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EXISTING DEVELOPMENT

- 2.1 The planning application covers an area of approximately 24.7 hectares, with details of the existing quarry layout shown on **Figure 2-1**. Development of the lower bench has commenced and the current lowest level within the quarry extraction area is c. -25 mOD (existing permitted quarry floor level is -40 mOD).
- 2.2 Planning permission was granted in August 2004 (Cork County Council Ref. No 03/4570) for the extension of the existing development.
- 2.3 The development comprised of the following:
- Extension of the existing quarry over an area of 19.9 hectares,
 - Deepening of the quarry from the level permitted in July 2000 under Plan. Ref. 99/3410 to 40m below Ordnance Datum,
 - Relocation and reconfiguration of the existing 38kV electricity pole sets that traverse the south east of the site
 - Restoration works for the final quarry void (extractive area) and an area of 3.8 hectares to the north adjacent to the public road
 - And all other associated development

- 2.4 Condition 2 attached to the planning permission states:

The use of the quarry and associated plant shall cease on or before the expiration of 15 years from the date of this order, unless before the end of that period, permission for continuance of use beyond that date shall have been granted.

- 2.5 Supplementary planning permissions associated with the overall site include:

Planning Ref. S/99/3410

Planning permission reference S/99/3410 granted in July 2000 was for the 'extension and retention of limestone quarry to include extraction below the level of water table and construction of settlement pond'. The quarry development the subject of **S/99/3410** has largely been completed and is superseded by the quarry extension granted under planning reference **03/4570**.

Planning Ref. S/99/3411

Planning permission reference S/99/3411 granted in July 2000 was for the aggregates processing plant and concrete manufacturing plants on the site. Condition No.1 of the grant of planning permission intrinsically links the development to the quarrying activities at the site, and development is therefore permitted until the quarries on the contiguous lands have been exhausted.

Planning Ref. 20/4199

Planning permission reference 20/4199 for construction of 2 no. new ESB substation & distribution room buildings and the decommissioning of an existing ESB substation and all associated site works.

- 2.6 The quarry was the subject of two substitute consent applications, the first application (ABP Ref. PL04.SU0117) was lodged on the 29th August 2014. With the introduction of updated regulations in 2015, Kilsaran wrote to An Bord Pleanála on the 21st August 2016 seeking leave to apply for substitute consent pursuant to Section 261A (20) of the Planning & Development Acts 2000 to 2015 in relation to all of the development the subject of the planning permissions for the site consisting of development that has been carried out as well as the remainder of the development permitted, but not yet carried out (ABP Ref. PL04.LT.0001). Leave to apply for substitute consent was granted by the Board and subsequently a further application for substitute consent was lodged on the 16th May 2016 (ABP Ref. SU04.SU0136). The original substitute consent application was deemed to be withdrawn. On the 9 October 2017 the Board decided to grant substitute consent. In their Order the Board concluded that:

Having regard to the satisfactory conclusion of the Appropriate Assessment, as set out above, it is considered that, subject to compliance with the conditions set out below, the continued operation of this quarry, in accordance with the terms of the existing planning permissions pertaining to the site, would be in accordance with the proper planning and sustainable development of the area.

- 2.7 The existing quarry operations comprise extraction of limestone using blasting techniques; processing (crushing and screening) of the fragmented rock to produce aggregates for concrete production (readymix and blocks), road construction and site development works.
- 2.8 Manufacturing facilities at the site include a concrete manufacturing facility (readymix and blocks), and a mortar plant. Ancillary facilities at the quarry include the office, weighbridge, canteen, toilets, bunded fuel storage areas and a garage / workshop. As referenced above these facilities operate under separate planning permission Plan. Ref. 99/3411.
- 2.9 An extension to the duration of the development granted under 03/4570 was granted in November 2018 (Plan Ref. 18/06465) for a further five years in accordance with the provisions of Section 42 of the Planning and Development Act, 2000 as amended.
- 2.10 This quarry is a key strategic source and supplier of construction materials for Cork and surrounding region.

PROPOSED DEVELOPMENT

Development Overview

Operational Phase (Limestone Extraction and Processing)

2.11 The proposed development being applied for under this current planning application is shown on **Figure 2-2** and is for continued use previously granted under Cork County Council Ref. No 03/4570 and will consist of:

- Continuance of use of the existing quarry development within an overall application area of c.24.7 hectares;
- Extraction to the level of- 40m below Ordnance Datum, within the extraction area previously permitted under Plan. Ref. 03/4570;
- Final restoration of the quarry void area and an area of 3.8 hectares to the north adjacent to the public road.

Permission is also being sought for an extension to the existing operating hours for the readymixed concrete plant for out of hours operation of the plant up to a maximum of 40 occasions per year, to supply critical and strategic building / infrastructure / maintenance projects whose construction requires supply of concrete outside normal plant operating hours.

Restoration (Reinstatement to Nature Conservation Habitat Areas)

2.12 Upon the cessation of extraction operations it is proposed to return the worked lands to natural habitat after-use, refer to Sections 2.92 to 2.101 and **Figure 2-4**.

2.13 The only material requirements in respect of the planned restoration scheme are those topsoils and subsoils already present on site, having been stripped and stockpiled within the existing operational site area.

Aggregate Reserve Assessment

2.14 The total recoverable reserve of limestone from within the proposed extraction area is assessed at c.5.2 million tonnes.

Duration of Extraction

2.15 The quarry will continue to develop within the existing extraction area to the previously permitted level of -40 mOD. No additional topsoil or overburden stripping will be required. An outline of the proposed extraction plan and the final ground level contours is shown in Figure 2-2. Cross-sections through the final landform are shown in Figure 2-3.

**Table 2-3
Material Quantities**

Material	Quantity
Topsoil / Overburden	None – existing extraction area, no soil stripping required.
Limestone	5.2 Million Tonnes

2.16 The duration of quarrying activities at the application site will largely be dictated by the rate at which approximately 5.2 Million Tonnes of limestone is extracted from the site. There are many factors which will influence this, including, but not limited to the:

- Prevailing economic climate and related construction industry output;
- Distance of construction projects from the facility (and scale of activity).

2.17 In light of these and other variables, calculation of production rates and duration is not an exact science. It is anticipated that the annual extraction rate will range from 250,000 – 500,000 Tonnes.

2.18 A planning permission duration of 20 years is sought for the extraction and processing period and a further two years to complete final restoration of the site.

Site Screening

2.19 Due to the history of extraction workings at Rossmore Quarry, there are existing landscaped screening along the eastern, southern and western perimeters of the quarry, refer to **Figure 2-1**

2.20 Screening of the development has been implemented through a combination of design and phasing of the workings; existing external hedgerows; screening berms and the surrounding topography – refer to EIAR Chapter 13 Landscape.

Removal of Topsoil and Overburden Soils

2.21 No topsoil stripping will be required as part of the proposed development, as the extraction will continue within the existing quarry extraction area. There is a small area of overburden soil in the northwest of the extraction area to be moved to the landscaped screening area in the north of the overall site.

Site Drainage

2.22 A hydrological / hydrogeological assessment has been carried out taking into consideration the existing water regime at the site. It addresses mitigation measures to eliminate and/or minimise the potential impacts, if any, on surface water and groundwater – refer to EIAR Chapter 7 – Water.

Stability of the Quarry

2.23 Industry standard slope angles, bench heights, and bench widths will continue to be used for extraction operations at the site.

Method of Extraction

2.24 Blasting is and will continue to be used within the quarry area to fragment the stone prior to processing (crushing and screening).

Processing Methods

- 2.25 The processing of the extracted rock, into aggregate products, will consist of crushing and screening by mobile processing plant located within the quarry void and the fixed aggregate processing plant.

Working Hours

- 2.26 In accordance with condition 5 of the existing planning permission (Plan. Ref. 03/4570) quarry operations will be carried out between 07.00 – 19.00 hrs Monday to Friday; and 08.00 – 16.00 hrs Saturday. The quarry will not operate on Sundays or Bank Holidays, except in emergency situations.
- 2.27 As stated above, permission is also being sought for an extension to the existing operating hours for the readymixed concrete plant for out of hours operation of the plant up to a maximum of 40 occasions per year, to supply critical and strategic building / infrastructure / maintenance projects whose construction requires supply of concrete outside normal plant operating hours.

Employment

- 2.28 The continued development of proven limestone aggregate reserves at the existing quarry is required to ensure that Kilsaran meets the demands of the market(s) they have built up in the region, including supply, to the local construction industry and infrastructure projects and Local Authorities.
- 2.29 The proposed continuance of the existing quarry development will secure the continued employment of 31 people (Quarry Manager, two Shippers, three technicians, one sales, one fitter, five engaged in contract crushing and up to 18 company and owner truck drivers associated with the combined haulage for quarry products).
- 2.30 The readymix concrete/mortar batching and block making operation will continue to provide employment for the 9 people (two block production and seven company drivers for concrete and concrete blocks))
- 2.31 Therefore, the proposal will secure the continued employment of 40 people for the duration of the extraction development i.e. 20 years.
- 2.32 Continued development of the site is consistent with the policies set out in the National Planning Guidelines for the sector; the National Planning Framework, and the Cork County Development plan which recognise the requirement for:
- A secure supply of construction aggregates and related products is necessary for the continued development of the region;
 - Proven aggregate reserves need to be safeguarded for future extraction.
 - ‘Best environmental management practice’ to be implemented within quarry developments.

SITE INFRASTRUCTURE

Site Access

- 2.33 The quarry is located approximately 1.7km south of Carrigtohill, Co. Cork, refer to **Figure 1.1**.
- 2.34 The established and permitted access to the quarry is via the N25 Cork to Waterford national road, the R624 regional road and the local road network.

Site Security

- 2.35 Vehicular access to the property at Rossmore and the application site is through a single entrance. There is no other vehicular access to the application site. The access gate is locked outside operational hours.
- 2.36 At the present time, the property boundary is secured by post and wire fencing, hedgerows, screening berms, and palisade fencing at the entrance.
- 2.37 Entry to the existing facility is controlled and CCTV cameras are installed at the site.

Site Roads, Parking and Hardstanding Areas

- 2.38 All trucks utilising the quarry will be confined within the Applicant's landholding. Trucks turn into the site and travel south over a section of paved internal roadway within the application site towards the existing weighbridge. After being weighed, they continue to travel south over an existing paved haul road to the aggregate storage, concrete manufacturing area, and the quarry.
- 2.39 Adequate provision for car parking by employees and visitors is provided on the site.

Wheelwash

- 2.40 In order to prevent transport of clay and dust onto the public road network, a wheelwash has been installed along the access road to the site. All HGV traffic exiting the quarry are required to pass through the existing wheelwash, the location of which is indicated on the site infrastructure layout in Figure 2-1.

Weighbridge

- 2.41 In order to track and record the amount of material exiting the quarry and to ensure legal loading weights, all HGV traffic is directed across the existing weighbridge, the location of which are also indicated on the site infrastructure layout in Figure 2-1.

Offices and Ancillary Facilities

- 2.42 The locations of all offices and facilities at the quarry are shown on Figure 2.1 enclosed.
- 2.43 Ancillary facilities at the quarry include the office, weighbridge and weighbridge office, staff welfare facilities, toilets, wheelwash, and bunded fuel storage area.

Quarry Ancillary Facilities and Activities

2.44 Value added manufacturing facilities at the quarry include concrete (readymix and blocks) and mortar.

Utilities and Services

2.45 Electrical power is currently provided to the application site via mains supply. Electricity will provide the principal source of energy for office lighting and heating.

2.46 Site based staff at the application site are contactable by landline phone and email and broadband connections to the site office are provided via a mobile network.

2.47 An existing effluent treatment system is in place to treat wastewater from the toilet facilities.

2.48 Potable water is provided to the site local main supply.

2.49 Given the lack of combustible waste materials at this site, it is considered highly unlikely that a fire will break out during quarry operations. A range of fire extinguishers (water, foam and CO₂) are kept at the weighbridge office and canteen, and workshop / garage to deal with any localised small-scale fires which might occur. Additional fire-fighting capacity can be provided by storing water in a mobile bowser on unsealed hardstand areas around the infrastructure area.

Lighting

2.50 Sufficient lighting is / will be provided at the entrance and the ancillary processing and plant area to ensure safe operations during winter periods.

Fuel and Oil Storage

2.51 Fuel and chemical storage will continue at the current location. The only chemicals to be stored on site for the quarry that will have the potential to cause water pollution are lubricating oils, hydraulic oils and diesel fuel. All these chemicals are and will continue to be stored in the following manner:

- Suitably certified tanks within areas bunded to a capacity of 110% of the tank;
- No pipe work will go through the bund at any point to reduce the risk of leakage;
- Surface water from bunds will be pumped out through a suitable oil interceptor.

Landscape and Boundary Treatment

2.52 The existing landscaped screening berms will be maintained around the perimeter of the quarry extraction area. The existing boundary fencing will be maintained, and hedgerows will be strengthened or fortified by additional planting, where required.

WASTE MANAGEMENT

Extractive Waste Management

- 2.53 Almost all products and by-products arising from the aggregate processing have commercial value. Any waste materials from the site are stored, collected, recycled and/or disposed of in accordance with any requirements of Cork County Council.

General Waste Management

- 2.54 Kilsaran as a member of the Irish Concrete Federation commits themselves to the principles of the Federations Environmental Code. The code states:-

“ICF members will minimise production of waste and where appropriate consider its beneficial use including recycling. They will deal with all waste in accordance with the relevant legislation and other controls in place, including using waste contractors with valid Waste Collection Permits”

- 2.55 Potential waste produced and the measures used to control it are described as follows:-
- Scrap metal – a designated scrap metal area is demarcated on site and the build-up of scrap is controlled by the regular removal by licensed scrap metal dealers.
 - Used Oil and Oil Filters – any waste oil/oil filters that may arise from servicing of fixed or mobile plant is removed from the site by a licensed waste contractor.
 - Used Batteries – similarly all used batteries are removed from site for collection and recycling by a licensed waste contractor in accordance with the Waste Management Regulations.
 - Domestic Style Waste (Canteen Waste) – domestic waste generated at the offices and employee’s facility is and will continue to be collected by a licensed waste collection contractor.
 - Sewage Effluent – this is disposed of by the existing waste water treatment system.
 - Note: topsoil / overburden stripped from above the limestone resource are not considered waste, they are an essential component of the restoration programme. These materials are required for the reshaping and landscaping of the overall site area to make it more suitable for an agricultural / natural habitat after-use.

EXISTING ENVIRONMENTAL CONTROLS

Environmental Policy & Environmental Management System (EMS)

- 2.56 Kilsaran have implemented an environmental management system (EMS) at Rossmore Quarry.
- 2.57 Extraction, processing and ultimately restoration activities at the application site require a number of environmental controls to eliminate or minimise the potential nuisance to the public arising from

the extraction and processing operations. The existing environmental control measures in place at the site are outlined in the relevant EIAR Chapters.

- 2.58 The existing operations at the site are currently regulated by conditions attaching to Cork County Council Plan Ref. No 03/4570.
- 2.59 Any additional control measures, over and above those already in place and/or outlined below, which may be instructed on foot of the proposed planning application, will also be implemented.

Bird Control

- 2.60 As the process of limestone extraction is free of putrescible (food / kitchen) waste, site activities are unlikely to attract scavenging birds such as gulls and crows for the duration of works. Accordingly, it is not intended to implement any specific bird control measures at the site as is the case at present.

Dust Control

- 2.61 In dry, windy weather conditions, site activities may give rise to dust blows across and beyond the existing or planned development site areas. In order to control dust emissions, the following measures are / will continue to be implemented:-
- Water is sprayed from a tractor drawn bowser on dry exposed surfaces (paved roads, unsealed haul roads and hardstand areas);
 - Sprinkler system used on stockpiles in periods of dry windy weather.
 - Provision of a fixed sprinkler system along the internal road from the site access to the office.
 - Dust blows at the existing site are largely screened by the side walls of the existing quarry void and the vegetated screening berms;
 - Areas of bare or exposed soils will, insofar as practicable, be kept to a minimum;
 - All HGV's exiting the site are routed through the existing wheelwash. This minimises the transport of fines by HGVs over the access / egress road and the public road network;
 - Road sweeper is used as required.
- 2.62 The amount of dust or fines carried onto the public road network will be further reduced by periodic sweeping of internal paved site roads and surrounding public roads as required.

Traffic Control

- 2.63 As the planning application relates to the continued use of the existing quarry operation, the proposed development will continue to utilise the existing site entrance and access.
- 2.64 The existing site entrance has historically been shown to function satisfactorily at its present location. As such, it is considered unnecessary to alter the existing access point in terms of geometry and/or location.
- 2.65 Internally, within the quarry, warning notices, direction signs and speed restriction signs are erected where appropriate along paved and/or unpaved roads.

Litter Control

- 2.66 As the proposed development will be largely free of litter, the daily operational activities are unlikely to give rise to problems with windblown litter. Accordingly, there is no requirement to implement any specific litter control measures at the site.
- 2.67 In the unlikely event that any litter waste is identified, it will be immediately removed off-site to an authorised waste disposal or recovery site.

Odour Control

- 2.68 As the limestone extraction activities at the site are not biodegradable and do not therefore emit odorous gases, site activities do not give rise to odour nuisance. Accordingly, it is not intended to implement any specific odour control measures at the site.

Vermin Control

- 2.69 As the development is free of putrescible (food / kitchen) waste, on-site activities will not attract vermin (rats) for the duration of the extraction or subsequent restoration operations. Accordingly, no specific vermin control measures are implemented at the site.

Fire Control

- 2.70 As the development is free of flammable and biodegradable materials which could create a fire or explosion risk, on-site extraction activities will not present a fire risk for the duration of the extraction operations. Accordingly, there is no requirement to implement specific fire control measures at the site.
- 2.71 In the unlikely event that a fire does occur, the local fire stations in Cork will be contacted and emergency response procedures will be implemented. Fire extinguishers (water, foam and CO₂) are provided on site to deal with any small outbreaks which may occur.

Surface Water and Groundwater Management

- 2.72 Conventional sump pumping is used within the quarry to control surface water and groundwater inflows into the quarry extraction area.
- 2.73 After being pumped from the quarry floor any excess treated water not used for other site activities, such as dust suppression etc, is directed to the existing water management system, refer to EIAR Chapter 7 – Water.
- 2.74 Measures are implemented to ensure that excess water discharges are managed and controlled in accordance with the existing discharge licence ref. WP(W) 10/18 that permits discharge of excess treated waters to groundwater, refer to EIAR Chapter 7 – Water.

Dust Generation and Control

- 2.75 The incidence of fugitive dust outside of the operation is reduced by the crushing and screening plant being located within the quarry void. Generation of fugitive dust is generally limited to periods of very low rainfall (refer to EIAR Chapter 9 – Air Quality). Dust generation occurs from three main sources.
- Point sources – such as operating plant and machinery.

- Line sources – such as roads and conveyors.
 - Dispersed Sources– such as quarry floors and stockpiles.
- 2.76 Emission of fugitive dust from machinery such as processing plant is, and will continue to be, minimised by utilising dust suppression and by locating such plant within the quarry area.
- 2.77 Water collecting in the quarry is used to suppress dust on haul roads and quarry floors through the use of water bowsers.
- 2.78 A dust monitoring programme is currently in place at the existing site, and ongoing dust deposition monitoring is carried out as part of the environmental monitoring programme. Monitoring results are, and will continue to be, submitted to Cork County Council.
- 2.79 Existing dust management and mitigation measures are implemented at the quarry in accordance with the ICF (2004), DoEHLG (2004), and EPA (2006) environmental guidelines for the sector, refer to EIAR Chapter 8 – Air Quality.

Noise Generation and Control

- 2.80 The sources of noise located within the planning application area are primarily related to machinery / plant operation.
- 2.81 The potential for noise generation from the planning application area is significantly reduced by locating the mobile crushing and screening plant within the quarry void. This means that the potential for noise generation from activities associated with the operation of the plant such as movement of vehicles and maintenance has been significantly reduced – refer to EIAR Chapter 10 _ Noise & Vibration.
- 2.82 In addition to the above the following good house-keeping measures are in place to reduce noise emitted from plant and machinery as much as possible:
- All machinery used are CE certified for compliance with EU noise control limits;
 - The machinery is regularly maintained. This includes regularly checking any muffler systems and servicing or replacing as required. It also ensures any loose or damaged panels or covers that suppress noise is fixed or replaced immediately;
 - If there are further noise-reducing modifications available for any machinery, they are fitted wherever practical (e.g. rubber-decked screens, rubber chute linings, white noise alarms etc.)
 - Haul road grades are kept as low as possible ($\leq 1:10$) to reduce engine / brake noise from heavy vehicles.
- 2.83 Existing noise management and mitigation measures are implemented at the quarry in accordance with the ICF (2004), DoEHLG (2004) and EPA (2006) environmental management guidelines for the sector, refer to EIAR Chapter 10.
- 2.84 There is an existing noise monitoring programme at the site and ongoing noise monitoring is carried out as part of the environmental monitoring programme. Monitoring results are and will continue to be submitted to Cork County Council.

EXISTING ENVIRONMENTAL MONITORING

General

- 2.85 The site has an established environmental monitoring programme and results of the environmental monitoring programme are submitted to Cork Co. Council on an annual basis to Condition No. 54 imposed under Plan Ref. No. 03/4570. Environmental water, noise and dust monitoring is carried out on a regular basis, to demonstrate that the development is not having an adverse impact on the surrounding environment.

Dust Monitoring

- 2.86 Dust deposition monitoring is currently undertaken at the application site. Dust monitoring locations shall be reviewed and revised where and as/when necessary. The results of the dust monitoring are submitted to Cork County Council on a regular basis for review and record purposes

Odour Monitoring

- 2.87 As the materials being extracted at the site are not organic or biodegradable and do not therefore emit odorous gases, the on-site recovery activities do not give rise to odour nuisance. Accordingly, no provision has been made for odour monitoring at the site.

Noise & Blast Monitoring

- 2.88 Noise and blast monitoring are currently undertaken at the application site. Monitoring locations shall be reviewed and revised where and as/when necessary. The results of the noise and blast monitoring are submitted to Cork County Council on a regular basis for review and record purposes.

Surface Water Monitoring

- 2.89 There are no surface water courses within or in the immediate vicinity of the proposed site. Therefore, the proposal poses no pollution potential to surface water and no surface water monitoring is carried out.

Groundwater Monitoring

- 2.90 Groundwater level monitoring is carried out in the existing groundwater monitoring boreholes located within the quarry.

Existing Discharge Licence

- 2.91 Regular monitoring of the excess treated water discharged from the quarry to groundwater is carried out in accordance with the requirements of the existing discharge licence ref. WP(W) 10/18.

PROPOSED FINAL RESTORATION

Proposed Restoration Scheme

- 2.92 A restoration plan has been prepared for the planning application area. This restoration approach is consistent with the restoration concept previously permitted under Cork County Council Plan Ref. 03/4570.
- 2.93 The restoration scheme for the planning application area is shown on the restoration plan **Figure 2-4**.
- 2.94 The planning application area will be restored to natural habitat afteruse, which is one of the beneficial after uses listed in the EPA Guidelines: 'Environmental Management in the Extractive Industry' (2006). This restoration scheme will assist in enhancing the biodiversity of the site and local area. The restoration will be achieved by implementation of the following measures:
- Creating a water body within the final quarry void as the groundwater level rebounds to its natural level, on permanent cessation of extraction operations.
 - Retaining existing vegetation and provision of woodland and barrier mix planting around the perimeter of the quarry void;
 - Leaving some areas for natural re-colonisation;
 - Landscaping of the overburden storage area located in the northern part of the site, including hedgerow and woodland mix plating.
 - All existing boundary fences and hedgerows will be retained to ensure that the site is secure.

Site Management and Supervision

- 2.95 The Applicant will clearly define the management responsibility for the site restoration work and will ensure that this person has the necessary information (from the planning application) and authority to manage the whole restoration process. Relevant staff will be briefed on the scheme and will be adequately supervised / controlled. A system of record keeping for the key restoration activities will be put in place.

Long Term Safety and Security

- 2.96 Existing hedges surrounding the development will be gapped up and thickened where required. These, combined with fencing and the secure and locked entrance gates to the development will prevent unauthorised third party access.

Long Term Surface Water and Groundwater

- 2.97 The existing quarry extraction area will flood naturally to form a water natural habitat. There is no requirement for any active long-term surface water or groundwater management at the site.

Decommissioning of Plant and Machinery

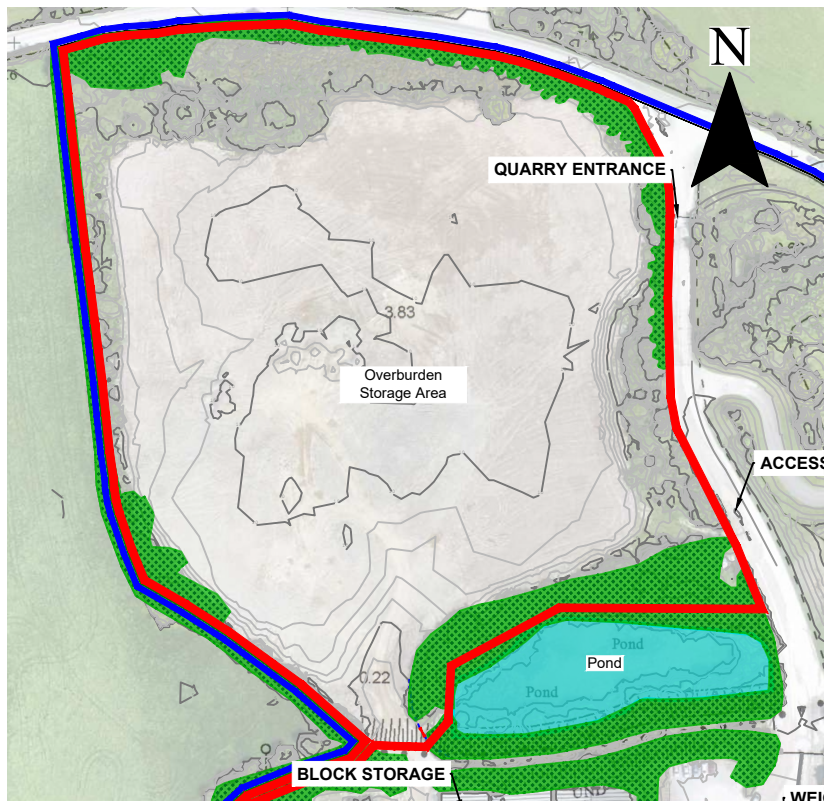
- 2.98 Redundant structures, plant equipment and stockpiles will be removed from site on permanent cessation of extraction activity. Machinery and buildings will either be utilised by Kilsaran on other sites or be sold as working machinery or scrap.
- 2.99 As part of the overall decommissioning process, all fuel and oil storage tanks within the existing site will be removed from the site by a licensed waste contractor. Therefore, there will be no potential for fuel, oil or sewage to cause long-term water pollution following completion of extraction activities.

Aftercare and Monitoring

- 2.100 There will be no on-going requirement for monitoring noise or dust after extraction, processing and manufacturing operations have ceased.
- 2.101 Site inspections will be carried out after restoration works are completed to ensure the final site restoration as implemented is functioning.

FIGURES

00036.00070.00001.FIG_2-1.Existing Site Layout.dwg



NOTES

- EXTRACT FROM 2500 DIGITAL ORDNANCE SURVEY MAPPING NO. 6386-A,B,C & D.
- ORDNANCE SURVEY IRELAND LICENCE NO. SU CYAL50167032 (C) ORDNANCE SURVEY & GOVERNMENT OF IRELAND.

LEGEND

	LAND INTEREST BOUNDARY
	APPLICATION APPLICATION AREA (c.24.7 ha)
	RESIDENTIAL PROPERTY LOCATION
	EXISTING SCREENING BERM

*Orthomosaic produced from Aerial Photography flown MAY 2018 by SLR Consulting Ireland (IAA Permit No. 150052) www.slrconsulting.com Tel: +353-1-2964667
 Orthomosaic produced using Ground Control Points, Related to Irish Transverse Mercator Coordinate System and OS Mean Head Level Datum.
 The accuracy of the orthomosaics and the digital elevation models (DEM) strongly depends on the flight height, lighting conditions, availability of features, image quality, overlap, and type of terrain. Contours / 3D data relates to the surface model and not terrain levels. Typical accuracies: E: 0.05 m; N:0.05 m; Levels: 0.30 m.
 All Dimensions and Levels are to be checked on site.
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 www.slrconsulting.com

KILSARAN CONCRETE
 ENVIRONMENTAL IMPACT ASSESSMENT REPORT
 ROSSMORE QUARRY,
 CARRIGTOHILL, CO. CORK
 EXISTING SITE LAYOUT MAP

FIGURE 2-1

Scale 1:2,500 @ A3	Date JUNE 2021
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00036.00070.00001.FIG_2-2.Proposed Site Layout.dwg



NOTES

- EXTRACT FROM 2500 DIGITAL ORDNANCE SURVEY MAPPING NO. 6386-A,B,C & D.
- ORDNANCE SURVEY IRELAND LICENCE NO. SU CYAL50167032 (C) ORDNANCE SURVEY & GOVERNMENT OF IRELAND.

LEGEND

- LAND INTEREST BOUNDARY
- APPLICATION APPLICATION AREA (c.24.7 ha)
- RESIDENTIAL PROPERTY LOCATION
- EXISTING SCREENING BERM

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**KILSARAN CONCRETE
 ENVIRONMENTAL IMPACT ASSESSMENT REPORT**

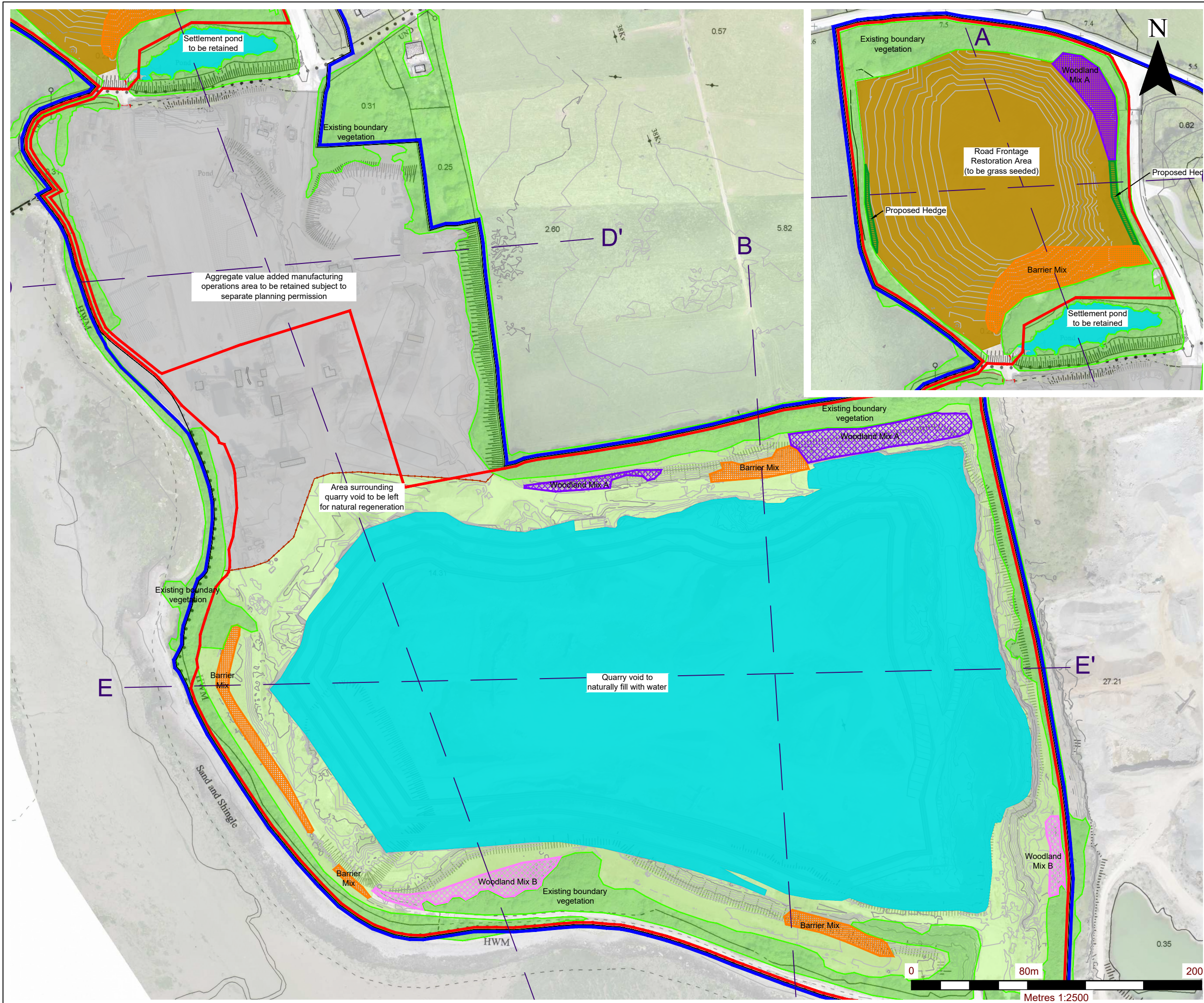
**ROSSMORE QUARRY,
 CARRIGTOHILL, CO. CORK**

PROPOSED SITE LAYOUT MAP

FIGURE 2-2

Scale: 1:2,500 @ A3 Date: JUNE 2021

00036.00070.00001.FIG_2-4.Proposed Restoration Plan.dwg



NOTES

- EXTRACT FROM 2500 DIGITAL ORDNANCE SURVEY MAPPING NO. 6386-A,B,C & D.
- ORDNANCE SURVEY IRELAND LICENCE NO. SU CYAL50167032 (C) ORDNANCE SURVEY & GOVERNMENT OF IRELAND.

LEGEND

- APPLICANTS LAND INTEREST
- APPLICATION APPLICATION AREA (c.24.7 ha)

EXISTING ELEMENTS TO BE RETAINED

- DENSE VEGETATION ALONG THE SITE BOUNDARIES AND WITHIN THE SITE
- PROCESSING AND MANUFACTURING AREA

PROPOSED RESTORATION ELEMENTS

- WOODLAND MIX A
- WOODLAND MIX B
- BARRIER MIX
- HEDGE MIX
- AREA TO BE LEFT FOR NATURAL REGENERATION
- ROAD FRONTAGE RESTORATION AREA
- QUARRY VOID TO NATURALLY FILL WITH WATER
- PROPOSED FENCE TO SECURE THE QUARRY VOID

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**KILSARAN CONCRETE
 ENVIRONMENTAL IMPACT ASSESSMENT REPORT
 ROSSMORE QUARRY,
 CARRIGTOHILL, CO. CORK
 PROPOSED RESTORATION PLAN**

FIGURE 2-4

Scale: 1:2,500 @ A3 Date: JUNE 2021

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ALTERNATIVE DESIGNS / LAYOUTS.....	4
ALTERNATIVE PROCESSES	4



INTRODUCTION

- 3.1 In the consideration of alternatives below, the issues of alternative sources of aggregates; and alternative site locations / designs / layouts have been addressed.
- 3.2 The current planning application will consist of continuance of use of the existing quarry development within an overall application area of c.24.7 hectares; extraction to the level of- 40m below Ordnance Datum, previously permitted under Plan. Ref. 03/4570; final restoration of the quarry void area and an area of 3.8 hectares to the north adjacent to the public road. Permission is also being sought for an extension to the existing permitted operating hours for the readymixed concrete plant, and for out of hours operation of the plant up to a maximum of 40 occasions per year, to supply critical and strategic building / infrastructure / maintenance projects whose construction requires supply of concrete outside normal plant operating hours.
- 3.3 The existing permitted quarry area is located in an area favourable to extraction activities, due to, *inter alia*:
- Established long history of extraction at this location;
 - Proven high quality limestone reserves – refer to EIAR Chapter 6;
 - Located with access to the regional and national roads network – refer to EIAR Chapter 14;
 - Best practice industry standard extraction and processing methods are used;
 - Low development costs because infrastructure already in place at the site and the application is for continued use to a long-established quarry area.

DO NOTHING ALTERNATIVE

- 3.4 If no further works within the planning application area were carried out, the existing site would be restored to agricultural and natural habitat after-uses as per the previously permitted restoration proposals.

ALTERNATIVE SOURCES OF AGGREGATES

- 3.5 In the medium term there are no real alternatives to the current land-based sources of construction aggregates.
- 3.6 Until End of Waste criteria in respect of Construction & Demolition (C & D) materials is agreed, these recycled materials cannot be relied upon and for the foreseeable future there are no real alternatives to primary land-won aggregates.
- 3.7 Notwithstanding the above, the volume of C&D waste suitable for recycling into secondary aggregates would be considered very low in comparison to the overall demand for aggregates. The demographic spread of the population results in only the large urban centres potentially being

capable of generating sufficient volumes of construction and demolition (C&D) waste to justify a commercial operation producing secondary aggregates going forward.

- 3.8 In the longer term (>25 years), there may be some scope for extraction of sand and gravel from marine sources.
- 3.9 In the absence of significant volumes of aggregates from recycled / secondary and marine sources, land-based deposits (such as the proven reserves at Rossmore) will continue to be the main source of construction aggregates in Ireland, including Cork and the surrounding.

ALTERNATIVE LOCATIONS

- 3.10 The current planning application is for continuance of use of the existing permitted quarry at Rossmore, Co. Cork.
- 3.11 The alternatives available to the Applicant relate to:
- Further development (into lands that do not currently have the benefit of planning permission for quarrying) and final restoration of the existing established quarry;
 - or
 - Development of a new replacement 'greenfield' quarry in Cork to serve the established clients and markets in this region.
- 3.12 At the current time, there is no suitable alternative replacement quarry location available to the applicant in Cork. It is generally accepted that the overall timeframe for development of a 'greenfield' quarry site (from initial site selection, land acquisition, preparation of a planning application and accompanying EIAR, through planning process and site development to extraction of aggregates) takes between 5 and 10 years.
- 3.13 Notwithstanding the above, continued operation of the existing quarry would be beneficial in planning terms by eliminating the need for:
- Extracting additional materials from other quarries within the county, should the applicant be unable to develop a new 'greenfield' site in the event that the existing quarry ceases operation. This would result in faster depletion of aggregate resources at these other quarry locations and potentially result in future intensification of those operations;
 - Development of a 'greenfield' site at some other location within the county where there is little or no previous extractive industry landuse;
 - Haulage of materials by road from other quarries within, and outside the county, with potentially longer haulage distances and increased traffic levels on the wider road network.
- 3.14 The development of the existing limestone quarry at Rossmore will assist in continuing to provide extraction from a proven aggregate resource within an established operation, with no significant increase in environmental emissions.

- 3.15 This development is not like a factory for example that can be located at many locations; this is a resource tied development. Aggregates can only be worked where they exist and where the environmental effects of working such resources can be managed to an acceptable level.
- 3.16 The extent of the deposit at Rossmore Quarry has long been established since the 1990's. The continued use of the quarry development will work the remainder of this identified reserve that is located within the existing permitted quarry extractive operational site that has a proven track record of environmental / planning compliance.
- 3.17 Although aggregates can only be worked where they exist, some will argue that the value-added facilities such as the readymix concrete, concrete block and mortar plants could be located anywhere. It is considered best planning practice to co-locate these facilities as close to, but preferably at the major raw materials source i.e. within quarry developments. This conforms to the principles of sustainable development as it minimises energy consumption in the form of haulage requirements, excessive handling and centralises waste collection. The requirement for duplicated facilities is also removed, such as multiple offices, weighbridges etc.
- 3.18 On the basis of the above, it is considered that continued use (and final restoration) of the existing quarry, subject to continued implementation of best environmental management practice and compliance with appropriate planning controls (i.e. planning conditions and recommended emission limit values for the sector) is preferable in an overall planning context, compared to the development of a new replacement 'greenfield' site at some alternative location in the Cork region.

ALTERNATIVE DESIGNS / LAYOUTS

- 3.19 The proposed development is for continuance of use of the existing quarry within the existing extraction area to the permitted level of -40 mOD. The development will not result in any changes or increases in the extraction area. Alternative design / layouts are not considered relevant in this instance.

ALTERNATIVE PROCESSES

- 3.20 Kilsaran are a company with expertise and experience in the field of quarrying, aggregates production, concrete manufacturing, road surfacing materials manufacturing and road making.

This planning application is for continuance of use of the existing permitted quarry. Kilsaran use industry standard and best practice blasting techniques to fragment the limestone. This fragmented limestone is processed using mobile crushing & screening plant located within the quarry extraction area, and using fixed processing plants, in line with best practice for the sector. Alternative processes are not considered relevant in this instance.

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INTRODUCTION

Background

- 4.1 This Chapter of the Environmental Impact Assessment Report (EIAR) relates to the potential effects of the continued use of the existing permitted quarry at Barryscourt & Rossmore Tds., Carrigtohill, Co. Cork on population and human health.
- 4.2 The planning application is for continuance of use of the existing quarry to the permitted extraction level of -40mOD. The application made in accordance with the requirements of the Planning and Development Regulations 2001-2018 (as amended).
- 4.3 The application site extends to c. 24.7 hectares and comprises an existing operating quarry permitted under planning permission Plan. Ref. 03/4570. The application site is indicated on an extract from the 1:50,000 scale Ordnance Survey Discovery series map in Figure 1-1.
- 4.4 The operator of the existing quarry and applicant with respect to this application is Kilsaran Concrete.
- 4.5 The proposed development will consist of continuance of use of the existing quarry development within an overall application area of c.24.7 hectares; extraction to the level of 40m below Ordnance Datum, previously permitted under Plan. Ref. 03/4570; final restoration of the quarry void area and an area of 3.8 hectares to the north adjacent to the public road. Permission is also being sought for an extension to the existing operating hours for the readymixed concrete plant for out of hours operation of the plant up to a maximum of 40 occasions per year, to supply critical and strategic building / infrastructure / maintenance projects whose construction requires supply of concrete outside normal plant operating hours.
- 4.6 The quarry will continue to develop within the existing extraction area to the previously permitted level of -40 mOD. No additional topsoil stripping will be required. There will be a small volume of overburden soil to be moved from the north-western area of the quarry to the 3.8 hectare area to the north of the site. An outline of the proposed extraction plan and the final ground level contours is shown in Figure 2-2. Cross-sections through the final landform are shown in Figure 2-3. The total recoverable reserve of limestone from within the proposed extraction area is assessed at c.5.2 million tonnes.

For further detail of the proposed development and the application site context, refer to Chapter 2 of this EIAR.

Scope of Work / EIA Scoping

- 4.7 The objective of the Directive (Directive 2011/92/EU), as amended by Directive 2014/52/EU, is to ensure a high level of protection of the environment and human health, through the establishment of minimum requirements for environmental impact assessment (EIA), prior to development consent being given, of public and private developments that are likely to have significant effects on the environment.
- 4.8 In the context of 'population and human health, Article 3.1 states that 'the environmental impact assessment shall identify, describe, and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on a number of factors inclusive of population and human health.

4.9 In reference to “human health”, in the context of implementing the 2014 Directive, the Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018) refer to European Commission guidance which states that

“Human health is a very broad factor that would be highly project dependent. The notion of human health should be considered in the context of other factors in Article 3(1) of the EIA Directive and thus environmentally related health issues (such as health effects caused by the release of toxic substances to the environment, health risks arising from major hazards associated with the Project, effects caused by changes in disease vectors caused by the Project, changes in living conditions, effects on vulnerable groups, exposure to traffic noise or air pollutants) are obvious aspects to study. In addition, these would concern the commissioning, operation, and decommissioning of a Project in relation to workers on the Project and surrounding population’

4.10 Annex IV point 5(d) also refers to the need for the EIAR to include ‘a description of the likely significant effects of the project on the environment resulting from, inter alia:

(d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters)

4.11 On the basis of the guidelines, the scope of this Chapter of the EIAR is limited to a consideration of population, employment, tourism and the economy, amenity and human health in the context of the specialist environmental topics addressed by this EIAR.

Consultations / Consultees

4.12 No external consultations were undertaken in the preparation of this Chapter of the EIAR, although there was extensive consultation with other specialist contributors.

Contributors / Author

4.13 This Chapter of the EIAR was prepared by Aislinn O’Brien, a Principal Planner with SLR Consulting Ireland and Crystal Leiker, Associate Planner with SLR Consulting. Aislinn is a Chartered Town Planner, MIPI and MRTPI, and has over 12 years’ experience working in general practice inclusive of involvement in preparing major planning applications requiring EIA.

Limitations / Difficulties Encountered

4.14 No limitation or difficulties were encountered in the preparation of this Chapter of the EIAR.

REGULATORY BACKGROUND

Legislation

4.15 There is no specific legislation relevant to this Chapter of the EIAR. Legislation, if any, which is relevant to each pathway (noise, air, soil, water, etc), is addressed elsewhere in this EIAR.

Planning Policy

4.16 The National Planning Framework adopted in February 2018, refers to aggregates and minerals under section 5.4 ‘Planning and Investment to Support Rural Job Creation.’ It states that:

‘Extractive industries are important for the supply of aggregates and construction materials and minerals to a variety of sectors, for both domestic requirements and for export.’

It also states that:

'Aggregates and minerals extraction will continue to be enabled where this is compatible with the protection of the environment in terms of air and water quality, natural and cultural heritage, the quality of life of residents in the vicinity, and provides for appropriate site rehabilitation.'

4.17 Under the NPF, it is a National policy objective (23) to

'Facilitate the development of the rural economy through supporting a sustainable and economically efficient agricultural and food sector, together with forestry, fishing and aquaculture, energy and extractive industries, the bio-economy and diversification into alternative on-farm and off-farm activities, while at the same time noting the importance of maintaining and protecting the natural landscape and built heritage which are vital to rural tourism.'

4.18 The vision of the Cork County Development Plan 2014 ('the CDP') is to

'provide for the development of County Cork as an attractive, competitive and sustainable place to live, visit and do business, where the quality of its economy, natural and built environment, culture and the strength and viability of its communities are to the highest standards.'

4.19 The policies and objectives of the CDP are intended to contribute to the delivery of a number of key aims for the county as a whole. They are as follows:

- a) Enhanced quality of life for all
- b) Sustainable patterns of growth in urban and rural areas
- c) Sustainable and balanced economic investment
- d) An effective physical and community infrastructure
- e) A quality built environment
- f) A network of enhanced natural resources
- g) Responsible guardianship of the County

4.20 Section 6.12 of the CDP refers to mineral extraction and states that mineral extraction and the aggregate industry are important to the economy of the county in terms of employment generation and providing raw materials to the construction industry.

4.21 It also states that it is the aim of this plan to safeguard areas of significant resources from incompatible developments to ensure the continued viability of the extractive industry whilst ensuring that environmental, rural, scenic and residential amenities are protected.

4.22 The Plan refers to 'distinct clusters' of quarries at locations near Carrigtwohill, Midleton, Ovens, along the Bandon River from Dunmanway to Innishannon and to the east of Kanturk around Cecilstown.

4.23 It further states that 'The nature of the extractive industry is such that the industry is required to be developed where the resource occurs and may give rise to land use and environmental issues that must be considered in the planning process.

4.24 The economic importance of quarry development is also emphasised. The CDP states that 'the Mineral and Aggregate Industries are important sectors of the rural and wider economy' with the

raw materials extracted through quarrying, such as sand, gravel and limestone are used in the building of homes and roads.

4.25 CDP Objective EE 12-3 'Impacts of Mineral Extraction' is to

'Minimise environmental and other impacts of mineral extraction through rigorous application of licensing, development management and enforcement requirements for the extractive industry and ancillary developments.'

All extractive industry developments to have regard to the "Quarries and Ancillary Activities Guidelines for Planning Authorities (2004)" published by the DoEHLG or as may be amended from time to time.

With new quarries and mines and extensions to existing quarries and mines regard should be had to visual impacts, methods of extraction, noise levels, dust prevention, protection of rivers, lakes, European sites and other water sources, impacts on residential and other amenities, impacts on the road network (particularly with regard to making good any damage to roads), road safety, phasing, reinstatement and landscaping of worked sites.'

Planning History

4.26 Planning permission is sought to continue the use of the existing quarry permitted under planning permission Plan. Ref. 03/4570. This previous application was granted permission on the 12th August 2004 for a period of 15 years. In granting this permission, under the first schedule, the grant states that:

'having regard to the provisions of the current county development plan in relation to mineral extraction, the established use of the site and pattern of development in the area, it is considered that, subject to compliance with the conditions set out in the second schedule, the proposed development would not seriously injure the amenities of the area or of property in the vicinity, would not be prejudicial to public health, would be acceptable in terms of traffic safety and convenience and would be in accordance with the proper planning and sustainable development of the area.'

4.27 A number of conditions were applied as part of this grant of permission. Full details of these conditions and existing environmental controls are set out in Chapter 2.

4.28 On the 16th May 2016 (ABP Ref. SU04.SU0136) substitute consent was lodged with An Bord Pleanála and on the 9 October 2017 the Board decided to grant substitute consent and concluded that:

'the continued operation of this quarry, in accordance with the terms of the existing planning permissions pertaining to the site, would be in accordance with the proper planning and sustainable development of the area.'

4.29 An extension to the duration of the development granted under 03/4570 was granted in November 2018 (Plan Ref. 18/06465) for a further five years in accordance with the provisions of Section 42 of the Planning and Development Act, 2000 as amended.

Guidelines

- 4.30 As outlined previously, this Chapter of the EIAR has been prepared on the basis of the Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning and Local Government, 2018) and draft *Guidelines on the Information to be contained in Environmental Impact Assessment Reports* by the EPA (2017).

Technical Standards

- 4.31 There are no technical standards relevant to this Chapter of the EIAR. Technical standards, if any, that are relevant to each pathway (noise, air, soil, water, etc.) are addressed elsewhere in each specialist chapter of this EIAR.

RECEIVING ENVIRONMENT

The Proposed Development Site

- 4.32 The quarry is located approximately 1.7 km south of Carrigtohill in Co. Cork. Access to the quarry is via the N25 Cork to Waterford national road, the R624 regional road and the local road network. The planning application area extends over 24.1 hectares.
- 4.33 The quarry, to which this planning application refers, lies within Barryscourt and Rossmore townlands. The plan extent of the lands owned by Kilsaran are outlined in blue on a 1:10,000 scale map of the area, refer to Figure 1-2. The plan extent of the application site is also outlined in red on the same Figure 1-2.
- 4.34 The existing development comprises an operating quarry extracting limestone using industry standard blasting techniques. The fragmented rock is processed (crushed and screened) to produce aggregates for concrete, road-surfacing and general construction purposes.
- 4.35 The overall site includes processing (crushing and screening) plant and conveyor systems; and value-added manufacturing facilities comprising two concrete plants, a block making facility, and a mortar plant (Plan. Ref. S/99/3411)
- 4.36 There is existing ancillary infrastructure in place serving the quarry operations. This comprises offices, canteen, storage areas, storage sheds, workshop, weighbridge, ESB sub-station, effluent treatment system (Plan. Ref. S/99/341).

Surrounding Area

- 4.37 The land-use consists predominantly of agricultural land with fields under arable production and permanent pasture but also includes quarrying use and golf courses. The Lagan quarry adjoins the eastern boundary of the site.
- 4.38 The surrounding landscape is characterised by Cork Harbour and the numerous islands, tidal estuaries, loughs and channels that make up Cork Harbour.
- 4.39 The city of Cork is the largest urban area with industrial and commercial development extending eastwards from the city along the N25 to Carrigtohill with other smaller rural settlements and isolated farmsteads scattered along the roads and lanes throughout this area.
- 4.40 For the purposes of this assessment, the study area relates to those land uses, dwellings and buildings on the public road network surrounding the application site.

Baseline Study Methodology

4.41 The baseline study comprises a desk-top review of online and published resources, information provided by the applicant and information contained in the other chapters of this EIAR. A review of existing residential housing and local receptors in the vicinity of the application site was undertaken and Ordnance Survey maps and aerial photography were also examined.

Sources of Information

4.42 Baseline information was obtained from the following sources:

- Myplan.ie (<http://myplan.ie/index.html>);
- Pobal.ie (<https://maps.pobal.ie/WebApps/DeprivationIndices/index.html>)
- Historic Environment Viewer (<http://webgis.archaeology.ie/historicenvironment/>);
- Cork County Development Plan 2014;
- Specialist environmental topic chapters of this EIAR;
- Ordnance Survey maps;
- Aerial photography;
- Openstreetmap.org;
- Live Register Statistics;
- Census 2016.

Context

4.43 The development is located in east Cork, south of the village of Carrigtohill and the N25 which is the national route connecting Cork and Waterford. The proposed development is located adjacent to Great Island Channel which is a SAC. Cork Harbour SPA is also located in close proximity to the development site. Access to the site is provided by local road, R624, which facilitates access to the N25. The closest settlement is Carrigtohill, with the smaller settlement of Barrycourt located approximately 1km to the north of the proposed development. The surrounding area is predominantly rural in character and ribbon development comprising a series of one off rural houses and agricultural buildings are dotted along the adjacent road network. Agricultural land makes up the remaining land use and tillage farming to be active in the local area. At the existing entrance to the quarry there is a cluster of detached houses, and their location is indicated by Figure 4-1.

4.44 The proposed development site is located within the City Harbour and Estuary Landscape Character Type as defined by the Cork County Development Plan 2014. According to the Cork County Development Plan 2014, the application site is also located within a High Value Landscape with a scenic route reference number S52 located to the south across the estuary at N.E. Great Island.

4.45 The Cork County Development Plan also states that 'Landscape Character Types which have a very high or high landscape value and high or very high landscape sensitivity and are of county or national importance'. Within these High Value Landscapes the location, siting and design of large scale developments within these areas will need careful consideration and any such developments should generally be supported by an assessment including a visual impact assessment which would involve an evaluation of visibility and prominence of the proposed development in its immediate environs and in the wider landscape.

Environmental and Heritage Designations

- 4.46 The proposed development is located adjacent to Great Island Channel which is a Special Area of Conservation (SAC) and it is also adjacent to the Cork Harbour Special Protection Area (SPA).
- 4.47 There are no recorded monuments within the proposed development site (refer to EIAR Chapter 12). The closest Recorded Monument to the application area externally is RMP CO075-072---- a Fulacht fia in Barryscourt townland. This monument is situated 0.6km northeast of the application area and is considered to be too distant to be directly or indirectly impacted by the proposal.
- 4.48 There are no protected structures or buildings identified on the National Inventory of Architectural Heritage within or in the vicinity of the proposed development site. (refer to EIAR Chapter 12). The nearest protected structures are located at Barryscourt Castle RPS ID – 00497, 0.875 km to the north of the proposed development site and Fota House and associated structures RPS ID – 00504 located approximately 2.5km to the west of the development site.

Population

- 4.49 The review of population is based on a Small area ID 047077003 (shown in Figure 4.1) and the electoral division of Carrigtohill. The change in population from 2011 to 2016, as per the Census 2016, for the electoral division, County Cork, Munster and the State is also outlined in Table 4.1 below. This shows a marginal increase in population for the Small area ID 047077003 with a much greater increase in the wider ED of Carrigtohill. Much of the development within this ED has taken place north of the N25.

Table 4-1
Population Change 2011 - 2016¹

	2011	2016	% Change
Small area ID 047077003	234	242	3.4
Carrigtohill ED	6,665	7,334	0.10
Co. Cork	399,802,	417,211	4.3
Munster	1,244,000	1,280,000	2.7
Ireland	4,588,252	4,757,976	3.7

- 4.50 In 2016, the total population in County Cork was 417,211, of which Males numbered 206,953 and Females were 210,258 The census results indicate that the rate of population growth in the intercensal period in Carrigtohill has fallen below trends at the county, provincial and national level. However, this was preceded by substantial population growth between the 2006-2011 census periods of 36.72%.

¹ <http://census.cso.ie/sapmap/>

Employment

- 4.51 The closest Social Welfare Office to the application site within Cork is in Midleton, which covers the areas of Midleton, Carrigtwohill, Castlemartyr, Ballycotton and Cloyne. According to the August 2018 Live Register statistics, there were 1,493 persons in the Midleton area on the live register. This figure has dropped from 2,188 in August 2016 and 2,758 in August 2015. During the recession, the figure peaked at 3,515 in February 2011.
- 4.52 At a national level, on a seasonally adjusted basis, the Live Register total recorded a monthly decrease of 6,800 (-3.1%) in August 2018, reducing the seasonally adjusted total to 209,900. The number of persons on the Live Register in August 2018 is also the lowest number recorded in the seasonally adjusted series since June 2008. In June 2008, figures for the live register in Midleton recorded 1,492 persons.

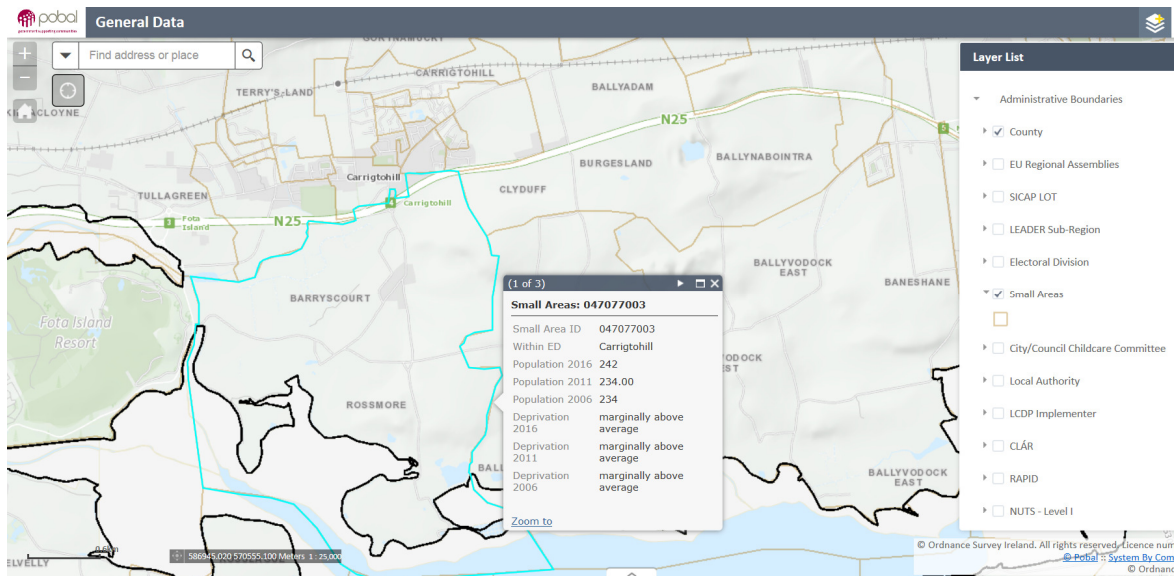


Figure 4.1 Extent of small area ID 047077003 (Source: Pobail)

- 4.53 The application area is located in the electoral division of Carrigtwohill. According to the results of the 2016 Census, of the 5,227² people aged 15 years or older in Carrigtwohill ED, some 3,294 were at work, 34 were looking for their first job and 277 were unemployed. Others were students, working in the home, retired, unable to work or other.
- 4.54 The population of Carrigtwohill and County Cork categorised by occupation³ at the time of Census 2016 is shown in Table 4.2 below. This shows that the population of Carrigtwohill is more likely to be engaged as managers, directors, and senior officials; and in associate professional and technical occupations than the population of the wider county. The population of Carrigtwohill is also less likely to be engaged in skilled trades occupations but more likely to be engaged as process, plant and machine operatives than the County as a whole.

²http://census.cso.ie/sapmap2016/Results.aspx?Geog_Type=ED3409&Geog_Code=2AE196291ADE13A3E05500000000001#SAPMAP_T8_801

³http://census.cso.ie/sapmap2016/Results.aspx?Geog_Type=CTY31&Geog_Code=2AE19629149613A3E055000000000001#SAPMAP_T13_1301

Table 4-2
Population of Carrigtohill ED and County Cork by Occupation

Occupation	CARRIGTOHILL		COUNTY CORK	
	No.	%	No.	%
Managers, Directors and Senior Officials	287	8.0	14,784	7.5
Professional Occupations	629	17.6	35,269	17.9
Associate Professional and Technical Occupations	421	11.7	21,858	11.1
Administrative and Secretarial Occupations	343	9.6	18,440	9.3
Skilled Trades Occupations	453	12.6	33,961	17.2
Caring, Leisure and Other Service Occupations	241	6.7	14,365	7.3
Sales and Customer Service Occupations	264	7.3	13,076	6.6
Process, Plant and Machine Operatives	398	11.1	16,303	8.3
Elementary Occupations	311	8.7	14,782	7.5
Not stated	224	6.2	13,512	6.8
Total	3,571	100%	196,350	100%

4.55 A breakdown of the industry in which those at work are employed⁴ at the time of Census 2016 is provided in Table 4.3 below. This shows that the population of Carrigtohill is more likely to be engaged in manufacturing and in transport and communications industries than the wider population in Co. Cork. The population of this ED is also marginally less likely to be employed in the building and construction industries as well as professional services.

Table 4-3
Persons at Work in Carrigtohill ED and County Cork by Industry

Industry	CARRIGTOHILL		COUNTY CORK	
	No.	%	No.	%
Agriculture, forestry and fishing	72	2.1	11,946	6.3
Building and construction	160	4.8	10,035	5.5
Manufacturing industries	714	21.6	29,307	16.2
Commerce and trade	725	22.0	39,716	22.0
Transport and communications	300	9.1	13,343	7.4
Public administration	149	4.5	8,409	4.6
Professional services	708	21.4	41,819	23.2
Other	466	14.1	25,315	14.0
Total	3294	100.00%	179,890	100.00%

4.56 The Pobal HP Deprivation index is Ireland's most widely used social gradient metric, which scores areas in terms of affluence or disadvantage. The index uses information from the census, such as employment, age profile and educational attainment, to calculate this score. The index is used by various state agencies and government departments to target resources towards disadvantaged areas. The 2016 Pobal HP Deprivation Index shows Carrigtohill with a score of 6.20 which in terms of affluence is marginally above the national average. The nearest EDs where deprivation is recorded as below average are Midleton Urban and Cobh Urban at -4.65 and -3.64 respectively.

Local Receptors

4.57 The application site is surrounded by the Cork Harbour estuary to the south and farmland to north. According to the department of Housing, Planning and Local Government website www.myplan.ie, there are a number of residential address points in the immediate vicinity of the entrance to the existing quarry. The dwelling closest to the quarry extraction area is located approximately 250m to the north of the application site.

4.58 The closest retail outlets, schools and community facilities are located in the nearby town of Carrigtohill. Fota Island Resort and Wildlife park is located approximately 1km to the west.

4.59 Figure 4.1 identifies local receptors (comprising dwellings and an existing waste recovery facility) within the locality and also shows 500m and 1000m offsets from the application boundary for the proposed development.

⁴[http://census.cso.ie/sapmap2016/Results.aspx?Geog_Type=CTY31&Geog_Code=2AE19629149613A3E0550000000000001#SAPMAP_T13_1301](http://census.cso.ie/sapmap2016/Results.aspx?Geog_Type=CTY31&Geog_Code=2AE19629149613A3E055000000000001#SAPMAP_T13_1301)

IMPACT ASSESSMENT

Evaluation Methodology

- 4.60 The evaluation of effects on employment, the economy, human health and amenity comprises a qualitative assessment based on the quantitative and qualitative analysis of potential effects on the environment undertaken in other chapters of this EIAR. The assessment takes into account a review of relevant literature and professional judgement in relation to impact on population and human health.

Economy

Construction Stage Impacts

- 4.61 The planning application is for continuance of use of the existing quarry to the permitted extraction level of -40mOD within the permitted extraction area. No additional topsoil stripping will be required. There will be a small volume of overburden soil to be moved from the north-western area of the quarry to the 3.8 hectare area to the north of the site. As such no construction stage impacts on economy have been identified.

Operational Stage Impacts

- 4.62 Rossmore Quarry is a significant source of raw materials for the construction sector. The continued development of proven limestone aggregate reserves at the site is required to ensure that Kilsaran meets the demands of the market(s) they have built up in the region, including supply, to the local construction industry, infrastructure projects and Local Authorities.
- 4.63 The proposed development is of strategic importance in relation to the construction of new housing in particular and this is underlined by national objectives in relation to house building. The recently adopted National Planning Framework targets the delivery of 550,000 additional households in Ireland to 2040 (National Policy Objective 32).
- 4.64 This is a medium-term, temporary, direct and positive effect on the local and regional economy.

Employment

Construction Stage Impacts

- 4.65 The planning application is for continuance of use of the existing quarry to the permitted extraction level of -40mOD within the permitted extraction area. No additional topsoil stripping will be required. There will be a small volume of overburden soil to be moved from the north-western area of the quarry to the 3.8 hectare area to the north of the site. As such no construction stage impacts on employment have been identified.

Operational Stage Impacts

- 4.66 The proposed continuance of the existing quarry development will secure the continued employment of 31 people (Quarry Manager, two Shippers, three technicians, one sales, one fitter, five engaged in contract crushing and up to 18 company and owner truck drivers associated with the combined haulage for quarry products).
- 4.67 The readymix concrete/mortar batching and block making operation will continue to provide employment for the 9 people (two block production and seven company drivers for concrete and concrete blocks))

4.68 Therefore, the proposal will secure the continued employment of 40 people for the duration of the extraction development i.e., 20 years.

4.69 This is a medium-term, temporary, direct and positive effect on employment.

Post – Operational Stage Impacts

4.70 Following the cessation of operations, the application site will be restored. The cessation of operations after restoration would result in the loss of jobs related to the extraction and restoration operations. Some short-term employment would be provided in relation to the aftercare of the restored site over a period of two to three years.

4.71 In the long term, the closure of the quarry will result in a neutral effect on employment.

Tourism

Construction Stage Impacts

4.72 The planning application is for continuance of use of the existing quarry to the permitted extraction level of -40mOD within the permitted extraction area. No additional topsoil stripping will be required. There will be a small volume of overburden soil to be moved from the north-western area of the quarry to the 3.8 hectare area to the north of the site. As such no construction stage impacts on tourism have been identified.

Operational Stage Impacts

4.73 The proposed development site is situated within 1km of Fota Island Resort which averages about 400,000 visitors a year. Together with Fota Island Wildlife Park and the Castlemartyr Resort this facility plays a considerable role in facilitating the visitor economy in the east Cork area. The potential for impacts on these tourism assets in relation to landscape and visual impact and traffic receptors has been considered in chapter 13 and 14 respectively. This shows that the potential for adverse effects on existing tourism assets is negligible.

Human Health

4.74 The key pathways in relation to human health in this instance are Water (EIAR Chapter 7), Air Quality (EIAR Chapter 8) and Noise (EIAR Chapter 10).

Construction Stage Impacts

4.75 The planning application is for continuance of use of the existing quarry to the permitted extraction level of -40mOD within the permitted extraction area. No additional topsoil stripping will be required. There will be a small volume of overburden soil to be moved from the north-western area of the quarry to the 3.8 hectare area to the north of the site. As such no construction stage impacts on human health have been identified.

Operational Stage Impacts

4.76 The operational stage of the development would relate to movement of the small volume of overburden soil and the extraction of limestone and the restoration of the application area.

4.77 During the operational stage, the potential impacts on air, noise, and water may include the following:

- the generation of dust, noise and groundborne vibration, through the overburden soil movement, and extraction & processing of limestone;

- the generation of noise by the operation of plant and machinery;
- the leakage or spillage of fuels or other materials to soil and, ultimately to groundwater or surface water.

4.78 As outlined in Chapters 7, 8 and 10 of this EIAR, existing best practice mitigation and management measures are in place at the quarry and will continue to be implemented. There is also an established environmental monitoring programme in place at the quarry. Based on these mitigation and management measures, and the results of the environmental monitoring programme there is no predicted residual impact in respect of land, soils and geology, no residual impacts are predicted in relation to water, dust impacts will be insignificant, residual noise impacts will be negligible, and the effect of the development on traffic and transport is predicted not to be significant. On this basis, it is considered that there would be no likely significant effect on human health during the operational stage.

Post – Operational Stage Impacts

4.79 Following restoration, the potential effects on air and noise would cease owing to the cessation of extraction operations, the cessation of machinery operation and the growth of vegetation. The implementation of mitigation measures during the operational stage and the removal of all plant and machinery during restoration will ensure that there would no residual effects on soil and water during the post-operational stage.

4.80 Based on the existing best practice mitigation and management measures implemented during the operational stage, the potential for residual effects related to soil and water during the post operational stage are not predicted, no residual impacts are predicted in relation to water, dust impacts will be insignificant, residual noise impacts will be negligible, and the effect of the development on traffic and transport is predicted not to be significant. On this basis, it is considered that there would be no likely significant effect on human health during the post-operational stage.

Amenity

4.81 The key matters in relation to amenity in this instance are Air Quality (Chapter 8), Noise (Chapter 10), Landscape (Chapter 13) and Traffic (Chapter 14).

Construction Stage Impacts

4.82 The planning application is for continuance of use of the existing quarry to the permitted extraction level of -40mOD within the permitted extraction area. No additional topsoil stripping will be required. There will be a small volume of overburden soil to be moved from the north-western area of the quarry to the 3.8 hectare area to the north of the site. As such no construction stage impacts on amenity have been identified.

Operational Stage Impacts

4.83 During the operational stage, the potential impacts on air, noise, and traffic include the following:

- the generation of dust noise and groundborne vibration, through the overburden soil movement, and the extraction & processing of limestone;
- the generation of noise by the operation of machinery;
- the generation of traffic by the export of limestone and value-added concrete products from the site.

- 4.84 In terms of visual impact, from all of the viewpoints and as outlined in Chapter 13, the viewer would continue to see elements associated with the existing permitted quarry facility. The extraction activities including moving plant and machinery would continue to be screened for the most part in views from the south by existing vegetation and perimeter earthworks at the boundaries of the application site. No proposed new structures or activities will be introduced. As a result, there would be scarcely any change to existing views at each viewpoint location however the visual effects currently experienced by viewers would be of longer duration as outlined in the project description.
- 4.85 In terms of the effect on landscape character, the development constitutes the continuation of existing permitted extraction activities within the existing quarry extraction area together with site restoration works. The waterbody formed as part of the final restoration of the quarry void to natural habitat would be substantially screened from the surrounding landscape by existing perimeter earthworks and vegetation along the site boundaries. There would be no change in terms of loss of agricultural land or loss of landscape elements such as trees, hedgerows and woodland.
- 4.86 As outlined in Chapters 8, 10 and 14 of this EIAR, existing best practice mitigation and management measures are in place at the quarry and will continue to be implemented. Based on these measures, dust impacts will be insignificant, residual noise impacts will be negligible, and the effect of the development on traffic and transport is predicted not to be significant. On this basis, it is considered that there would be no likely significant effect on amenity during the operational stage.

Post – Operational Stage Impacts

- 4.87 The proposed development constitutes the continuation of existing permitted extraction activities resulting in the introduction of a permanent lake within the quarry void together as part of the final restoration works. This waterbody would be substantially screened from the surrounding landscape by existing perimeter earthworks and vegetation along the site boundaries. There would be no change in terms of loss of agricultural land or loss of landscape elements such as trees, hedgerows and woodland.
- 4.88 Following restoration, the potential effects on air, noise, and traffic related to the proposed development would cease owing to the cessation of extraction operations and the completion of restoration operations and the growth of vegetation. On this basis, it is considered that there would be no likely significant effect on amenity during the post-operational stage.

Unplanned Events

- 4.89 According to the EPA guidelines, unplanned events, such as accidents, can include *“spill from traffic accidents, floods or land-slides affecting the site, fire, collapse or equipment failure on the site”*. The 2014 EIA directive refers to *“major accidents, and/or natural disasters (such as flooding, sea level rise, or earthquakes)”*.
- 4.90 In this instance, the vulnerability of the proposed development to accidents, unplanned events or natural disasters is relatively limited owing to the established nature of the techniques and procedures to be followed, the material to be handled on site and the rural location of the proposed works remote from sensitive receptors.
- 4.91 Unplanned events in relation to the proposed development could potentially relate to:
- instability following the removal and placement of materials;
 - spill from traffic accidents;

- flooding.

- 4.92 Instability following the placement of materials is unlikely to have any significant impacts on employment, human health or amenity, particularly beyond the site. In addition, works will be undertaken to ensure that the ground is graded appropriately, and that no large-scale instability occurs in the short term or long term.
- 4.93 Chapter 14 of this EIAR indicates that the local road network would not be significantly impacted by traffic generated by the development and the risk of an accident resulting in a spillage is considered to be no greater in relation to this development than for any other form of development that relies on the transportation of goods and materials by HGVs. The potential for significant impacts on employment, human health in the wider population or amenity as a result of a road spillage is likely to be low and any such effects would likely be temporary.

Cumulative / Synergistic Impacts

- 4.94 The environmental consideration that has the greatest potential for significant cumulative impact on population and human health, and, in particular, on amenity, is traffic. This is assessed and discussed in the traffic impact assessment presented in Chapter 14 of this EIAR. That assessment concludes the traffic generation associated with the development is unlikely to give rise to significant impact upon the carrying capacity of the road network.

Transboundary Impacts

- 4.95 It is not anticipated that the impacts of the proposed development would have any significant transboundary effects on population and human health.

Interaction with Other Impacts

- 4.96 It is not anticipated that the effects of the proposed development on population and human health would interact significantly with other impacts. The impact of residual effects relating air, noise, water, soil, landscape and traffic on employment, human health and amenity are addressed above.

'Do-nothing Scenario'

- 4.97 In a 'do-nothing scenario', the limestone resource at Rossmore would not be exploited and the permitted extraction operations would cease. This would result in an adverse effect on employment and the local economy because the workforce that is directly and indirectly employed by the existing permitted extraction works would not continue to be employed in the extraction of material from the proposed extraction area.

MITIGATION MEASURES

Construction Stage

- 4.98 The planning application is for continuance of use of the existing quarry to the permitted extraction level of -40mOD within the permitted extraction area. No additional topsoil stripping will be required. There will be a small volume of overburden soil to be moved from the north-western area of the quarry to the 3.8 hectare area to the north of the site. As such no construction stage impacts have been identified that would require mitigation.

Operational Stage

4.99 Mitigation measures to be adopted in relation to population and human health during the operational stage will relate to minimising the effect of the development on surrounding local receptors in relation to dust, noise, water, soil, traffic and landscape. The existing mitigation and management measures implemented at the quarry relate primarily to avoidance, prevention and reduction and are discussed in Chapters 7, 8, 10, 13 and 14 of the EIAR.

Post – Operational Stage

4.100 Consistent with the nature of the proposed final restoration works following permanent cessation of quarrying activities a number of mitigation measures will be adopted in relation to population and human health during the post-operational stage. Such measures will be similar to the existing mitigation and management measures implemented at the quarry and relate to minimising the effect of the development on surrounding local receptors in relation to air, noise, water, traffic and landscape. These measures relate primarily to avoidance, prevention and reduction and are discussed in Chapters 7, 8, 10, 13 and 14 of the EIAR.

RESIDUAL IMPACT ASSESSMENT

Construction Stage

4.101 The planning application is for continuance of use of the existing quarry to the permitted extraction level of -40mOD within the permitted extraction area. No additional topsoil stripping will be required. There will be a small volume of overburden soil to be moved from the north-western area of the quarry to the 3.8 hectare area to the north of the site. As such no construction stage impacts or residual impacts will arise.

Operational Stage

4.102 As shown in Chapters 7, 8, 10, 12 and 14 of this EIAR, the mitigation and management measures would successfully eliminate or reduce the effects of the proposed development during the operational phase to acceptable levels. No specific mitigation measures are required in relation to human health and population.

Post – Operational Stage

4.103 As shown in Chapters 7, 9, 10, 12 and 14 of this EIAR, the mitigation and management measures would successfully eliminate or reduce the effects of the proposed development during the post-operational phase to acceptable levels. No specific mitigation measures are required in relation to human health and population.

MONITORING

4.104 As outlined in Chapters 7, 8 and 10 of this EIAR, monitoring in relation to the proposed development will continue to be undertaken in respect of noise and vibration (blasting), air quality (dust deposition), and water. On this basis, no specific monitoring is required in relation to population and human health.

REFERENCES

Central Statistics Office Census 2011

Central Statistics Office Census 2016

Environmental Protection Agency (2017). *Guidelines on the Information to be contained in Environmental Impact Assessment Reports.* EPA.

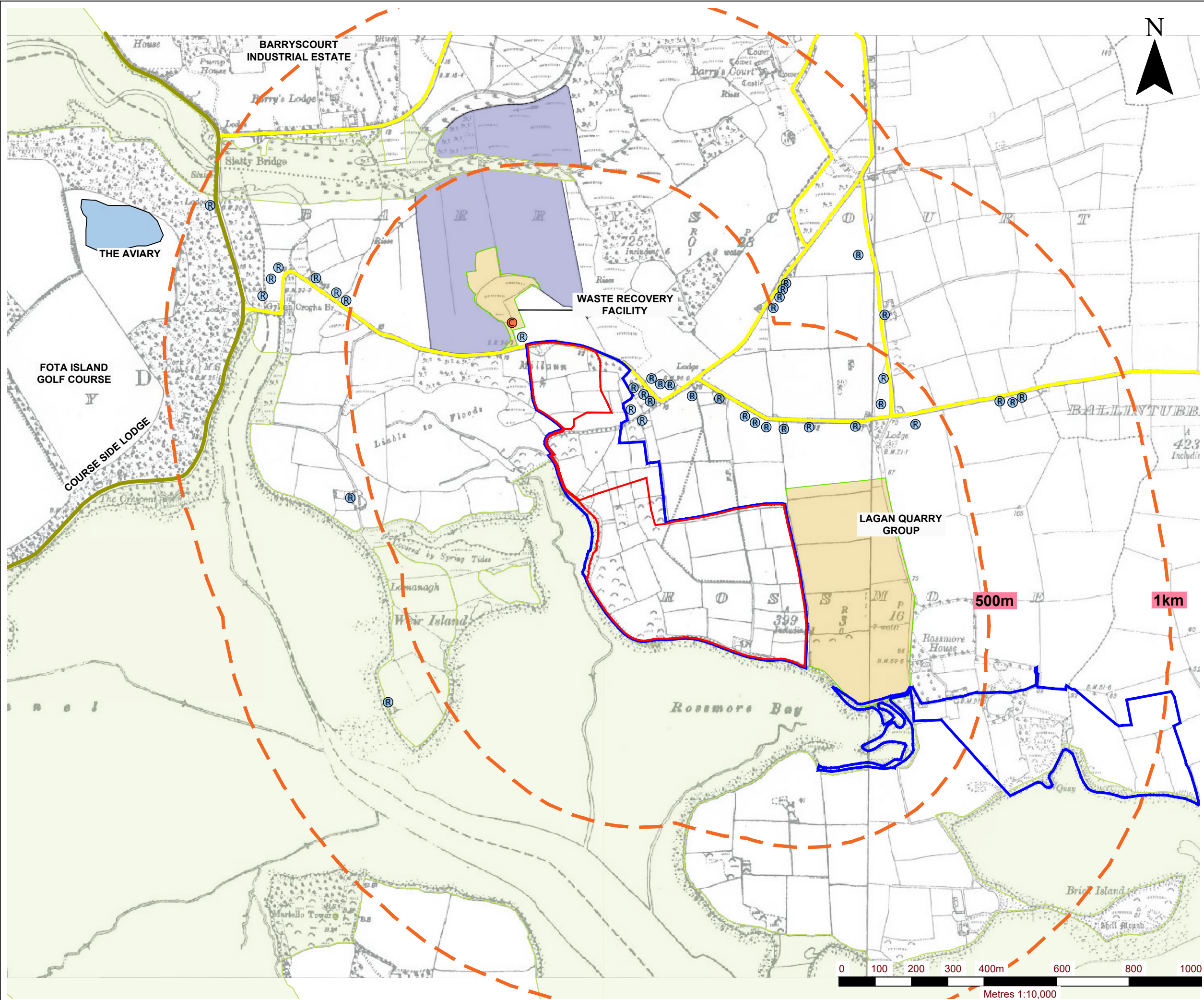
Department of Housing, Planning and Local Government (August 2018). *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment*

Department of Housing, Planning and Local Government (February 2018). *Project Ireland 2040, National Planning Framework.*

South West Regional Authority (2010). Regional Planning Guidelines 2010-2022

Cork County Council (2014). Cork County Development Plan 2014

FIGURES



NOTES

- EXTRACT FROM 6 INCH O.S. MAP NO. CK075 & CK076.
- ORDNANCE SURVEY IRELAND LICENCE NO. **CYAL50167032** (C) ORDNANCE SURVEY & GOVERNMENT OF IRELAND.

LEGEND

	APPLICANTS LAND INTEREST
	PLANNING APPLICATION AREA (c.24.7 ha)
	OFFSET FROM APPLICATION AREA
	SOLAR PHOTOVOLTAIC PANEL ARRAY (P.Ref. 17/4596)
	GREAT ISLAND CHANNEL (PROPOSED NATURAL HERITAGE AREA - 001058)
	R624 REGIONAL ROAD
	LOCAL ROAD
	RESIDENTIAL PROPERTY LOCATION
	COMMERCIAL PROPERTY LOCATION

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KILSARAN CONCRETE
 ENVIRONMENTAL IMPACT ASSESSMENT REPORT
 ROSSMORE QUARRY,
 CARRIGTOHILL, CO. CORK
 SURROUNDING LAND USE

FIGURE 4-1

Scale 1:10,000 @ A3	Date JUNE 2021
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00036.00070.00001.FIG_4-1_Surrounding Land Use.dwg

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INTRODUCTION

- 5.1 This Biodiversity chapter forms part of the Environmental Impact Assessment Report (EIAR) prepared in support of the proposed continued use and operation of the existing permitted quarry at Rossmore, Co. Cork.

Background

- 5.2 The planning application covers an area of approximately 24.7 hectares, with details of the existing quarry layout shown on EIAR Figure 2-1. Development of the lower bench has commenced and the current lowest level within the quarry extraction area is c. -25 mOD (existing permitted quarry floor level is -40 mOD) under planning permission ref. no. 03/4570).
- 5.3 As described in EIAR Chapter 2 the quarry was the subject of two substitute consent applications, the first application (ABP Ref. PL04.SU0117) was lodged on the 29th August 2014. With the introduction of updated regulations in 2015, Kilsaran wrote to An Bord Pleanála on the 21st August 2016 seeking leave to apply for substitute consent pursuant to Section 261A (20) of the Planning & Development Acts 2000 to 2015 in relation to all of the development the subject of the planning permissions for the site consisting of development that has been carried out as well as the remainder of the development permitted, but not yet carried out (ABP Ref. PL04.LT.0001). Leave to apply for substitute consent was granted by the Board and subsequently a further application for substitute consent was lodged on the 16th May 2016 (ABP Ref. SU04.SU0136). The original substitute consent application was deemed to be withdrawn. On the 9 October 2017 the Board decided to grant substitute consent. In their Order the Board concluded that:

Having regard to the satisfactory conclusion of the Appropriate Assessment, as set out above, it is considered that, subject to compliance with the conditions set out below, the continued operation of this quarry, in accordance with the terms of the existing planning permissions pertaining to the site, would be in accordance with the proper planning and sustainable development of the area.

- 5.4 The existing quarry operations comprise extraction of limestone using blasting techniques; processing (crushing and screening) of the fragmented rock to produce aggregates for concrete production (readymix and blocks), road construction and site development works.
- 5.5 Manufacturing facilities at the site include a concrete manufacturing facility (readymix and blocks), and a mortar plant. Ancillary facilities at the quarry include the office, weighbridge, canteen, toilets, banded fuel storage areas and a garage / workshop. These facilities operate under separate planning permission Plan. Ref. 99/3411.
- 5.6 An extension to the duration of the development granted under 03/4570 was granted in November 2018 (Plan Ref. 18/06465) for a further five years in accordance with the provisions of Section 42 of the Planning and Development Act, 2000 as amended.

Brief Project Description

- 5.7 The proposed development being applied for under this current planning application is shown on Figure 2-2 and will consist of continuance of use of the existing quarry development within an overall application area of c.24.7 hectares; extraction to the level of 40m below Ordnance Datum, previously permitted under Plan. Ref. 03/4570; final restoration of the quarry void area and an area of 3.8

hectares to the north adjacent to the public road. Permission is also being sought for an extension to the existing permitted operating hours for the readymixed concrete plant, and for out of hours operation of the plant up to a maximum of 40 occasions per year, to supply critical and strategic building / infrastructure / maintenance projects whose construction requires supply of concrete outside normal plant operating hours.

- 5.8 Upon the cessation of extraction operations, it is proposed to return the worked lands to natural habitat after-use, refer to **Figure 2-4**.
- 5.9 The only material requirements in respect of the planned restoration scheme are those topsoils and subsoils already present on site, having been stripped and stockpiled within the existing operational site area. The proposed development / project is described in detail in Chapter 2 of the Environmental Impact Assessment Report (EIAR).

General Description of the Site

- 5.10 Rossmore Quarry (“the Site”) is located in the townlands of Rossmore and Barryscourt approximately 1.7 km south of the village of Carrigtohill and 13.5 km east of Cork City centre.
- 5.11 The surrounding landscape is characterised by Cork Harbour and the numerous islands, tidal estuaries, loughs and channels that make up Cork Harbour. The land use consists primarily of agricultural land but also includes a number of other quarries as well as golf courses. The active Lagan quarry is immediately east of the Site. A private road enters the Site from the north to accommodate quarry traffic. A third-class road, with a number of residential dwellings located along it, runs in an east-west direction north of the Site. Rossmore Bay is immediately adjacent to the southern and western boundary of the quarry.

Purpose of the Chapter

- 5.12 The purpose of this biodiversity chapter is to inform the application for continued use and operation of an existing permitted quarry in the townlands of Rossmore & Barryscourt, Co. Cork. This chapter forms part of the EIAR that will be submitted with the application for permission to assist the competent authority, in this case Cork County Council, to carry out an Environmental Impact Assessment (EIA) of the proposal to continue quarrying at the site.

Evidence of Technical Competence and Experience

- 5.13 The ecological survey was carried out by SLR Ecologists Owen Twomey and Elaine Dromey MCIEEM in June 2018, and an updated desk survey and site visit was carried out by SLR Ecologist Michael Bailey in May 2021. Owen Twomey prepared the biodiversity chapter with input from Elaine Dromey, and it was updated by Michael Bailey. Elaine Dromey carried out the technical review of the biodiversity chapter.
- 5.14 Owen holds a BSc (Hon) Environmental Science with a major in Zoology and a Postgraduate Diploma (PgD) in Ecological Assessment from University College Cork. Owen has prepared Ecological Impact Assessment and Appropriate Assessment reports for a number of projects.
- 5.15 Elaine Dromey holds a BSc in Earth Science from University College Cork and an MSc in Vegetation Survey and Assessment from the University of Reading, UK. She is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

- 5.16 Michael Bailey holds a BSc (Hons) in Biology and Ecology from the University of Ulster, and an MSc in Quantitative Conservation Biology from the University of the Witwatersrand, Johannesburg, South Africa. Michael is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). He has prepared Appropriate Assessments and Ecological Impact Assessments for a wide range of projects in Ireland and the UK.

METHODOLOGY

- 5.17 The methods used to carry out the survey of the Site, to evaluate the ecological value and to prepare the biodiversity chapter is outlined in this section. The assessment methodology for this proposal was developed using the standard professional impact assessment guidance published in 2016 by Chartered Institute of Ecology and Environmental Management (CIEEM).

Scope of the Chapter

- 5.18 The scope of this Biodiversity Chapter is to identify potential impacts likely to occur as a result of the proposed continued use and operation of the permitted quarry at Rossmore, Co. Cork and to determine if the effects on biodiversity are significant in the absence of mitigation. The scope of the report includes the provision of mitigation, compensation and enhancement measures as required.

Zone of Influence

- 5.19 The ‘zone of influence’ for a project is the area over which ecological features may be subject to significant effects because of the proposed project and associated activities. This is likely to extend beyond the project site, for example where there are ecological or hydrological links beyond the site boundaries. The zone of influence will vary for different ecological features depending on their sensitivity to an environmental change (CIEEM, 2018).
- 5.20 The Zone of Influence can be identified through review of the nature of the proposed development / works, the presence / absence of surface water receptors, the presence of ecological connectivity to the wider landscape and distance from known ecologically sensitive sites.

Desk Study

- 5.21 A desk study was carried out to collate the available existing ecological information on the quarry at Rossmore, Co. Cork. The Site and the surrounding area were viewed using remote sensing of publicly accessible satellite imagery^{1&2} (accessed on 25 June 2018 and 12 May 2021).
- 5.22 The websites of the National Parks and Wildlife Service (NPWS)³ and the National Biodiversity Data Centre (NBDC)⁴ were accessed for information (accessed 29 June 2018 and 12 May 2021) on sites designated for nature conservation and on protected habitats and species known from the 2 km grid squares W87A and W87F within which the site is located (accessed 29 June 2018 and 12 May 2021). Only records for the past 15 years are considered within this report as older records are unlikely to still be relevant given their age and the changes in land management that is likely to have occurred in the intervening period.
- 5.23 Cork County Council planning portal⁵ was accessed for information on other planning applications within the Site and immediate area (last accessed 29 June 2018). Cork County Council website was

¹ <https://www.google.ie/maps>

² <http://www.bing.com/maps/>

³ www.npws.ie

⁴ <http://maps.biodiversityireland.ie/#/Map>

⁵ <https://www.corkcoco.ie/planning/planning-enquiry-online-submissions>

accessed for information on relevant planning policy to inform this report (accessed 29 June 2018 and 6 May 2021).

- 5.24 Birds of Conservation Concern in Ireland (BoCCI), published by BirdWatch Ireland and the RSPB NI, is a list of priority bird species for conservation action on the island of Ireland. The BoCCI lists birds which breed and/or winter in Ireland and classifies them into three separate lists; Red, Amber and Green; based on the conservation status of the bird and hence their conservation priority. Birds on the Red List are those of highest conservation concern, Amber List are of medium conservation concern and Green List are not considered threatened. The BirdWatch Ireland website⁶ was accessed on 29 June 2018 and 6 May 2021 for information on birds of conservation concern.
- 5.25 All bird species are protected under the Wildlife Acts 1976 – 2012 but for the purposes of this report only records of species within the last 15 years that are *red* or *amber* listed on BoCCI or listed on Annex 1 of the Birds Directive are included in the records generated by the NBDC and NPWS web searches (See Appendix A).
- 5.26 The conservation status of mammals within Ireland and Europe is using one or more of the following documents: Wildlife Acts (1976 - 2012), the Red List of Terrestrial Mammals (Marnell *et al.*, 2009) and the EU Habitats Directive 92/43/EEC.
- 5.27 The existing (permitted) quarry at Rossmore has previously been subject to assessment for planning permission and the documents associated with this were reviewed during the desk study for this report. An Appropriate Assessment (AA) Natura Impact Statement (NIS) was prepared as a standalone document for the purposes of this planning application, and this was used to inform this report as appropriate. Other chapters prepared for this EIAR, such as Chapter 2 (Project Description), Chapter 8 – (Air Quality) Chapter 10 (Noise), Chapter 13 (Landscape) and Chapter 7 (Water), were also reviewed to inform this report.

Field Survey

- 5.28 The Site was visited on 25 June 2018 by SLR Ecologists Owen Twomey and Elaine Dromey MCIEEM who carried out an ecological walkover survey of the Site. The Site visit was carried out in dry, warm, clear weather conditions with little to no wind (Force 1⁷). The objective of the site visit was to undertake a walkover survey to better understand the biodiversity of the Site and to determine its ecological value.
- 5.29 A second site survey was conducted on 10 May 2021 by SLR Ecologist Michael Bailey with the objective of noting any significant changes to the biodiversity and the ecological value of the habitats and species within the quarry since the 2018 survey. The survey was carried out in dry but overcast weather conditions with light south-westerly winds (Force 2-3), and a temperature of 11°C.
- 5.30 Habitats were identified and classified to level 3 of the standard Heritage Council classification scheme (Fossitt, 2000) during the walkover survey and used to compile habitat mapping of the Site. The dominant plant species present in each habitat type were recorded. Species nomenclature follows Parnell & Curtis (2012) for scientific and English names of vascular plants.
- 5.31 Mammal tracks, signs or direct observations were recorded during the walkover survey of the Site. Incidental sightings of birds, mammals or amphibians were also noted. The habitats present were also evaluated in terms of suitability to support foraging bats. The suitability of the habitats for

⁶ <https://www.birdwatchireland.ie/>

⁷ Beaufort Scale <https://www.rmets.org/resource/beaufort-scale>

roosting and commuting and foraging bats was evaluated using the Bat Conservation Trust guidelines.⁸

Impact Assessment

5.32 The ecological evaluation and assessment within this chapter has been undertaken with reference to relevant parts of the 2018 Guidelines for Ecological Impact Assessment in the UK and Ireland developed by the Chartered Institute of Ecology and Environmental Management (CIEEM, September 2018). Although this is recognised as current good practice for ecological assessment, the guidance itself recognises that it is not a prescription about exactly how to undertake an ecological impact assessment (EclA); rather, they “*provide guidance to practitioners for refining their own methodologies*”. For the full guidance, refer to <https://www.cieem.net/data/files/EClA%20Guidelines.pdf>. The approach to impact assessment also has regard to advice set out in the EPA draft guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) published in August 2017.

Important Ecological Features

5.33 Ecological features can be important for a variety of reasons and the rationale used to identify them is explained in the text. Importance may relate, for example, to the quality or extent of the site or habitats therein; habitat and / or species rarity; the extent to which such habitats and / or species are threatened throughout their range, or to their rate of decline.

Evaluation: Determining Importance

5.34 The importance of an ecological feature should be considered within a defined geographical context. The following frame of reference has been used in this case, relying on known / published accounts of distribution and rarity where available, and professional experience:

- International (European).
- National (Ireland).
- County (Cork)
- Townland (Rossmore / Barryscourt).
- Local (intermediate between the Site and Townland).
- Site (Area shown within the redline boundary).

5.35 The approach to impact assessment as set out in CIEEM guidelines only requires that ecological features (habitats, species, ecosystems and their functions/processes), that are considered to be important and potentially affected by the proposed development are carried forward to detailed assessment. It is not necessary to carry out detailed assessment of receptors that are sufficiently widespread, unthreatened and resilient to impacts from the proposed development and will remain viable and sustainable.

⁸<https://www.bats.org.uk/resources/guidance-for-professionals/bat-surveys-for-professional-ecologists-good-practice-guidelines-3rd-edition>

Impact Assessment

- 5.36 Where appropriate, the impact assessment process involves:
- identifying and characterising impacts;
 - incorporating measures to avoid and mitigate (reduce) these impacts;
 - assessing the significance of any residual effects after mitigation;
 - identifying appropriate compensation measures to offset significant residual effects (if required); and
 - identifying opportunities for ecological enhancement.
- 5.37 When describing impacts, reference has been made to the following characteristics, as appropriate:
- Positive or negative;
 - Extent;
 - Magnitude;
 - Duration;
 - Timing;
 - Frequency; and
 - Reversibility.
- 5.38 The impact assessment process considers both direct and indirect impacts: direct ecological impacts are changes that are directly attributable to a defined action, e.g. the physical loss of habitat occupied by a species during the construction process. Indirect ecological impacts are attributable to an action, but which affect ecological resources through effects on an intermediary ecosystem, process or feature, e.g. the creation of roads which cause hydrological changes, which, in the absence of mitigation, could lead to the drying out of wet grassland.
- 5.39 Consideration of conservation status is important for evaluating the effects of impacts on individual habitats and species and assessing their significance:
- Habitats – conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area.
 - Species – conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area.

Significant Effects

- 5.40 The 2016 CIEEM guidance sets out information in paragraphs 5.24 through to 5.28 of the guidance document, about the concept of ecological significance. Significant effects are qualified with reference to an appropriate geographic scale, and the scale of significance of an effect may or may not be the same as the geographic context in which the feature is considered important.
- 5.41 A significant effect, for the purposes of EclA, is defined as an effect that either supports or undermines biodiversity conservation objectives for '*important ecological features*' or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad

(e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local.

- 5.42 The nature of the identified effects on each assessed feature is characterised. This is considered, along with available research, professional judgement about the sensitivity of the feature affected, and professional judgement about how the impact is likely to affect the site, habitat, or population's structure and continued function. Where it is concluded that an effect would be likely to reduce the importance of an assessed feature, it is described as significant. The degree of significance of the effect takes into account the geographic context of the feature's importance and the degree to which its interest is judged to be affected.

Cumulative Effects

- 5.43 Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects can occur where a proposed development results in individually insignificant impacts that, when considered in combination with impacts of other proposed or permitted plans and projects, can result in significant effects.
- 5.44 Other plans and projects that should be considered when establishing cumulative effects are:
- proposals for which consent has been applied but which are awaiting determination;
 - projects which have been granted consent, but which have not yet been started or which have been started but are not yet completed (i.e. under construction);
 - proposals which have been refused permission, but which are subject to appeal, and the appeal is undetermined;
 - constructed developments whose full environmental effects are not yet felt and therefore cannot be accounted for in the baseline; or
 - developments specifically referenced in a National Policy Statement, a National Plan or a Local Plan.

Mitigation

- 5.45 Where significant effects have been identified, the mitigation hierarchy has been taken into account, as suggested in the 2016 EclA Guidelines, which sets out a sequential approach of avoidance of impacts where possible, application of mitigation measures to minimise unavoidable impacts and then compensation for any remaining impacts. Once avoidance and mitigation measures have been applied, along with any necessary compensation measures, and opportunities for enhancement incorporated, residual impacts have then been identified.

Limitations / Difficulties Encountered

- 5.46 The walkover survey was carried out within the optimum survey period during suitable weather conditions and the Site was easily accessible. There were no limitations to the survey of the Site.

BASELINE ECOLOGICAL CONDITIONS

- 5.47 This section sets out the baseline ecological conditions at the Site using the findings of the desk study and survey.

Desk Study

- 5.48 The sites designated for nature conservation within 2 km of Rossmore Quarry are discussed in the following section. The 2 km radius was selected as the search area as the zone of influence of quarrying typically would not extend beyond 2 km unless there are surface water pathways or other ecological connections to Natura 2000 sites outside this distance. The use of 5 km as a potential zone of influence is therefore applying a precautionary approach. The sites designated for nature conservation within 2 km of the Site are shown on **Figure 5-1**.
- 5.49 The results of the online search for rare and /or protected flora and fauna are also discussed within this section.

Natura 2000 (European sites)

- 5.50 The existing permitted Rossmore Quarry is not within a site designated for nature conservation or subject to any nature conservation designations. Two Natura 2000 Sites are adjacent to the Site boundary, Great Island Channel SAC 001058 and Cork Harbour SPA 004030.
- 5.51 There are no other Natura 2000 sites within 2 km of the Site boundary; the Site is not connected via ecological features or surface water pathways to any Natura 2000 sites beyond 5 km and Natura 2000 sites (and their features of interest) beyond 2 km not previously discussed can be considered to be sufficiently distant from the quarry at Rossmore to not be affected by the potential impacts and resultant effects arising from proposed continued use and operation of the quarry.
- 5.52 There will be no loss of habitat within the Natura 2000 sites within the potential zone of influence and there will be no barrier to movement within the estuary. Noise, vibration and dust emissions will remain at existing operating levels (within the recommended emission limit values for the sector) while emissions to water are subject to an existing discharge licence and will not increase as a result of continuance of operation. It is not considered likely that noise and vibration or emissions to air and water could cause significant effects that could undermine the conservation objectives of the Natura 2000 sites. Natura 2000 sites are therefore scoped out and excluded from any further consideration in this report.

Natural Heritage Areas (NHA) / Proposed Natural Heritage Areas (pNHA)

- 5.53 There are no Natural Heritage Areas within 2 km of the Site boundary. There are three proposed Natural Heritage Areas (pNHAs) within 5 km of the Site boundary, Great Island Channel pNHA, Rockfarm Quarry, Little Island pNHA and Rostellan Lough, Aghada Shore and Poul nabible Inlet pNHA, refer to **Figure 5.2**
- 5.54 Great Island Channel pNHA is adjacent to the Site boundary. However, there will be no loss of habitat within the pNHA and there will be no barrier to movement within the estuary. Noise and vibration will remain at existing levels while emissions to air and water are subject to licence and are not likely to cause significant effects that could impact the pNHA.

- 5.55 The remaining pNHAs are deemed to be sufficiently removed from the quarry at Rossmore to not be affected by the potential impacts and resultant effects arising from proposed continued use and operation of the quarry.
- 5.56 pNHA sites are not likely to be affected by the continuation of the quarry operations at Rossmore and can therefore be scoped out and excluded from further consideration in this report.

Rare and Protected Flora and Fauna

- 5.57 The NBDC database was searched for records within the 2 km grid squares W87A and W87F within which the Site is located. The records returned are of varying ages so for the purposes of preparing this report only the relevant records dated within the last 15 years, are listed in Appendix B of this document.
- 5.58 The absence of recent (within 15 years) records of species from the NBDC database does not necessarily imply that a species does not occur within the search area rather it has not formally been recorded as present. Similarly, the presence of a record for a protected species within the 2 km grid squares does not mean that the species is present within the Site. The majority of results returned for the 2 km grid squares, as can be seen in Appendix A, are waterbirds associated with Cork Harbour.
- 5.59 The continuation of quarrying at the Site will not result in any increase to existing operating levels of noise and vibration. There will be no increase to the footprint of the working quarry area as the continuation of use requires a deepening of the existing quarry void. There will be no increase in dust emissions and there will be no loss of habitat supporting species associated with Cork Harbour.
- 5.60 As there is no expansion outside the existing quarry footprint and no intensification of operations proposed as part of the continuation of use of the quarry significant effects on rare and protected species of flora and fauna recorded in this area are not expected to occur.

Field Survey

- 5.61 The habitats and species recorded within the existing quarry site are described, classified and evaluated in this section of the report, and shown on **Figure 5-3**.
- 5.62 Where notable changes in habitat or species composition were observed between the June 2018 and May 2021 surveys, they are mentioned in the relevant sections below.

Active Quarry

- 5.63 Active Quarry is the dominant habitat type within the Site and can be broadly described as the quarry void with exposed rock faces and bare ground sparsely recolonising with ruderal species. The active quarry void is largely bare of vegetation cover.
- 5.64 Ruderal and woody species occurring where vegetation is recolonising the edge of the quarry void or on the berms include butterfly bush *Buddleja davidii*, teasel *Dipsacus fullonum*, yellow-wort *Blackstonia perfoliata*, coltsfoot *Tussilago farfara*, yellow mignonette *Reseda lutea*, cats ear *Hypochaeris radicata*, creeping thistle *Cirsium arvense*, common centaury *Centaureum erythraea*, common ragwort *Senecio jacobea*, bramble *Rubus fruticosus* agg., scarlet pimpernel *Anagallis arvensis*, self-heal *Prunella vulgaris*, wood sage *Teucrium scorodonia*, germander speedwell *Veronica chamaedrys* and fairy flax *Linum catharticum*.
- 5.65 Around the edges of the quarry void species such as gorse *Ulex europaeus* and bramble are encroaching where work has ceased or where there is little or no activity.

- 5.66 The active quarry habitat within Rossmore Quarry would be evaluated as important at Site level. The active quarry will continue to operate as before and is not expected to be significantly affected by the proposal. Active quarry habitat can therefore be scoped out of further consideration in this report.

Scrub WS1

- 5.67 Scrub is present along most of the quarry boundary. Dense bramble dominates the northern berm of the quarry around the edge of the quarry void. The scrub includes species such as ash *Fraxinus excelsior*, willow *Salix* sp., maple *Acer* sp., beech *Fagus sylvatica* and hawthorn *Crataegus monogyna*. Other species present here include petty spurge *Euphorbia peplus*, great mullein *Verbascum thapsus*, creeping thistle and creeping cinquefoil *Potentilla reptans*.
- 5.68 Other areas of scrub within the Site have a similar species composition. It is not proposed to remove or reduce the area of scrub on the Site. The scrub habitat within the Site would be evaluated as important at the Site level.

Recolonising Bare Ground ED3

- 5.69 This habitat has become established on previously disturbed areas of the Site where soil overburden is stored. These areas have since been left unmanaged and floral species have begun to recolonise.

Species

- 5.70 Incidental sightings or signs of birds, mammals or amphibians were noted during the walkover survey of the Site i.e. no specific species surveys were carried out. The bird assemblage of the Site is typical of the type of habitats present within the Site with commonly occurring passerine species present. It was noted that in May 2021 sand martins *Riparia riparia* were nesting in the piles of sandy aggregates stored behind the staff welfare facility buildings. Sand martin are an amber listed species. In addition, a pair of ringed plover *Charadrius hiaticula* were observed on the undisturbed, stony area of the overburden exhibiting behaviour suggesting they may be nesting in the exposed gravels although, after a brief search, no nest was found. The bird population of the Site is evaluated as important at the Townland level.
- 5.71 The Site does not offer habitat suitable for species associated with the Cork Harbour SPA.
- 5.72 The quarry sump and terrestrial habitats within the Site offer limited suitable habitat for amphibians and therefore it is considered likely that they are absent from the Site. Amphibians can therefore be scoped out of further consideration in this report.
- 5.73 Active quarry and scrub habitats are the dominant ecological features within the Site and are of negligible value to foraging and commuting bats as they are very large open areas within the landscape with very limited connectivity to the surrounding area. The bat population would be evaluated as important at the Site level.
- 5.74 No sightings of other mammals, or their tracks and signs, were noted during the site visits in June 2018 / May 2021 and it is not expected that mammals such as badger *Meles meles* would be using the Site as the habitats present offer limited foraging opportunities. The mammal population would be evaluated as important at the Site level. Mammals, including bats, can therefore be scoped out of further consideration in this report.

Invasive species

- 5.75 No plant or animal invasive species listed under the Third Schedule of the Habitats Directive and subject to restrictions under Regulations 49 and 50 were observed during the ecological site walkovers in June 2018 and May 2021. Invasive species are scoped out of further consideration in this report.

Summary Evaluation of Importance of Ecological Features

- 5.76 **Table 5-1** summarises the ecological features described and evaluated in the preceding section of this chapter. Following the approach in CIEEM guidelines only ecological receptors (habitats, species, ecosystems and their functions/processes), which are considered to be important and potentially affected by the proposed development are carried forward to detailed assessment. It is not necessary to carry out detailed assessment of features / receptors that are sufficiently widespread, unthreatened and resilient to impacts from the proposed development and will remain viable and sustainable.
- 5.77 The importance of the ecological features within the Site is summarised along with their legal status and a rationale, where appropriate, for not carrying forward any features for detailed assessment.

Table 5-1: Summary of Evaluation of Ecological Features

Ecological Feature		Scale at which Feature is Important ⁹	Comments on Legal Status and/or Importance
Natura 2000 sites		International (European)	Scoped out of further detailed assessment as significant effects are not likely.
NHA / pNHA		National	Scoped out of further detailed assessment as significant effects are not likely.
Rare and /or Protected Flora and Fauna		Local	Scoped out of the assessment as significant effects are not likely as no lands outside of the current active quarry void are to be altered.
Habitats		Site	The habitats found on site are generally species poor and offers limited suitable habitat for use by fauna. None of the habitats will be affected by the proposed development and they do not require detailed assessment.
Species	Birds	Townland	Wildlife Acts 1976 – 2018 confers protection on breeding birds using the Site. Sand martin are an amber listed species have been recorded within the Site.

⁹ See section 5.29 of this report for geographic scale of importance.

DESCRIPTION OF THE PROPOSED DEVELOPMENT

- 5.78 The detailed description of the proposal is provided in Chapter 2 (Project Description) of the EIAR and full details on individual aspects of the development can be found there. The following text provides a broad summary of the development.
- 5.79 The proposed development being applied for under this current planning application is shown on Figure 2-2 and will consist of continuance of use of the existing quarry development within an overall application area of c.24.7 hectares; extraction to the level of 40m below Ordnance Datum, previously permitted under Plan. Ref. 03/4570; final restoration of the quarry void area and an area of 3.8 hectares to the north adjacent to the public road. Permission is also being sought for an extension to the existing permitted operating hours for the readymixed concrete plant, and for out of hours operation of the plant up to a maximum of 40 occasions per year, to supply critical and strategic building / infrastructure / maintenance projects whose construction requires supply of concrete outside normal plant operating hours.
- 5.80 A planning permission duration of 20 years is sought for the extraction and processing period and a further two years to complete final restoration of the site.
- 5.81 The only material requirements in respect of the planned restoration scheme are those topsoils and subsoils already present on site, having been stripped and stockpiled within the existing operational site area. There is a small area of overburden stripping required in the northwest corner of the existing permitted extraction area.
- 5.82 There is existing landscaped screening along the eastern, southern and western perimeters of the quarry which has been implemented using existing external hedgerows; screening berms and the surrounding topography (See Chapter 13 Landscape for detailed information). The existing landscaped screening berms will be maintained around the perimeter of the quarry extraction area. The existing boundary fencing will be maintained, and hedgerows will be strengthened or fortified by additional planting, where required.
- 5.83 Blasting is, and will continue to be, used within the quarry area to fragment the stone prior to processing (crushing and screening). The processing of the extracted rock, into aggregate products, will consist of crushing and screening by mobile processing plant located within the quarry void.
- 5.84 In accordance with condition 3 of the existing planning permission, quarry operations will be carried out between 07.00 – 19.00 hrs Monday to Friday, and 08.00 – 16.00 hrs Saturday. The quarry will not operate on Sundays or Bank Holidays, except in emergency situations.
- 5.85 Ancillary facilities already in place at the quarry include the office, weighbridge and weighbridge office, staff welfare facilities, toilets, wheelwash, and bunded fuel storage area. An existing effluent treatment system is in place to treat wastewater from the toilet facilities. Potable water is provided to the site by the local mains supply.
- 5.86 Fuel and chemical storage will continue at the current location. The only chemicals to be stored on site that have the potential to cause water pollution are lubricating oils, hydraulic oils and diesel fuel. All these chemicals are and will continue to be stored in suitably certified tanks within areas bunded to a capacity of 110% of the tank. Where two tanks are bunded, bund capacity will be 120% of the largest tank. Surface water from bunds is pumped out by a licensed waste contractor, on an as needed basis.
- 5.87 Any waste materials from the site are stored, collected, recycled and/or disposed of in accordance with any requirements of Cork County Council.

- 5.88 The incidence of fugitive dust outside of the operation is reduced by the crushing and screening plant being located within the quarry void. Generation of fugitive dust is generally limited to periods of very low rainfall (refer to EIAR Chapter 8 – Air Quality). In dry, windy weather conditions, site activities may give rise to dust blows across and beyond the existing or planned development site areas. In order to control dust emissions, the following measures are / will be implemented:-
- Water is sprayed from a tractor drawn bowser on dry exposed surfaces and stockpiles (paved roads, unsealed haul roads and hardstand areas);
 - Provision of a fixed sprinkler system along the internal road from the site access to the office;
 - Dust blows at the existing site are largely screened by the side walls of the existing quarry void and the vegetated screening berms;
 - Areas of bare or exposed soils will, insofar as practicable, be kept to a minimum;
 - All HGV's exiting the site are routed through the existing wheelwash. This minimises the transport of fines by HGVs over the access / egress road and the public road network.
- 5.89 The amount of dust or fines carried onto the public road network will be further reduced by periodic sweeping of internal paved site roads and surrounding public roads as required. Water collecting in the quarry is used to suppress dust on haul roads and quarry floors through the use of water bowzers. A dust monitoring programme is currently in place at the existing site, and ongoing dust deposition monitoring is carried out as part of the environmental monitoring programme. Monitoring results are, and will continue to be, submitted to Cork County Council.
- 5.90 As the planning application relates to the continued use of the existing quarry operation, the proposed development will continue to utilise the existing site entrance and access.
- 5.91 Conventional sump pumping is used within the quarry to control surface water and groundwater inflows into the quarry extraction area. After being pumped from the quarry floor any excess treated water not used for other site activities, such as dust suppression etc., is directed to the existing water management system. Measures are implemented to ensure that water discharges are managed and controlled. The discharge from the sump at Rossmore Quarry goes to a pond located in a worked-out sand and gravel pit to the southeast of the current quarry; the water is discharged to ground under an existing discharge licence (Licence Ref. WP(W)10/18) and then percolates through the ground to Rossmore Bay. The water to be discharged from the quarry is a mixture of groundwater and surface water, and some brackish water which would be similar in terms of water chemistry to that present within Rossmore Bay. These measures and the associated monitoring systems are described in detail in EIAR Chapter 7 – Water.
- 5.92 The sources of noise located within the planning application area are primarily related to machinery / plant operation. The potential for noise generation from the planning application area is significantly reduced by locating the crushing and screening plant within the quarry void. This means that the potential for noise generation from activities associated with the operation of the plant such as movement of vehicles and maintenance have been significantly reduced (See EIAR Chapter 10 – Noise & Vibration for more details)
- 5.93 Existing noise management and mitigation measures are implemented at the quarry in accordance with the ICF (2004), DoEHLG (2004) and EPA (2006) environmental management guidelines for the sector. There is an existing noise monitoring programme at the site and ongoing noise monitoring is carried out as part of the environmental monitoring programme. Monitoring results are and will continue to be submitted to Cork County Council.

- 5.94 A restoration plan consistent with the restoration concept previously permitted under Cork County Council Plan Ref. 03/4570 has been prepared for the quarry, refer to EIAR Figure 2.4. Quarry benches will be left for natural re-colonisation by locally occurring grass and shrub/scrub species. All existing boundary fences and hedgerows will be retained to ensure that the site is secure. The existing quarry extraction area will flood naturally to form a waterbody. There is no requirement for any active long-term surface water or groundwater management at the site.
- 5.95 Redundant structures, plant equipment and stockpiles will be removed from site on permanent cessation of extraction activity. Machinery and buildings will either be utilised by Kilsaran on other sites or be sold as working machinery or scrap.
- 5.96 As part of the overall decommissioning process, all fuel and oil storage tanks within the existing site will be removed from the site by a licensed waste contractor. Therefore, there will be no potential for fuel, oil or sewage to cause long-term water pollution following completion of extraction activities.

ASSESSMENT OF EFFECTS

- 5.97 The following design principles and “*designed-in*” mitigation have informed the assessment of impacts.
- A Restoration Plan is provided in Chapter 2 of the EIAR.
 - Within the scheme design and operation, good practice environmental and pollution control measures will be employed with regard to current best practice guidance such as, but not limited to the existing management measures set out in Chapters 7 (Water), 8 (Air Quality), 10 (Noise & Vibration) of this EIAR that comply with the recommended best practice set out in the DoEHLG (2004), ICF (2005) and EPA (2006) guidelines for the sector.
- 5.98 Taking the above into account, the principal potential impacts of the continuance of use of the quarry are outlined in the following sections.

Do Nothing Impact

- 5.99 The existing permitted quarry would continue to operate for the remainder of the current permission, after which, the site would be restored in line with the conditions associated with the existing permission. The Do-Nothing Impact will result in moderate significant positive change in the ecological interest of the Site should the quarry cease operating, and restoration take place.

Potential Impacts

- 5.100 The potential direct and indirect operational stage impacts to ecology are discussed below. In the context of Rossmore Quarry the operational stage is taken to be excavation and processing of materials within the existing quarry area. This phase will involve blasting, excavation of rock, processing of the material and removal off - site.
- 5.101 Potential indirect effects may arise due noise, dust and vibration within the permitted quarry area. The level of noise, dust and vibration generated by operations within the quarry are within the recommended emission limit values.

Birds

Potential Impacts

- 5.102 The proposed project development and ongoing operations will result in the removal of exposed faces provided by stockpiles of fine aggregates and sand banks which provide nesting habitat for sand martins.
- 5.103 The effect of the loss of habitat within the Site will result in displacement of the bird population using these habitats. The effect of the loss of habitat on the bird population would be significant at the Townland Level.

Proposed Mitigation Measures

- 5.104 All hedgerow management will be carried out outside of the bird nesting season (1st March – 31st August inclusive).
- 5.105 The active sand and fine aggregate stockpile faces have been colonised in places by sand martins. If sand martins do colonise an operational area, then all work must cease on that face from 1st March

– 31st August inclusive. Where these colonies are present, they should be left undisturbed until the breeding season concludes, and the chicks have fledged. Further excavation of the aggregate piles should be planned to commence outside of this period, and it is advisable to make any exposed faces where work is planned during the breeding season uninviting to the sand martins before they arrive, no later than early March, so that operations may continue without interruption.

5.106 The following measures are recommended by the Royal Society for Protection of Birds (RSPB) for protection of sand martin using operational quarries¹⁰.

- Before each nesting season - identify non-operational areas where suitable vertical faces can be provided to encourage sand martin colonisation.
- Before each nesting season – provide suitable sloping batters to operational areas where sand martin activity could hamper operations in order to make them less attractive for sand martins seeking nesting sites.
- Between March and April regularly check all operational faces for evidence of sand martin nesting, particularly after quarry closures such as at Easter.
- Review sand martin activity to ensure that the risk of nesting sand martin disturbance is minimised. Although there is no specific exclusion distance it is critical that activities do not pose a threat to the sand martins or their nests.
- In addition to the effect of excavation any review should consider the effect of passing machinery to ensure that it does not cause damage through vibrations.
- Clearly demarcate areas which should not be disturbed and routinely monitor activities, making changes to demarcated areas as necessary.
- Ensure that all personnel are aware of the individual and company legal obligation to prevent harm.

Significance of Residual Effects

5.107 The residual effect on the bird assemblage within the Site would not be significant.

Post – Operational Stage Impacts

5.108 The site will be restored to natural habitat with small areas of scrub and hedgerows along the perimeter of the site when operations cease. The proposed restoration of the site is described in detail in the Restoration Plan provided in Chapter 2 and shown on Figure 2.4 of this EIAR. The restoration phase will result in a slight positive effect on the Site as the diversity of habitats present will increase resulting in increased opportunities for a wider range of flora and fauna.

5.109 Taking into account the ‘*designed in*’ measures the overall effect of the operational and post - operational phases is not likely to be significant and may result in a slight positive effect.

¹⁰ CEMEX and RSPB Advisory Information – Sand Martins <https://ww2.rspb.org.uk/globalassets/downloads/join-and-donate/cemex-and-rspb-sand-martin-quarry-advice.pdf>

Cumulative Effects

- 5.110 Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location. Cumulative effects can occur where a proposed development results in individually insignificant impacts that, when considered in combination with impacts of other proposed or permitted plans and projects, can result in significant effects.
- 5.111 There is no pathway for the proposed project to act in-combination with other plans / projects and cause significant effects. Cumulative effects are not considered likely to occur as result of the quarry proposal when considered with other plans and projects.

RESIDUAL IMPACTS

- 5.112 With the mitigation measures, as detailed above, in place during construction, operation and post – operation stages residual negative impacts on the receiving environment are not anticipated to be significant.

CONCLUSIONS

- 5.113 The proposed continuation of use of the quarry at Rossmore, Co. Cork will result in localised effects on the ecology of the Site. The active quarry area will continue to operate under the requirements set out in the existing planning permission.
- 5.114 There will be no effect on sites designated for nature conservation (Great Island Channel SAC 001058 and Cork Harbour SPA 004030) as a result of the continued use and operation of the permitted quarry. The scrub around the perimeter of the Site will be retained and will not be impacted.
- 5.115 Overall, the residual effects on biodiversity are not anticipated to be significant.

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FIGURES

Figure 5-1 Natura 2000 Sites within 2 km of Kilsaran Rossmore Quarry

Figure 5-2 pNHAs within 5 km of Kilsaran Rossmore Quarry

Figure 5-3 Habitat Map

APPENIDIX A: RELEVANT PLANNING POLICY AND LEGISLATION

The planning policy and legislation that is relevant to the proposal to continue and extend the quarrying operation at Rossmore is set out in the following sections.

County Planning Policies

The relevant planning policy is extracted from Volume 1, Chapter 12: Heritage of Cork County Development Plan (CDP) 2014.

Natural Heritage Objectives

The natural heritage objectives listed in Volume 1 Chapter 12 of the CDP are listed below.

HE 1-1: County Biodiversity Action Plan

Continue to implement the County Biodiversity Action Plan (2008) in partnership with all relevant stakeholders.

HE 1-2: County Heritage Plan

Continue to implement the current County Heritage Plan (2005) in partnership with relevant stakeholders and any successor to this document.

HE 2-1: Site Designated for Nature Conservation

Provide protection to all natural heritage sites designated or proposed for designation under National and European legislation and International Agreements, and to maintain or develop linkages between these. This includes Special Areas of Conservation, Special Protection Areas, Natural Heritage Areas, Statutory Nature Reserves, Refuges for Fauna and Ramsar Sites.

HE 2-2: Protected Plant and Animal Species

Provide protection to species listed in the Flora Protection Order 1990, on Annexes of the Habitats and Birds Directives, and to animal species protected under the Wildlife Acts in accordance with relevant legal requirements. These species are listed in Volume 2, Chapter 4 of the plan.

HE 2-3: Biodiversity outside Protected Areas

Retain areas of local biodiversity value, ecological corridors and habitats that are features of the County's ecological network, and to protect these from inappropriate development. This includes rivers, lakes, streams and ponds, peatland and other wetland habitats, woodlands, hedgerows, tree lines, veteran trees, natural and semi natural grasslands as well as coastal and marine habitats. It particularly includes habitats of special conservation significance in Cork as listed in Volume 2 Chapter 3 Nature Conservation Areas of the plan.

HE 2-4: Protection of Wetlands

Ensure that an appropriate level of assessment is completed in relation to wetland habitats subject to proposals which would involve drainage or reclamation. This includes lakes and ponds, watercourses, springs and swamps, marshes, heath, peatlands, some woodlands as well as some coastal and marine habitats.

HE 2-5: Trees and Woodlands

- a) Protect trees the subject of Tree Preservation Orders.
- b) Preserve and enhance the general level of tree cover in both town and country. Ensure that development proposals do not compromise important trees and include an appropriate level of new tree planting and where appropriate to make use of tree preservation orders to protect important trees or groups of trees which may be at risk or any tree(s) that warrants an order given its important amenity or historic value.
- c) Where appropriate, to protect mature trees/groups of mature trees and mature hedgerows that are not formally protected under Tree Preservation Orders.

HE 2-7: Control of Invasive Species

Control the spread of invasive plant and animal species within the county.

Legislation

The EIA Directive (85/337/EEC) is in force since 1985 and applies to a wide range of defined public and private projects, which are defined in Annexes I and II of the EIA Directive¹¹. The EIA Directive of 1985 has been amended three times, in 1997, in 2003 and in 2009. The initial Directive of 1985 and its three amendments have been codified by Directive 2011/92/EU of 13 December 2011. Directive 2011/92/EU has been amended in 2014 by Directive 2014/52/EU.

The EIA Directive was first transposed into Irish law by the European Communities (Environmental Impact Assessment) Regulations, 1989 (S.I. No. 349 of 1989) which amended the Local Government (Planning and Development) Act, 1963 (and other legislation) to provide for environmental impact assessment. The European Union (Planning and Development)(Environmental Impact Assessment) Regulations 2018 (S.I. 296 of 2018) came into force on 1 September 2018, save for limited provisions which are due to come into effect in January 2019. The Regulations principally seek to implement the requirements of EIA Directive 2014/52/EU.

The Habitats Directive ensures the conservation of a wide range of rare, threatened or endemic animal and plant species. Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora was adopted in 1992 and aims to promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements. It forms the cornerstone of Europe's nature conservation policy with the Birds Directive and establishes the EU wide Natura 2000 ecological network of protected areas, safeguarded against potentially damaging developments.

The Natura 2000 network of protected areas is known as Special Areas of Conservation (SAC) and Special Protection Areas (SPA). In general terms, they are considered to be of exceptional importance in terms of rare, endangered or vulnerable habitats and species within the European Community. The requirements of the Habitats Directive have been transposed into Irish law through the European Communities (Birds and Natural

¹¹ <http://ec.europa.eu/environment/eia/eia-legalcontext.htm>

Habitats) Regulations 2011 [S.I. No. 477/2011]. This legislation affords protection to both Special Protection Areas and Special Areas of Conservation.

Special Areas of Conservation (SAC) are designated under the Conservation of Natural Habitats and of Wild Fauna and Flora Directive 92/43/EEC (Habitats Directive) which is transposed into Irish law by the EC (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011). Special Protection Areas (SPA) are classified under the Birds Directive (2009/147/EC on the Conservation of Wild Birds). Article 6(3) of the Habitats Directive requires an 'appropriate assessment' to be undertaken for any plan or project that is likely to have a significant effect on the conservation objectives of a Natura 2000 site. An 'appropriate assessment' is an evaluation of the potential impacts of a plan or project on the integrity of a Natura 2000 site, and the incorporation, where necessary, of measures to mitigate or avoid negative effects.

Flora and fauna in Ireland are protected at a national level by the Wildlife Acts 1976 to 2012 and the Flora (Protection) Order 2015. Natural Heritage Areas (NHA) are areas that are considered to be important for the habitats present or for the species of plants and animals supported by those habitats. Under the Wildlife Amendment Act 2000, NHAs are legally protected from damage from the date they were formally proposed for designation. Section 19(1) of the Act states that *'Where there is a subsisting natural heritage area order in respect of any land, no person shall carry out, or cause or permit to be carried out, on that land any works specified in the order or any works which are liable to destroy or to significantly alter, damage or interfere with the features by reason of which the designation order was made'*.

In addition, a list of proposed NHAs (pNHAs) was published in 1995 but to date these have not had their status confirmed. Prior to statutory designation, pNHAs are subject to limited protection under various agri-environment and forestry schemes and under local authority planning strategies such as County Development Plans.

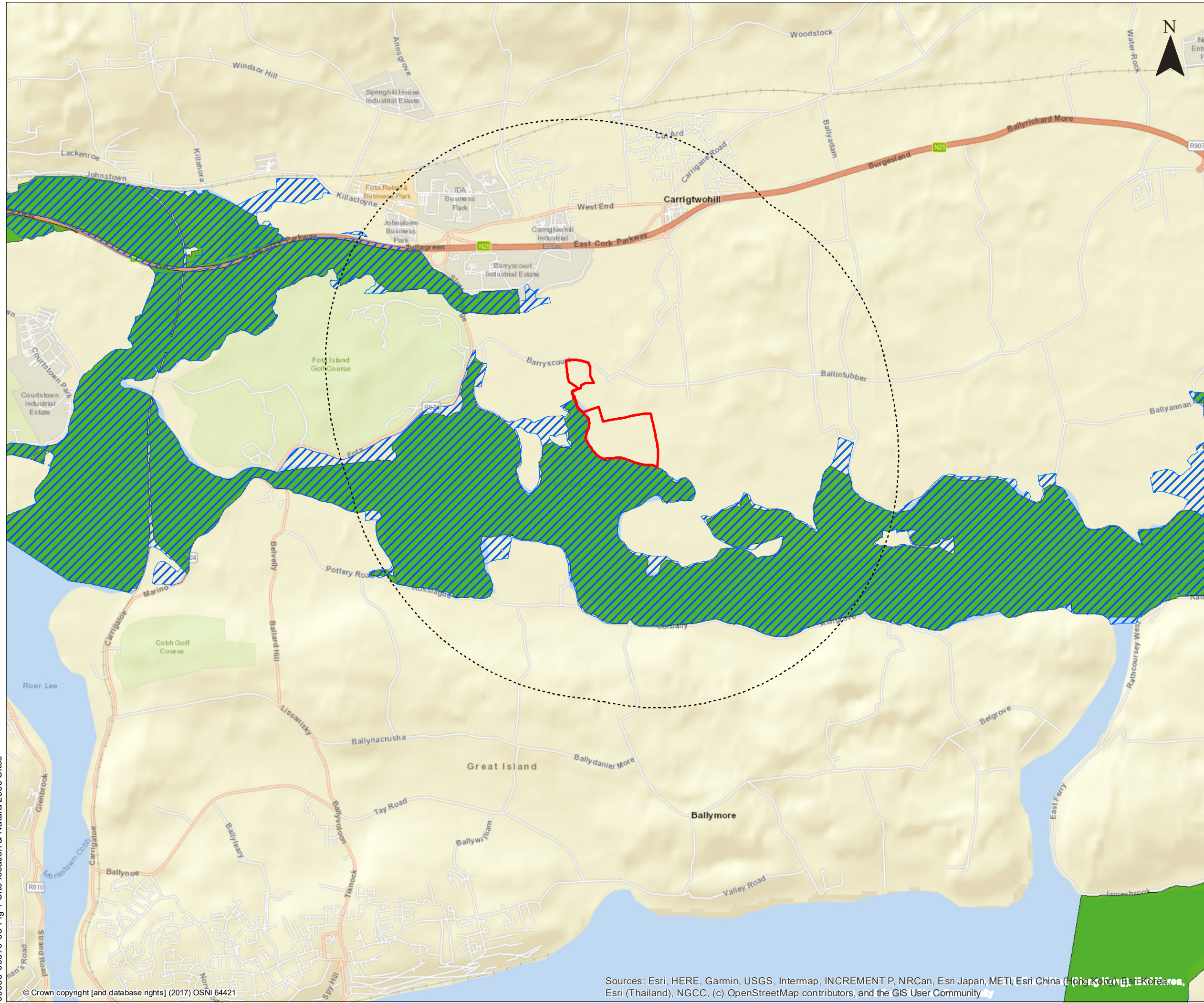
APPENDIX B: RARE AND /OR PROTECTED SPECIES WITHIN 2 KM GRID SQUARES W87A AND W87F

Rare and / or protected flora & fauna within the 2 km grid squares W87A and W87F

Species record	Grid reference	Date of Last record	Protected Status	Source / Dataset
Bar-tailed Godwit (<i>Limosa lapponica</i>)	W87A	31/12/2011	Wildlife Acts. Habitats Directive: Annex I. BoCCI Amber Listed	Bird Atlas 2007 - 2011
	W87F			
Black-headed Gull (<i>Larus ridibundus</i>)	W87A	31/12/2011	Wildlife Acts. BoCCI Red Listed	Bird Atlas 2007 - 2011
	W87F			
Black-tailed Godwit (<i>Limosa limosa</i>)	W87A	31/12/2011	Wildlife Acts. BoCCI Amber Listed	Bird Atlas 2007 - 2011
	W87F			
Common Greenshank (<i>Tringa nebularia</i>)	W87A	31/12/2011	Wildlife Acts. BoCCI Amber Listed	Bird Atlas 2007 - 2011
	W87F			
Common Kestrel (<i>Falco tinnunculus</i>)	W87A	31/12/2011	Wildlife Acts. BoCCI Amber Listed	Bird Atlas 2007 - 2011
	W87F			
Common Linnet (<i>Carduelis cannabina</i>)	W87A	31/12/2011	Wildlife Acts. BoCCI Amber Listed	Bird Atlas 2007 - 2011
	W87F			
Common Redshank (<i>Tringa totanus</i>)	W87A	31/12/2011	Wildlife Acts. BoCCI Red Listed	Bird Atlas 2007 - 2011
	W87F			
Common Shelduck (<i>Tadorna tadorna</i>)	W87A	31/12/2011	Wildlife Acts. BoCCI Amber Listed	Bird Atlas 2007 - 2011
	W87F			
Common Snipe (<i>Gallinago gallinago</i>)	W87A	31/12/2011	Wildlife Acts. Habitats Directive: Annex II, Annex III. BoCCI Amber Listed	Bird Atlas 2007 - 2011
	W87F			
Common Starling (<i>Sturnus vulgaris</i>)	W87A	31/12/2011	Wildlife Acts. BoCCI Amber Listed	Bird Atlas 2007 - 2011
Dunlin (<i>Calidris alpina</i>)	W87A	31/12/2011	Wildlife Acts. Habitats Directive: Annex I. BoCCI Amber Listed	Bird Atlas 2007 - 2011
	W87F			
Eurasian Badger (<i>Meles meles</i>)	W87A	16/06/2011	Wildlife Acts	Road Kill Survey
Eurasian Curlew (<i>Numenius arquata</i>)	W87A	31/12/2011	Wildlife Acts. Habitats Directive: Annex II. BoCCI Red Listed	Bird Atlas 2007 - 2011
	W87F			

Species record	Grid reference	Date of Last record	Protected Status	Source / Dataset
Eurasian Oystercatcher (<i>Haematopus ostralegus</i>)	W87A	31/12/2011	Wildlife Acts. BoCCI Amber Listed	Bird Atlas 2007 - 2011
	W87F			
Eurasian Red Squirrel (<i>Sciurus vulgaris</i>)	W87A	06/05/2015	Wildlife Acts	Atlas of Mammals in Ireland 2010-2015
Eurasian Teal (<i>Anas crecca</i>)	W87A	31/12/2011	Wildlife Acts. Habitats Directive: Annex II, Annex III. BoCCI Amber Listed	Bird Atlas 2007 - 2011
	W87F			
Eurasian Wigeon (<i>Anas penelope</i>)	W87A	31/12/2011	Wildlife Acts. Habitats Directive: Annex II, Annex III. BoCCI Amber Listed	Bird Atlas 2007 - 2011
	W87F			
European Golden Plover (<i>Pluvialis apricaria</i>)	W87A	31/12/2011	Wildlife Acts. Habitats Directive: Annex II, Annex III. BoCCI Red Listed	Birds of Ireland
	W87F			Bird Atlas 2007 - 2011
Gatekeeper (<i>Pyronia tithonus</i>)	W87A	13/08/2012	Threatened Species: Near threatened	Butterflies of Ireland
Great Black-backed Gull (<i>Larus marinus</i>)	W87A	31/12/2011	Wildlife Acts. BoCCI Amber Listed	Bird Atlas 2007 - 2011
	W87F			
Great Cormorant (<i>Phalacrocorax carbo</i>)	W87A	31/12/2011	Wildlife Acts. BoCCI Amber Listed	Bird Atlas 2007 - 2011
	W87F			
Great Crested Grebe (<i>Podiceps cristatus</i>)	W87F	31/12/2011	Wildlife Acts. BoCCI Amber Listed	Bird Atlas 2007 - 2011
Grey Plover (<i>Pluvialis squatarola</i>)	W87A	31/12/2011	Wildlife Acts. BoCCI Amber Listed	Birds of Ireland
	W87F			Bird Atlas 2007 - 2011
Herring Gull (<i>Larus argentatus</i>)	W87A	31/12/2011	Wildlife Acts. BoCCI Red Listed	Birds of Ireland
	W87F			Bird Atlas 2007 - 2011
Large Red Tailed Bumble Bee (<i>Melanobombus lapidarius</i>)	W87F	29/08/2015	Threatened Species: Near threatened	Bees of Ireland
Leach's Storm-petrel (<i>Oceanodroma leucorhoa</i>)	W87F	31/12/2011	Wildlife Acts. Habitats Directive: Annex I. BoCCI Amber Listed	Bird Atlas 2007 - 2011
Lesser Black-backed Gull (<i>Larus fuscus</i>)	W87A	31/12/2011	Wildlife Acts. BoCCI Amber Listed	Birds of Ireland
	W87F			Bird Atlas 2007 - 2011

Species record	Grid reference	Date of Last record	Protected Status	Source / Dataset
Lesser Noctule (<i>Nyctalus leisleri</i>)	W87A	12/07/2003	Wildlife Acts. Habitats Directive: Annex IV.	National Bat Database of Ireland
Little Grebe (<i>Tachybaptus ruficollis</i>)	W87F	31/12/2011	Wildlife Acts. BoCCI Amber Listed	Bird Atlas 2007 - 2011
Mediterranean Gull (<i>Larus melanocephalus</i>)	W87A	31/12/2011	Wildlife Acts. Habitats Directive: Annex I. BoCCI Amber Listed	Birds of Ireland
	W87F			Bird Atlas 2007 - 2011
Mew Gull (<i>Larus canus</i>)	W87A	31/12/2011	Wildlife Acts. BoCCI Amber Listed	Bird Atlas 2007 - 2011
	W87F			
Mute Swan (<i>Cygnus olor</i>)	W87F	31/12/2011	Wildlife Acts. BoCCI Amber Listed	Bird Atlas 2007 - 2011
Northern Lapwing (<i>Vanellus vanellus</i>)	W87A	31/12/2011	Wildlife Acts. Habitats Directive: Annex II. BoCCI Red Listed	Bird Atlas 2007 - 2011
	W87F			
Northern Pintail (<i>Anas acuta</i>)	W87A	31/12/2011	Wildlife Acts. Habitats Directive: Annex II, Annex III. BoCCI Red Listed	Bird Atlas 2007 - 2011
	W87F			
Northern Shoveler (<i>Anas clypeata</i>)	W87A	31/12/2011	Wildlife Acts. Habitats Directive: Annex II, Annex III. BoCCI Red Listed	Bird Atlas 2007 - 2011
	W87F			
Red Knot (<i>Calidris canutus</i>)	W87A	31/12/2011	Wildlife Acts. BoCCI Red Listed	Birds of Ireland
	W87F			Bird Atlas 2007 - 2011
Ringed Plover (<i>Charadrius hiaticula</i>)	W87F	31/12/2011	Wildlife Acts. BoCCI Amber Listed	Bird Atlas 2007 - 2011
Sand Martin (<i>Riparia riparia</i>)	W87A	31/12/2011	Wildlife Acts. BoCCI Amber Listed	Bird Atlas 2007 - 2011
	W87F			
Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>)	W87A	12/07/2003	Wildlife Acts. Habitats Directive: Annex IV.	National Bat Database of Ireland
Stock Pigeon (<i>Columba oenas</i>)	W87F	31/12/2011	Wildlife Acts. BoCCI Amber Listed	Bird Atlas 2007 - 2011
Tufted Duck (<i>Aythya fuligula</i>)	W87F	31/12/2011	Wildlife Acts. Habitats Directive: Annex II, Annex III. BoCCI Amber Listed	Bird Atlas 2007 - 2011
West European Hedgehog (<i>Erinaceus europaeus</i>)	W87A	16/09/2012	Wildlife Acts	Road Kill Survey

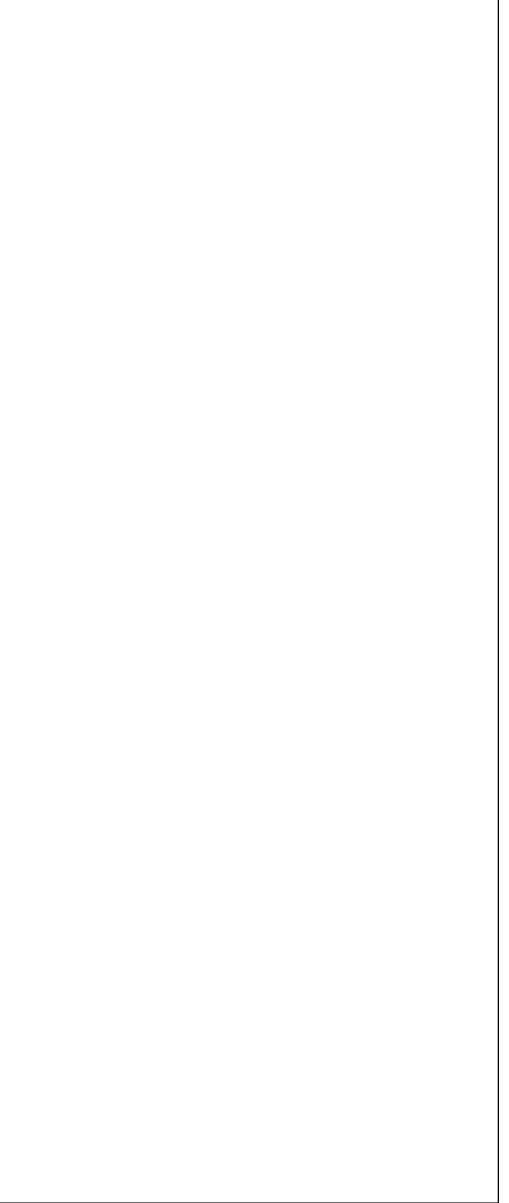



LEGEND

- SITE BOUNDARY
- - - - 2KM


Natura 2000 Sites

- Great Island Channel SAC
- Cork Harbour SPA





Kilsaran
ideas taking shape



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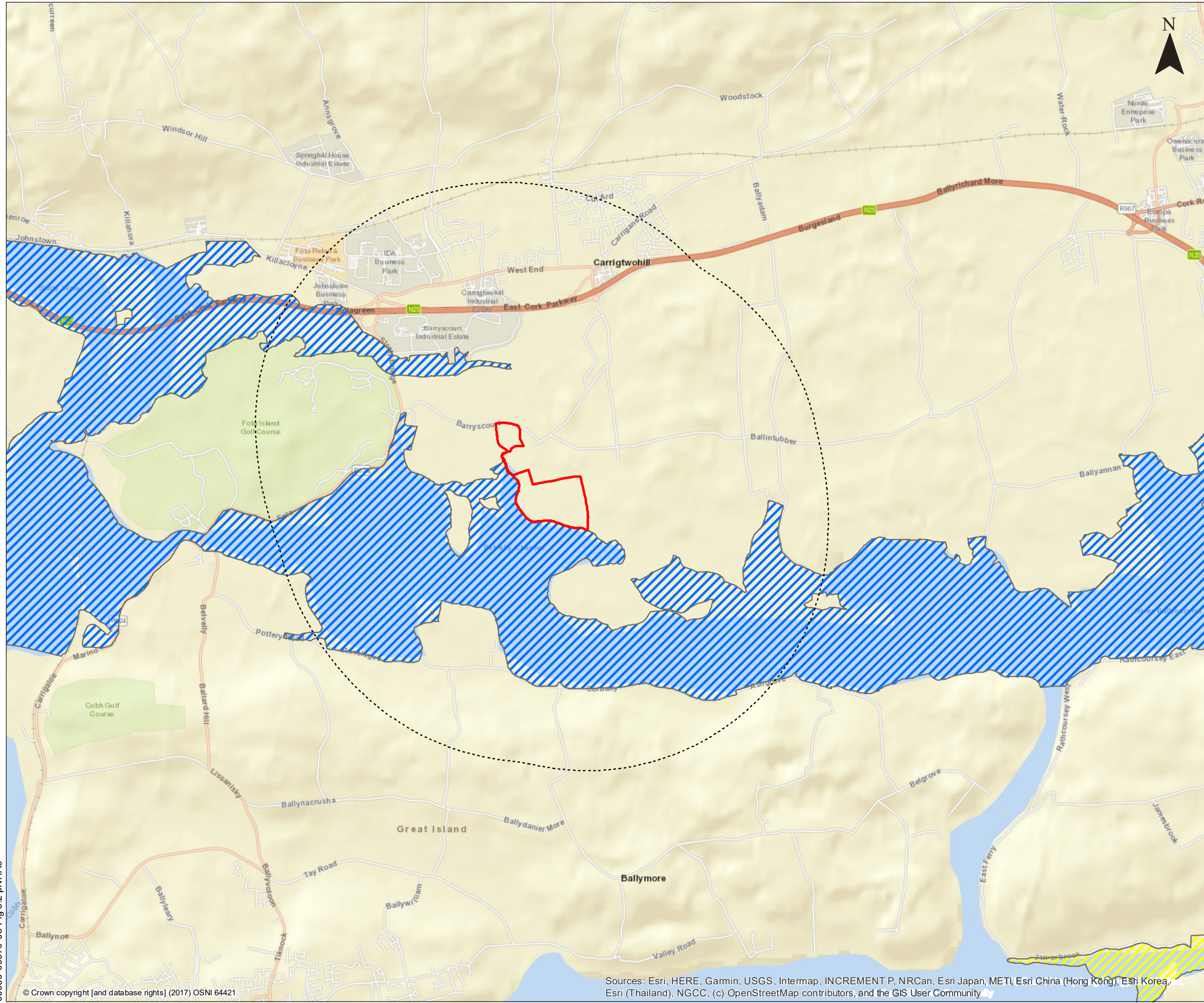
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SITE BOUNDARY & NATURA 2000 SITES

FIGURE 5-1

Scale 1:30,000 @ A3	Date JUNE 2021
------------------------	-------------------

00036-00070-05-Fig 1 Site location & Natura 2000 Sites



LEGEND

- SITE BOUNDARY
- - - - - 2KM

Proposed Natural Heritage Areas

- Great Island Channel
- Rostellan Lough, Aghada Shore And Poul nabibe Inlet



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PROPOSED NATURAL HERITAGE AREAS

FIGURE 5-2

Scale	Date
1:30,000 @ A3	JUNE 2021

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

00036-00070-05-Fig 5.2 pNHAs



LEGEND

- Site Boundary
- Habitats (Fossitt Code)**
- BL3 - Building & artificial surfaces
- ED2 - Spoil & bare ground
- ED3 - Recolonising bare surfaces
- ED4- Active quarries and mines
- FL8 - Artificial ponds
- GA2 - Amenity grassland
- WS1 - Scrub
- WS1/ED3 - Scrub/Recolonising bare ground



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HABITAT MAP

FIGURE 5-3

Scale: 1:6,000 @ A3

Date JUNE 2021