be introduced to the SPA or SAC and impact the habitats for QIs or SCIs.

Operation

During operation of the Proposed Scheme there will be maintenance required including weed control. Other maintenance will include routine clearance of drains and re-surfacing the cycle path on an ad hoc basis, lighting and CCTV. These operations are considered to be sufficiently minor in nature and with sufficient standard environmental protection measures in place that there is no potential for likely significant effects.

No significant pathway for invasives to be spread during operation have been identified.

Therefore, there will be no likely significant effect on the conservation objectives of the Cork Harbour SPA or Great Island Channel SAC as a result of the spread of invasive species during construction and operation.

6.6 In-Combination Effects

Amharcóir Pleanála Planning Viewer[11] and CCC Planning Applications[12] were consulted in March 2022 to identify other recently permitted (and under construction) developments in the area local to the Proposed Scheme. The projects considered of relevance are outlined in **Table 5.**

[11] Amharcóir Pleanála Planning Viewer: https://corkcoco.maps.arcgis.com/apps/webappviewer/index.html?id=03a3b83db76c46fd9b66178f8d407e0d (viewed March 2022)
[12] CCC: http://planning.corkcoco.ie/ePlan/searchresults/application_status (viewed March 2022)

Table 5: Planning applications in proximity to the proposed plan with potential for in-combination effects

PA no.	Decision type	Grant Date	Address	Approximate location to proposed scheme (km)	Description	Discussion of Potential for In-combination effects
In-combination in proximity to Main Street						
194698	Conditional	14/10/2019	Main Street, Carrigaline West, Carrigaline, Co. Cork	Adjacent to Main Street	The demolition of two vacant residential properties and construction of a new building for retail use which will be amalgamated into the existing Newsagents and Deli area of the adjoining retail building on the northern side with associated seating area, signage and all associated site works.	Planner report for the Proposed Scheme identified no pathways for impacts on European sites.
194642	Conditional	22/08/2019	Kilmoney and Carrigaline West, Carrigaline, Co. Cork	0.3	Construction of a wastewater pumping station and foul rising main including emergency storage tank, welfare kiosk, control kiosk, services, lighting and all ancillary site works.	Construction activities to occur. There has been a Natura Impact Statement (NIS) prepared for this application[13]. It concludes: "*With the implementation of recommended mitigation measures, it can be concluded, on the basis of objective scientific information, that the proposed plan, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site*".
217464	On hold – further Information	22/12/2021(received date)	Carrigaline Town Centre, Carrigaline,	Adjacent to Main Street	The construction of a single storey discount food store (1,819sq/m gross floor area, 1,315 sq./m net floor area) including the sale of alcohol for consumption off the premises; loading bay; rooftop solar panels; external plant enclosure; bin store; trolley bay; signage; single storey café unit; single	Construction activities to occur. There has been an AA Screening report and NIS prepared for this application[14].

[13] Barry & Partners Consulting engineers. Southern Pumpstation Carrigaline WRP Natura Impact Statement. Available on file://global/europe/Cork/Jobs/285000/285392-00/4.%20Internal/4-04%20Reports/4-04-02%20Consulting/Environment/AA/In-combination%20effects/Wastewater%20194642/ScanBureau_1-194642-6.pdf (Viewed March 2022)

[14] Doherty Environmental Consultants Ltd. Aldi Discount Food store, Carrigaline Natura Impact Statement. Available on file:///C:/Users/Amy.Sproule/Downloads/SB_3_CH-217464-10%20(2).pdf (Viewed in April 2022)

PA no.	Decision type	Grant Date	Address	Approximate location to proposed scheme (km)	Description	Discussion of Potential for In-combination effects
			Carrigaline West, Carrigaline, , Co. Cork		storey DRS unit; substation; plaza areas; sculpture; security barriers; 119 no. car parking spaces (including EV, disabled and parent and child spaces), of which 30 no. spaces will function as a public car park; new junction with the Carrigaline Western Relief Road (under construction) and internal access road; pedestrian and cycle connection to Main Street; and all associated boundary treatment, landscaping, drainage and site development works. A Natura Impact Statement will be submitted to the Planning Authority with the application. On a site at Carrigaline Town Centre, bound by Main Street and the Carrigaline Western Relief Road (under construction), Carrigaline West, Carrigaline, Co. Cork.	The Screening report for AA concluded that the potential for likely significant effects to European Sites cannot be ruled out at the Screening Stage and that an Appropriate Assessment of the project is required. A NIS has been prepared for the project. The NIS concludes: "*the project, alone or in-combination with other plans or projects, will not result in significant adverse effects to the integrity and conservation status of European Sites in view of their Conservation Objectives and on the basis of best scientific evidence and there is no reasonable scientific doubt as to that conclusion.*" A final decision will be made by the competent authority but from the conclusion of the NIS there will be no likely significant effect to Natura 2000 sites.
214818	Application finalised – extension of duration to 156753	31/03/2021 (received date)	Carrigaline West, Carrigaline, Co. Cork	0.45	A residential development consisting of 72 no. two-storey houses and all ancillary car parking, landscaping and site development works. The Proposed Scheme development works include the construction of a pumping station, underground tank, welfare kiosk/building, control kiosk/building and fencing. Access to the Proposed Scheme will be via Ballea Roundabout and	An AA Screening for 156753 concludes that there will be no risk of significant negative effects on any European site arising from the project.

PA no.	Decision type	Grant Date	Address	Approximate location to proposed scheme (km)	Description	Discussion of Potential for In-combination effects
					the existing road permitted by Planning Ref: 06/11262- Extension of duration of permission granted under Planning Reference: 15/6753	
Section 177AE Planning Application	Decision with ABP.	Awaiting decision	Main Street, Carrigaline, Co. Cork	Adjacent to Main Street	Section 177AE Planning Application for Bóthar Guidel road bridge (R612) The Scheme involves the construction of a dedicated pedestrian and cycle bridge on the eastern side and downstream of the existing Bóthar Guidel road bridge (R612) and includes the following: • construction of a single-span pedestrian and cycle bridge (effective width of 5m) over the Owenabue River downstream of the existing Bóthar Guidel Road Bridge in Carrigaline, Co. Cork • alterations to existing stone masonry wall on the southern approach to the bridge to facilitate the footpath and approach spans to the proposed bridge • new ducting and LED lighting • new 6m long slatted timber bench on the proposed pedestrian and cycle bridge • new uncontrolled pedestrian crossing across Bóthar Guidel road (R612) • upgrading of existing footpaths at the tie in points at Crosshaven Road and Bóthar Guidel Road and a tie-in to the public amenity area on Owenabue River embankment • all associated site development and landscaping works	Construction activities to occur. There has been an AA Screening and NIS prepared for this application[15]. CCC have prepared a Habitats Directive Appropriate Assessment Screening Determination report[16]. This has concluded: "*In accordance with Section 177S of the Planning and Development Act 2000 (as amended) and on the basis of the objective information provided in the report of Dixon Brosnan, it is concluded that the proposed project poses a risk of causing significant negative impact to the Cork Harbour Special Protection Area. It is therefore determined that a Stage 2 Appropriate Assessment under Section 177V of the Planning and*

[15] Dixon Brosnan Environmental Consultants. Report in Support of Appropriate Assessment (AA) Screening & Natura Impact Statement (NIS) for Proposed Bóthar Guidel Pedestrian and Cycle Bridge, Carrigaline, Co. Cork. Available on https://www.corkcoco.ie/sites/default/files/2021-11/aa-screening-and-nis.pdf (Viewed April 2022)

[16] CCC (July 2021) Habitats Directive Appropriate Assessment Screening Determination Proposed Bóthar Guidel Pedestrian & Cycle Bridge, Carrigaline, Co. Cork. Available on file://global/europe/Cork/Jobs/285000/285392-00/4.%20Internal/4-04%20Reports/4-04-02%20Consulting/Environment/AA/Incombination%20effects/B%C3%B3thar%20Guidel%20Pedestrian%20and%20Cycle%20Bridge/aa-determination.pdf

PA no.	Decision type	Grant Date	Address	Approximate location to proposed scheme (km)	Description	Discussion of Potential for In-combination effects
						Development Act 2000 is required." The NIS sets out mitigation measures ensure that any effects on the conservation objectives of Cork Harbour SPA will be avoided during the proposed development such that there will be no risk of adverse effects on the integrity of these European sites. The NIS concludes: "*following an examination, analysis and evaluation of the relevant information, including in particular the nature of the predicted effects from the Proposed Scheme and with the implementation of the mitigation measures proposed, that the construction and operation of the Proposed Scheme will not adversely affect (either directly or indirectly) the integrity of any European site, either alone or in combination with other plans or projects. There is no reasonable scientific doubt in relation to this conclusion*. *The competent authority will make the final determination in this regard*."

PA no.	Decision type	Grant Date	Address	Approximate location to proposed scheme (km)	Description	Discussion of Potential for In-combination effects
						A final decision will be made by the competent authority but from the conclusion of the NIS there will be no likely significant effect to Natura 2000 sites.

As part of the Ballincollig Carrigaline Municipal District Local Area Plan[17] plans to update public realm for the town include the introduction of new public spaces to accommodate a number of community functions including a market space, festival space, meeting place, seating area. One of these areas include should be the site of the existing car park adjoining the Main Street and the Owenabue River (W 73029 62395). Due to the location of this site and the proximity to the river there is the potential for in-combination effects to occur. However, there is no planning application for this development. Once this project has a developed design and is submitted for planning through whatever appropriate mechanism, an AA Screening will have to take place, and this will take into account the potential for in-combination effects arising from this development.

Given the scale, nature and distance of the Proposed Scheme from the nearest Natura 2000 site (Cork Harbour SPA) it is considered that there is no possibility for likely significant effects arising from in-combination effects.

[17] CCC, *Ballincollig Carrigaline Municipal District Local Area Plan* (2017) Volume 2 Environmental Reports on Proposed Amendments, Proposed Amendments to the Draft Plan, http://corklocalareaplans.com/wp-content/uploads/2017/08/Ballincollig-Carrigaline-MD-LAP.pdf (Viewed March 2022)

A summary of assessment of LSE is provided in Table 6 below. Identification of any potential direct and indirect impacts are considered in **Table 6** and these are considered in the context of their potential to cause likely significant effects on the conservation objectives of Natura 2000 sites, taking into account the size and scale of the project in **Table 7** .

Table 6 Likely Significant Effects Summary

Impacts:	**Significance of Impacts: (duration/magnitude/etc.)**
Construction phase e.g.,[18] Access to site Dust, noise, vibration Impact on groundwater/dewatering Lighting disturbance Pests or Invasive Species Storage of excavated/construction materials Surface water runoff from soil excavation/infill/landscaping (including borrow pits) Visual disturbance Vegetation clearance	The only effects considered during construction stage are; loss of habitat, noise disturbance, visual disturbance, surface water runoff and spread of invasives. There will be no land take from Natura 2000 sites or suitable habitat that supports SCIs or QIs. There will be no likely significant effect on the conservation objectives of the Cork Harbour SPA or Great Island Channel SAC as a result of habitat loss or fragmentation during construction**.** There is not a sufficient pathway for pollutants in surface water to impact SCIs. There will be no likely significant effect on the conservation objectives of the Cork Harbour SPA or Great Island Channel SAC as a result of surface water run-off during construction. SCI species appear to use habitat further east within the estuary (away from the bridge at Main Street). SCI species are habituated to high levels of visual disturbance. There will be no likely significant effect on the conservation objectives of the Cork Harbour SPA or Great Island Channel SAC as a result visual disturbance during construction. SCI species appear to use habitat further east within the estuary (away from the bridge at Main Street). SCI species are habituated to high levels of noise disturbance. There will be no likely significant effect on the conservation objectives of the Cork Harbour SPA or Great Island Channel SAC as a result of noise disturbance during construction.

[18] Reference back to examples found in the Office of Planning Regulator (OPR) booklet. Available at https://www.opr.ie/wp-content/uploads/2021/03/9729-Office-of-the-Planning-Regulator-Appropriate-Assessment-Screening-booklet-15.pdf

Impacts:	Significance of Impacts: (duration/magnitude/etc.)
	There are no invasive species of concern recorded on site. There will be no likely significant effect on the conservation objectives of the Cork Harbour SPA or Great Island Channel SAC as a result of the spread of invasive species during construction. **The construction phase of the Proposed Scheme will not result in likely significant effects on any Natura 2000 sites.**
Operational phase e.g. Changes to water/groundwater due to drainage or abstraction Direct emission to air and water Lighting disturbance Noise/vibration Physical presence of structures (e.g., collision risks) Potential for accidents or incidents Presence of people, vehicles and activities Surface water runoff containing contaminant or sediment	The only effects considered during construction stage are; loss of habitat, noise disturbance, visual disturbance, surface water runoff and spread of invasives. There will be no land take from Natura 2000 sites or suitable habitat that supports SCIs or QIs. There will be no likely significant effect on the conservation objectives of the Cork Harbour SPA or Great Island Channel SAC as a result of habitat loss or fragmentation during operation**.** Surface water will use existing drainage network at Main Street. The overall outflow will remain the same as there is no change in the overall surface area. New drainage at Bridgemount will tie into existing network. The Proposed Scheme will reduce number of cars and pollutants entering surface water system. There will be no likely significant effect on the conservation objectives of the Cork Harbour SPA or Great Island Channel SAC as a result of surface water run-off during operation. SCI species are habituated to high levels of visual disturbance and prefer the more suitable habitat east of the scheme. Lighting is proposed at Bridgemount Link. There are no light sensitive QIs (e.g., bats) or SCIs listed by the Natura 2000 sites in proximity to Bridgemount Link. There will be no likely significant effect on the conservation objectives of the Cork Harbour SPA or Great Island Channel SAC as a result visual disturbance during operation.

Impacts:	Significance of Impacts: (duration/magnitude/etc.)
	SCI species are habituated to high levels of visual disturbance and prefer the more suitable habitat east of the scheme. There will be no likely significant effect on the conservation objectives of the Cork Harbour SPA or Great Island Channel SAC as a result noise disturbance during operation. There are no invasive species of concern recorded on site. There will be no likely significant effect on the conservation objectives of the Cork Harbour SPA or Great Island Channel SAC as a result of the spread of invasive species during operation. **The operational phase will not result in likely significant effects on any Natura 2000 sites.**
In-combination/Other	**Given the scale, nature and location of the Proposed Scheme it is considered that there is no potential for in-combination likely significant effects on any Natura 2000 site.**

6.7 Significant Effects Checklist

While best practice construction methods will be used during construction these are not required to avoid or reduce any effects on a European site. These measures are not relied upon to reach a conclusion of no likely significant effects on any European site.

Further please see **Table 7** which has been used to determine whether significant effects are likely. The answers in **Table 7** have been determined based on the following project information:

- All project activity will take place within the site works boundary.
- No works will take place within any Natura 2000 site.
- No material or spoil from the works will be deposited in any Natura 2000 site.
- There will be no direct or indirect impacts on the habitats or species of any Natura 2000 site.
- There will be no loss of Natura 2000 site habitat area, no fragmentation of the habitats of Natura 2000 sites, no disturbance to the qualifying species of the Natura 2000 sites, no effects on population density of these species, no effects on water resources and no effects on water quality of the Natura 2000 sites.

- There will be no significant emissions to air, water or soil during construction or operation.
- There will be no significant noise emissions during the construction or operational phase.

Table 7 Likely significant effect

Does the project have the potential to	Yes or no
Reduce the area of key habitats?	No
Reduce the population of key species?	No
Change the balance between key species?	No
Reduce diversity of the site?	No
Result in disturbance that could affect population size or density or the balance between key species?	No
Result in fragmentation?	No
Result in loss or reduction of key features (e.g., tree cover, tidal exposure, annual flooding, etc.)?	No
Cause delays in progress towards achieving the conservation objectives of the site?	No
Interrupt progress towards achieving the conservation objectives of the site?	No
Disrupt those factors that help to maintain the favourable conditions of the site?	No
Interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	No
Cause changes to the vital defining aspects (e.g., nutrient balance) that determine how the site functions as a habitat or ecosystem?	No
Change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	No
Interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	No

7 Screening Statement and Conclusion

It has been objectively concluded by Arup that:

- The proposed project is not necessary to the conservation objectives and/or management of any Natura 2000 sites.
- The Proposed Scheme, individually or in-combination with other plans or projects, would not have likely significant effects on any European site, in view of sites' conservation objectives.

It is view of Arup that an AA is not, therefore, required.

Appendix A

Findings of No Significant Effects Report

A1 Findings of No Significant Effects Reports

Name of Project:

Carrigaline Transportation and Public Realm Enhancement Plan

Names of Natura 2000 Sites of relevance to the proposed project:

There will be no direct or indirect significant negative effects on any Natura 2000 sites as a result of the Proposed Scheme.

The closest Natura 2000 sites (as the crow flies) to the Proposed Scheme is Cork Harbour SPA, 0.265km from the bridge on Main Street (**Figure 11**). All Natura site locations within 15km of the Proposed Scheme are shown in **Figure 12**.

Cork Harbour SPA site is designated primarily for bird populations. The site does not provide significant foraging or breeding or community habitats for any mobile QI.

There is a weak hydrological connection between the site and the above Natura 2000 site (Cork Harbour SPA) via surface run-off into the Owenabue River. **Figure 13** shows the proximity of the SPA to the Proposed Scheme. However, as described previously in this report, all emissions to water from the existing road are already strictly managed.

Table 8 Natura Sites and Codes within 15km radius to proposed site

Site Name	Site Code
Cork Harbour SPA	004030
Great Island Channel SAC	001058

Is the project or plan directly connected with or necessary to the management of the site?

No.

Are there other projects or plans that together with the project or plan being assessed could affect the site?

No.

THE ASSESSMENT OF SIGNIFICANCE OF EFFECTS

Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site.

It has been determined by Arup that it is possible to rule out likely significant effects on any Natura 2000 sites.

Explain why these effects are not considered significant.

- All activity will take place within the site works boundary. No works will take place within any Natura 2000 site. No material or spoil from the works will be deposited in any Natura 2000 site. There will be no encroachment on the habitats or species of any Natura 2000 site.
- There will be no loss of Natura 2000 site habitat area, no fragmentation of the habitats of Natura 2000 sites, no disturbance to the qualifying species of the Natura 2000 sites, no effects on population density of these species, no effects on water resources and no effects on water quality of the Natura 2000 sites.
- There will be no significant emissions to air, water or soil during construction or operation. There will also be no significant noise emissions during the construction or operational phase.

Sources of Data:

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

- *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities* (Department of Environment, Heritage and Local Government, 2010 revision);
- *Appropriate Assessment under Article 6 of the Habitats Directive; Guidance for Planning Authorities.* Circular NPW 1/10 and PSSP 2/10;
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodical Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission Environment Directorate-General, 2001);
- *Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC* (European Commission, 2007);
- *Guidelines for Good Practice Appropriate Assessment of Plans under Article 6(3) Habitats Directive* (International Workshop on Assessment of Plans under the Habitats Directive, 2011); and
- *Managing Natura 2000 Sites: The Provision of Article 6 of the Habitats Directive 92/43/EEC* (EC Environment Directorate-General, 2000).

Sources of information that were used to collect data on the Natura 2000 network of sites and on the existing ecological environment are listed below:

- Bing aerial photography – www.bing.com/maps (Viewed March2022);

- BirdWatch Ireland - www.birdwatchireland.ie/ (Viewed March 2022);
- Environmental Protection Agency (EPA) – www.epa.ie (EPA Online Environmental Map Viewer) (Viewed March 2022);
- Fossit (2000) *A Guide to Habitats in Ireland.* The Heritage Council(Viewed March 2022);
- Google aerial photography – www.googlemaps.com (Viewed March 2022);
- Google Earth aerial photography (Viewed March 2022);
- Information on environmental water quality data available from (EPA, www.catchments.ie) (Viewed March 2022);
- National Biodiversity Data Centre – www.biodiversityireland.ie (Viewed March 2022);
- National Parks & Wildlife Service (NPWS) - www.npws.ie (Viewed March 2022);
- National Parks and Wildlife Service online data on protected flora and fauna (Viewed March 2022);
- NPWS (2014) Conservation Objectives: Cork Harbour SPA 004030. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. - https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004030.pdf (Viewed March 2022);
- NPWS (2014) Conservation Objectives: Great Island Channel SAC 001058. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. - https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001058.pdf (Viewed March 2022); and
- Ordnance Survey Ireland OSI mapping and aerial photography – www.osi.ie (Viewed March 2022).

Other sources of information include:

- Cork County Council ePlan – ttp://planning.corkcoco.ie/ePlan/searchresults/application_status (Viewed March 2022);
- Amharcóir Pleanála - Planning Viewer - https://corkcoco.maps.arcgis.com/apps/webappviewer/index.html?id= (Viewed March 2022);
- The Wildlife Act 1976, available at https://www.irishstatutebook.ie/eli/1976/act/39/enacted/en/html#zza39y1976 (Viewed March 2022);
- Dixon Brosnan environmental consultants. Report in Support of Appropriate Assessment (AA) Screening & Natura Impact Statement (NIS) Proposed Bóthar Guidel Pedestrian and Cycle Bridge, Carrigaline, Co. Cork on Behalf of Arup October 2021. Accessed 17.05.2022.;
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments. Available at

https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2019_Vol3_Species_Article17.pdf (Viewed March 2022);

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OVERALL CONCLUSIONS

Based on the information provided above, and by applying the precautionary principle, it has been determined by Arup that it is possible to rule out likely significant effects on any Natura 2000 sites and therefore it is the view of Arup that it is not necessary to undertake any further stage of the AA process.

Appendix B

Figures

Figure 11: Proposed Scheme location in proximity to Natura 2000 sites

Figure 12: Natura 2000 sites within 15km buffer to Proposed Scheme

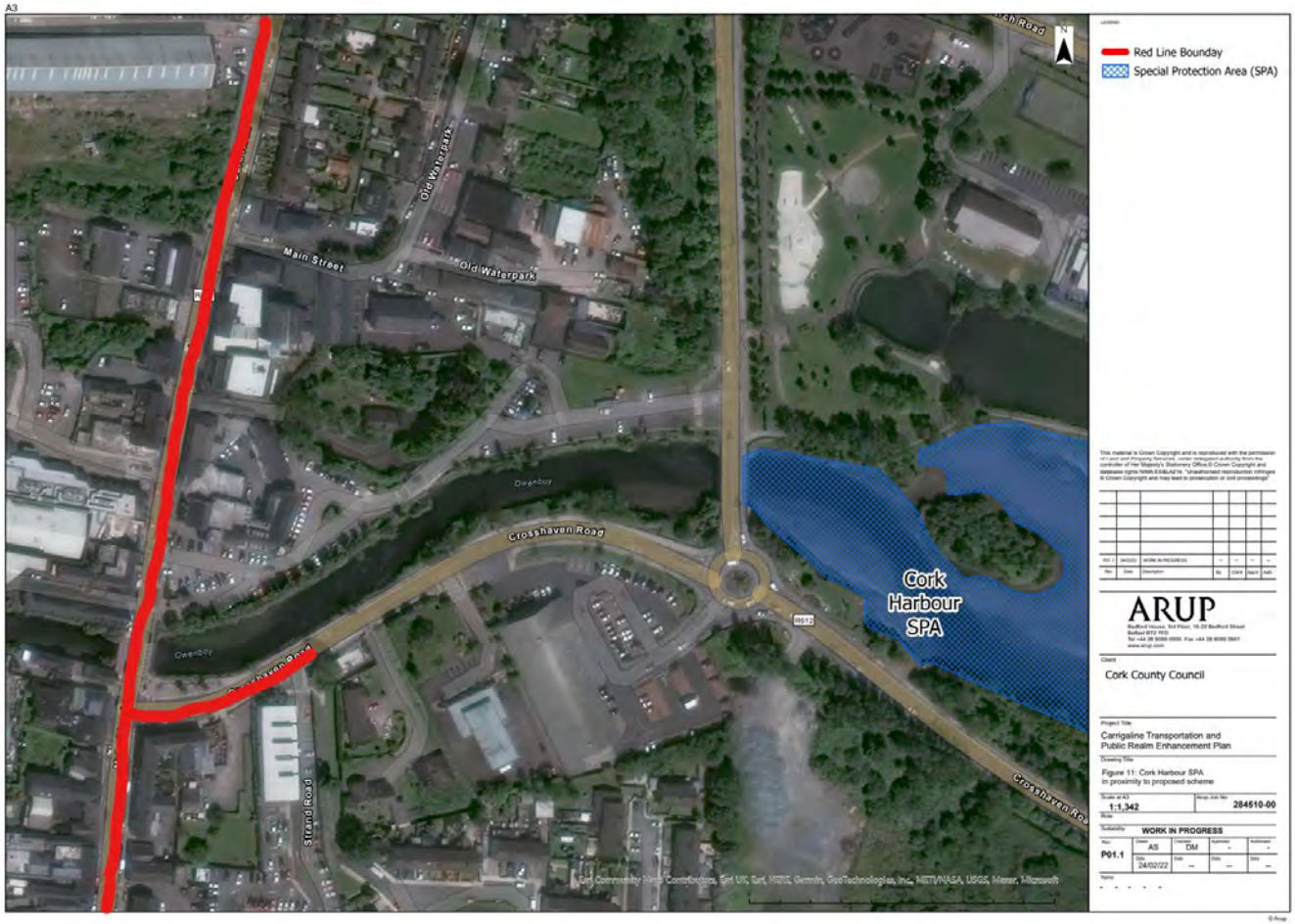
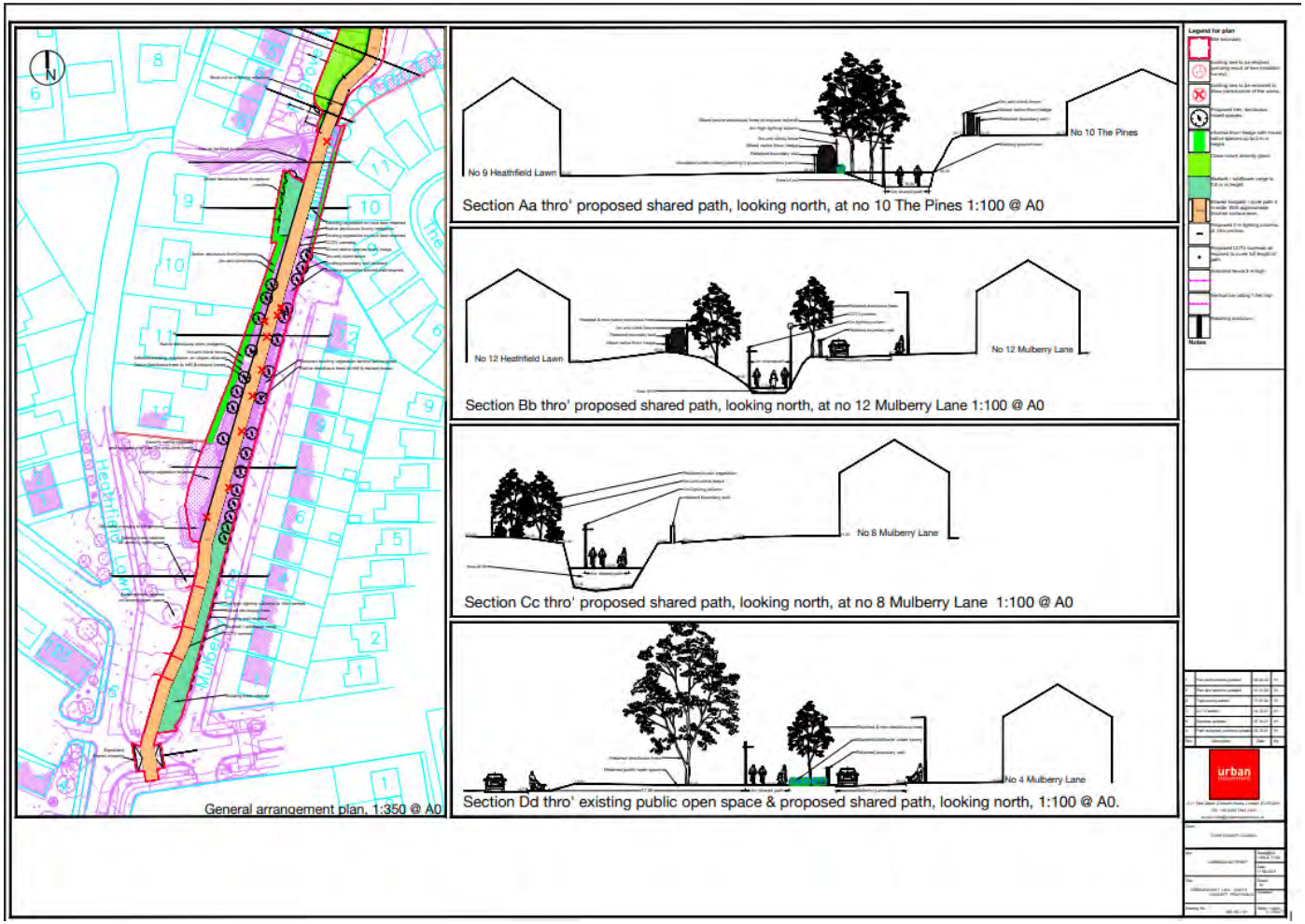


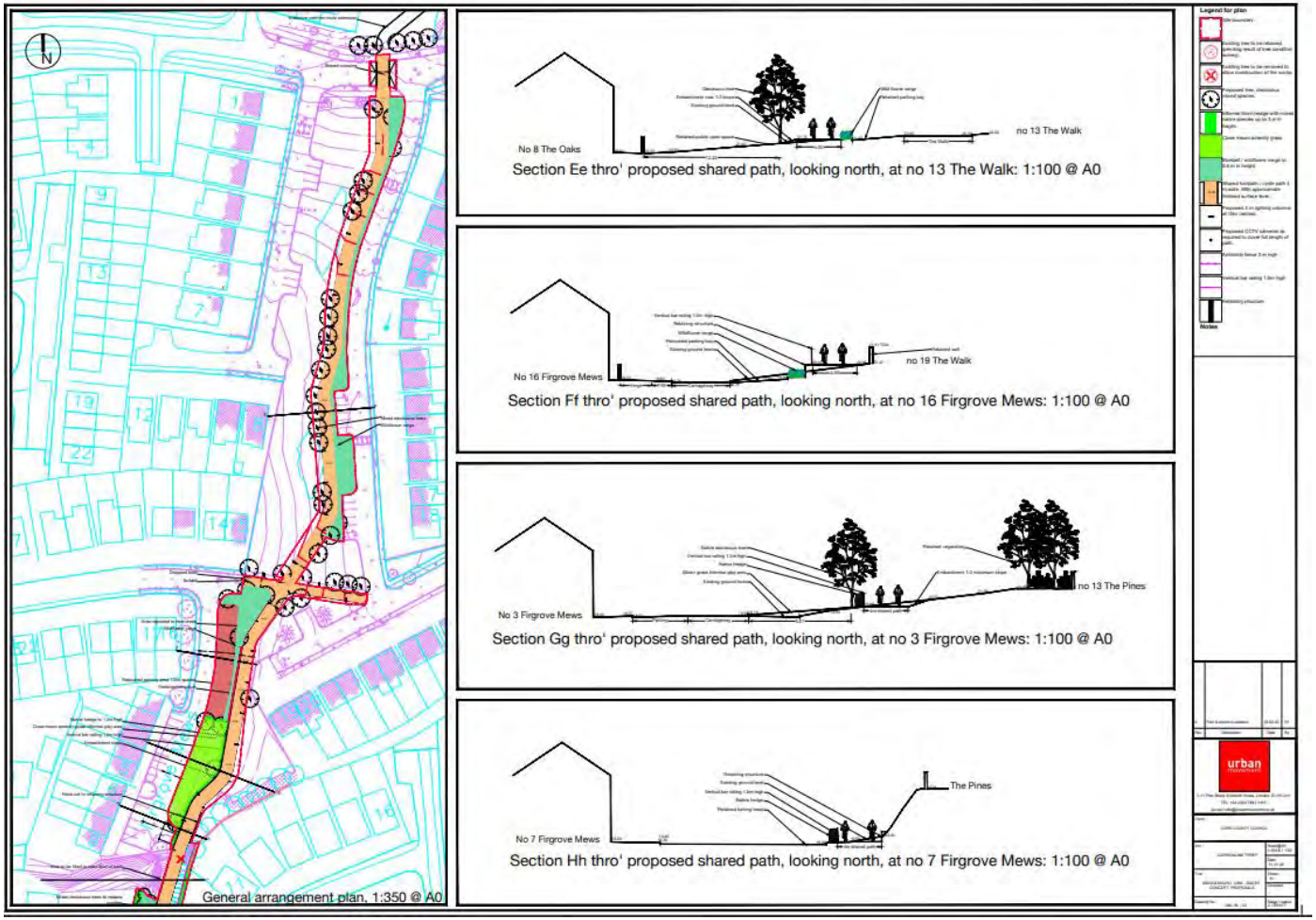
Figure 13: Cork Harbour SPA proximity to Proposed Scheme

Appendix C

Drawings



Drawing 1: Bridgemount Link Plan Outline (Starting from Southern End)



Drawing 2: Bridgemount Link Plan Outline (Starting from Northern End)

Appendix D

Drawings

Table 9: Site Summary Table for 0L403 Cork Harbour (Source: Irish Wetland Bird Survey I-WeBS)[19]

Species	Mean peak counts (2011-2020)
Light-bellied Brent Goose	72
Canada Goose	5
Barnacle Goose	0
Pink-footed Goose	0
Mute Swan	51
Whooper Swan	0
Shelduck	864
Ruddy Shelduck	0
Shoveler	19
Gadwall	14
Wigeon	1396
Mallard	400
Pintail	27
Teal	1462
Green-winged Teal	0
Pochard	0
Tufted Duck	24
Scaup	0
Eider	0
Surf Scoter	0
Common Scoter	1
Long-tailed Duck	0
Goldeneye	4
Red-breasted Merganser	68
Water Rail	2
Moorhen	21
Coot	3
Little Grebe	96
Great Crested Grebe	146
Slavonian Grebe	0
Black-necked Grebe	0
Oystercatcher	1149
Lapwing	1303
Golden Plover	1243
Grey Plover	11
Ringed Plover	33
Whimbrel	3
Curlew	1183
Bar-tailed Godwit	316
Black-tailed Godwit	2752
Turnstone	98
Knot	71
Ruff	0
Curlew Sandpiper	0
Dunlin	3011
Little Stint	0
Snipe	80
Wilson's Phalarope	0
Common Sandpiper	2

[19] Bird Watch Ireland. Irish Wetland Bird Survey (I-WeBS), Site Summary Table for 0L403 Cork Harbour, available on https://c0amf055.caspio.com/dp/f4db30005dbe20614b404564be88. Accessed 09/05/2022

Species	Mean peak counts (2011-2020)
Green Sandpiper	1
Redshank	1519
Spotted Redshank	2
Greenshank	105
Kittiwake	0
Black-headed Gull	3395
Mediterranean Gull	100
Common Gull	321
Ring-billed Gull	1
Great Black-backed Gull	137
Glaucous Gull	0
Iceland Gull	0
Herring Gull	136
Yellow-legged Gull	1
Lesser Black-backed Gull	175
Sandwich Tern	60
Common Tern	3
Red-throated Diver	0
Black-throated Diver	0
Great Northern Diver	10
Cormorant	340
Shag	9
Glossy Ibis	0
Cattle Egret	5
Grey Heron	107
Little Egret	120
Great White Pelican	1
Kingfisher	2
Unidentified duck	0
Unidentified tern	0
Hybrid shelduck	0