

2 Project Description

2.1 Introduction

This section of the remedial Environmental Impact Assessment Report (rEIAR) has been prepared to provide a description of the development and operation of the project Site, a disused quarry located in the townland of Coolsickin or Quinsborough, Monasterevin, Co. Kildare. This description sets the basis against which the rEIAR has been carried out.

The development seeking substitute consent consists of extraction of sand, gravel and rock over an area of 7.87 ha through blasting, mechanical excavation and rock breaking along with aggregate processing and stockpiling.

The lands subject to this Substitute Consent application were acquired by the applicant, Bison Quarries Ltd in 2022. This substitute consent application will be accompanied by an application under Section 37L of the Planning and Development Act 2000 as amended for the restoration of the quarry footprint to land contours similar to previous topographical levels and to agricultural use. The restoration is proposed to be carried out through the importation of clean, uncontaminated soil and stone.

2.2 Site Setting

2.2.1 Site location

The Application Site is wholly located in the townland of Coolsicken or Quinsborough, which is situated approximately 2.7km north of Monasterevin and approximately 9 km southwest of Kildare Town. The Site comprises a quarry void area which has been used for sand and gravel and limestone rock extraction between the years 2000-2006. The grid reference coordinates (Irish Transverse Mercator) for the approximate centre of the Site are E663403, N713199. The site location is shown in Figure 2.1.

2.2.2 Site Access

The Site is accessed off the L7049 which runs south-west to east. The L7049 joins the R414 to the northeast and the R424 in the southwest. The R414 is a regional road linking Monasterevin and Rathangan and the R424, also a regional road, linking Monasterevin to Portarlinton.

The current access route to the gravel pit, (refer to Figure 2.2) is by means of a laneway/gravel road running adjacent to a stretch of agricultural land within lands owned by the applicant. During the period of operation, the quarry was accessed through the adjoining quarry which is also accessed off the L7049 approximately 270 m north of the existing access.

The quarry site is accessed via a gravel covered laneway from the L7049 road linking to the R414. The laneway is approximately 250 m long and bounded on both sides by agricultural

fields. The laneway currently leads to an area of hummocky land with various tracks leading to the quarry.

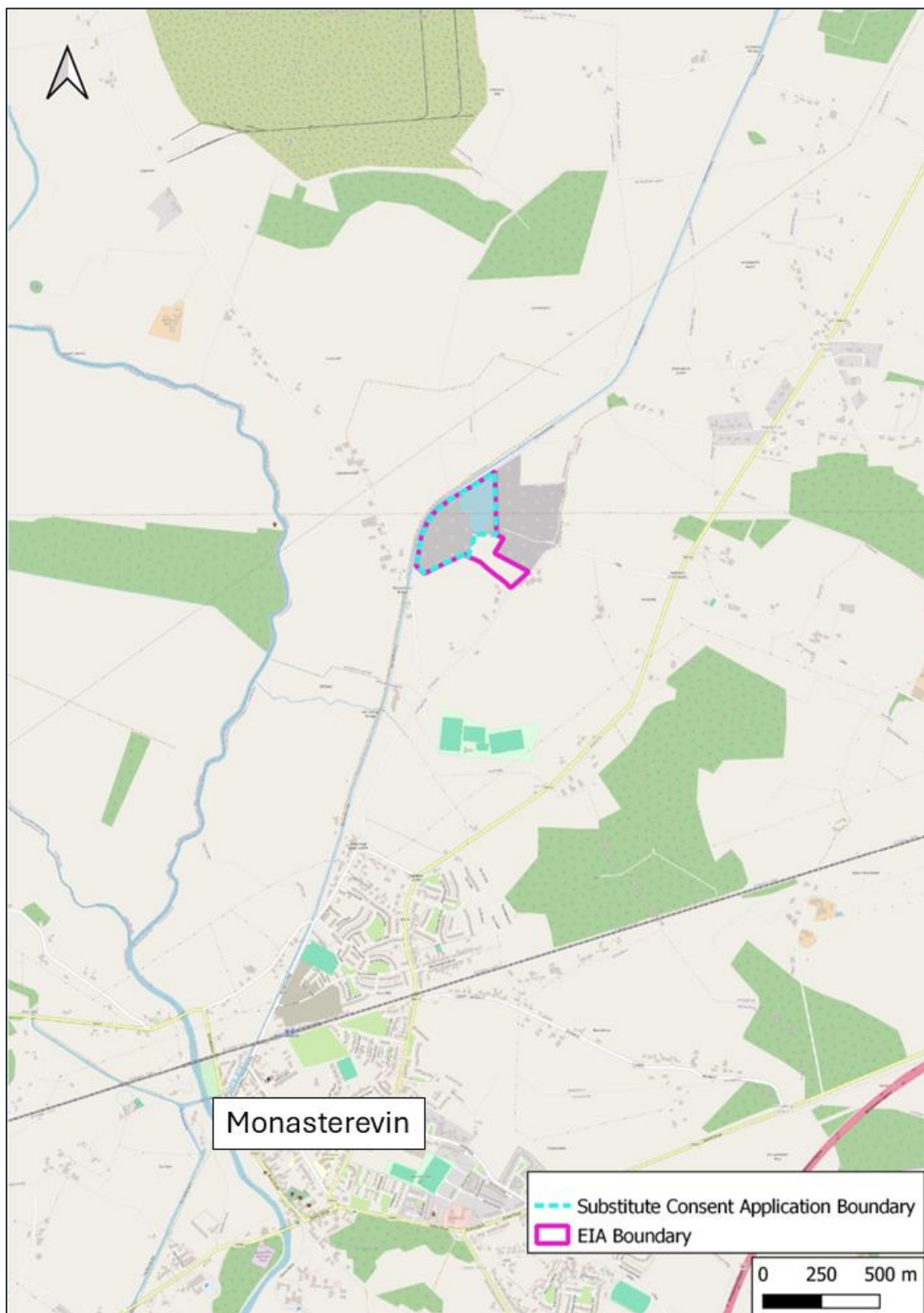


Figure 2.1: Site Location

2.2.3 Context and Landscape Character of Subject Lands

The Substitute Consent Application Site ('Application Site' or 'Site') extends to approximately 7.87 ha and reflect the historic operational site area including the extractable void area of 2.3 ha. Extraction of sand and gravel and following exhaustion of the former, limestone was worked to approximately 55 mOD, at its lowest point and since extraction has ceased, there is a resulting waterbody filling the extraction void which is fed predominantly by groundwater.

The Application Site is located within the rEIAR unit (i.e. lands within the EIA Boundary) which extends to 10.62 ha. The EIA Boundary is extended to the south within the rEIAR to include an agricultural field to the south of the Application Site (owned by the Applicant) to provide continuity with the EIAR prepared for the 37L application that addresses proposed future development.

The quarry void area consists largely of a quarry pond that currently extends to approximately 2.3 ha lying northeast of the Project Site and is groundwater fed.

A review of historic aerial photography and available mapping indicates that the lands that are the subject of this rEIAR were generally within a low-lying area in the local landscape, which sloped down to the north and northwest. It is noted that the highest point of the Project Site in 1990 was approximately 77 mOD and the lowest point at approximately 70 m OD (undisturbed ground).

The water level in the quarry void was recorded to be 63.9 mOD with the lowest ground level of the quarry pond recorded through bathymetric surveys to be 55mOD.

A number of site walkover visits were conducted at the site by WSP representatives during 2024 to inspect the site and record site observations. The current quarry void is located in the northeast of the EIA unit and is irregular in shape. The site is understood to be disused since prior 2006 according to neighboring landowners. The s.261A quarry assessment prepared by Kildare County Council (KCC) planning department in 2012 indicates that the quarry may have ceased operations by 28 July 2006, citing an unauthorized development file that is not presently available from KCC planning records.

There are currently no existing administration, maintenance, storage, or welfare facilities located on the site and no evidence from historical imagery that these facilities were in place during the operation stage of the quarry (see Figure 2.2). There was no visual or olfactory evidence of any spills or leaks identified anywhere on site. A quarry pond is the key identifiable characteristic of the site. The peripheral edges and boundaries have been left undisturbed to naturally restore since the cessation of quarrying activities. It is evident that no quarrying activities have occurred for some time as scrub and thick vegetation has been established across the site. A number of overburden and aggregate stockpiles ranging in size are present on site with access from the main access to the quarry pond in place. A security fence is present at the southside of the site with agricultural fencing along the remaining boundaries. The lands adjacent to the Site on the southern boundary are used for

agricultural purposes (including pasture and tillage) with a number of dwellings running along the L7049 to the west of the site entrance. The Site is bordered to the west and north by a mature mixed hedgerow which separates the site boundary from the Grand Canal. Beyond the Grand Canal to the west and north, lands are in agricultural use. The Site is bounded to the east by another existing disused quarry. Farmyards and one-off residential properties also occur in the vicinity of the Site.

In this way, the immediate character of the lands is rural, in nature with agricultural being the predominant land use along with low density, one-off ribbon type roadside housing and farmyards.

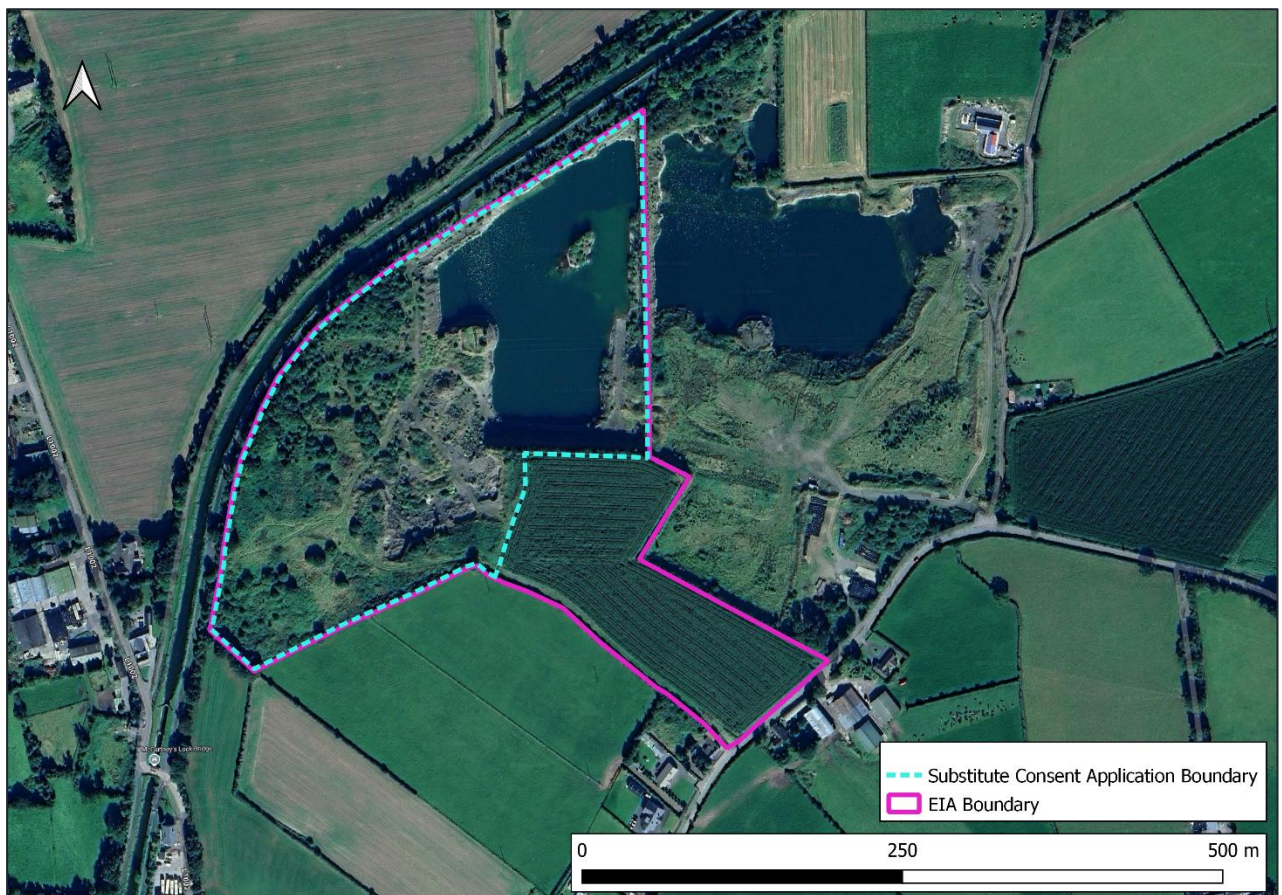


Figure 2.2: Conditions at the Application site in 2024

2.2.4 Site Development Background

The Site was acquired by the current owner (the Applicant) in 2022 with the aim of returning the lands to agricultural use and to make safe the quarry pond at the Site.

Quarrying at the Application site is understood from local anecdotal information to have commenced around 2000 and ceased within 2006. A review of the progression of the Project as inferred from Aerial imagery is provided in section 2.2.6.

Information pertaining to the development at the Site is limited as the Project was not subject to a valid planning permission. Information on the development of the site as a quarry was obtained from various sources including Kildare County Council (KCC) Section 261A quarry register, and KCC's 2012 Section 261A Quarry Assessment (see section 2.2.5 for information source details).

It is understood that the Site was assessed by Kildare County Council (KCC) under Section 261A of The Planning and Development Act, 2000 and assigned 261A quarry registration number QRA-21-002 under a Notice Pursuant to Section 261A(4)(a) of the Planning and Development Act 2000-2011 (as amended) dated 22 August 2012. This notice was issue to Michael Byrne who came into sole possession of lands within the Application Site in 2001 (Folio 15368). The site had not been operational for some time in 2012 when the notice was issued in 2012, and the Section 261A(4)(a) notice was not complied with. In 2012, Ireland was in the middle of an economic recession which resulted in many quarries not acting on Section 261A notices due to financial struggles and little or no construction activity occurring.

It is estimated that activities at the site included extraction of sand and gravel, limestone rock, and associated processing and temporary stockpiling of materials being stored prior to sale to market. The nature of extraction and associated works has been estimated from incomplete planning application for the Site from 2006. A review of the Kildare County Council (KCC) planning portal records indicates that three number incomplete or invalid planning applications for the Site are on record for the year 2006. These applications as follows:

- Planning application reference no. 06/741 was received on the 18/04/06 from William Condren and Pat Kinahan for 'quarrying and extraction of rock etc'.
- Planning application reference no 06/855 was received on the 04/06/06 from Patrick Kinahan and William Condren for 'extraction of rock for the production of aggregates, the erection of one mobile portacabin, crusher and ancillary works'.
- Planning application reference no. 06/1155 was received on the 08/06/06 from Roadfill Ltd for 'extension to and existing rock quarry for 2.14 ha and for retention permission for 2.62 ha of rock quarry for development'.

As part of a 261A assessment process of the Planning and Development Acts 2000-2011 (as amended), completed on the 22nd of August 2012 by KCC, the development of the Site was considered to have required an EIA (being a post-1990 development) and an AA (being

a post - 26th February 1997 development) to comply with the EIA and Habitats Directive. The operator was issued a notice under section 261A (4)(a) of the Act which determined that:

- The quarry commenced operation on or after 1 October 1964 and no permission was granted in respect of the quarry under Part III of this Act or Part IV of the Act of 1963, or
- If applicable, the requirements in relation to registration under section 261 were not fulfilled.

The 261A assessment (KCC 2012) states that:

‘The 2010 aerial photography suggests that the quarry is inactive and I have reviewed an unauthorised development files on the site, reference UD4203, which contained a report from Darren Hughes , Executive Engineer, dated 28th July 2006 confirming that the site had ceased works following an undertaking from the operator at the time Roadfill Ltd upon a pending court hearing. A court case was undertaken by Kildare County Council against the land owner and operator and a copy of the court order is attached to this file’.

Neither the report from Darren Hughes nor the court order were available from the planning files held by KCC as of 2024 at which time WSP reviewed the documents at KCC offices in Naas. No further information is available and it is understood that quarrying activities ceased in 2006 on foot of threatened enforcement proceedings.

2.2.4.1 Development Principal Events

Section 2.2.4 sets out the site development background regarding planning history for the Application Site.

Section 2.3.2 sets down a timeline to present the progression of the Project at the Application Site in a coherent order. The estimated commencement of operations at the beginning of 2000 through to the cessation of Project Activities to the end of 2006 have been addressed in that section.

The principal projects in the vicinity of the Application Site during the predicted operational life of the Project are presented in Table 2-1.

Having regard to the EIAR requirement to assess in-combination and cumulative effects, significant projects in the area have been considered, and, where possible, the information submitted with those applications reviewed, to further aid in building a profile of the Application site over the Project lifetime.

Table 2-1 – Third Party Development in the vicinity of the Project (2000-2006)

Reference	Location	Description	Status / Decision date
06/2729	Ballykelly, Monasterevin, Co. Kildare	Continued use of an existing stone quarry at a site of 9.82ha in the townland of Ballykelly,	Granted with conditions 27/11/2008

Reference	Location	Description	Status / Decision date
		Coolsicken/Quinnsborough, Monasterevin Co.Kildare [Further details are provided below this table]	
02/2196	Quinsborough, Monasterevin, Co. Kildare	A dormer house and bio-disc effluent treatment system	Granted with conditions 21/02/2003
01/746	Quinsborough, Monasterevin ,Co. Kildare	A single storey dwelling house, domestic garage, septic tank with puraflo secondary water treatment system and associated site works	Granted with conditions 07/09/2001
05/2959	Ballykelly, Monasterevin, Co. Kildare	Two storey house, domestic garage and installation of approved effluent treatment system	Granted with conditions 12/12/2006
04/1790	Ballykelly, Monasterevin, Co. Kildare	Demolition of existing dwelling and replace it with a two storey house, garage/equipment store,septic tank,Bord na Mona Puraflo system and associated site works	Granted with conditions 20/04/2005
03/2667	Ballykelly, Monasterevin, Co. Kildare	To erect two storey dwelling, garage for domestic use, shared recessed entrance, proprietary effluent treatment plant and associated site development works	Granted with conditions 03/06/2004
03/2666	Ballykelly, Monasterevin, Co. Kildare	To erect single dwelling, garage for domestic use, recessed entrance, proprietary effluent treatment plant and associated site development works	03/06/2004
03/2352	Ballykelly, Monasterevin, Co. Kildare	Bungalow dwelling, domestic garage, septic tank and associated site works	04/11/2004

Development of the adjacent quarry site during the assessment period

With regards to the third-party quarry adjacent to the site, the following description of that operation is reproduced from the third party planners report from the 2006 planning submission (KCC planning reference: 06/2729) which seeks to address a continuation of works at the site:

The following is a summary of the operation process for which permission was granted with conditions:

- The site area is 9.83 ha with 3.75m tones of recoverable reserve.
- Proposed extraction of 250,000 tonnes annually.

- Rock extracted from ground by drilling and blasting. Extracted rock is then crushed and screened to produce various grades of aggregate. All stockpiled material is loaded onto HGV trucks for transportation offsite.
- Blasting conducted 1-2 times per month with 72 hours notice given to residents within 500m radius and an Garda Síochána attending all blasts for security & safety reasons. Vibration monitoring is conducted at two residential locations in the vicinity of the site.
- Surface water on site is pumped to onsite settlement lagoons (3 no. on site) and reused when required for dampening internal roads and stockpiles.
- The haulage routes are given: turn left onto L7094, which adjoins the Rathangan - Monasterevin regional road R414.
- Hours of Operation: 08.00-18.00 (Monday to Friday during Winter Months) 08.00 - 20.00 (Monday to Friday during remainder of year) 08.00-13.00 (Saturday all year) No activity on Sunday & Bank Holidays except on exceptional circumstances.
Currently employ a total of 14 employees with an additional 25 indirect jobs created (haulage).

2.2.4.2 Development of Subject Site from Baseline

Section 3.6.1 of the 2022 EPA EIAR Guidance states that together: the description of the project “...*the description of the baseline scenario is the second of the two factual foundations of the EIAR.*”

In this instance, an rEIAR is presented and thus relates to development already undertaken. For this reason, the baseline scenario required to be described has passed.

In deference to the requirement for Environmental Impact Assessment arising since 1st February 1990, the baseline of this rEIAR has been set at the date whereby unauthorized extraction activities commenced. Therefore, the drawings submitted in support of the substitute consent application identify the Site as it existed 1 January 2000 (i.e. baseline conditions prior to extraction activities commencing onsite) and 31 December 2006 (i.e. existing conditions onsite at the most recent potential date of cessation of quarrying operations on the Application Site). Ground levels at baseline has been inferred from historic 6” maps and orthophotographs aerial imagery, site walkovers, anecdotal evidence, and tie-in with ground contour levels of surrounding lands. Existing Site conditions at 31 December 2006 are predicted to be the same as for present given no further development has taken place onsite following closure of the quarry.

2.2.5 Sources of Information and Methodology

To retrospectively build a narrative of the development of the subject lands over the period of 01 January 2000 to the 31 December 2006 we have reviewed and rely upon publicly available resources; mapping and photography; anecdotal records from neighbouring landholders; and KCC planning files to obtain point in time descriptions of the Project Site.

Site visits and monitoring have been undertaken specifically for the preparation of this rEIAR.

Information, including maps, raster data and aerial photography in respect of ground levels, ground cover and development, is available from Ordnance Survey Ireland (OSI) provide an overlay of the substitute consent application boundary on available OSI aerial photographs from 1995, 1996-2000, 2001-2005, 2006-2012, 2011-2013 and 2013 - 2018 and Google Earth imagery from 2009, 2016, 2018, 2022 and 2024 in order that an independent source of description information for the lands at baseline and during the intervening years could be made. A topographical survey of the Site was undertaken in 2024 providing a snapshot of the extent of the quarry today.

The baseline map submitted as part of the substitute consent application to represent the extent of the quarry void in 2000 was constructed using the topographical survey of the Site, the current OSI map for the area, and an estimation of ground levels from historic 6" maps and orthophotographs.

2.2.6 Progression of Development

2.2.6.1 Aerial Imagery from 1995 and 1996-2000

Historical aerial imagery indicates that the subject lands were predominately used for agricultural purpose (tillage) prior to development of a quarry in the early 2000s (See Figure 2-3 and Figure 2-4).

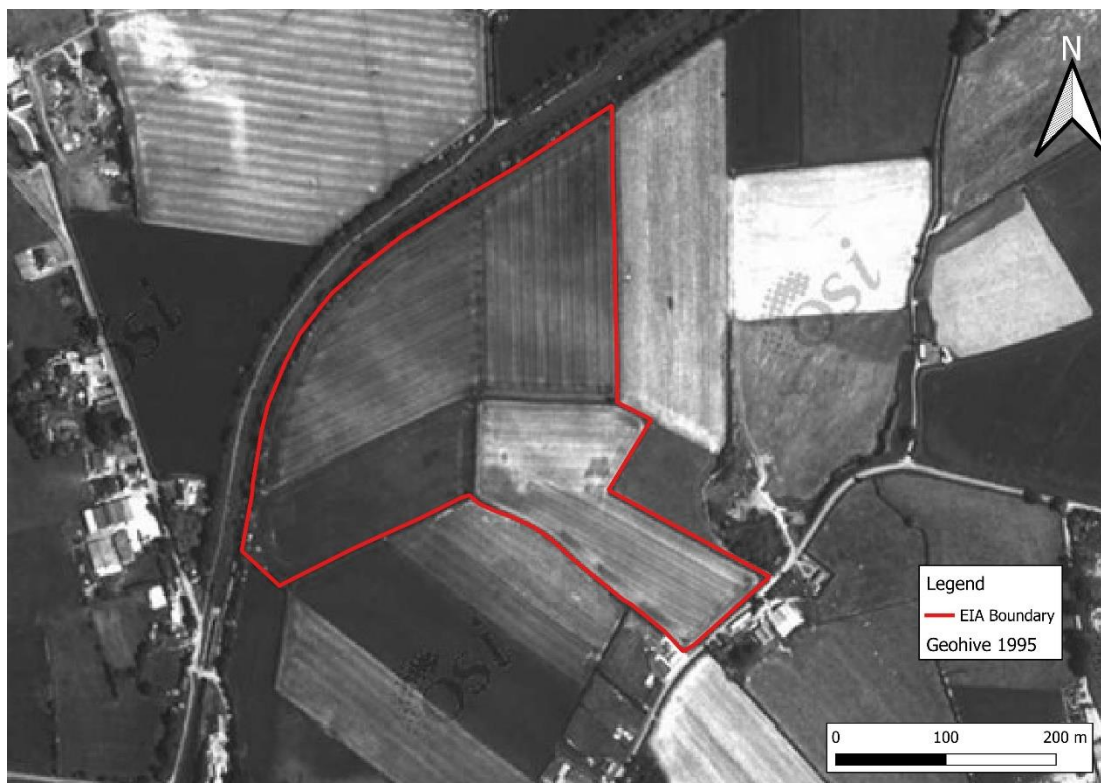


Figure 2-3 - GeoHive maps 1995

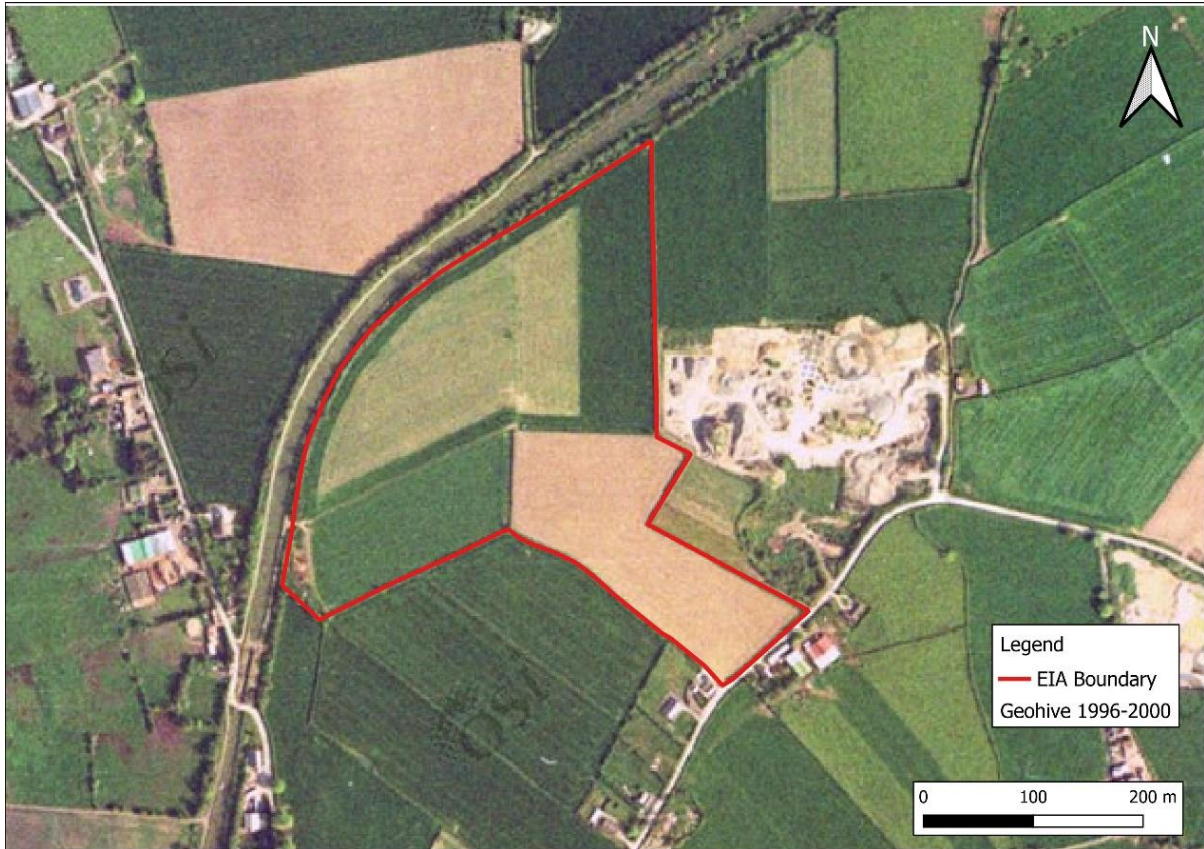


Figure 2-4 - GeoHive maps 1996-2000

2.2.6.2 Aerial Imagery from 2001-2005, 2006-2012, and 2009

The earliest aerial imagery indicating development of the (now disused) quarry by movement of soils, subsoils and extraction of aggregate and rock from the void area on the Site is dated 2001-2005 (see Figure 2-5). During this period quarrying commenced onsite in the northern section of the owned lands with quarrying activities continuing in the bordering site, to the east. Quarrying appears to occur in deeper graded sections in the northeastern section with shallower sections in the northwestern section.

An access route between the Project Site and the adjacent quarry site has been developed and removal of a short section of hedgerow (approximately 19 m) along the site boundary would have been required to facilitate this access (see Figure 2-5). It is noted that approximately 96 m of hedgerow has been removed from agricultural fields to the south of the application area, prior to extension of the development into this area as observed in aerials based from October 2009 (see Figure 2-7).

A section on north-south orientated hedgerow appears to have been removed (see Figure 2-5). Given that the quarry has not extended into the area where this hedgerow was removed from, and that the aerials show that lands are given over the agricultural use at that time, this indicates that hedgerow removal was likely to facilitate access/available lands

within agricultural lands. Therefore, it is considered unlikely that the section of hedgerow was removed to facilitate quarry development.



Figure 2-5 - GeoHive maps 2001-2005

The Geohive maps from 2006-2012 (See Figure 2-6) appear identical to the preceding maps for 2001-2005, possibly indicating the aerial imagery was not updated at that time, however Google earth images do indicate a noticeable change in 2009 (See Figure 2-7).



Figure 2-6 - GeoHive maps 2006-2012

By October 2009, aerial imagery shows collected waters are present on the quarry floor. The inundation of the working quarry floor indicates that extraction from the quarry void has ceased.

Areas within the southwest of the application site appear to have been given over to stockpiling of largely rock of low economic value (e.g. overburden) (see Figure 2-7). This interpretation is supported by observations from site visits carried out in 2024 by WSP where the stockpiles were observed *insitu*.

The October 2009 imagery indicates that approximately 86 m of hedgerow has been removed to provide space for stockpiling.

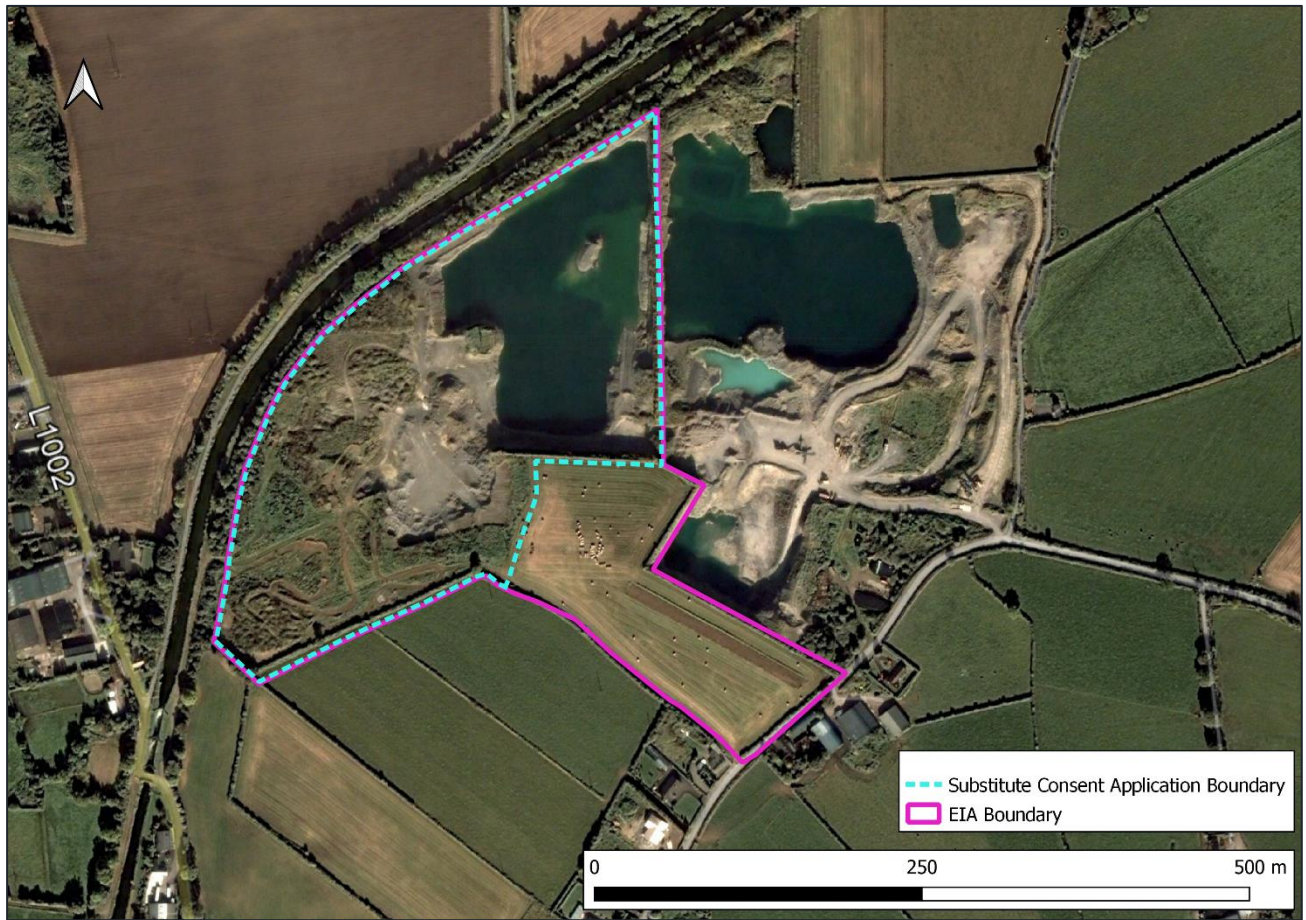


Figure 2-7 - Google Earth Imagery October 2009

Following the closure of the Project, the Application Site has undergone natural recolonisation and the quarry floor has been inundated by collected waters. The condition of the Application Site as of September 2024 is provided in Figure 2-8.

Publicly available ariel imagery covering the Project Site between 2011 to 2024 indicates that no further works associated with the Project was undertaken at the Site following the cessation of excavation activities in 2006. Prior to 2022, aerial imagery indicates that a small level of fly tipping and clearing has taken place in the south section of the Site. This is unrelated to Project activities.

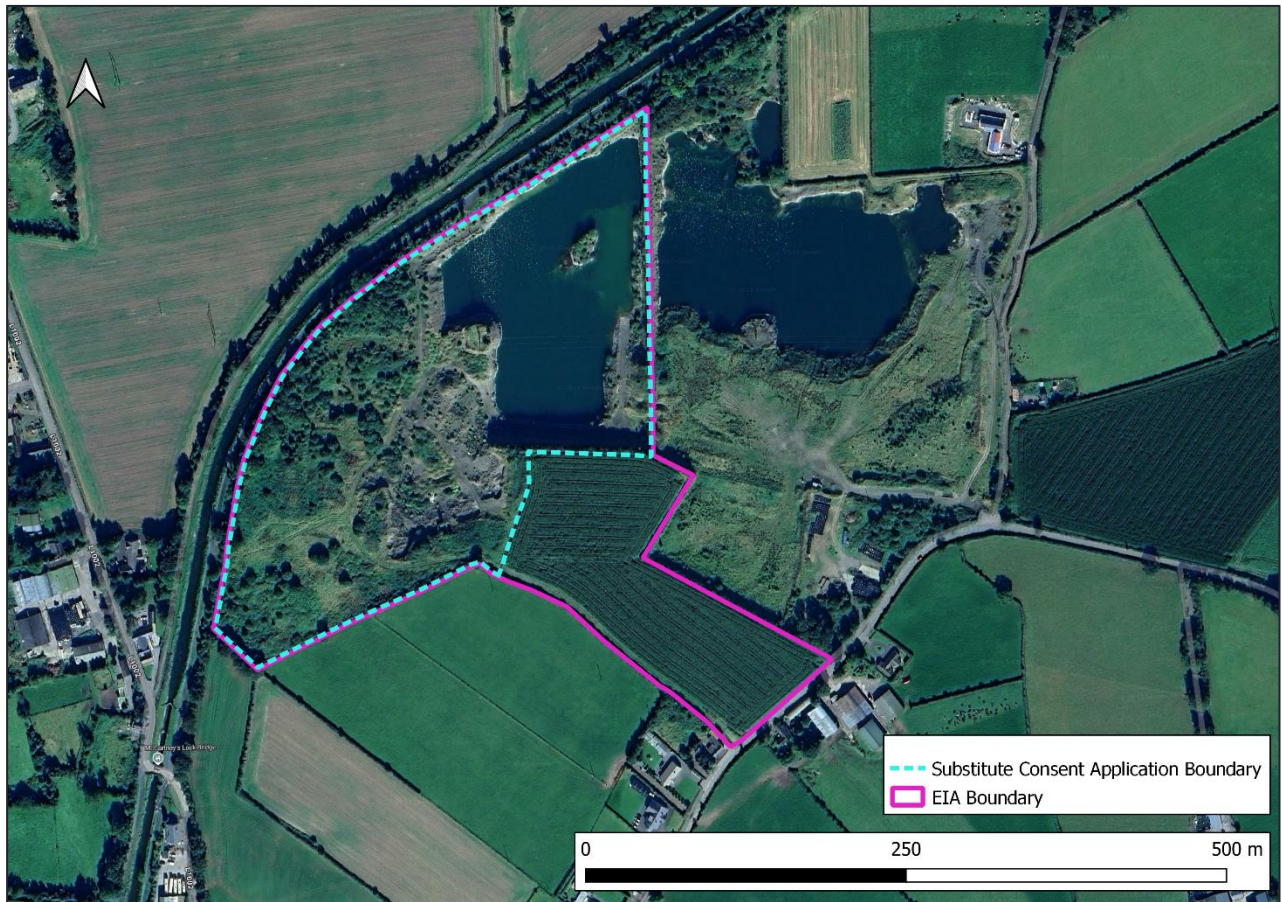


Figure 2-8 - Google Earth Imagery from September 2024

The Site Layout plans submitted as part of substitute consent application (planning drawing pack) for the Application Site present the baseline site conditions (at start 2000) and existing site conditions (at end 2006).

2.2.7 Site Development Progression

Using the information collated for the Site, including depth and extent of extraction, the rate of extraction and likely traffic flows generated over the lifetime of the development has been estimated where required to inform the application.

2.2.8 Summary of Progression of Extraction from Baseline to Current Time

The single most significant feature of the development, the subject of this rEiAR, is that it consists of a quarry and therefore there has been movement of soils / subsoils and extraction of aggregate and rock from the void area.

The amalgamation of historic mapping, current surveys and aerial photographs has provided a credible estimation of total volumes extracted from the Site since the year 2000 and provides an estimate of the amount of material recovered from the Project Site over time by measuring total void size, and the character of the material removed (e.g. bedrock).

Set out below is the methodology used to estimate the total volume of material extracted from the Project Site since the year 2000. In the interests of a precautionary approach, no wastage has been allowed for, and therefore it is expected that the estimated total volume extracted will be higher than was actually observed being processed and leaving the site i.e., an estimate of total extracted volume has been calculated here.

The method of estimation included consideration of:

- Estimated pre-extraction ground levels (estimated from OSI historic mapping);
- Observed current average working depth of approximately 55 mAOD from topographical survey of carried out in 2024;
- Estimated current void volumes of a total extraction of over approximately 760,000 tonnes of aggregate from the lands over seven years from 2000-2006 (inclusive).
- The extraction direction of lands is likely to have begun on the eastern boundary from the point of access from the adjoining pit. Extraction appears to have continued in the west and north with most extraction occurring in the north and some expansion to the southwestern edge of the site, giving rise to a substitute consent area of approximately 7.87 ha, which includes topsoil storage areas and buffer zones.

Estimated historic extraction rates from baseline (2000) to estimated cessation of operation (2006) are provided in Table 2-2.

Table 2-2 - Historical extraction rates

Year	Estimated Extraction* (Tonnes)
2000	108,571
2001	108,571
2002	108,571
2003	108,571
2004	108,571
2005	108,571
2006	108,571
Estimated Total: approximately 760,000 tonnes	
<i>*The current operator purchased the business in 2022, and as a result there are no tonnage extraction records available for the period between 2000 to 2006. An estimate of 108,571 t/yr extraction has been applied to this period based the total tonnage over the 7 year operational period.</i>	

2.2.9 Traffic

It is understood that all traffic entering the quarry over the period of quarrying (2000-2006) entered from the adjoining quarry Site (permitted under Kildare planning reg. ref. 06/2729) from the L6030 and used informal haul routes internally within the quarry.

Based on local knowledge of the operations of the adjoining quarry, it is understood that over the period of the Development, HGVs travelling to and from the site east along the L7049 to join the R424 to access regional routes.

It is estimated that there was approximately 46 No. truck movements per day (23 inbound and 23 outbound over assessment period)¹, with approximately 6 No. staff/visitor cars movements in and out occurring over the period of the Project, on average.

2.2.10 Plant

The volume and type of plant and vehicles onsite has been estimated on the basis of comparison with similar development or similar scale from the early to mid-2000s. 1 No. excavator, 1 No. loader; 2 No. haulers (18T), 1 No. mobile crusher, 1 No. mobile screen.

There is no evidence from arial imagery or KCC planning records that processing of rock was carried out onsite. To conduct a robust assessment it has been assumed that dry processing was carried out onsite to an extent proportionate to the scale of Project.

Given the plant list above, it is estimated that there was approximately 40 plant movements a day within the Application Site. This estimate has been determined using professional judgment and is based on the plant list above and the configuration of the internal haul routes and quarry benches within the Application Site².

It is estimated that the Project may have required a pump and generator (see section 2.2.17 for details).

2.2.11 Blasting

Planning documents available from KCC do not indicate if blasting was carried out on the site. Given the nature of the bedrock at the Application site (i.e. limestones of the Allenwood Formation) it is considered likely that blasting was carried out periodically to produce blast rock for further processing on the Site. The frequency of blasting would likely have varied depending on market demands for aggregate product. For the purpose of this assessment it is assumed that blasting of bedrock took place within the quarry void 1-2 times a month.

¹ Assuming 18T trucks were adopted.

² As determined from arial imagery and site walkovers carried out by WSP in 2024.

2.2.12 Hours of Operation

The operational hours for the adjoining Site through which vehicles accessed the application Site, were 07:00 to 17:00 hours Monday to Friday, and 07:00 to 14:00 hours Saturday. There was no working on Sundays or Bank/Public Holidays.

2.2.13 Employment

Direct and indirect employment is attributable to the rEIAR. Direct employment is in the categories of 2 No. directly employed staff operating plant and vehicles as set out in section 2.2.10.

Haulage and blasting requirements were likely met by independent contractors who did not have their permanent workplace on-site.

Allowance has been made for 2 No. visitor vehicle movements to site daily.

2.2.14 Fuel and Chemical Storage

There is limited historical knowledge available for the fuel and chemical storage on the application Site. It is understood from anecdotal information that refuelling occurred on the adjacent site by a visiting fuel bower. An application for development at the Site made under KCC PPRN. 06/1155 indicated a fuel storage area at the entrance to the Site from the adjoining facility however this application was deemed incomplete by Kildare County Council.

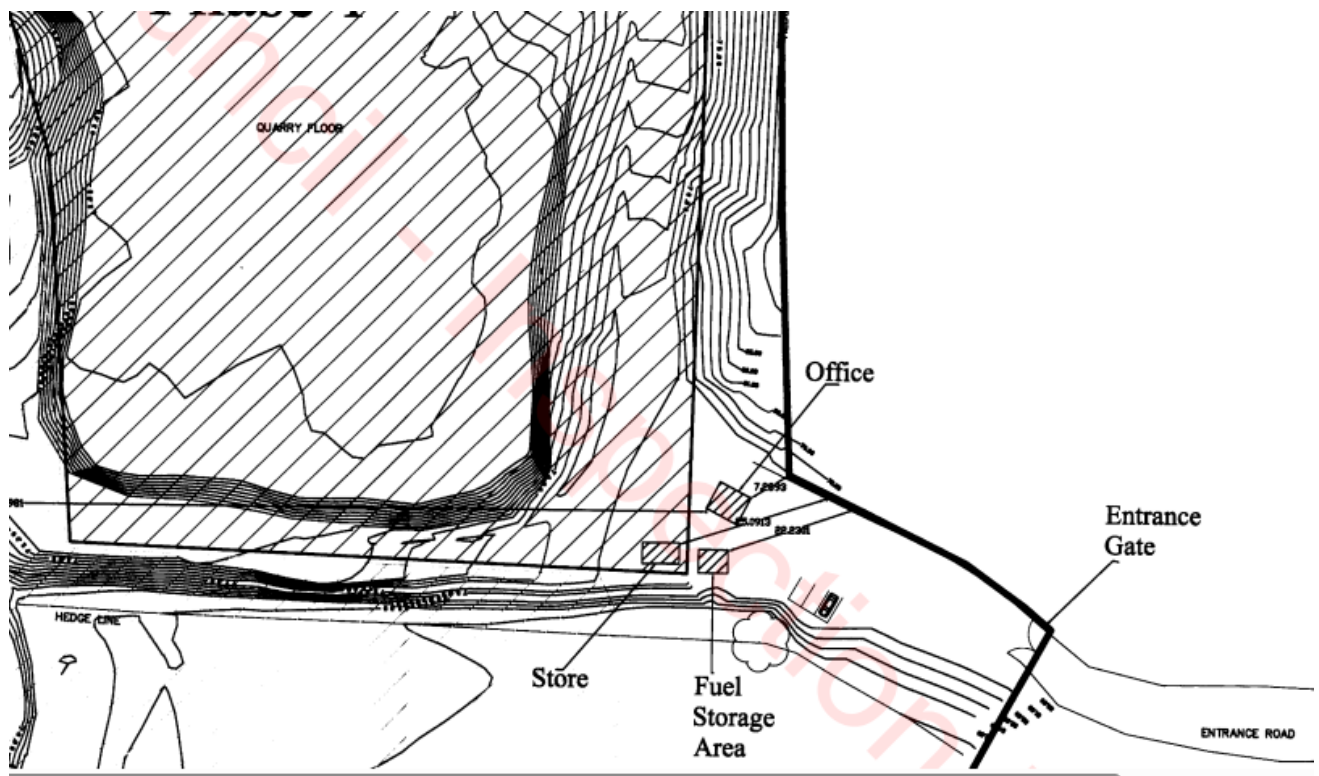


Figure 2-9 - Fuel storage area from KCC PPRN. 06/1155 application

2.2.15 Waste Management

No information is available on waste management activities at the Site however due to the nature of the extraction activities, it is expected that the waste arising on-site is municipal waste from staff activities.

Waste arising from broken plant or vehicles has not been observed during walkovers of the site undertaken by WSP in 2024 or in site photographs presented in KCC's 261A Assessment report dated 2012.

2.2.16 Waste Water

It is understood that the employees utilized the welfare facilities on the adjoining site. A review of aerial photography for the assessment period indicates no welfare or other facilities on Site.

2.2.17 Potable, Surface and Groundwater

The main body of water on site is contained in the extraction void and is understood to contain groundwater. There was no source of potable water on site. It is understood that potable water brought onto site for employee use.

There is no evidence of settlement ponds, lagoons, or soakaways having been in place on the Application Site. However, given that the quarry in the adjacent site required dewatering of the quarry floor during its operational life it is assumed for the purpose of this assessment that dewatering of the quarry void at the Application Site was undertaken where extraction occurs below the groundwater table. This approach has been adopted to ensure a precautionary assessment.

In order to adopt this precautionary approach the flowing plant has been assumed to be onsite.

The pump and generator proposed below are selected based on typical current day equipment in use for dewatering of similar projects of a similar scale:

- Estimated pump model: Xylem Flygt BIBO 2870 50hz, and,
- Estimated diesel generator model: FG Wilson XP150E

It is assumed for the purpose of assessment that the diesel generator powered the pump on the quarry floor. It is assumed that these would have been located in the lowest topographical levels of the quarry floor where water would be expected to collect.

It is assumed that any pumped water would have been discharged to ground within the Application Site at a suitable location constrained by topographical levels and the location of working areas/internal haul routes.

2.2.18 Power Supply and Telecommunications

There was no power supply provision on site. It is expected that plant and machinery requiring energy was in the form of diesel generator on site such as a mobile crusher and screener. A 110KV power supply line enters the site overhead from the west.

2.2.19 Safety and Security

Access to the Site was via the adjoining quarry which was the only vehicular entrance in operation at the time. All vehicles entering and exiting the Site had to do so from the L7049 entrance, and travel along a dedicated private gravel covered access road to the site entrance. The Project Site is currently fully fenced, with any agricultural entrances permanently closed and locked

2.2.20 Rehabilitation

This rEIAR has been prepared for a substitute consent application for quarrying under S.261A of the Planning and Development Act, 2000 as amended. An application under section 37L of the Act is to be made concurrently with this application for substitute consent for the restoration of the site to agricultural use through importation of clean soil and stone to land level that are in keeping with surrounding land levels.

Given that rehabilitation of the quarry lands was not carried out at the time of the quarry closure (i.e. following 31 December 2006), a rehabilitation plan for the Project has been prepared to support this substitute consent application (see Appendix 2A. This plan is prepared cognizant of the after-use strategy for quarries post-closure as set out in the set out in the Kildare County Development Plan 2023-2029 ('KCC CDP 2023-2029') (see Section 9.9.1 therein).

Section 9.9.1 of the KCC CDP 2023-2029 states '*The conditions of quarry after-use and rehabilitation frequently involves the restoration of quarries, as far as possible, to their original appearance. This may result in the loss of key features that may ironically, have some ecological benefit or rich biodiversity interest.*'

The Rehabilitation Plan presented in Appendix 2A seeks to retain habitats that have developed onsite through natural recolonisation of the lands in the years following the Project closure on 31 December 2006³. This approach is adopted to ensure the intrinsic ecological character of the site (i.e. fauna and flora onsite) are factored into the rehabilitation of the Site. Such features include:

- retaining the existing waterbody formed through collected waters within the disused quarry void.

³ It is noted that the current habitats on site have been assessed and the present day baseline conditions on the Site are presented in detail in the EIAR prepared for the 37L Application.

- retaining a discontinuous shallow sand bank on sections of the uppermost levels of the southern and eastern quarry walls when quaternary deposits have been exposed through excavation. These banks are suitable for nesting birds such as sand martins.
- Retaining existing seedbank onsite to allow for natural recolonisation to continue within the site within habitats present on the Site.

A proposed rehabilitation plan is provided within Appendix 2A of this chapter.

2.3 Major Accidents and Disasters

The EIA Directive (Directive 2011/92/EU, as amended by Directive 2014/52/EU), requires that an assessment is made of *'the expected effects deriving from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned'*. This is provided in Chapter 14 (Major Accidents and Disasters) on this rEIAR.

2.4 County Development Plans

The following county development plans were in effect during the assessment period

- Kildare County Development Plan 1999; and,
- Kildare County Development Plan 2005-2011.

Furthermore, the proposed restoration plan for the Application Site has been prepared cognisant of the after-use strategy for quarries post-closure as set out in the set out in the Kildare County Development Plan 2023-2029 (see section 2.2.20 herein for further detail).

2.4.1 Kildare County Development Plan 1999

2.4.1.1 Extractive industries

Section 2.29 for the Kildare County Development Plan (KCDP) 1999 deals with Extractive Industries and Section 2.29.1 addressed sand and gravel and rock quarrying and states:

'It is recognised that the gravel resources are important to the general economy and that the sand and gravel extraction industry is a valuable source of employment in some areas of the county. However, the industry can have seriously detrimental effects on the landscape, on the operation of bloodstock, and on residential amenities. The impact on the county road network has been substantial.'

'It is the policy of the Council that a survey and examination of both existing pit areas and potential sand and gravel deposits in the county be undertaken and to assess the interactions between the development of these resources and future land uses. To assist in the survey, it is intended that an aerial survey of all sand and gravel workings in the county will be made. This will establish the current extent of existing workings and will pinpoint areas where rehabilitation is needed. The survey results could be used as evidence against any future unauthorised sand and gravel developments. It is intended that this survey would be continually updated.'

'No sand and gravel extraction will be permitted under Class A soils, in areas of high amenity (as defined in this Plan) and their environs, or where conflict with the bloodstock industry might arise. Apart from these exclusions, sand and gravel extraction will be considered on its merits elsewhere within the county, having regard to the policies of this Plan. Within the East Kildare Uplands Area, sand and gravel extraction will be permitted only in areas zoned for that purpose.'

'It is the policy of the Council to ensure that all existing workings shall be rehabilitated to suitable land uses and that all future extraction activities will allow for the rehabilitation of pits and proper land use management. The use of landfilling with waste, other than topsoil, subsoil and builder's rubble, is not considered to be an acceptable method of rehabilitation of pits.'

'It is the policy of the Council to ensure that the full cost of road improvements which are necessitated for this industry, shall be borne by the industry itself.'

'It is Council policy to ensure that rock quarry workings should not detract from the visual quality of the landscape. It is Council policy that all such workings should be subjected to landscaping requirements, similar to those for sand and gravel workings, and that worked out quarries should be rehabilitated.'

'Detailed objectives and standards for the development and regulation of sand and gravel extraction are set out in Part 4, Section 4.22 [of the KCP 1999]'.

Section 2.29.2 of the KCDP 1999 covers the event of major mineral finds and is therefore not considered relevant to this rEIAR.

Part 4, Section 4.22 of the KCP 1999 states that in assessing planning applications for permission for sand or gravel deposits, the following will be the development control considerations:

- *Duration of Permissions* – nothing that the 'period will generally be of five year's duration, but may be for a shorter or longer duration. No permission will be given for a period in excess of ten years'.
- *Rehabilitation* – noting 'all extractive sites shall be rehabilitated and landscaped, in phase with the extraction' and be suitable for stated after-use. Furthermore KCC 'will not generally permit the after-use of the site for the processing of materials which have to be imported to the site'.
- *Bonding* – there is a general requirement for operator of extractive sites to submit bonds
- *Submission Details* – should provide information as set out under the following headings; site layout work programme, landscape, working of the site, transport, and rehabilitation.

The Project's maximum duration is understood to be 7-years and therefore does not exceed the 10-year period.

This rEIAR and the wider Substitute Consent Application submission aims to the information required for the submission. A proposed Rehabilitation plan is provided in Appendix 2A.

Part 4, Schedule 2 of the KCP 1999 provides a list of specific objectives for sand and gravel pits. The Project/Application Site is not included within this list.

2.4.1.2 Transportation

Part 1, Section 1.17.1 of the KCP 1999 states: *'The Council proposes, in co-operation with the National Roads Authority and the Department of the Environment and Local Government, during the period of the Plan, to continue to design and construct major road systems which will in effect by-pass all major towns. The Council also proposes, where appropriate, to improve sections of the existing national road network. All these national roads will be to the standard dictated by traffic needs and consistent with national policy.'*

In relation to the N7 bypasses the KCDP states *'Alternative designs are under consideration, in conjunction with Laois County Council, affecting Monasterevin.'*

Part 2, Section 2.14.1 of the KCP 1999 states *'It is the policy of the Council to protect the traffic capacity of all public roads. For this purpose, it is the policy of the Council to restrict new access points and to restrict developments which are likely to give rise to traffic hazard.'*

It is noted the Project accessed the public road through the site entrance at a permitted quarry site located on adjacent lands and owned/operated by a third-party.

2.4.1.3 Tourism and amenities

The landscape of the county is considered a major attraction and two of the three separate tourist identified are present in the vicinity of the Project Site (Part 1, Section 1.22 of the KCP 1999):

- The Barrow - *'This tourist zone is based on the river and the canal link to the main Grand Canal line at Lowtown. The northern boundary runs through Lowtown. The main County Kildare towns in this zone are Droichead-Nua, Rathangan, Kildare, Athy, Castledermot, Ballitore, Moone, Monasterevin, Robertstown and Kilmeague.'*
- The Grand and Royal Canals – *'This tourist zone is based on the Grand and Royal Canals and their environs. They bisect the county, stretching from the County Kildare border near Celbridge and Leixlip to the River Shannon and it is contiguous to the Barrow zone to the south. The main Kildare towns in this zone are Leixlip, Celbridge, Maynooth, Kilcock, Clane, Prosperous, Robertstown, Rathangan, Monasterevin, Athy and Sallins. The canals are an invaluable tourism asset which is under-utilised at present.'*

In section 1.23 of the KCP 1999, the Valley of the River Barrow is recognised as an area of high amenity. Section 1.25 of the KCP 1999 states *'County Kildare contains stretches of both the Royal and Grand Canals, the Barrow Navigation System, their feeders and links. The Grand Canal and the Barrow Line constitute important recreational and amenity facilities. They are both used extensively for boating and fishing and their towpaths provide walkways and potential linear parks'.*

Part 2, Section 2.22 of the KCP 1999 states that *'it is the Council's policy to encourage sustainable tourism, especially that based on the county's archaeological, historic and architectural heritage, and that based on the county's bloodstock and equine activities. It is also Council policy to promote the development of the canal system for tourist purposes'*

Section 2.26 states *'it is Council policy to protect items of architectural or industrial archaeological interest associated with the canals, such as bridges, navigation aids, locks, etc., and to develop the towpath system for walking routes.*

It is noted that the Project did not impinge on the public realm. Views of the Project from the Grand Canal towpath have been considered in the Landscape and Visual Impact Assessment in Chapter 11 of this rEIAR and effects are found to have been not significant.

2.4.1.4 Heritage

Part 2, Section 2.30 of the KCP 1999 states that *'it is the policy of the Council to preserve and protect items of artistic, historical, architectural, archaeological and scientific interest in the county'*.

Specific objective relating to the preservation and restoration of heritage items are set out in Part 3, Section 3.2 of the KCP 1999 which states *'it is an objective of the Council to preserve caves, sites, features and other objects of archaeological, geological or historical interest as set out in List A [therein]'*.

The tables does not contain items located in the townland of which the Project is located.

The section also states that it is the *'objective of the Council to preserve buildings, other structures or internal fixtures or features of artistic, historic or architectural interest as set out in list B [therein]'*.

The tables does not contain items located in the townland of which the Project is located.

Part 3, Section 3.3 of the KCP 1999 states that *'it is the objective of the Council to ensure the protection of these [areas for preservation], and to exclude from them any development which would be inimical to the preservation of their essential characteristics. Applications for developments which would affect these areas will be considered in the light of this policy. These areas include comprise Natural Heritage Areas, Special Areas of Conservation, Areas of Scientific Interest and Areas of Scenic Interest. In the case of the first two types, these are also proposed to be designated, pursuant to E.U. Directives, by state agencies'*.

Section 3.3.1 sets out Natural Heritage Areas with Proposed Natural Heritage areas tabulated. The potential effects of the Project on Natural Heritage Areas and Proposed Natural Heritage areas is considered in Chapter 5 (Ecology and Biodiversity) of this rEIAR.

Section 3.3.2 sets out Special Areas of Conservation with Proposed Candidate Special Areas of Conservation tabulated. These are considered in the Stage 1 Screening for Appropriate Assessment that has been prepared to support the application for Substitute Consent.

Section 3.3.3 sets out Areas of Scientific Interest with Areas of Scientific Interest in County Kildare tabulated. None of the sites included are within the vicinity of the Site.

Section 3.3.4 sets out Areas of Scenic Interest with Areas of Scenic Interest in County Kildare (Trees and Woodlands and Historical Landscapes) tabulated. None of the sites included are within the vicinity of the Site.

Part 3, Section 3.4 of the KCP 1999 considers views and prospects and states *'it is an objective of the Council to preserve, improve and open up places or areas from which views of high amenity value may be enjoyed.'* Table 3 within this section considers views to and from all bridges on Grand Canal which the closest to the Application Site being the Barrow Bridge at Monasterevin. None of the scenic views to be preserved, as listed in this section, relate to the Townland in which the Project is located.

Part 2, Section 2.31 of the KCP 1999 states that *'it is the policy of the Council to co-operate with the Office of Public Works and the Wildlife Advisory Council in securing the conservation of wildlife in the county in accordance with the provision of the Wildlife Act 1976'.*

Section 2.31A states that it is *'the policy of the Council to protect and preserve existing hedgerows and to encourage the planting of new hedgerows, using traditional native species. The Council will promote the environmentally sensitive management of hedges, and it is the Council's policy to enforce strictly the prohibition of cutting hedgerows during the nesting season.'*

2.4.2 Kildare County Development Plan 2005-2011

Relevant policy sections include:

- Chapter 2: Economic Strategy
- Chapter 14: Extractive Industries
- Chapter 15: Development Control Standards
- Chapter 17: Heritage
- Chapter 18: Landscape Character Areas
- Chapter 19: Protected Views and Scenic Routes

Policy relating to heritage is provided in Chapter 10 (Cultural Heritage) of this rEIAR, where it is relevant.

Policy relating to landscape character areas, protected views and scenic routes is provided in Chapter 11 (Landscape and Visual) of this rEIAR, where it is relevant.

Economic Strategy

The CDP contains a strategic goal to *'make Kildare the first choice location for indigenous and foreign direct investment by developing locations in Kildare that will attract and sustain job creating investment. Thereby ensuring the provision of employment for Kildare's labour force'.*

Economic Strategy policy statement provides for the following policy relating to transport that are relevant to this rEIAR:

‘ED 1 To support and implement the strategic development of identified dynamic clusters and towns in accordance with the Integrated Framework Plans for Land Use and Transportation (IFPLUT) as required under the NSS and supported in the draft Regional Planning Guidelines. Studies are currently under way for:

- *Newbridge/Kilcullen*
- *Athy*
- *Kildare/Monasterevin*
- *Leixlip/Celbridge/Maynooth/Kilcock.*

ED 3 To improve access of the labour market (local and remote) to the employment location.

ED 4 To improve access to Dublin Airport and Dublin Port.

ED 5 To improve movement within and between settlements in the county by all modes of transport.

ED 6 To promote more sustainable forms of transport.’

Economic Strategy policy statement provides for the following policy relating to Small and Medium Enterprise that are relevant to this rEIAR:

‘ED 25 To encourage and facilitate at appropriate locations, small indigenous industries in recognition of their increasing importance in providing local employment and helping to stimulate economic activity within small communities.’

Extractive Industries

Section 14.1 states that *‘The extraction of sand, gravel and rock is an economic activity that is vital for society, as it largely contributes to the provision of road and construction aggregates. The extractive industry also provides employment and economic growth in the local and regional economy and the Council recognises the vital contribution made by the extractive industry to the continued growth of County Kildare and the Eastern Region. [...]*

Although the extractive industry is a temporary use of land, it can have detrimental environmental effects including traffic generation, vibration, noise, dust, water pollution, visual intrusion and loss of groundwater supplies. The industry can seriously affect the landscape, the operation of the bloodstock industry and residential amenities. The impact on the road network is substantial.

It is also recognised that, by their nature, aggregates can only be worked where they occur. The deep sand and gravel deposits are typical in the east of the County while rock quarrying commonly takes place on the eastern uplands and in the Chair of Kildare.

Under Section 261 of the Planning and Development Act 2000-2004, registration of all quarries operating in the Country is required. This section commenced with effect from 28th

April 2004 and it is intended to bring all quarries - including those that have claimed exemption because they were operating before the 1963 Planning Act - within the planning system and thus deal with concerns regarding unauthorised sand and gravel quarries in the country. The registration process will enable the Planning Authority, subject to the financial resources of the county, to impose, modify or restate conditions on existing quarries and thus tackle environmental issues and concerns and will give the public the right to comment on the terms of the permission.'

The following goal and objectives were met by the Extraction Development at the Application Site.

'14.2 Goal: To ensure that adequate supplies of aggregates are available to meet the future needs of the County and Region, in line with the principles of sustainable development and environmental management.

14.3 Objectives:

(1) To support regional policy for the adequate supplies of aggregate resources to ensure the continued growth of the County and Region.

(2) To ensure that the extractive industry will minimise and/or mitigate any adverse visual and/or environmental impacts on the built or natural environment.'

Section 14.4 addresses 'Siting of Extractive Industries' in relation to changes of the appearance of the landscape and the potential for visual intrusion from changes to ground level, development of quarry faces, removal of vegetation, and use of plant. The section notes the sensitivity of elevated areas (e.g. ridgelines, hills, uplands, valley sides) to visual impacts from extraction activities.

Section 14.5 'Layout and Design of Extractive Industries' states that *'Ideally the overburden (topsoil, subsoil, and waste) should be located to enclose and screen the other elements so as to minimise visibility from the surrounding countryside. This aspiration must take account of the operation's reasonable requirement to minimise the length of haulage routes and to avoid double handling of material within the site.*

When located on hill slopes and eskers, quarries present a visual impact on the local landscape. The visibility however can be partially screened by occurring topography (i.e. the quarry will only be visible to one side of the hill, or screened by undulating lands in the case of quarrying eskers) and vegetation (i.e. forestry and planting will screen the lower quarry faces). Nevertheless, the visual impact of quarry works is likely to be significant on the local landscape'

The Application Site is located in the Southern Lowlands of Kildare and is set in a relatively flat lying area that is screened by surrounding topography. Additionally, the Application Site is largely screened from the local road, the Grand Canal, adjacent agricultural lands by established hedgerow and treelines. See Chapter 11 (Landscape and Visual) for further detail.

Section 14.7 states that *‘Post Closure of Extractive Industry Rock quarries usually result in steep rock faces and a flooded pit. With reasonable and economic design these can become valuable local habitats and even recreation amenities. Sand and gravel workings, on the other hand, can easily be restored to agricultural use. However, designations to post closure uses must have regard to the likely land use context at the time of closure. Furthermore, allowing rehabilitation of quarry faces to take place parallel to extraction operations and providing planting on earth mounds at quarry entrances significantly reduces visual impacts while allowing for ecological and habitat recovery.’*

The Application Site was not subject to a Rehabilitation Plan at the time of closure. Lands south of the Application Site and located within the EIA boundary were in agricultural use (tillage) prior to, during and following closure of the extraction operation.

The following policies of the council as set out in Section 14.8 (‘Policy Statement’) are relevant to this rEiAR:

‘EI 1 To carry out a survey and examination of both existing pit areas and potential sand and gravel deposits in the county, subject to the financial resources of the county. It is intended that this survey will be carried out in conjunction with the Geological Survey of Ireland (GSI) and that it will assess the interactions between the development of these resources and future land uses.

‘EI 2 To safeguard resources by seeking to prevent incompatible land uses, that could be located elsewhere, from being located in the vicinity of the resource, since the extraction of minerals and aggregates is resource based.

‘EI 3 To require that applicants demonstrate their commitment to good environmental management.

‘EI 4 To ensure that the full cost of road improvements which are necessary for this industry, shall be borne by the industry itself and that the industry shall also contribute to the recreation and amenity of the county.

‘EI 5 To ensure that the extractive industry minimises adverse effects on the road network in the area and contributes to their maintenance in accordance with Policy EI 4.

‘EI 6 To ensure that the extraction of minerals and aggregates should minimise the detracting from the visual quality of the landscape.

‘EI 7 To ensure that all existing workings be rehabilitated to suitable land uses and that all future extraction activities allow for the rehabilitation of pits and proper land use management. Land filling with inert material is the preferred method, however, each planning application in relation to extractive industries shall be considered on a case-by-case basis and, where relevant, will be dealt with under the Waste Management Strategy.

‘EI 8 To prohibit extraction in areas classified as having Class A soils, except where it can be demonstrated that there are no suitable alternative sites. The Council will only consider such extraction if it can be demonstrated that the land can be returned to a similar

agricultural use following cessation of extraction activities. Any extraction in areas with Class A soils must be carried out under the guidance of a soil specialist.

‘EI 9 To ensure that development for aggregates/mineral extraction, processing and associated concrete production does not significantly impact in the following areas: - Special Areas of Conservation (SACs), - Special Protection Areas (SPAs), - Natural Heritage Areas (NHAs), - Other areas of importance for the conservation of flora and fauna, - Areas of significant archaeological potential, - In the vicinity of a recorded monument, and - Sensitive landscapes as identified in chapter 18 [therein].

The Site is not listed within the Table 14.1 ‘List of Specific Objectives for Sand and Gravel Pits’ which sets out site specific objectives are the pits listed.

Development Control Standards

Section 15 of the KCC CDP deals with design and development. The section includes the following relevant Development Control Standards policies in relation to sightlines, access onto public roads, and access requirements. No specific or bicycle parking standards are identified for quarry development.

The Development utilised access through the adjacent quarry lands to access the public road need at a single point of ingress/egress on the local road (see Chapter 11 (Traffic and Transport) for details).

Section 15.16 addresses the Extractive Industry and states the following:

‘Applications should submit information on the following items at application stage:

- (1) Map(s) showing (a) total site area, (b) area to be excavated, (c) any ancillary proposed development, (d) nearest dwellings or any other development (within 1 km of the site.)*
- (2) Description of the aggregate(s) to be extracted, method of extraction, any ancillary processes (such as crushing, concrete manufacture, etc.), equipment to be used, stockpiles, storage of soil and overburden, storage of waste materials, settling ponds.*
- (3) Total and annual tonnage of extracted aggregates, expected life of the extraction, maximum extent and depth of working, phasing programme.*
- (4) Description of development works (buildings, fixed and mobile plant, roads, fuel tanks, water supply and drainage, earth mounds, etc.*
- (5) Description of water courses and water table depth, natural and cultural heritage, traffic impact and waste management.*
- (6) Description of cumulative impact when taken together with other quarries in the vicinity.*
- (7) Likely environmental effects.*
- (8) Proposed mitigation measures.*
- (9) Restoration and after-care proposals.’*

The substitute consent application, including this rEIAR, provides the information listed above to the Board. Where data is not publicly available regarding extraction and associated works reasonable assumptions have been made using professional judgement, and based on similar development and applying the precautionary principle. This rEIAR set out where assumptions have been made in Chapter 2 (Project Description) and technical chapters, where relevant.

2.5 Limitations and Difficulties Encountered

Limitations and difficulties encountered in preparing this rEIAR having regard to the Planning and Development Regulations 2001 (as amended) and 2022 EPA Guidelines relate to the lack of operational design and practises, monitoring and survey data from the period that the subject lands were excavated and material processed. The Applicant holds limited information regarding the Project assessed in this rEIAR as it significantly predated their purchase of the lands within the Application Site. Furthermore, the Project was carried out by a third party.

Historic planning application and license files were inspected at the offices of Kildare County Council by WSP on 22 October 2024. Notwithstanding, consistent topographical survey and monitoring data for the subject lands from years prior to 2024 does not exist. The section 261A assessment prepared by KCC was carried out approximately 6 years after the quarry had ceased operations and cited reports from prior to 2012 relating to the Project that were unavailable to view within the planning file.

Further relevant difficulties or survey limitations specific to each study area have been identified therein, as appropriate.

Conservative assessments have been applied where information concerning methodology or program could not be fully determined.

As appropriate, information from publicly available sources has been used in the course of this assessment. This includes mapping sources such as the Environmental Protection Agency, Geological Survey of Ireland, Department of Communication, Climate Action and Environment, etc., and other information including Census returns. Due care has been taken in the review of these data sets however no responsibility can be taken for inaccuracies which may be present within this public data.

2.6 References

Kildare County Development Plan 1999. Available at:
<https://kildarecoco.ie/AllServices/Planning/DevelopmentPlans/ArchiveofDevelopmentPlans/KildareCountyDevelopmentPlan1999/>

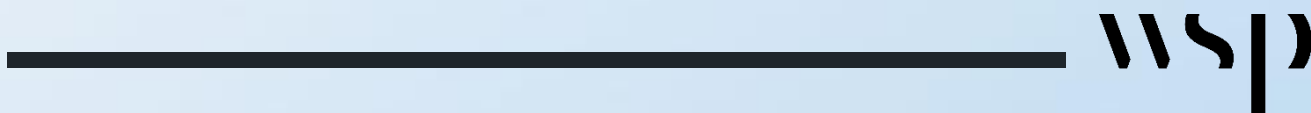
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Kildare County Development Plan 2023-2029. Volume 1, Chapter 9. Available at:
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Kildare County Development (2025,) S261A Quarry Notices. Available at:
[https://kildarecoco.ie/AllServices/Planning/Quarries/Copy of S261A Quarry Notices Issued edited for the website 14102020.pdf](https://kildarecoco.ie/AllServices/Planning/Quarries/Copy%20of%20S261A%20Quarry%20Notices%20Issued%20for%20the%20website%2014102020.pdf)

Appendix 2A

Restoration Plan



Rehabilitation of site

Introduction

This Rehabilitation Plan seeks to retain and promote habitats that have developed onsite through natural recolonisation of the lands in the years following the Project closure on 31 December 2006. This approach is adopted to ensure the intrinsic ecological character of the site (i.e. fauna and floral onsite) are factored into the rehabilitation of the Site. These features comprise the following elements:

- Retaining the existing waterbody formed through collected waters within the disused quarry void.
- Retaining a discontinuous shallow sand bank on sections of the uppermost levels of the southern and eastern quarry walls when quaternary deposits have been exposed through excavation. These banks are suitable for nesting birds such as sand martins.
- Retaining existing seedbank onsite through allowing for natural recolonisation to continue within the site.

The rehabilitation plan drawing is provided at the end of this Appendix 2A.

Habitats present onsite (2024)

A habitat survey (sensu Fossitt classification) of the EIA study area was undertaken by WSP in 2024. The habitats are described in Chapter 4 (Ecology and Biodiversity) of this rEIAR. The 2024 habitat map is provided herein (see Figure 2A-1 and Chapter 4 (Ecology and Biodiversity)) as the proposed rehabilitation plan requires an a consideration of the present-day habitats at the Site.

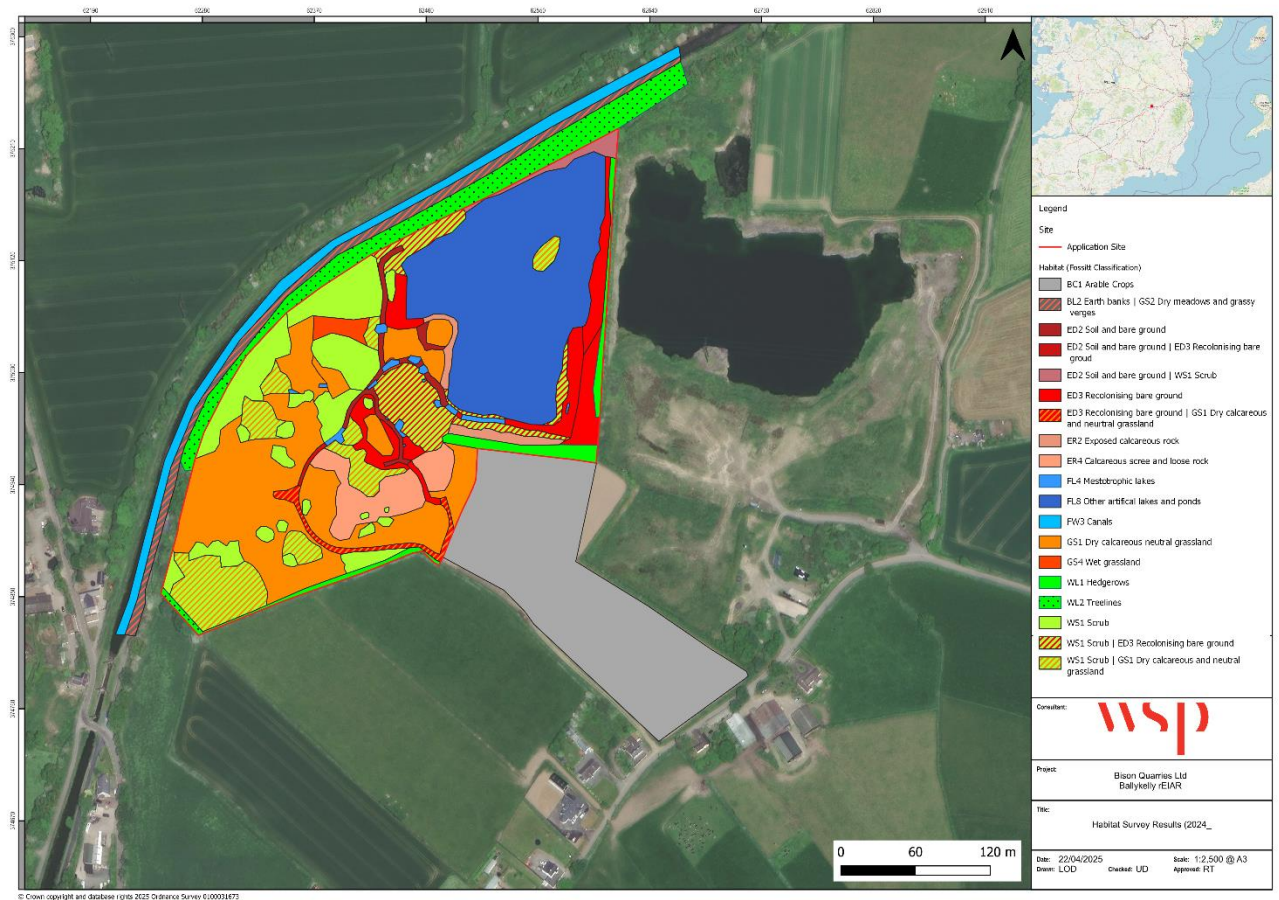


Figure 2A-1: Habitats sensu Fosset (2024)

Ground levels and Screening

The Site is largely screened from the local roads and the Grand Canal due to (1) the topography at, and surrounding, the Site and (2) existing present-day vegetation (e.g. hedgerow, treelines, scrub).

It is estimated that approximately 105 m of hedgerow may have been removed as a result of the project and it is proposed to plant approximately 96 m of hedgerow at the Application Site. Hedgerow planting is proposed on the Application Site boundaries on lands within the ownership of the Applicant to promote screening of the Site from adjacent land located to the south-east of the Site. It is anticipated this will also provide additional linear vegetation features at the Application Site favourable to bats and birds (e.g. provision of better-quality commuting habitat). Bolstering of existing hedgerow will be carried at the location shown on the drawings provided within this Appendix 2A.

The plan proposes to retain existing ground levels at the Site and utilise existing internal access tracks to facilitate continued access within the Site. It is noted that a habitats walkover survey and subsequent amphibian survey carried out at the Site by WSP in 2024 found standing puddles on short sections of the internal access tracks to be habitat suitable

for amphibians (see Chapter 5 Ecology and Biodiversity for details). This plan seeks to retain these features.

Hedgerow planting

Hedgerow planting is proposed along lengths of the new hedgerows and as infill to gaps within existing hedges. Species assemblages will be agreed with Kildare County Council and are proposed in Table 2A-1 below.

Table 2A-1: Proposed hedgerow planting species

Hedgerow Trees - br 120-150cm ht. Planted individually at approx. 10-15m c/cs through the hedges	Hedge - br60-90cm ht., planted in random groups of 5-15 at 5/lin m and double staggered
<i>Malus sylvestris</i> - 20%> <i>Pinus sylvestris</i> -10% <i>Quercus petrea</i> - 50% <i>Sorbus aucuparia</i> - 20%	<i>Corylus avellana</i> - Hazel - 10% <i>Crategus monogyna</i> - Hawthorn - 45% <i>Euonymus europaeus</i> - Spindle - 5% <i>Ilex aquifolium</i> - Holly - 3% <i>Ligustrum vulgare</i> - Privet- 10% <i>Prunus spinosa</i> - Blackthorn - 15% <i>Rosa canina</i> - Dog Rose - 2% <i>Viburnum opulus</i> - Guelder Rose- 10%

Roost Creation - Bat, Invertebrate and Bird Boxes / Reptile Refugia

The proposed plan seeks to increase the number of roosting opportunities for bats, invertebrates and birds on Site. Accordingly, 4 No. bat boxes (the 2F Schwegler generalist bat box, or similar) will be erected on suitable retained trees in the vicinity of the Site as indicated on the Rehabilitation Drawing. The boxes will be placed at a height of between 3 – 6 m in sheltered sunny locations and will be placed with clear flight-lines to the box. Four invertebrate boxes will also be placed in sheltered areas of the site as indicated on the Rehabilitation Drawing. The plan also provides for reptile refugia and basking habitat.

In addition, 4 No. bird boxes (the 2GR Schwegler nest box, or similar) will be erected on suitable retained trees in the vicinity of the Site as indicated on the Rehabilitation Drawing. The boxes will be placed at least 2 m above the ground, in locations sheltered from prevailing wind, rain, and strong sunlight, ensuring birds have unobstructed access to the box.



Security and access

Additional fencing is provided on the boundary of the Site where it abuts the Grand Canal to restrict site access from the public realm. The proposed outer fence lines tie into existing boundary fencing. It is proposed to use 1.8-meter security fencing.

Access to the Site will be via the existing present-day entrance which is secured by security gate and lock.

Signage will be maintained at the existing present day site entrance.

Internal access tracks will be maintained by periodically clearing of encroaching vegetation. This clearing will occur outside of sensitive ecological time periods, where required.

Emergency water access is be provided by two existing quarry benches which provide a ramp structure into the collected waters within the quarry void. These are located to the north-west and south-east of the quarry void respectively.

The rehabilitation plan drawing is provided overleaf.

