NON-TECHNICAL SUMMARY

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Quarry Development

(Continuance of Use & Extension)

Rathcore & Connellstown Townlands,

Enfield, County Meath

Prepared for: Kilsaran Concrete Unlimited Company

SLR Ref:501-00036-064960
Version No: R0
February 2024

BASIS OF REPORT

This document has been prepared by SLR Consulting Ireland with reasonable skill, care and diligence, and taking account of the manpower, timescales and resources devoted to it by agreement with **Kilsaran Concrete Unlimited Company** (the Client) as part or all of the services it has been appointed by the Client to carry out. It is subject to the terms and conditions of that appointment.

SLR shall not be liable for the use of or reliance on any information, advice, recommendations and opinions in this document for any purpose by any person other than the Client. Reliance may be granted to a third party only in the event that SLR and the third party have executed a reliance agreement or collateral warranty.

Information reported herein may be based on the interpretation of public domain data collected by SLR, and/or information supplied by the Client and/or its other advisors and associates. These data have been accepted in good faith as being accurate and valid.

The copyright and intellectual property in all drawings, reports, specifications, bills of quantities, calculations and other information set out in this report remain vested in SLR unless the terms of appointment state otherwise.

This document may contain information of a specialised and/or highly technical nature and the Client is advised to seek clarification on any elements which may be unclear to it.

Information, advice, recommendations and opinions in this document should only be relied upon in the context of the whole document and any documents referenced explicitly herein and should then only be used within the context of the appointment.

CONTENTS

1.0 INTRODUCTION

1.1 Overview

This Environmental Impact Assessment Report (EIAR) **Non-Technical Summary** provides supporting information to accompany a planning application to Meath County Council by Kilsaran Concrete Unlimited Company (also referenced as Kilsaran) in respect to their existing quarry extraction operations at Rathcore Quarry, near Enfield, County Meath.

The planning application is being made to permit the continued quarrying activity and deepening of the existing extraction area, and consists of the following main elements:

- continued use of the existing quarry, including storage of overburden and continuation of related limestone processing;
- small lateral extension and further deepening by two benches of the existing quarry void;
- provision of a new rock milling plant; and
- restoration of the site.

The existing quarry development is located within the townlands of Rathcore and Connellstown, Enfield, Co. Meath. Permission was previously granted in 2002 by An Bord Pleanála (planning ref. 01/1018 & ABP PL17.127391) to extend the quarry at depth over an area of c. 9.7 hectares to a permitted depth of 75m AOD, along with some ancillary storage and operational processes.

The application site location is indicated on an extract from the 1:50,000 scale Ordnance Survey Discovery series map in **Figure NTS-1**.

The planning application is made in accordance with the requirements of the Planning and Development Regulations 2001 (as amended).

1.2 The Applicant

The planning application and accompanying supporting documentation has been prepared by SLR Consulting Ireland (SLR) on behalf of Kilsaran Concrete Unlimited Company (hereafter referred to as 'Kilsaran' in the EIAR).

Founded in 1964, Kilsaran is a wholly Irish-owned company, whose business is primarily in the production of materials for the construction industry.

The company manufactures paving and walling, pre-mixed dry products, pre-cast concrete, ready-mix concrete, concrete blocks, trowel-ready mortar, aggregates, asphalt and macadam, hard core and fill materials for the Irish and UK markets as appropriate. The company also undertakes surfacing contracts for road construction, building and civil engineering works.

The company now employs over 900 people directly; it operates twelve hard rock quarries and a similar number of sand and gravel pits. Kilsaran manufactures various concrete products from 20 locations, mainly in the east, midlands and south of the country. The company also has three asphalt plants located strategically within extractive sites throughout its operational area.

The company's intention in preparing and applying to extract rock at this location, and import sand is to continue to secure the substantial financial investment by the company in the local area and provide a local source of aggregates to supply their existing readymix concrete batching plant on-site.

1.3 Site Location

The application site at Rathcore Quarry is an existing operational quarry lying about 1 kilometre southwest of the village of Rathcore, and c. 3 kilometres northwest of the town of Enfield, refer to **Figures MTS-1** to **NTS-3**. The village of Rathcore comprises of a handful of houses and a public house, grouped around the intersection of two roads. The quarry site is situated to the east of a local county road (L6226), which joins the R148 c. 2km to the south of the site and the R159 c. 3.5km to the southeast of the site via the L62253. Access to the site is directly from the L6226 local county road which leads directly into Rathcore village to the north.

1.4 Surrounding Land-Use

The quarry site is surrounded by agricultural lands. The external site boundary and remaining internal field boundaries consist of a combination of mature hedgerows with sporadic mature trees and fence lines.

Residences within the general area are confined to the public roads. The public road which fronts onto the western landholding boundary runs in a northeast – southwest direction. There are two residences located along this road directly north of the quarry. There is one residence directly opposite the site entrance while there is a cluster of houses located to the southwest of the site at the intersection of the local county roads.

The quarry development is adjoined by agricultural fields on all sides, both under pasture and arable. St. Gorman's Well, a warm spring, lies c. 1.6km to the west of the site.

The wider landscape is dominated by a mixture of pasture and arable fields, bound by mostly dense tree lined hedgerows. Field sizes range from small to large, with the smaller fields typically being under pasture and the larger ones used for growing crops. Apart from a number of small blocks of woodland, there are no wooded areas within the surrounding area. Other elements in the landscape include a network of local and regional roads, with associated dispersed residential development, as well as scattered farmsteads.

The topography surrounding the application site is gently rolling with elevations generally ranging from 70 to 100m OD. The highest elevation in the vicinity of, but outside the application area is a local highpoint of 117m OD immediately to the north-east of the application area.

The main transport routes through the general area are the R148, just under 2km to the south and the R159, just over 2km to the southeast of the application site. The M4 motorway is located 3km to the south. Further to this, there is a comprehensive network of local roads interconnecting the regional and national roads.

1.5 Existing Site Access

The quarry entrance is located on the L6226 local county road to the south of Rathcore village and has good visibility splays in both directions. There is a low stone wall with pillars on either side of the entrance with a post and wire fence set behind the wall. The entrance consists of two metal gates which are recessed back from the road verge to allow vehicles to pull in off the road when the gates are locked. The quarry entrance and internal yard area are surfaced / paved. Directly across from the quarry entrance is another large splayed entrance which leads into an agricultural yard on the opposite side of the road.

1.6 Existing Site Description

The planning application area covers approximately 31.1 hectares (c. 76.8 acres) out of a total landholding area of c. 53.8 hectares (c. 132.9 acres). The site is accessed directly from the L6226 local road that forms the western boundary of the site, which connects to the R148 Regional Road (Old N4 National Primary Road) to the south.

The existing quarry comprises of the existing void contained within a small hill. A large open area comprises the main entrance, which turns generally northwards towards a group of buildings. These comprise a small office and associated weighbridge, canteen, service shed, truck washing facility and storage tanks. The ground level in the vicinity of the weighbridge is c. 86mOD.

To the north of the office/canteen area is the main processing and screening facility for the quarry stone. The fixed processing plant comprising a generator, various conveyor belts and crushing equipment, together with a screening house is present. Immediately adjacent to this processing facility is the location for the stockpile storage of the processed quarry materials, ranging from agricultural lime dust, to larger sizes of crushed material. The ground level in this area is at c. 90 metres AOD.

The quarry extraction void is located to the south of the fixed processing plant / stockpile storage area and is broadly rectangular in shape in a north-south direction. The quarry is broadly worked in a southerly direction in 2 no. benches to c. 90m AOD and c. 75m AOD respectively. The existing permitted quarry floor level is 75m AOD as permitted under planning permission P. Ref. 01/1018.

The quarry operations comprise extraction of the limestone using periodic blasting techniques; processing (crushing and screening) of the fragmented rock to produce aggregates for road construction and site development works, and for use in concrete and asphalt manufacturing plants operated at other Kilsaran sites and for agricultural lime production. Rock is extracted from the working quarry face by means of explosives placed in drilled holes along the face being worked. Primary size reduction by mobile crushing and screening units takes place within the quarry void. The resultant primary processed rock is transported by dump trucks from the working face to the nearby fixed processing plant.

The quarry is effectively worked dry as the quarry void area is kept dry by means of pumping. A quarry sump is located on the western side of the lowest floor level to collect any surface water falling over the void area and any inflows of groundwater. Periodic pumping of the water from the quarry void to the on-site storage pond is carried out.

There is currently one water settlement pond located at ground level to which water is pumped to from the quarry floor. The water passes through the settlement pond, the dimensions of which are c. 30m x 13m. From the settlement pond, the water is directed by gravity through a hydrocarbon interceptor before discharging to an adjacent constructed reed bed (c. 27m x 10m) before being discharged off site via a buried pipe to the adjacent surface water course which flows in a northwest direction away from the site. In a concrete chamber after the discharge from the reed beds a 'V' notch and water level logger are installed to continually record discharge volumes. This is also the point at which water quality sampling is undertaken.

As the quarry develops and should the need arise, a second settlement pond will be installed adjacent to the existing pond. This water management system was granted permission in October 2012, under planning reference no. TA120923. The discharge of the treated clean water from the site is carried out under an existing Discharge Licence (Ref. 13/02), granted by Meath County Council in May 2013.

The quarry faces are progressively advancing in a southerly direction over the current permitted quarry area. The current quarry footprint is within the permitted planning boundary as indicated on **Figure NTS-4**.

Overburden has been progressively stripped from the quarry working void area and placed on a gradual basis in the overburden storage areas to the northeast and east of the extraction area. Previous planning permissions 95/1416 and 01/1018 allowed for an overburden storage area with a final upper design level of c. 125m AOD. The current levels over the overburden storage area range from c. 120 – 125m AOD.

1.7 Waulsortian Limestone

The rock quarried at Rathcore is Waulsortian Limestone (WA) or sometimes referred to as Reef Limestone and is a key supply of this high purity and prized aggregate for the Dublin – Mid-Eastern region. This type of rock is pale in colour, massively bedded very pure calcium carbonate rock. Its properties make it an extremely suitable concrete aggregate, it is relatively easily crushed down in size and has little or no silica, so it has a low wear factor on plant and machinery.

The massive bedding means that once crushed it produces a good round aggregate, essential in the making of strong concrete and it is particularly suitable for the production of a manufactured sand because of its homogeneous nature.

The high purity calcium carbonate limestone produces a top quality agricultural lime to regulate soil pH and improve nutrient availability to plants giving more efficient fertilizer application.

Obvious identified uses for the Waulsortian Limestone include Readymix Concrete, Concrete Blocks and Concrete Pavers.

Clearly identified beneficial properties of the Waulsortian Limestone include:

- **Shrinkage** - Fines of WA limestone cause no loss in strength of finished readymix and it also enhances and reduces the effect of drying shrinkage (as the aggregate does not dry out rapidly). A pure limestone aggregate is specified for the use in bridges because of this low shrinkage property;
- **Strength** – Greywacke or Calp Limestone would potentially cause a loss of strength. These aggregate produce excess super fines when crushed in comparison to the WA Limestone. Super fines increase the water demand for ready-mixed concrete and concrete products and thus cause a loss in strength, requiring additional cement to be added to composite;
- **Flakiness** – low flakiness index because of massive nature;
- **Colour** – WA is a pale colour. Use of WA in concrete pavers means less pigment is needed and the products have a good bright colour;
- **Concrete** used in bridges and architectural concrete is required to be a light uniform colour, achievable with the use of WA aggregate;
- **Weight** – WA has a low specific gravity (2.65) compared to a greywacke (2.72) or indeed a dolerite (2.85), therefore the concrete block produced using WA is lighter and easier to handle than those produced using the other rock types;
- **Ease of Processing** – WA is comparatively easy to crush; it does not induce excessive wear on processing plant and machinery. There are a number of standard tests that demonstrate this point clearly;
- **Aggregates Abrasion Value** (AAV) – WA has a higher AAV than a greywacke or dolerite which is an indication that it is softer rock;
- **10% Fines** (TFV), a test that indicates the ability of an aggregate to resist crushing. WA is around 180kN and a whinstone is c.300kN, the minimum requirement for concrete is 150kN.

2.0 PROPOSED DEVELOPMENT DESCRIPTION

2.1 Development Overview

As noted previously, the development being applied for consists of:

- Permission for continued use of the previously permitted developments under P. Reg. Ref. No's. 01/1018 (PL17.127391); 95/1416 (PL17.099325) and 91/970 (PL17.089787) to include the existing quarry, drilling, blasting, crushing and screening of rock and related ancillary buildings and facilities;
- Permission for continued use of the previously permitted developments under P. Reg. Ref. No. TA/120923 consisting of a discharge water treatment facility comprising two lagoons (30m x 13m), an oil interceptor, a reed bed (27m x 10m) and a concrete canal with "V" notch weir;
- Permission for a small lateral extension of c.0.9 hectares from the existing quarry area of c.9.7 hectares as permitted under P. Ref. 01/1018 (PL17.127391) to give an overall extraction footprint of c.10.6 hectares;
- Permission for the deepening of the overall extraction area (c.10.6 hectares) by 2 no. 15m benches to a final depth of c.45m AOD from the current quarry floor level of c.75m AOD as permitted under P. Ref. P. Ref. 01/1018 (PL17.127391);
- Permission for a proposed new rock milling plant to be enclosed within a steel-clad building (c.575m² with roof height of 22.5m and exhaust stack height of 28.2m);
- Replacement of existing septic tank with a new wastewater treatment system and constructed percolation area;
- Restoration of the site to a beneficial ecological after-use;
- All associated site works within an overall application area of 31.1 hectares. The proposed operational period is for 20 years plus 2 years to complete restoration (total duration sought 22 years).

2.2 Construction Phase

There will be some elements of the proposal that will require construction and these principally comprise the proposed rock milling plant building and replacement of the existing septic tank. The construction phase effects will be short-term. It is expected that the overall construction period will be in the region of 6 months and will be carried in tandem with ongoing extraction activities during the operational phase.

In the context of the proposed development, the construction phase is also considered to be the preparation of the small lateral quarry extension area of c. 0.9ha. The quarry preparation works involve the removal of soils and subsoils from the proposed extension area and the storage of these materials within the dedicated overburden storage area within the site. In addition the construction phase will include the construction of the new rock milling plant.

2.3 Operational Phase

The quarry will be further developed in 2 no. 15m benches down to a depth of 45m AOD (refer to EIAR **Figure NTS-5**) over the proposed 20 year extraction life. The existing extraction and processing operations currently carried out at the site will be maintained and continued over the operational phase of the development.

Mitigation measures to alleviate any adverse impacts from the development on the environment have been incorporated into the design to ensure that the development will continue to be operated within accepted thresholds for this type of development.

2.4 Restoration (Reinstatement to ecological habitat)

The majority of restoration works will be carried out on permanent completion of extraction works. As the majority of the site is used for extraction, processing and storage purposes it is not feasible to restore any significant parts of the quarry void at an earlier stage. However, it is proposed that all existing grass and scrub areas which have established along the site boundaries will be protected and retained, as much as possible.

A Landscape Management and Restoration Plan is outlined later in the chapter which Kilsaran commit to implementing should planning permission be granted.

The majority of restoration proposals within the existing site area will only be carried out after extraction operations at the site have ceased, with the exception of the following:

- It is proposed to carry out barrier hedge planting in a number of locations along the southern and western boundaries to tie into existing dense vegetation along those boundaries (c. 330m in total). This planting will be carried out in Year 1 following receipt of planning permission, so that it will have matured by the time the extraction works are complete and will function as a secure barrier to prevent access into the site, once restored.
- It is further proposed that the overburden infilling will be completed by the end of Year 4 extraction operations and whereby it can then be grass seeded to tie into the existing vegetated overburden storage area to the north. This will result in the entire overburden storage areas to the northeast of the application are being matured by the time the extraction works are complete and will function as a secure barrier to prevent access into the site.

Upon the cessation of extraction operations, it is proposed to return the worked out areas to a beneficial ecological habitat.

The only material requirements in respect of the planned restoration scheme are those topsoils and subsoils already present on site and which were previously stripped and stockpiled within the existing operational site area awaiting re-use in the restoration operations.

2.5 Aggregate Reserve Assessment

A detailed topographical survey of the site was recently undertaken by Kilsaran (refer to **Figure NTS-4**). The survey data was used to produce a 3D digital terrain model using a quarry design software package called LSS. In preparing the design, standard criteria were adopted with regard to face heights and bench widths, stand-offs to the site boundaries etc. (refer to **Figure NTS-5**).

As part of detailed hydrogeological study further site investigation was carried out, including significant drilling within the proposed extraction footprint. Based on these findings and the LSS total extraction design a total recoverable reserve of limestone from within the proposed extension area is calculated to be in the region of c. 7 million tonnes.

The volume of in-situ rock material to be excavated from the proposed quarry extraction area of c. 10.6 Ha to a final floor level of 45mAOD is based on a rock density of 2.65 mg/m3.

2.6 Duration of Extraction

The existing extraction rate is up to c. 350,000 tonnes per annum. At this rate of extraction, the projected life of the quarry extension would be c. 20 years. A further 2 years would be required to complete restoration proposals.

It is considered that planning permission for the proposed quarry development should be commensurate with the life of the reserves. This will ensure the developer has security for this investment and that the operation is carried out in accordance with proper planning and development guidelines. An adequate quarry life is required

to secure an acceptable return on investment, when the costs of continued investment in the site development, mobile crushing / screening plant and the on-going operational costs are considered.

A quarrying life of 22 years is not considered unreasonable and is commensurate with long term permissions granted for other quarry developments and the previous notification of grant permission issued by Meath County Council for planning ref. TA/161227 (ABP-PL.249132).

2.7 Site Screening

The quarry has been largely screened from views from adjacent roads and residences by screen planting, screening berms and field boundary hedgerows.

Almost all views towards the application site are screened by roadside and intervening vegetation, as well as topography. Screening berms along the northwestern and northeastern boundary, as well as elevated ground along the southwestern and southeastern boundary ensure that the extraction area within Rathcore Quarry is fully screened in views from the surrounding area. Roadside and intervening vegetation further screen the quarry development.

Views of the site entrance, the site office, the workshop and a small part of the processing plant within the site can be gained from a short stretch along the road passing the site entrance. The visibility of these elements will remain the same, as part of the proposed development. The only element visible, in a small number of views, which will change due to the proposed development, is a small area of elevated ground (approximately 2,000m^2 or 0.2ha.) and associated trees, which will be removed along the western quarry boundary, between the weighbridge / office and the quarry void.

A Landscape Management and Restoration Plan is outlined later in this section of the NTS and details are provided in **Figure NTS-6** and which outline the proposals for additional planting and screening around the perimeter of the site.

2.8 Removal of Topsoil and Overburden Soils

Prior to extraction of rock, it will be necessary to remove any remaining overlying topsoil and overburden materials (glacial till and weathered rock) from the proposed extraction area.

Within the proposed extraction area there is an area of less than 1 ha. where overburden is required to be stripped, over and above that which has already been stripped. The overburden will be stripped on a progressive basis over the first 4 years of the development term and used to finish the permanent landscaped screening and storage mound to the east of the extraction area. It is estimated that there is approximately 100,000 tonnes of overburden material to be stripped from the proposed extraction area.

The excavation of overburden will be carried out using an excavator, loading dump trucks from where it will be transported to the proposed overburden mound. Topsoil and overburden materials will be stored separately until the topsoil is required to landscape the overburden storage mound.

Upon obtaining satisfactory planning permission it is anticipated that stripping of topsoil and overburden materials would commence during the next earthworks season.

Previously stripped overburden and topsoil material has been used for the construction of the existing perimeter screening berms and placed within the overburden storage area.

2.9 Site Drainage

Site drainage from the overall quarry is managed by Kilsaran in compliance with condition no.'s 13, 14, 15 and 23 of the previous grant of planning permission (P. Ref. 01/1018) and the subsequent grant of permission, P. Ref. TA/120923 for the construction of new settlement lagoons and hydrocarbon interceptor.

Any surface water falling over the site is directed to a sump on the quarry floor along the western quarry face. From here, the water is pumped up to ground level over a distance of c. 150m westwards to the water settlement pond. The water passes through the settlement pond (c. 30m x 13m). From the settlement pond, the water flows through a hydrocarbon interceptor and is directed to an adjacent constructed reed bed (c. 27m x 10m) before being discharged off site via a buried pipe to the adjacent surface water channel which flows in a northwest direction away from the site.

As the quarry develops and as need arises, a second settlement pond will be installed adjacent to the existing pond. A larger pump sump will also be provided on the floor of the quarry to cater for increasing volumes of water which will require attenuation and treatment as the quarry deepening progresses.

This water management system was granted permission in October 2012, under planning reference no. TA120923. The discharge of the treated clean water from the site is carried out under an existing Discharge Licence (Ref. 13/02), granted by Meath County Council in May 2013.

A hydrological / hydrogeological assessment has been carried out taking into consideration the existing water regime at the quarry site and to determine what the requirements are for the proposed development. It addresses mitigation measures to eliminate and/or minimise the potential impacts, if any, on surface water and groundwater. These measures will be incorporated into the quarry design and operation, refer to EIAR Chapter 7 (Water).

2.10 Method of Extraction

It is proposed that the existing method of extraction will continue to be implemented at the site as follows:

- where required, overburden will be stripped in advance of rock blasting in accordance with the quarry development plan. Stripped overburden will be placed at the permanent storage area at the eastern periphery of the application area;
- rock material will be extracted using conventional blasting techniques. Prior to drilling, the quarry face will be surveyed in order to ensure safe and efficient blasting. Drilling will be carried out in accordance with the blast design. Finally, the holes will be filled with bulk emulsion explosives and the blast carried out. All blasting is and will be carried out in accordance with the health & safety regulations, and environmental guidelines for the sector;
- the fragmented rock will initially be processed using mobile crushing and screening plant located at the blasted quarry face within the quarry void area;
- a fixed crushing and screening plant will further process the rock to produce aggregates of the required specification. The aggregate products will be stored in stockpiles located within the quarry, as is the current practice.

2.11 Hedgerow / Treeline (Removal / Reinstatement)

The only trees requiring removal is a section of c. 50m in length along a ridge located between the existing quarry void and the site entrance area which will be removed, refer to **Figure NTS-4**.

It is proposed to carry out barrier hedge planting in a number of locations along the southern and western boundary to tie into existing dense vegetation along those boundaries (c. 330m in total). This planting will be carried out in Year 1 following receipt of planning permission, so that it will have matured by the time the extraction works are complete and will function as a secure barrier to prevent access into the site, once restored.

Please refer to **Figure NTS-4** for an indication of the hedgerows and associated trees to be removed, to facilitate the proposed development. The trees are deemed to be exempted from obtaining a felling licence should the planning permission be obtained, as set out in the Forestry Act 2014.

2.12 Extraction and Blasting

Cross-sections of the existing and proposed layout are provided in **Figure NTS-6** which illustrate the proposed extraction design along with individual bench depths.

Industry standard blasting techniques have been used to fragment the stone prior to processing (crushing and screening). This technique will continue to be utilised at the site. On average, 35,000-45,000 tonnes are typically produced per blast at the quarry, and blasting can be carried out on average every one to two months, which equates to a maximum 8 to 10 blasts per year.

The drilling pattern is typically 110mm diameter vertical holes drilled at c. 4m burden and spacing to full face height. Bulk emission explosives are used to charge the holes. Delivery and placement of explosives is carried out by Irish Industrial Explosives under supervision of a blast engineer. There is no proposed change in the blast design and blast methods employed in developing the quarry at depth below the existing quarry floor.

Ground vibration and air-overpressure associated with blasting at the quarry is controlled/limited by condition no. 7 of planning ref. 01/1018 (PL17.127391). Every blast at the quarry has been monitored since Kilsaran acquired the quarry in January 2005. The actual blast monitoring results for the period 2017 to 2022 are provided in Chapter 10 of the EIAR, and show there were:

- 8 no. blasts in 2017;
- 6 no. blasts in 2018;
- 8 no. blasts in 2019;
- 5 no. blasts in 2020;
- 4 no. blasts in 2021; and
- 3 no. blasts in 2022.

It is proposed that the scheme of blast monitoring be continued should permission be granted for the further development of the quarry.

All rock extracted from the application area will be processed on site to produce a range of aggregates for use in concrete production (off-site), site development works, for road construction, agricultural lime and supply the market generally.

2.13 Processing Methods

2.13.1 Extracted Rock Processing Method

The processing methods currently used at the quarry constitute size reduction through crushing and sizing by screening using a combination of fixed and mobile plant.

An excavator is used to directly feed a mobile primary crushing / screening plant at the working face. The mobile plant will be relocated after every blast during the life of the quarry development as operational requirements dictate.

Material is either drawn from primary stockpiles on the quarry floor by front-end loader for further processing at the exiting secondary / tertiary fixed crushing / screening plant and associated enclosed lime production facility located to the north of the quarry void or loaded directly onto trucks for haulage to market.

At the fixed plant the crushed stone is graded into various product sizes using multi-deck screens and stacked using associated conveyor units and stored in various stockpiles adjacent to the fixed plant. From this storage area the aggregates are loaded onto trucks for off-site transportation. No washing of the aggregates is required to produce the final products.

It is proposed that the same processing methods will be used should permission be granted for the further development of the quarry.

2.13.2 Existing Agricultural Lime Production

A milling unit is fed with crushed limestone from the quarry, which grind the feed stock to produce the lime with an optimum particle size for an agricultural lime application. Two size grades of lime are produced, namely a Ground Limestone (100% passing 3.35mm sieve and not less than 35% passing the 0.15mm sieve) and Granulated Lime, ground much more finely (<0.1mm) than ground limestone.

Agricultural lime has beneficial effects on soil when applied correctly by increasing the pH of acid soils, providing a source of calcium for plants and improving uptake of major plant nutrients such as nitrogen, phosphorus and potassium.

Smaller limestone particles are available much more rapidly and will react with the soil and raise pH much faster than coarse materials.

The covered storage shed keeps the lime dry, which is essential. The lime must be dry to assist subsequent handling and spreading.

2.13.3 Proposed New Limestone Mill Plant

A new milling unit is proposed to be installed at the quarry should planning permission be granted. The new plant is proposed to be located on the existing quarry floor (i.e. at an elevation of 75m AOD) and positioned in the northeast corner of the quarry void as shown on **Figure NTS-5**. Layout and elevation details of the new plant are provided in the accompanying SLR Planning **Drawing 17**.

The new rock milling plant will consist of:

- a steel frame structure clad in galvanised steel coated cladding, goose grey in colour;
- the covered shed consisting of the milling plant and the load-out bays will have:
  - a footprint area of c. 575m²;
  - milling plant roof apex height of 22.5m (elevation at 97.5m AOD);
  - silo load-out bays roof apex height of 20.8m (elevation at 95.8m AOD);
  - exhaust air flue height of 28.2m (elevation at 103.2m AOD).
- an external tipping hopper will be located to the north side of the plant to feed the extracted crushed rock into the milling plant;
- the milled (fine) limestone will be stored in 8 no. 150 tonne silos (1,200 tonne storage capacity) located to the south side of the milling plant;
- the load-out bays are located beneath the storage silos to allow HGV delivery vehicles to load directly beneath the silos under gravity feed.

2.14 Working Hours

The permitted working hours at the quarry are and will continue to be 07:00 hours to 18:00 hours Monday to Friday and 07:00 hours to 14.00 hours on Saturdays in compliance with revised conditions imposed under Section 261 – condition no. 5 (An Bord Pleanála appeal QC17.QC2167). This condition also restricts noisy activities i.e. drilling and rock breaking to an 8am start. No quarry related operations are or will be carried out on Sundays or public holidays.

The proposed development will be carried out within the existing permitted hours outlined above and there is no requirement to make any amendments to these operational hours as part of this planning application.

2.15 Employment

At full production Kilsaran employs a total of c. 14 people (direct employees on site and company hauliers) at Rathcore Quarry. There is also an extensive workforce indirectly involved, such as external hauliers, maintenance, contractors, materials suppliers, etc. It is envisaged that should planning permission be granted this level of employment will be maintained.

2.16 SITE INFRASTRUCTURE

2.16.1 Site Access

The existing quarry entrance is located on the local county road (L6226) to the south of Rathcore village and has good, splayed visibility in both directions. There is a low stone wall with pillars on either side of the entrance with a post and wire fence set behind the wall.

The entrance consists of two metal gates which are recessed back from the road verge to allow vehicles to pull in off the road when the gates are locked. The quarry entrance and internal yard area are surfaced / paved. Directly across from the quarry entrance is another large splayed entrance which leads into an agricultural yard on the opposite side of the road.

In the unlikely event of material being spilled on the public road the operator will ensure that spilled material is removed from the road surface in a safe and timely manner as soon as they notice or are notified that a spillage has arisen.

2.16.2 Site Security

Kilsaran has operated and continue to operate the quarry in accordance with the requirement of the Safety, Health and Welfare at Work (Quarries) Regulations, 2008.

Kilsaran have implemented and continue to implement a number of security measures at the quarry.

The perimeter of the entire working area is secured by a combination of the existing hedgerows, screening berms, boundary walls and post & wire fences. The existing entrance to the site has lockable gates to prevent unauthorised access outside of the working hours.

Signage is erected around the quarry excavation showing 'WARNING DEEP EXCAVATION', or similar.

2.16.3 Site Roads, Parking and Hardstanding Areas

Internal access roads are provided within the site, running from the site entrance northwards to the existing weighbridge and the main site office.

There is an existing designated paved car parking area already available for employees and visitors adjacent to the existing site offices.

2.16.4 Wheelwash

There is currently a wheelwash present at the site which is compliant with the current condition imposed under P. Ref. 01/1018 – Condition No. 7 and previously planning permission P. Ref. 91/970.

The distances from the site entrance to the wheelwash is c. 175m along a paved internal site road which helps to minimise the transport of fines and mud by HGVs on to the public road network. In addition, water is sprayed utilising fixed sprinklers and from a tractor drawn bowser on dry exposed surfaces (paved roads, unsealed haul

roads and hardstand areas). Periodic sweeping of the internal paved areas and along the public road at the entrance is carried out by a contract road sweeper.

The above measures have proven to be effective and acceptable to-date and will be maintained in the future. The applicant will continue to regularly monitor the situation and will notify the Local Authority of any change in circumstances.

2.16.5 Weighbridge

All heavy goods vehicles (HGVs) accessing the site are required to pass over the existing weighbridge which is located near the entrance of the quarry adjacent to the site office.

The weighbridge is utilised to establish a weight for each truck used for hauling stone. All loaded trucks pass over the weighbridge before exiting the quarry so that a record of each load can be made. Apart from keeping a record of the quarry's productivity, the weighbridge is also used to ensure all loads exiting the site do not exceed the legal weight limit.

2.16.6 Offices and Ancillary Facilities

All existing offices and employee facilities at the quarry are permitted under the various planning permissions referenced above.

Existing offices and facilities at the quarry include an office, weighbridge, wheelwash, employee and visitor car park, a septic tank, a workshop building incorporating canteen, drying/cloakroom, restroom and bunded fuel & oil storage areas; aggregate storage bins; aggregate and product storage areas and a lime dust shed.

The existing facilities will be utilised for the duration of the development. No additional offices are planned as part of this planning application.

As part of this planning application, it is proposed to decommission the existing septic tank and replace it with a new proprietary waste water treatment system and constructed percolation area. The existing septic tank will be decommissioned and the contents of the tank will be taken off site for appropriate treatment by a licenced contractor.

As part of documentation submitted as part of the previous planning application, TA/161227 (ABP-PL.249132), a site characterisation assessment was undertaken in September 2016 for a new waste water treatment system by Dr. Eugene Bolton. A copy of the site characterisation form is included in **Appendix 7-C** of EIAR Chapter 7 'Water'.

2.16.7 Utilities and Services

The site is served by on-site water supply and mains electricity. An ESB power line feeds directly into the quarry site to service the offices and weighbridge. An existing on-site generator supplies the fixed processing plant. Effluent from toilet facilities is treated using an existing septic tank; refer to Chapter 7 of the EIAR. There is no proposed change to the existing services supplying and servicing the site as part of this planning application, with the exception of the proposed new proprietary waste water treatment system and constructed percolation area.

2.16.8 Fuel and Oil Storage

Bunded fuel storage tanks are located at three locations; adjacent to the workshop building and weighbridge; adjacent to the generator / control cabin building and beside the generator for the dewatering pumps.

Oil and lubricants for plant and machinery are stored on spill pallets in the designated storage area within the workshop building located within the quarry yard area of the permitted planning area.

Spill Kits and spill training has been provided. All new employees are given an induction which includes spill kit training and how to respond to a fuel spill.

2.17 Waste Management

2.17.1 General Waste Management

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"*

Potential waste produced and the measures used to control it are described as follows:-

- **Scrap metal** – these materials are chiefly produced from the maintenance of the processing plants and can cause a nuisance if allowed to build up in an uncontrolled manner. There is a designated scrap metal area on the existing permitted 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 existing facility is and will continue to be collected by a licensed waste collection contractor.
- **Sewage Effluent** – this is disposed of by the existing wastewater treatment units on the existing permitted site.
- **Note**: overburden materials stripped from above the in-situ limestone rock are not considered waste. They are an essential component of the restoration programme. These materials are required for the re-shaping and landscaping of the worked-out area to make it more suitable for an agricultural after-use, where proposed.

2.18 Extractive Waste Management

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

In Ireland, the management of extractive waste is regulated by the Waste Management (Management of Waste from the Extractive Industries) Regulations 2009 (SI No. 566 of 2009). Under these Regulations, quarry operators are required to prepare an Extractive Waste Management Plan (EWMP) which outline the plans and procedures for minimisation, treatment, recovery and disposal of extractive wastes, having regard to the principle of sustainable development.

2.18.1 Description of the Waste Generating Operation

There is no intention on behalf of Kilsaran to discard, where possible, any material extracted from the quarry at Rathcore. The principle aim of this extractive waste management plan is to prevent waste production which is in accordance with Section 5(2)(a) of the 2009 Regulations.

Extracted Material will fall into the following categories:

Soil and Sub-soil (Overburden) Stripping

This material has been excavated to expose the underlying bedrock in the quarry.

- ***Topsoil*** – all topsoil previously stripped has been used to construct perimeter visual/noise screening mounds for later use as part of the final restoration scheme. Any further stripping of topsoils will be stockpiled on site, again for reuse in final restoration operations.
- ***Sub-soil (Overburden)*** – this material is dealt with in a similar manner to the Topsoil listed above.

Rock Extraction

Rock is extracted from the quarry face using commercial explosives, the blasted rock pile is processed through size reduction (crushing) and size classification (screening) to produce a suit of saleable aggregate and agricultural lime products. Materials awaiting haulage off-site are stored temporarily in individual stockpiles, which are maintained in order to ensure stability, minimal visual intrusion and minimal environmental impact.

Settlement Ponds

The discharge water settlement pond is cleaned out as required to ensure adequate capacity within the pond to allow sufficient retention time to ensure adequate settlement of any fines. All material removed from the settlement pond is temporarily stored to allow natural outflow of retained moisture. Following this short storage period the material is put to a variety of operational or restoration uses within the site, namely:

- Construction of visual screening or noise attenuation berms, and/or construction safety berms alongside haul roads or under quarry faces.

The Extractive Waste Management Plan for the Rathcore site is provided in **Appendix 2-A** of EIAR Chapter 2 'Development Description'.

2.19 Existing Environmental Controls

2.19.1 General

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 environmental control measures in place at the existing site are outlined in the following sections.

The existing operations at the site are currently regulated by conditions attached to previous planning permissions 01/1018 (PL17.127391); 95/1416 (PL17.099325) and 91/970 (PL17.089787).

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.

2.19.2 Bird Control

As the process of rock 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.

2.19.3 Dust Control

Dust generation within the application area is likely to occur from two main sources:

- point sources – such as operating plant and machinery; and
- dispersed sources– such as quarry floors/haul routes.

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 within the extraction area and hardstand areas as required;
- existing fixed sprinkler system on the internal site access road;
- dust blows at the existing site are largely screened by the side walls of the existing quarry and the vegetated screening berms and existing boundary hedgerows;
- areas of bare or exposed soils will, insofar as practicable, be kept to a minimum;
- newly constructed screening berms / soil storage areas will be grassed at the earliest opportunity;
- emission of fugitive dust from machinery such as the crushing plant has, and will continue to be minimised by utilising dust suppression and by locating the primary mobile crushing plant within the quarry extraction area;
- all HGV's exiting the extraction area are routed through the existing wheelwash. This minimises the transport of fines by HGVs over the access / egress road and the public road network; and
- all loads of fine dry aggregates will be covered before leaving the quarry.

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.

A dust monitoring programme has been and will continue to be in implemented at Rathcore Quarry, in compliance with planning ref. 01/1018 (PL17.127391) - condition 18 and the Section 261 conditions imposed – condition 7. Kilsaran has and continue to implement / evaluate a full range of dust mitigation measures at the quarry in accordance with the DoEHLG (2004) Quarries and Ancillary Activities: Guidelines for Planning Authorities, and the EPA (2006) Environmental Management Guidelines for Environmental Management in the Extractive Industry, refer to EIAR Chapter 8.

2.19.4 Noise Control

Potential noise generating sources arising from the operation of the quarry are from the crushing and screening plants, mobile plant such as the loading shovels and from the haulage fleet both within and outside the quarry.

The potential for noise generation from the application area is significantly reduced by the construction of the extensive perimeter screening mounds already present on the site.

A noise monitoring programme has been and will continue to be in place at Rathcore Quarry, in compliance with planning permission 01/1018 (PL17.127391) – condition 19 and the Section 261 conditions imposed – condition 6.

Kilsaran has and will continue to implement / evaluate a full range of noise mitigation measures at the quarry in accordance with the DoEHLG (2004) Quarries and Ancillary Activities: Guidelines for Planning Authorities, and the EPA (2006) Environmental Management Guidelines for Environmental Management in the Extractive Industry, refer to EIAR Chapter 10 – Noise & Vibration.

2.19.5 Traffic Control

As the planning application relates to the continuance of use and extension of the existing quarry operation, the proposed development will continue to utilise the existing site entrance.

The existing site entrance onto the local road 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.

2.19.6 Litter Control

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.

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.

2.19.7 Odour Control

As the rock 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.

2.19.8 Vermin Control

As the proposed 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.

2.19.9 Fire Control

As the proposed 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.

In the unlikely event that a fire does occur, the nearest fire station will be contacted and emergency response procedures will be implemented. Fire extinguishers (water and foam) are provided at all offices to deal with any small outbreaks which may occur.

2.20 Environmental Monitoring

2.20.1 General

As part of the environmental management system (EMS), Kilsaran has implemented a comprehensive environmental monitoring programme at Rathcore Quarry in compliance with the various grants of planning permission by Meath County Council and An Bord Pleanála on the operation of the quarry. Environmental noise, ground/surface water, blast, and dust monitoring, carried out on a regular basis, has demonstrated that the quarry has not had any significant adverse effects on the surrounding environment. A copy of the EMS manual is provided in **Appendix 2-B** of EIAR Chapter 2.

Limit values for environmental emissions arising from the site activities are identified by the existing consents from the planning authority. Environmental sampling, monitoring and testing is generally undertaken by external consultants as and when required. Records of environmental monitoring and testing are held on Kilsaran's cloud based networks and forwarded submitted to the Local Authority on a quarterly basis.

Environmental noise, blast, dust and water monitoring carried out on a regular basis, has demonstrated that the quarry has not had any significant adverse effects on the surrounding environment.

2.20.2 Dust Monitoring

A dust monitoring programme has been and will continue to be in implemented at Rathcore Quarry, in compliance with planning ref. 01/1018 (PL17.127391) - condition 18 and the Section 261 conditions imposed – condition 7.

Current dust deposition monitoring carried out at the site boundaries indicates that the current quarry operations have complied with the recommended dust deposition emission limit value of 350 mg/m2/day (averaged over 30 days) as set out in the revised Condition No.7 QY/53 of the section 261 conditions. Further details are provided in **Chapter 8** of the EIAR. The dust monitoring to-date has shown that the existing site can operate within the permitted limit of 350 mg/m2/day (averaged over 30 days).

The dust monitoring gauges are located close to emission sources or potentially sensitive receptors located beyond the site boundary. It is proposed that the existing dust monitoring stations will remain in place for the duration of extraction and processing operations at the site.

2.20.3 Ecological Monitoring

Cliff-nesting birds can establish nesting sites early in the bird nesting season; if construction works are to begin in the bird nesting season (1st March – 31st August), it is recommended that pre-construction surveys for cliff-nesting birds are undertaken on the Site. These surveys will confirm presence / absence of cliff-nesting nesting bids such as peregrine and allow appropriate mitigation to avoid disturbance of nesting birds, if present.

It is anticipated that cliff-nesting birds such as peregrines will be able to use other areas of the quarry that are not undergoing planned works, with retained areas of the quarry providing suitable ledges for nesting during the operational phase.

The restoration phase will allow the quarry to flood and create a permanent lake but will also leave exposed cliff faces above the water level. Therefore, it is likely that cliff-nesting birds will still be able to nest on the quarry face and may actually benefit from the flooding of the quarry, through increased protection from predators.

There is a c. 50m length of treeline to be removed as part of the development, within which there are three trees with low bat roosting potential that will be mitigated for and undergo a soft-felling technique. This will include individually removing limbs and slowly lowering to the ground. Any PRFs will be left unobstructed. All parts of the tree will be left for a minimum period of 24 hours to allow any bats potentially inside to escape. All existing external hedgerows, treelines, existing planting along the application site boundaries will be protected and retained as far as possible. This will retain ecological corridors along the boundaries of the Site.

No ecological monitoring is required in respect to St Gorman's Well, c. 1.6km west of the application site.

2.20.4 Groundwater Monitoring

Groundwater levels will continue to be recorded on a weekly basis for the onsite wells and on a monthly basis for nearby residences.

Groundwater sampling and testing will be undertaken on an annual basis at the site potable supply well (**SW2**) and at the groundwater monitoring wells (**D1-D4**) as outlined in EIAR Chapter 7. Groundwater samples will be tested for a range of physical and chemical parameters in order to assess water quality.

No monitoring will be required at St. Gorman's Well with respect to potential impacts arising from the Proposed Development as there will be no residual effect on St. Gorman's Well. However, in order to advance the hydrogeological understanding at St. Gorman's well Kilsaran propose to continue to monitor groundwater levels in a borehole adjacent to the spring. A continuous water level datalogger will be installed and will be downloaded at quarterly intervals (permission has been granted by the landowner of Hotwell House for this activity). In the future this data can be used to further our understanding of Irish geothermal springs and will be made available to the GSI.

2.20.5 Noise Monitoring

Noise monitoring has been carried out at Rathore Quarry on a regular basis for the past 20 years. Currently noise is monitored at two location with the results for the period 2017-2022 contained in **Chapter 10** of the EIAR. The noise monitoring to-date has shown that the existing site can operate within the permitted threshold of 55 dB

(A) Leq when measured outside any dwelling house in the vicinity of the site as set out in the revised Condition No.6 QY/53 of the section 261 conditions) and Condition 19 of planning ref. 01/1018 (PL17.127391). Further details are provided in **Chapter 10** of the EIAR.

Noise predictions for the proposed extension are attached in EIAR Section 10 "Noise & Vibration", and demonstrate that, as proposed the development can be operated within the current recognised national thresholds.

2.20.6 Blast Monitoring

Blast monitoring is carried out at Rathcore for each blast event at the quarry with the results for the period 2017-2022 contained in **Chapter 10** of the EIAR.

All blasts are monitored, with records kept detailing the results of vibration, air over pressure, and the blast design as part of the environmental monitoring programme implemented at the quarry.

Blasting is carried out by IIE's qualified "shotfirer". The blast design is reviewed on a regular basis and modified where necessary to ensure compliance with ground-borne vibration limits.

The blasting monitoring results at Rathcore Quarry indicate that blasting operations have complied with condition limits imposed.

2.20.7 Odour Monitoring

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.

2.20.8 Surface Water Monitoring

Discharge quality and volume is monitored as per the conditions in the existing discharge licence (Ref. No. 13/02) for the site. Monitoring will continue during the proposed works.

Discharge volume is monitored on a continuous basis using the existing weir and an automatic flow level logger.

2.21 Proposed Landscape Management and Restoration Plan

2.21.1 Proposed Landscape Management Measures

The principal landscaping aims are:

- The physical and visual integration of the existing site and associated features into the surrounding landscape;
- Screening to minimise visual intrusion and to reduce any significant negative aspects regarding the visual impact of the any associated new features of the proposed development on adjacent sensitive receptors;
- Positioning of proposed new constructed facilities on site to reduce visual prominence.

Site Screening Measures

- It is proposed to carry out barrier hedge planting in a number of locations along the southern and western boundary to tie into existing dense vegetation along those boundaries (330m in total). This planting will be carried out within the first year of receipt of planning permission, so that it will have matured by the time the extraction works are complete and will function as a secure barrier to prevent access into the site, once restored.
- The planting will be carried out in 2 staggered rows, with the rows 50cm apart and plants within each row 50cm apart (i.e. 4 plants per m).

- The tree stock will be made up from transplants and container grown stock at 40-90cm height, as these are known to establish more successfully.
- 4 Hawthorn, 4 Blackthorn, 1 Hazel and 1 Holly to be planted in random succession every 2.5m.
- Good quality topsoil and compost are to be worked into the top 20cm of the entire planting area, prior to planting.
- All plant handling, planting and establishment works will be carried out in accordance with current best practice.
- Works are to take place in the appropriate planting season (e.g. bareroot planting: November to March only) and in favourable weather conditions.
- Planting will be carried out by a suitably qualified landscape contractor.
- Establishment maintenance will be carried out for 2 years following the planting works. This will include weed control, replacement planting, watering (if required) and the adjustment of spiral guards.

In addition to the above, existing dense boundary vegetation is to be retained to keep the site secure. The boundary vegetation will be checked annually; dead trees will be removed and any gaps will be filled with new native planting.

Siting of New Rock Milling Plant

The proposed new milling unit will be located on the existing quarry floor (i.e. at an elevation of 75m AOD) and positioned in the northeast corner of the quarry void as shown on **Figure NTS-5**. The existing quarry faces and surrounding perimeter berms and planting will afford maximum screening of the new plant as demonstrated in the cross sections provided in **Figure 2-3** of EIAR Chapter 2.

2.21.2 Proposed Restoration Scheme

The principal activity which will be undertaken at the application site is the extraction of the in-situ rock with ultimate restoration of the overall application site to a natural habitat including lake, which is one of the beneficial after uses listed in the EPA Guidelines: 'Environmental Management in the Extractive Industry' (2006). The final restoration scheme and detail is shown on the restoration plan in **Figure NTS-6**.

The proposed restoration scheme will be achieved by the following measures:

- the extraction void will be left to naturally fill with water to create a valuable wetland habitat. The rebound water level will be around 80m AOD.
- those quarry benches and faces that will remain above the rebound water level will be left for natural recolonisation by locally occurring tree and scrub species.
- on completion of all extraction works, all of the plant and machinery within the site will be removed. All hard standing areas will be ripped, in order to achieve a variety of ground conditions, including shallow depressions and small heaps of rock/rubble. These different conditions will encourage soil formation and plant colonisation resulting in diverse natural habitats.
- the settlement lagoons will be left to naturally develop into further wetland habitats on site.
- all existing boundary fences and hedgerows will be retained to ensure that the site is secure. The existing gates at the site entrance will be retained and kept locked at all times, except for maintenance access.

The majority of restoration works will be carried out on permanent completion of the extraction works. As the majority of the site is used for extraction and processing purposes it is not feasible to restore any parts of the quarry void at an earlier stage. However, it is proposed that all existing grass and scrub areas which have established along the site boundaries will be protected and retained, as much as possible.

The exceptions to the above, where restoration works can be commenced prior to the final extraction operations being completed are outlined below.

It is proposed to carry out barrier hedge planting in a number of locations along the southern and western boundary to tie into existing dense vegetation along those boundaries (c.330m in total). This planting will be carried out within the first year of receipt of planning permission, so that it will have matured by the time the extraction works are complete and will function as a secure barrier to prevent access into the site, once restored.

It is further proposed that the remaining overburden will be stripped and placed in the storage area by the end of Year 4 of the extraction operations and whereby it can then be grass seeded to tie into the existing vegetated overburden storage area to the north. This will result in the entire overburden storage areas to the northeast of the application are being matured by the time the extraction works are complete and will function as a secure barrier to prevent access into the site.

The restoration works will be carried out in accordance with the EPA Guidelines (2006). Ecological advice will also be incorporated into the restoration process to facilitate future habitat value in the area for biodiversity.

As the applicant is a long-established mineral extraction operator, it has ample experience and expertise in implementing mineral restoration programmes, as demonstrated in **Appendix 2-C** of EIAR Chapter 2.

Site Management and Supervision

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

All components of the barrier system of the site consisting of existing mature boundary hedgerows, fences and walls will remain in place after extractive/ processing operations have ceased.

As the lands will be restored in part to natural habitat use with a body of open water, secure fencing will be provided around the perimeter of the extraction area. Details of the proposed fencing can be submitted to and agreed with the Planning Authority.

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

Long Term Surface Water and Groundwater

The surface water will percolate to ground. There will be no requirement for any active long-term surface water or groundwater management at the site.

Decommissioning of Plant and Machinery

Redundant structures, buildings, plant equipment and stockpiles within the overall site 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.

All fuels or oils stored on site will be removed by a licenced contractor and there will be no potential for fuel or oil to cause long-term water pollution following completion of extraction activities.

The waste water treatment unit within the existing site will be decommissioned, emptied by a licenced waste contractor and removed from the site to eliminate any risk of groundwater contamination by sewage.

Aftercare and Monitoring

The site will be monitored on a quarterly basis for 2 years following the extraction operations.

Establishment maintenance will be carried out for 2 years following the planting works proposed along the southern and western boundary areas. The works as set out in the proposed Landscape Management Plan are proposed to be carried out within the first year following receipt of planning permission. The works will include weed control, replacement planting, watering (if required) and the adjustment of spiral guards, ties and stakes.

3.0 THE EXISTING ENVIRONMENT, EFFECTS AND MITIGATION MEASURES

3.1 Population and Human Health

The Environmental Protection Agency guidelines in relation to environmental impact assessment (2022) indicate that the consideration of human health and population relates to employment, human health and amenity. For the purposes of environmental impact assessment, human health is considered in the light of the relevant topics or 'pathways' addressed by the EIAR, such as noise, air and water, and in the light of established, acceptable limits for exposure.

The application area is situated entirely within the townlands of Rathcore and Connellstown, Enfield, Co. Meath and is located within the Electoral Division of Innfield.

The application site is located about 1 kilometre southwest of the village of Rathcore, and c. 3 kilometres northwest of the town of Enfield, refer to **Figure NTS-1**. The village of Rathcore comprises of a handful of houses and a public house, grouped around the intersection of two roads.

The application site within the wider landscape is surrounded by a mixture of pasture and arable fields, bound by mostly dense tree lined hedgerows. Field sizes range from small to large, with the smaller fields typically being under pasture and the larger ones used for growing crops.

The closest residential dwellings to the application area include two residences located along the public road directly north of the quarry. There is one residence directly opposite the site entrance while there is a cluster of houses located to the southwest of the site at the intersection of the local county roads. EIAR **Figure 4-1** identifies residential properties, facilities and farm buildings within the locality and shows 250m, 500m, 750m and 1km offsets from the application boundary.

Mitigation measures to be adopted during the proposed extraction/processing development will relate primarily to minimising any impacts of the project on surrounding sensitive receptors (primarily associated with noise, dust and traffic). These measures are discussed in the following chapters of the EIAR:

- Chapter 6 – Land Soils and Geology
- Chapter 7 – Water
- Chapter 8 – Air Quality
- Chapter 10 – Noise & Vibration
- Chapter 13 – Landscape
- Chapter 14 – Traffic

It is considered that with the implementation of the mitigation measures outlined in Chapters 6, 7, 8, 10, 13 and 14 of the EIAR, there will not be any significant impact on population and human health of the surrounding area.

3.2 Biodiversity

The potential effects of the proposed development on habitats and species have been assessed.

Meath County Council's website was accessed for information on relevant planning policy while the planning portal was accessed for information on other proposed or permitted developments within the Site and immediate surrounding area.

Other sources of information were also used such as aerial and Environmental Protection Agency maps, Birds of Conservation Concern in Ireland (BoCCI), published by BirdWatch Ireland and the RSPB NI, which is a list of

priority bird species for conservation action on the island of Ireland, Wildlife Acts (1976 - 2018), the Red List of Terrestrial Mammals (Marnell *et al*., 2009) and the EU Habitats Directive 92/43/EEC. The development design drawings and the project description provided within other chapters of the EIAR also informed the desk study. The chapters of the EIAR reviewed during the desk study include Chapter 7 Hydrology, Chapter 8 Air Quality and Chapter 13 Landscape. The Natura Impact Statement prepared for the development was also reviewed during the desk study.

Site surveys were carried out in September 2016, February 2020, November 2022 and September 2023 by qualified ecologists from SLR. The objective of the site visit was to describe and evaluate the ecological features within the Site. A site visit to St. Gorman's Well was also carried out in January 2024 by a qualified ecologist from SLR.

The application site is not subject to any statutory or non-statutory designation and no such sites will be directly or indirectly impacted upon by the proposed development, including St Gorman's Well CGS which may provide some value for smooth newt but is not formally designated or recognised for ecological purposes.

The proposed extraction operations will result in the direct loss of c.50 m of treeline, located on an elevated spur that is quarried on three sides where nine beech trees will be removed. The majority of the tree removal activities will be restricted to the existing quarry footprint.

The loss of the aforementioned habitat types and the areas/lengths that are involved would (at most) be of ecological significance at a local (higher level). This will be mitigated for through c.330 m of replacement hedgerow planting, which will be undertaken in Year 1 immediately following planning permission being granted. Although it should be noted that this will comprise shrub and young trees. Whilst the hedgerow length will far exceed the length of the treeline loss, it will not be possible to fully mitigate in the short term the loss of the mature trees that are present in these locations by undertaking replacement planting.

Three trees with low bat roosting potential have been identified to be lost to facilitate the proposed development. Mitigation measures have been recommended through an appropriate soft-felling technique which will minimise potential impacts to roosting bats.

The Site has suitable habitat for nesting peregrine, kestrel, and raven on the quarry cliff-faces; as well as other birds of prey and passerine birds within suitable vegetation. If construction works are scheduled to start just before or during the bird nesting season (1st March -31st August), pre-commencement surveys have been recommended under proposed mitigation to check that no cliff-nesting birds are present immediately before any works commence.

The dry grassland (GS2) in the north of the Site potentially supports rare orchids and may qualify as Annex I habitat, if a threshold of orchid abundance and diversity is met. However, no further overburden will be stored in this area in order to avoid any impact on orchids and potential Annex 1 habitat.

The proposed habitat loss is limited to c.50 m of treeline (comprising nine beech trees). All other works will take place within the existing footprint of the existing quarry.

Potential impacts and recommended mitigation measures have been detailed for the flora and fauna identified on the Site including the habitats, amphibians, birds, bats, badger, pine marten, hedgehog, other mammals, invertebrates, and invasive species. The proposed mitigation will help the project comply with the Meath County Council Development Plan policies for biodiversity.

Upon the cessation of extraction operations, the Site will be restored to natural habitat and a permanent lake feature that will have a positive impact at the Local (higher) level at the Site for wildlife, and also comply with the Meath County Council policy for biodiversity (HER POL 28) which, during a development management process, aims to protect and enhance the biodiversity and landscape features wherever possible, by minimising adverse impacts on existing habitats (whether designated or not) and by including mitigation and/or compensation measures, as appropriate.

3.3 Land, Soils and Geology

The assessment is based on a desk study of the site / surrounding area using published geological data, a site walkover of the lands and available information provided to SLR by Kilsaran. This section describes the receiving environment at and in the immediate vicinity of the site.

The proposed development includes for drilling, blasting, crushing and screening of rock; and lateral extension to same with deepening of the quarry void by a further 2 no. 15m benches to a depth of c. 45m AOD, with an overall extraction area of c. 10.6 hectares.

Available desktop information relating to the site included bedrock, subsoil and soil datasets, site photographs and information from boreholes undertaken between 1998 and 2022.

Land can be considered to be a resource with a beneficial use to society, for example agricultural land use, extractive industry land use or urban residential land use. Unnecessary land take may result in the loss of this resource which has the potential to have adverse social and economic consequences for society.

The Teagasc soil mapping for the Irish Forestry Soils (IFS) mapping project, indicates that the soils underlying the southern portion of the site comprise typical grey, brown podzolics and brown earths derived from mainly calcareous parent material. The northern part of the site containing the processing/storage yard is underlain by renzinas and lithosols with the parent material being Carboniferous limestone sands and gravels.

The majority of soils at the site have previously been removed to allow for the extraction of rock and development of processing plant. Removal of soils is only required in localised areas of the northwest (existing treeline ridge) and northeast parts of the extraction area, as shown on **Figure NTS-4** to facilitate the proposed extraction design at depth.

Similar to the soils at the site, the subsoils within the extraction area have in most areas already been removed with the exception of the northeast and northwest corners. Where subsoils occur in the immediate vicinity of the proposed extraction area they are composed of tills derived from limestones.

The GSI 1:100,000 geology map Sheet 13 shows the existing northwest section of Rathcore Quarry lies within the outcrop area of Waulsortian Limestone informally referred to as “The Reef”, which is a massive bedded, pale grey, fossiliferous fine grained limestone composed of fine lime muds, and the southeast section within the Lucan Formation.

Waulsortian is typically overlain by thin, variable thicknesses of the Tober Colleen Formation, a black calcareous mudstone that is in turn overlain by fine-grained, dark grey to black, well bedded limestones of the Lucan Formation, informally known as Calp.

The Waulsortian Limestones are composed of massive bedded banks of very pure carbonate muds with variable calcite cements. The banks are frequently overlain by well-bedded carbonate muds or crinoidal grainstones with thin shales between the limestone beds.

Six rotary core boreholes drilled in late 2000 into early 2001 at the site to depths of up to 63.60m, and which indicated that the geology at Rathcore is composed of massive bedded banks of pure Waulsortian carbonate muds with variable calcite cements.

More recently, a detailed hydrogeological study of the site and the nearby St. Gorman’s Well (a local spring well of significant hydrogeological importance) was carried out by David Ball at the request of Kilsaran over the period 2019-2022. The detailed study was carried out following An Bord Pleanála’s refusal of an application to deepen Rathcore quarry in 2016. The reasons for the refusal related to the hydrogeology of the quarry and the potential of the development to impact St. Gorman’s Well, a warm spring, located c. 1.6km to the west. The resulting Hydrogeological Investigation Report is a significant body of work and presents a very detailed assessment which relies both on historic geological/hydrogeological data as well recent hydrogeological investigations. The findings from the study are outlined in Chapter 7 of this EIAR and specifically the full Hydrogeological Assessment Report is provided in EIAR Chapter 7, **Appendix 7-A**.

The hydrogeological investigation at the quarry site and surrounding area included 55 boreholes to define the geology as the basis of the hydrogeological investigation for St. Gorman's Well, see EIAR **Chapter 7**.

A detailed study of the bedrock geology of both Rathcore Quarry and the surrounding area is presented in the Hydrogeological Assessment Report, and the findings indicate that the bedrock geology is far more complex than previously understood and that the published GSI's regional bedrock geology map (1:100,000) is a simplification of the geology of the local area.

The data obtained from the historic and recent site investigations form part of a detailed and extensive geological dataset for the local area. Based on the site specific geological data, it has been concluded that the bedrock geology of the local area is divided into upward, downward, and sideways, juxtaposed blocks of different limestones separated by Carboniferous and Cenozoic age faults.

The geological information indicates that the Rathcore Quarry is underlain entirely by Waulsortian Limestones. In contrast to the GSI's map, the Lucan Formation is not present at Rathcore Quarry.

The extraction of rock material at the site is a tied land use activity, as it is dependent on the location and suitability of the rock deposit, which may be considered to be a natural resource. The proposed development will result in a loss of the rock resource at this location.

Soils will be managed on site in line with best practice national guidelines and will be stored in accordance with best practice to preserve the structure and integrity of the soils. With this mitigation measure in place, it is considered that there are no significant residual impacts with respect to land, soils or geology.

Operations at the site will adhere to the appropriate Health and Safety Authority guidelines and this will limit the potential for unplanned events such as instability of quarry faces or instability in adjacent lands.

3.4 Water

The existing quarry has been worked dry to a current level of c. 75mOD, and groundwater has been pumped and discharged from the site to maintain dry working conditions since 2013.

There are no surface water features at the site of the existing quarry. The closest surface watercourse is a tributary of the River Blackwater, c. 150m to the west of the site. The site is located in the River Blackwater catchment which is a sub-catchment of the River Boyne.

There is an existing discharge of treated surface water and groundwater from the site to a drainage ditch to the west of the site (DL 13/02). The discharge is automated based on a float level on the groundwater sump. Water is treated via a suitably sized settlement pond, a hydrocarbon interceptor and a constructed reed bed prior to discharge. Monitoring of the effluent discharge quality has revealed that to date the discharge from the site has largely been compliant with the existing discharge licence conditions and emission limit values. Monitoring of discharge flow volumes have revealed that the discharge rates exceed the discharge limit and a review of the existing discharge licence is required.

Downstream of the site discharge location, the drainage ditch flows to the northwest and discharges into a small 1st order stream (Clonguiffin stream), which in turn flows into a 2nd order stream (Connellstown stream). This 2nd order stream flows to the west and discharges into the Blackwater River.

In support of the planning application, detailed and comprehensive geological site investigations (Ball, 2022), including the drilling of 52 no. exploratory boreholes at the site, have shown that the bedrock geology of the site is more complex than that indicated on the available 1:100,000 GSI map of the local area. Based on comprehensive recent site data, combined with geological investigations in the wider area over the past 160 years, the geology of the local area has been found to comprise of a series of fault bounded blocks of Waulsortian Limestones, the Lucan Formation and weathered versions of each formation.

Long high-rate pumping tests were completed at Rathcore from July 2020 to March 2021 to simulate the effects of the proposed quarry dewatering on local groundwater levels. The pumping tests revealed that the conduits

underlying the site sustained a flow of over 2,000m^3/day for almost five months. This indicates that the water bearing conduits below the northern section of the existing quarry are connected to a karst groundwater flow system that extends beyond the area of the quarry. The pumping tests correlates with the geological data and suggests that there is a complex but extensive and interconnected system of karst conduits within the Waulsortian Limestones.

Based on the site investigation data, the Hydrogeological Investigation Report (Ball, 2022) suggests that the aquifer classification of the Waulsortian Limestones at the site will be upgraded to a Regionally Important Karst Aquifer (conduit) from its current classification as a Locally Important Aquifer.

The site is located in close proximity to 2 no. public groundwater abstractions (*i.e*. Enfield and Longwood PWS). Residences in the vicinity of the site area are served by private groundwater well supplies.

Extensive groundwater monitoring has been completed in both on-site boreholes and nearby private wells since 2008 and 2006 respectively. This long-term monitoring has shown a gradual decline in local groundwater levels. The decline in groundwater levels predates the commencement of pumped discharges from the quarry in 2013. Furthermore, the rate of groundwater level decline does not appear to have been altered by the existing quarry dewatering regime.

The River Boyne and River Blackwater SAC and SPA are located downstream of the site. The site is hydrologically linked with this designated site via the tributaries of the Blackwater River into which the site discharges treated water.

Upwelling of groundwater is highlighted by the presence of St. Gorman's Spring, a natural warm water spring located approximately 1.6km west of Rathcore Quarry. St Gorman's Spring is a pNHA and a County Geological Site and is located within the Waulsortian limestone bedrock. Comprehensive site investigations and monitoring have been completed in order to determine the potential effect that the proposed development may have on the groundwater regime which feeds this warm water spring. The Hydrogeological Assessment Report (Ball, 2022) concludes that the future dewatering of the quarry would not affect the functionality of the spring. During long term high-rate pumping tests it was found that during winter conditions, when the spring is in flow, pumping will have no effect of groundwater levels at St. Gorman's Well.

In summary, comprehensive and detailed hydrogeological investigations and monitoring have been completed at the Rathcore site and its surrounds. These comprise of quarry discharge quality and flow monitoring, groundwater level monitoring in both onsite wells and nearby private wells since 2006, extensive borehole drilling onsite (52 no. BHs), unprecedented long-term pumping tests (7-month long tests in total) and monitoring of the water levels at St. Gorman's Well.

3.5 Air Quality

An assessment of potential fugitive dust emissions from the proposed development has been undertaken. The assessment takes into consideration the potential sources, surrounding receptors, and the pathway between source and receptor in order to assess the magnitude of risk of impact without mitigation measures in place.

The main focus of the assessment is the potential impact on sensitive receptors from fugitive dust emissions from the following activities:

- soil stripping, earthworks, and topsoil stockpiling (site preparation and restoration works);
- trafficking by onsite machinery and heavy goods vehicles (HGVs) over paved / unpaved surfaces;
- handling and processing of excavated rock;
- transfer, end-tipping and stockpiling of aggregates;
- operation of processing and rock milling plants;
- landscaping and final restoration activities.

There are approximately 23 sensitive receptors identified within 500 metres of the planning application area (shown on **Figure 8-1** in EIAR Chapter 8) and which were assessed in detail, as they are considered to have a potential greater risk of dust impact.

In the absence of any mitigation measures, the risk of impact from dust emissions was insignificant -to-acceptable at 21 of the receptors, slight adverse at 1 receptor and moderate adverse at 1 receptor.

A number of mitigation measures are proposed to minimise the generation / migration of fugitive dust and to ensure that the extraction, processing and restoration operations comply with the threshold values. These mitigation measures are in accordance with the 'best practice / mitigation' measures for the sector.

With the range of mitigation measures to be implemented at the site, the risk of dust impact is reduced to insignificant to acceptable at all 23 receptors within 500m.

A comprehensive monitoring programme will continue to be implemented at the site to confirm that the site will operate within the recommended dust deposition emission limit values set out in best practice guidelines for the sector. Dust deposition monitoring will continue to be undertaken at the application site. Three monitoring locations were included in the baseline survey and will continue to be monitored for the duration of the development.

Dust monitoring locations shall be reviewed and revised where and as/when necessary. The results of the dust monitoring shall be submitted to Meath County Council on a regular basis for review and record purposes.

The operations at Rathcore, with the range of mitigation measures proposed, will not have a significant dust deposition impact on human receptors. Kilsaran will monitor, evaluate, and implement a large range of mitigation measures at the site to minimise the generation / migration of fugitive dust.

3.6 Climate

An assessment of Climate has been undertaken. The assessment takes into consideration the evolving baseline, climate hazards, project vulnerability, and GHG emissions.

The following issues are addressed separately:

- climate change legislative framework/policy context;
- analysis of evolving environmental baseline trends;
- identifying climate change concerns in relation to proposed development;
- assessing effects;
- identifying mitigation measures;
- identifying monitoring and adaptive management.

The following analysis was carried out:

- likelihood analysis of a climate hazards;
- climate hazard impact analysis;
- sensitivity of project to climate hazards;
- exposure of the project to current and future climate hazards;
- vulnerability analysis of project to climate hazards.

Based on the project vulnerability assessment, measures to improve the resilience of the project to extreme rainfall, flash flood, storms, and winds are required.

Based on the scale and extend of the proposed development at Rathcore, GHG emissions are assessed as not making a significant contribution to the global atmosphere.

Mitigation measures in the context of climate change shall include increasing the adaptive capacity of the development on an ongoing basis with a view to reducing vulnerability and increase resilience of the development.

In terms of GHG emissions Kilsaran shall adopt a GHG monitoring and reduction programme at Rathcore.

3.7 Noise

The existing noise baseline noise environment of the local area surrounding the application site has been surveyed in order to provide a measure against which the predicted changes resulting from the proposed development can be quantified.

23 sensitive noise receptors (residences) were identified within 500m of the application site and these are shown on **Figure 10-1** IN EIAR Chapter 10. In addition, there is a residence currently under construction (R101) to the south of the application site adjacent to residence R9. Of these, a selection of 7 residences were chosen in order to provide a representative scenario of sensitive receptors surrounding the site.

To predict the noise impact, SLR Consulting Ireland carried out a noise prediction assessment, whereby the expected levels of noise were calculated at the representative noise sensitive receptors, based on industry accepted assumptions regarding noise of plant and machinery to be used as part of the proposals.

With reference to the Guidelines for Noise Impact Assessment produced by the Institute of Environmental Management and Assessment (IEMA). The cumulative noise impact within the application area from plant associated with any overburden stripping (construction phase) at the nearest receptors is None before mitigation measures are considered. The cumulative noise impact within the application area from plant associated with the rock extraction (operational phase) at the nearest receptors is None before mitigation measures are considered.

Mitigation measures to reduce the noise impacts of plant associated with the planned development will continue to be implemented at the site and are outlined EIAR Chapter 10.

Noise monitoring shall continue to be undertaken around the application site. Noise monitoring locations shall be reviewed and revised where and as/when necessary. The results of the noise monitoring shall be submitted to Meath County Council on a regular basis for review and record purposes.

3.8 Vibration

Blasting-induced vibration is impulsive and transient in nature. A typical blast consists of a number of drilled blast holes into which are placed explosive charges. The charged holes are detonated individually by use of detonators each with different delays.

The main reason for complaints from blast-induced vibration is usually attributed to the fear of damage and/or nuisance rather than actual damage or nuisance itself. The human body is very sensitive to vibration; this can result in concerns being raised at vibration levels well below the threshold of cosmetic damage to buildings or the levels stated in the existing planning conditions.

The frequency of blasts is dependent on market demand. The duration of a blast in terms of noise is of short duration, similar to a clap of thunder.

A number of previous mitigation measures were in place to minimise disturbances due to blasting from the quarry area when it was operational. These mitigation measures were in accordance with the 'best practice / mitigation' measures for the sector. Blasting is carried out by a qualified "shotfirer". The blast design is reviewed on a regular basis and modified where necessary to ensure compliance with groundborne vibration limits.

All previous blasts were monitored, with records kept detailing the results of vibration, air over pressure, and the blast design as part of the environmental monitoring programme implemented at the quarry.

A review of the blast monitoring results from 2017-2022 indicate compliance with the DoEHLG (2004) / EPA (2006) recommended threshold limits for groundborne vibration of 12 mm/sec (peak particle velocity) and for air overpressure of 125 dB (Lin) with a 95% confidence limit. No blasting has taken place at the site during 2023 with the last blast taking place in December 2022.

The comprehensive monitoring programme implemented at the site confirms that the hard rock quarry has operated within the recommended groundborne vibration and air overpressure emission limit values set out in best practice guidelines for the sector.

3.9 Material Assets

Material Assets include the built services such as electricity, telecommunications, gas, water supply infrastructure and sewerage. Material assets also cover and roads and traffic.

The existing site has an electricity supply via an existing mains supply and sub-station on site. This connection will continue to provide the principal energy source for the overall site.

The existing site-based staff are contactable via fixed landline and mobile phones. Internet connections to the site office is currently provided by a mobile network, facilitating access to email.

Effluent from toilet facilities is currently treated using an on-site septic tank which is proposed to be replaced with a new waste water treatment tank and percolation area as part of this planning application.

An existing potable water supply from groundwater is provided at the site. This provides the water required to provide adequate water services to facilitate the ancillary facilities, dust suppression and wheel wash operations on the application site.

Review of the 'dial before you dig' website from Gas Networks Ireland was carried out as part of the baseline review. The results of the inspection are provided in **Appendix 11-A** in EIAR Chapter 11. No gas lines are located within the general site area. The closest high pressure (transmission) line is located c. 4.2km to the north with the closest medium pressure (distribution) line is located c. 2km to the south running along the R148 regional road.

There are no high voltage electricity powerlines in the vicinity of the application site. The closest high voltage line (400kV) runs generally in a southwest to northeast direction and is c. 1km southeast of the application site at its closest point. The powerline terminates in Woodland 400kV substation, near Batterstown c. 19km east of the application site.

The EPA mapping web viewer indicates that there is no waste water treatment facility in the vicinity of the site and so it is assumed that all residential properties in the area are served by private septic tanks. The closest public sewage treatment works are located c. 3.8km to the south serving Enfield town and Johnstown Bridge and c. 3.7km to the west serving Longwood.

The proposed operations at the application site will not have a significant effect on material assets of the surrounding area.

3.10 Cultural Heritage

The archaeological and cultural heritage assessment for the EIAR was carried out by Dr. Charles Mount who is a Member of the Institute of Archaeologists of Ireland and has more than thirty years of cultural heritage assessment experience. He holds M.A. and Ph.D. degrees in archaeology as well as a professional diploma in EIA and SEA Management.

The archaeological component of an EIAR for the continuation of quarrying at Rathcore Quarry, Co. Meath consisting of a paper and fieldwork study was carried out in 2016 and 2023. The proposed development will have no direct or indirect impacts on any known items of cultural heritage, archaeology or buildings of heritage interest in the application area or the vicinity. Due to the possibility of the survival of previously unknown sub-surface archaeological deposits or finds within Area 2 (refer to EIAR Chapter 12), the unquarried headland at the western side of the extraction area, it is recommended that topsoil stripping within Area 2 be archaeologically monitored. Two appendices are included with Chapter 12 of the EIAR dealing with Recorded Monuments and sites in the Sites and Monuments Record in the study area. This section should be read in conjunction with the appendices.

3.11 Landscape

A landscape and visual impact assessment (LVIA) of the proposed development was completed in accordance with accepted guidance.

A study area for the LVIA was identified, with the help of a zone of theoretical visibility (ZTV) map, as an area of up to c. 4km to the north-west and up to c. 3km to the south-west and is fully screening in all other directions surrounding the application area. The gently undulating topography, containing abundant screening vegetation was also taken into account. The field survey carried out to determine the baseline conditions at the site confirmed that the application area is fully screened in the vast majority of views within the study area by roadside and intervening vegetation, as well as topography. Screening berms along the northern and north-eastern boundary, as well as elevated ground along the south-western and south-eastern boundary ensure that the existing extraction area within Rathcore Quarry is screened in most views from the surrounding area.

Levels within the application area range from the highest points around 122m OD (Ordnance Datum) on the top of the overburden storage mounds along the northern and north-eastern boundary to 75m OD, the lowest point on the quarry floor. Along the site boundaries levels range from the aforementioned 122m OD, to 100m OD along the southwestern boundary and to 84m at the site entrance.

The topography surrounding the application site is gently rolling with elevations generally ranging from 70 to 100m OD. The highest elevation in the vicinity of, but outside the application area is a local highpoint of 117m OD immediately to the north-east of the application area.

The wider landscape is dominated by a mixture of pasture and arable fields, bound by mostly dense tree lined hedgerows. Field sizes range from small to large, with the smaller fields typically being under pasture and the larger ones used for growing crops. Most fields and hedgerows are well-tended and therefore, the landscape is overall in a good condition.

Apart from a number of small blocks of woodland, there are no wooded areas within the wider area. However, the presence of many mature hedgerows, gives an impression of a much more wooded landscape than it actually is.

The Meath Landscape Character Assessment is presented in Appendix 05 of the current Meath CDP. It divides the county into 4 Landscape Character Types (LCT's), i.e. *"generic areas of distinctive character"* and further into 20 *"more geographically specific"* Landscape Character Areas (LCA's).

The application area at Rathcore is located within LCT 2 - 'Lowland Landscapes' and just inside the boundary of LCA 6 - 'Central Lowlands'. The boundary with LCA 13 – 'Rathmoylan Lowlands' is located immediately to the east of the application area. The closest other LCA is LCA 14 – 'Royal Canal', just over 2km to the south of the site.

LCA 6 and 13 are both classed as being of 'High Landscape Value', i.e. *"Areas which are considered to be of value by virtue of their positive characteristics, sense of place or local associations. These areas may be of regional or local importance"*. LCA 6 has been afforded 'Regional' and LCA 13 'National' Landscape Importance.

LCA 6 is further classed as being of a 'Medium' Landscape Sensitivity, i.e. *"A landscape that can accommodate a certain amount of change without affecting the overall character. There are unlikely to be large numbers of people using or viewing this landscape."*

Hedgerow and tree planting will be carried out at the new site entrance to compensate the section of hedgerow which will need to be removed to facilitate the sightlines. Parts of the existing sand and gravel pit site will be restored on a phased basis and the remainder of the site on completion of all extraction works. The pit floor and processing/storage areas will be restored to an agricultural land use, with associated hedgerow planting. The quarry void and the area surrounding it, as well as the existing settlement lagoons and adjoining ground will be left for natural regeneration.

Elements of the proposed development, which have the potential to result in landscape & visual effects include changes to the landform within the extraction area and overburden storage area; the removal of a small area of slightly elevated ground and the associated tree line, as well as the removal of other small patches of grass and scrub vegetation within the extraction extension area; the proposed new hedgerows along the south-western boundary to fill gaps in the existing vegetation; the presence of the new rock milling plant; and external to the site, HGVs visible along local roads.

The existing quarry development is screened in the vast majority of views from the surrounding area, which vastly reduces the potential for visual effects. Further to that, the proposed development will be contained within the existing development boundaries, thereby utilising the existing screening berms and vegetation. A small area of elevated ground and associated tree line will be removed; however, this will not open up views of the remainder of the development. In order to provide additional screening along the western boundary and increase the site security, hedge planting is proposed in gaps of the existing vegetation along the south-western boundary. This planting will also compensate the loss of the tree line, provide habitat linkage and help increase the biodiversity of the site. On completion of all extraction works, the site will be restored to a beneficial wildlife habitat land use.

There is a protected view to the immediate north-west of the application area, i.e. Viewpoint No. 57, and is directed away from the site, and will not be affected by the proposed development.

The Landscape and Visual Assessment (LVIA) carried out in EIAR Chapter 13, has concluded that the visual effects on a small number of available views will be minor or less during the operational stage of the development, reducing to negligible-none during the post-operational stage. It can therefore be argued that the proposed development will not unduly impinge on the visual amenity of the local area or in other words that the detraction from the visual quality of the landscape is minimised. As mentioned above the assessment further concluded that the landscape effects will be moderate-minor or less during the operational stage of the development, reducing to minor-negligible during the post-operational stage. The proposed development therefore does not significantly impact a sensitive area.

In summary, the proposed operations at the application site will not have a significant effect on landscape and visual receptors, designated landscapes, protected views or outdoor recreational areas.

3.12 Traffic

Traffic & Transportation Planning Consultants, Trafficwise Ltd. have prepared a Traffic and Transport Assessment (TTA) in Chapter 14 of the accompanying Environmental Impact Assessment Report (EIAR) which provides an assessment of the receiving road network traffic conditions and an assessment of likely traffic effects arising from the development including a 'baseline' scenario. It identifies the prevention, mitigation and monitoring measures that will be implemented to reduce the significance of the effects and assesses the residual effects. The aim of the TTA is to provide sufficient roads and traffic related information to determine the baseline and likely future traffic effects arising from the proposed development.

A series of junction traffic turning counts and automatic traffic counter surveys were undertaken in October 2022 to inform the traffic study and thus the preparation of the TTA. The survey data set provides a base from which

to evaluate traffic patterns on the receiving road network and also provides a sound baseline upon which to evaluate likely future effects arising from the proposed development.

Based upon consultation with Meath County Council and by reference to the previous application under Planning Reg. Ref. TA161227 the scope for the key transportation items to be addressed within the TTA includes the requirement for identifying the haul routes and accessibility of the site. In addition, the methodology adopted in preparing the TTA will accord with published Transport Infrastructure Ireland (TII) Publication PE-PDV-02045 'Traffic and Transport Assessment Guidelines' and will have regard to the Chartered Institution of Highways & Transportation (IHT) Guidelines.

The TTA identifies how existing and future traffic associated with the development is accommodated on the existing local road network. Where considered appropriate, measures are discussed regarding the management of traffic generated by the proposed development together with local signing improvements and road maintenance.

The advice to local authorities in Spatial Planning and National Roads (Guidelines for Planning Authorities - January 2012), Chapter 3, 'Development Management and Roads' is to make sure that development located close to national roads and their junctions can be catered for by the design assumptions underpinning such roads and junctions thereby avoiding potentially compromising the capacity and efficiency of the national road. The assessments provided in the traffic study show that the traffic generated by the proposed development will not give rise to a premature or unacceptable reduction in the level of service available to road users on national roads or their junctions in the vicinity of the existing development.

The main entrance to the site is directly from Local Road L6226 and opens into a large open yard with a group of buildings located to the north. There is no pedestrian, cycle of public transport provision on the local road network serving the exiting site. The exiting site is a commercial quarry so there is limited accessibility for pedestrian and cyclists and there are no bus services available to staff or visitors to the site.

In order to carry out a comprehensive assessment of traffic patterns on the local roads network in the vicinity of the proposed development classified traffic turning count surveys were commissioned at the entrance to the existing site, at the R148/L6226 junction to the south and other key junctions on the identified haul route. The surveys also include a 7-day automatic traffic counter (ATC) survey to the north of the exiting site access on Local Road L6226. The manual traffic surveys were carried out by Traffinomics Ltd. during school term on Wednesday 26-Oct-2022 and covered the period 07:00-19:00hrs. The ATC survey commenced at midnight on Friday 21-Oct-2022.

There will be some elements of the proposal that will require construction and these principally comprise the proposed rock milling plant building and replacement of the existing septic tank. The construction phase effects will be short-term. It is expected that the overall construction period will be in the region of 3 months. It is proposed that construction traffic will access the site via the identified haul routes and chiefly from the R148 Dublin Road in the case of deliveries of steel, concrete, cladding etc. The average complement of construction staff is estimated to be in the region of 20 persons during peak construction activities. Based upon an expected car occupancy of 1.8 persons per vehicle is expected that light vehicle traffic generation during the construction phase will be on average approximately 18 trips per day allowing for staff arrivals in the morning, sundry trips in the day and departures in the evening.

Average HGV traffic generation arising during construction activities is expected to be in the region of 1 no. HGV or less per day. It is understood that the construction will require no movement of abnormal or accompanied loads to or from the site. It is anticipated that the generation of HGV's during the construction period will be practically imperceptible and will not have a significant effect on network capacity during the peak periods. An appropriate routing strategy for HGVs will be agreed and implemented as part of the CEMP. Construction traffic is not considered likely to give rise to reduced operational performance of the local road network.

The current permissions for the site permit the extraction of aggregates but do not limit the annual extraction rate. Based upon the current reserves and the market for aggregates it is forecast that the future rate of extraction will be 350,000t per annum.

The current proposal seeks permission for continuance of extraction of aggregates at the same estimated rate of 350,000t per annum. It follows therefore that the traffic generation arising from the proposed future operation of the site will be the same as currently manifest.

For the purposes of assessment, it is assumed that the total volume of HGV traffic generated in the future by extraction and processing activities will be on average 64 trips per day.

The extractive industry is acknowledged to be market or demand driven and this gives rise to fluctuations in the weekly and monthly volumes of material extracted, processed and transported to and from the development site. The volume of product transported from a quarry site is commercially driven accordingly the rate of production and extraction can fluctuate throughout the year and this is borne out in a review of weighbridge data that indicates a typical variance in HGV trip generation in the order of approximately ±15 trips per day to address certain demands when required. The day of the traffic surveys in October 2022 is an example of such fluctuation where the total HGV trip generation was 43 no. which is 22 no. less than the typical average when operating at 350,000t annual rate of extraction.

Aggregate haulage lorries will continue to predominantly turn left out of the existing site entrance and will use the prescribed haul route along L6226 to R148. Haulage vehicles will be regularly maintained, serviced and replaced at intervals.

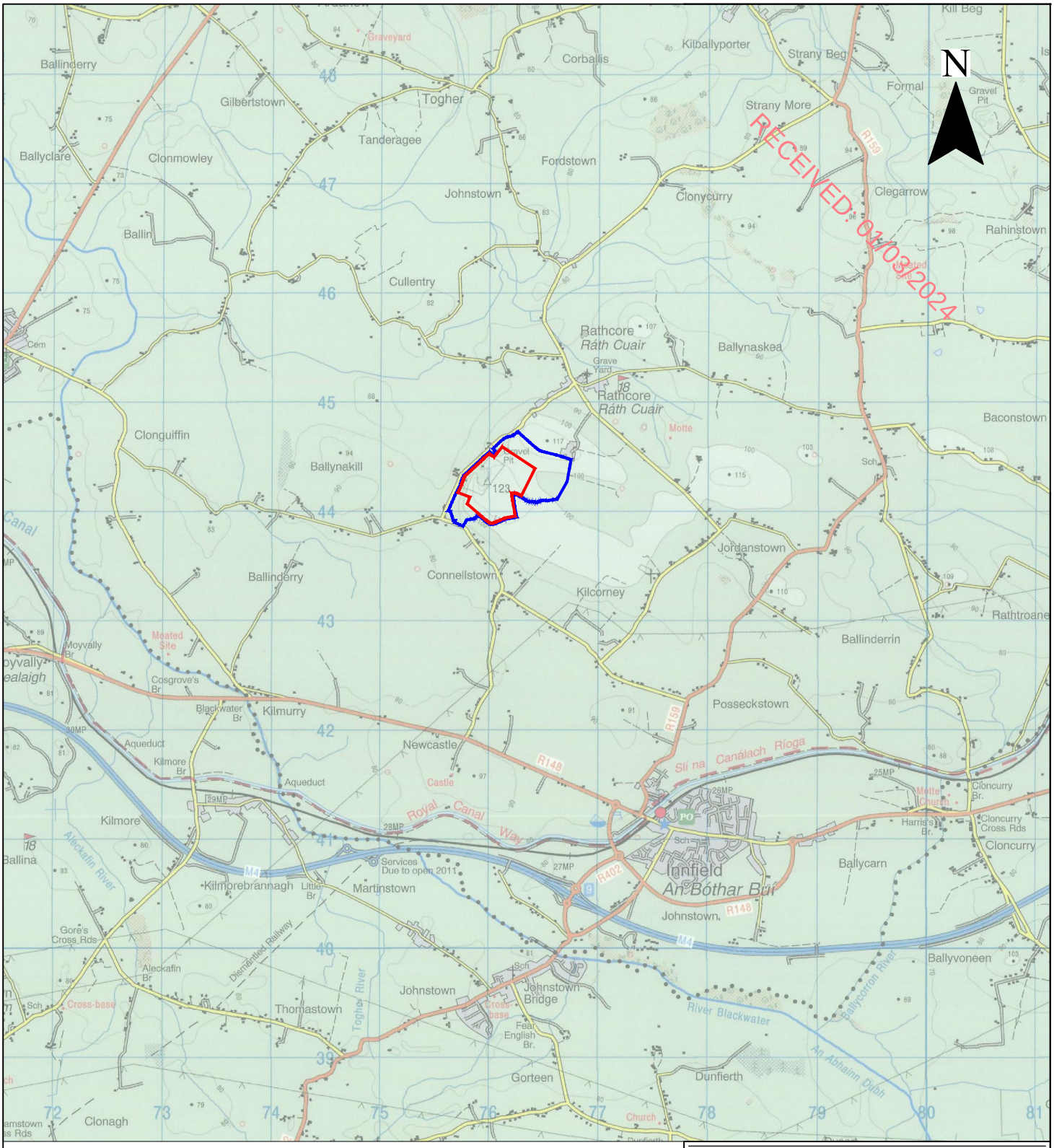
In order to prevent transport of soil and dirt out of the site onto public roads, a wheelwash facility is provided for all HGV's exiting the site. All the aggregates haulage vehicles are required to pass through the wheelwash prior to leaving the site. Any accidentally spilled material will be removed from the public road by Kilsaran in a safe and timely manner.

There are currently no advance warning signs on the approaches to the site access. It is proposed that new advance signs are erected with the agreement of the Local Authority. The suggested layout will show a standard junction ahead warning sign which indicates to drivers which side of the road the entrance is on. It is proposed to augment the sign with an information plate reading 'Quarry Entrance 200m'. If the Planning Authority considers it worthwhile a second set of similar signs can be placed at 100m distance from the site access. The size of the signs and the details of legend size etc. will be designed in accordance with the Traffic Signs Manual and the precise location agreed with the planning authority.

3.13 Interaction of the Foregoing

The interactions of the various potential impacts and mitigation measures have been covered, where applicable, under the relevant chapters within the EIAR.

FIGURES



0 500 1000 1500 2000m 3000 4000 5000

Metres 1:50,000

Extract from Ordnance Survey Discovery Series Mapping 42 & 49

CYAL 50381397

LANDHOLDING BOUNDARY (c.53.8 HA.)

APPLICATION AREA (c.31.1 HA.)

Kilsaran
ideas taking shape

SLR CONSULTING IRELAND
7 DUNDRUM BUSINESS PARK
WINDY ARBOUR
DUBLIN 14
T: +353-1-2964667
F: +353-1-2964676
www.slrconsulting.com

KILSARAN CONCRETE UNLIMITED COMPANY

E.I.A.R: NON-TECHNICAL SUMMARY

RATHCORE QUARRY

RATHCORE / CONNELLSTOWN TOWNLANDS

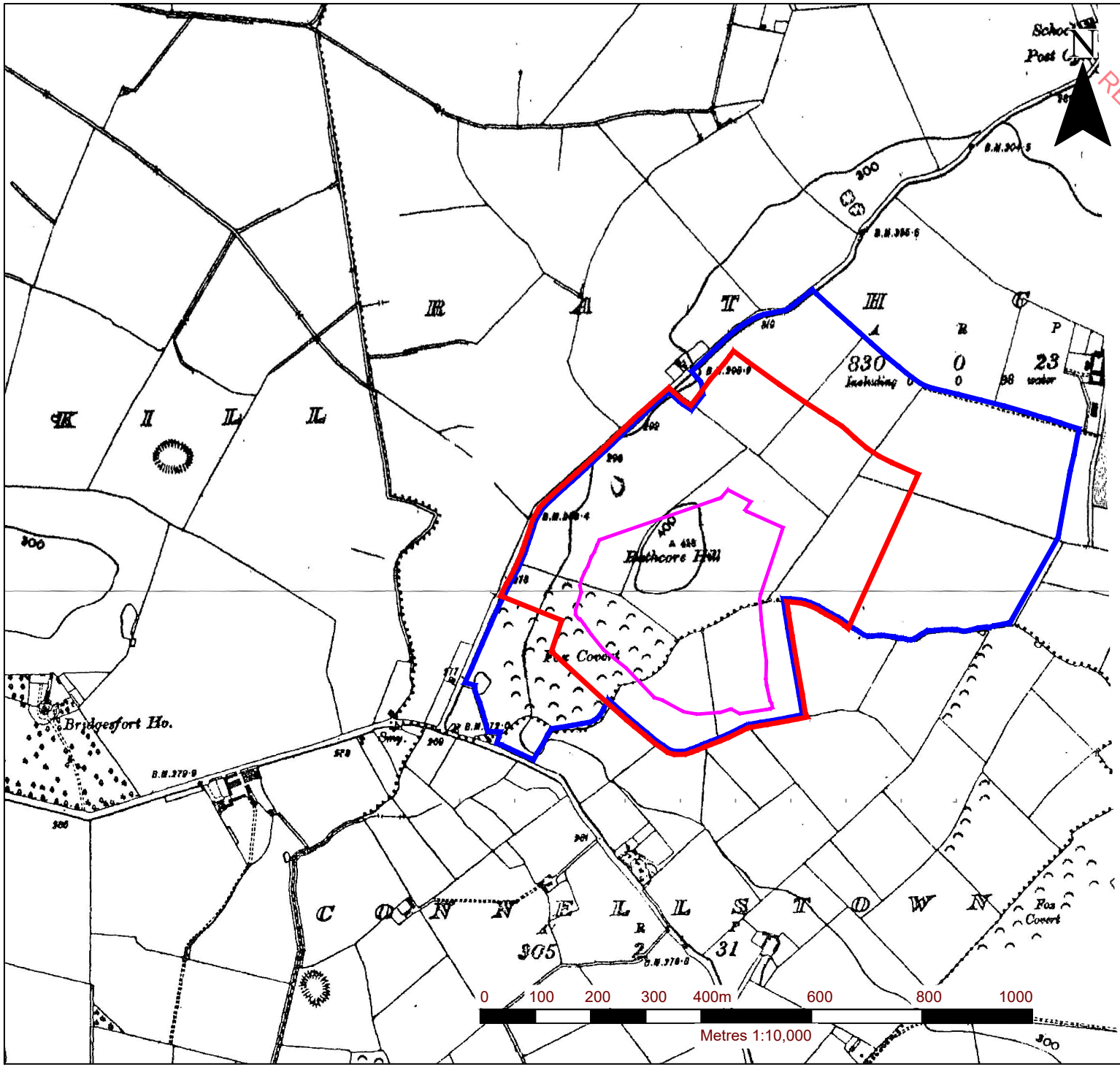
ENFIELD, CO. MEATH

SITE LOCATION MAP

FIGURE NTS-1

Scale	Date
1:50,000 @ A4	FEBRUARY 2024

00036.064960 Rathcore EIAR-Fig1-1.dwg



NOTES

Extract from Ordnance Survey 6 Inch Scale Mapping

CYAL 50381397
© Tailte Éireann - Surveying

LEGEND

- LANDHOLDING BOUNDARY (c.53.8 HA.)
- APPLICATION AREA (c.31.1 HA.)
- LIMIT OF EXCAVATION (c.10.6 HA.)

Kilsaran
ideas taking shape

SLR
global environmental solutions

SLR CONSULTING IRELAND
7 DUNDRUM BUSINESS PARK
WINDY ARBOUR
DUBLIN 14
T: +353-1-2964667
F: +353-1-2964676
www.slrconsulting.com

KILSARAN CONCRETE UNLIMITED COMPANY
E.I.A.R: NON-TECHNICAL SUMMARY

RATHCORE QUARRY
RATHCORE / CONNELLSTOWN TOWNLANDS
ENFIELD, CO. MEATH

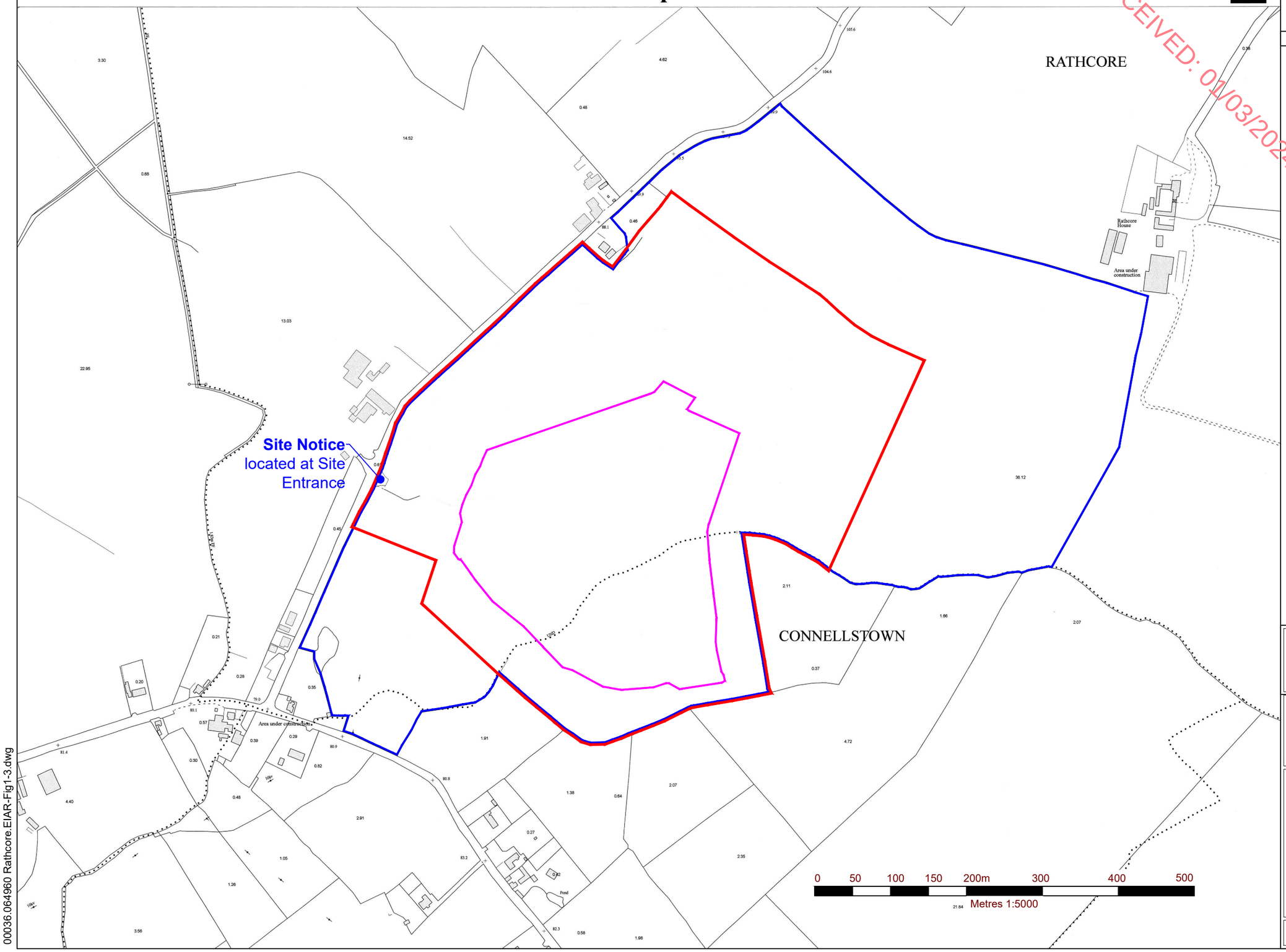
SITE LOCATION / SITE NOTICE PLAN

FIGURE NTS-2

Scale	Date
1:10,000 @ A4	FEBRUARY 2024

00036.064960 Rathcore.EIAR-Fig1-2.dwg

Rural PLACE Map



NOTES

Extract from Ordnance Survey 2500 Scale Digital Mapping
3053-B, 2984-C, 3054-A

CYAL 50381397
© Tailte Éireann - Surveying

LEGEND

- LANDHOLDING BOUNDARY (c.53.8 HA.)
- APPLICATION AREA (c.31.1 HA.)
- LIMIT OF EXCAVATION (c.10.6 HA.)

Kilsaran
ideas taking shape

SLR CONSULTING IRELAND
7 DUNDRUM BUSINESS PARK
WINDY ARBOUR
DUBLIN 14
T: +353-1-2964667
F: +353-1-2964676
www.slrconsulting.com

KILSARAN CONCRETE UNLIMITED COMPANY
E.I.A.R: NON-TECHNICAL SUMMARY

RATHCORE QUARRY
RATHCORE / CONNELLSTOWN TOWNLANDS
ENFIELD, CO. MEATH

SITE LOCATION / SITE NOTICE PLAN

FIGURE NTS-3

Scale	Date
1:5,000 @ A3	FEBRUARY 2024

00036.064960 Rathcore.EIAR-Fig1-3.dwg

N

Bunded Fuel Storage
Generator & Control Cabin
Dust shed
Perimeter Screening Mound
Aggregates Processing (Fixed) Plant
Intake Hoppers
Overburden Storage Area
Proposed Extraction Area
Stockpile Storage Area
Workshop & Employee Facilities
Bunded Fuel Storage
Wheelwash
Perimeter Screening Mound
Weighbridge
Office
Site Entrance
Piezo D4
Hydrocarbon Interceptor
Septic Tank
Car Parking
Current Quarry Access Ramp
Portion of Treeline Ridge (c.50m / 9 beech trees) to be removed along with underling soils / overburden
Stockpile Storage Area
Quarry Floor @ c.75mAOD
Remaining Area of Localised Soils / Overburden to be stripped from this area during initial extraction operations(0-7 years)
To be moved to permanent overburden storage area
Area for future placement of overburden when stripped from quarry working area
Existing Overburden Storage Area
Water Settlement Pond
Future Settlement Pond
Surface Water Flow to Sump
Reed Bed
Site Treated Water Discharge Location
Existing Quarry Sump
Sump Water pumped to Settement Ponds
Telecommunications Tower
Perimeter Screening Mound
Access Ramp
Bench @ c.90mAOD
General direction of extraction
(Benches are worked concurrently)
Piezo D1
Piezo D2
Perimeter Screening Mound
construction
CONNELLSTOWN
3.03
0.81
0.45
0.35
0.29
80.9
1.91
2.11
0.37

0 50 100 150 200m 300 400 500
Metres 1:5000

NOTES

Extract from Ordnance Survey 2500 Scale Digital Mapping
3053-B, 2984-C, 3054-A

CYAL 50381397

LEGEND

- LANDHOLDING BOUNDARY (c.53.8 HA.)
- APPLICATION AREA (c.31.1 HA.)
- LIMIT OF EXCAVATION (c.10.6 HA.)
- CROSS SECTIONS
- CONTOURS
- GROUNDWATER MONITORING WELL LOCATIONS (D1 - D4)
- WATER SETTLEMENT POND
- SITE FACILITIES / PLANT
- GENERAL SURFACE WATER FLOW DIRECTION
- GENERAL DIRECTION OF EXTRACTION OPERATIONS / ADVANCEMENT OF FACES
- PROPOSED TREELINE (c. 50m / 9 beech trees) TO BE REMOVED

Should planning permission be received, the affected trees are deemed to be exempt from requiring a felling licence in line with the Forestry Act 2014.

Kilsaran
ideas taking shape

SLR
global environmental solutions
SLR CONSULTING IRELAND
7 DUNDRUM BUSINESS PARK
WINDY ARBOUR
DUBLIN 14
T: +353-1-2964667
F: +353-1-2964676
www.slrconsulting.com

KILSARAN CONCRETE UNLIMITED COMPANY
E.I.A.R. NON-TECHNICAL SUMMARY

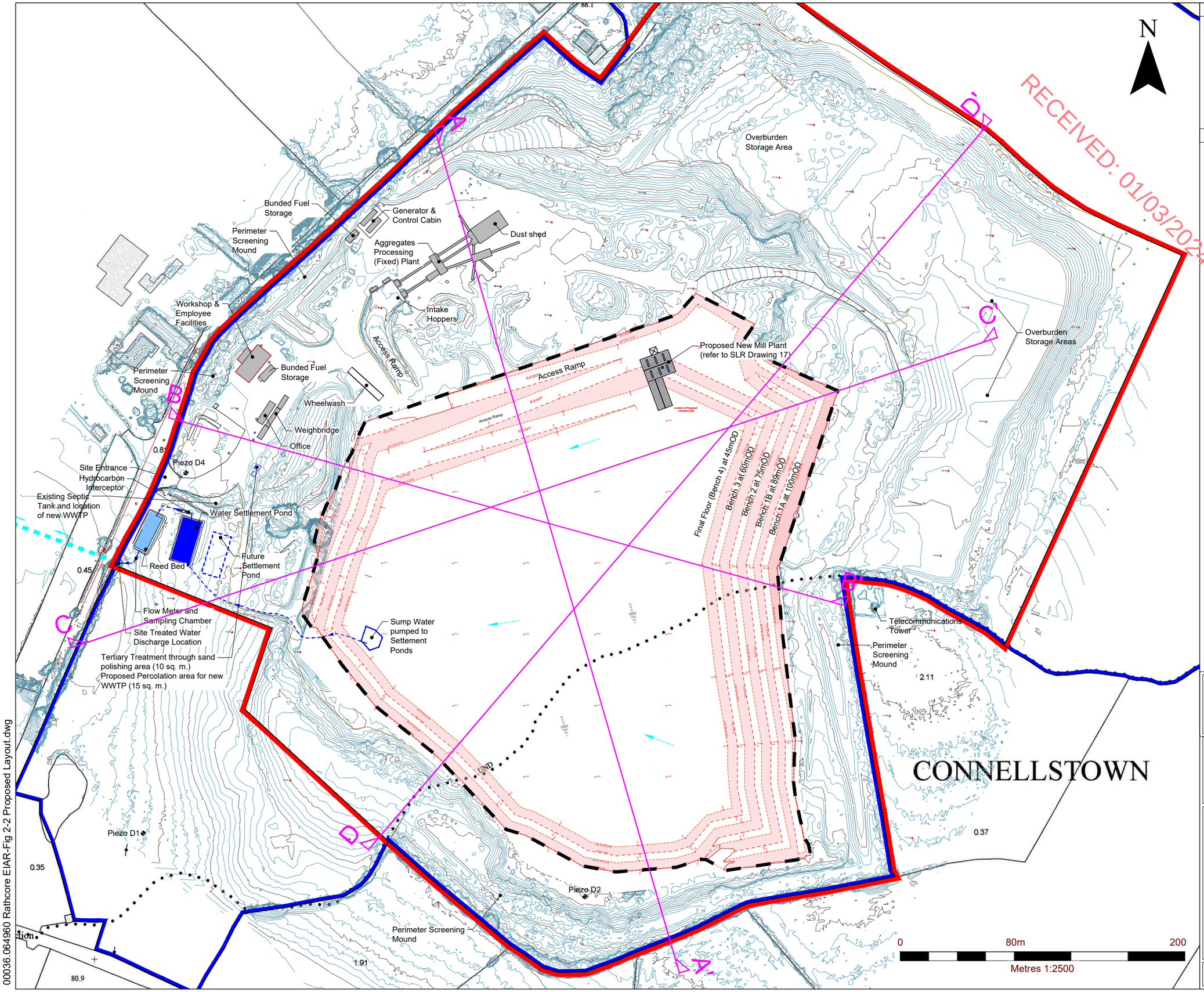
RATHCORE QUARRY
RATHCORE / CONNELLSTOWN TOWNLANDS
ENFIELD, CO. MEATH

EXISTING SITE LAYOUT

FIGURE NTS-4

Scale 1:5,000 @ A3
Date FEBRUARY 2024

00036.064960 Rathcore EIAR-Fig 2-1 Existing-Layout.dwg



NOTES

Extract from Ordnance Survey 2500 Scale Digital Mapping
3053-B, 2984-C, 3054-A

CYAL 50381397
© Tailte Éireann - Surveying

LEGEND

- LANDHOLDING BOUNDARY (c.53.8 HA.)
- APPLICATION AREA (c.31.1 HA.)
- LIMIT OF EXCAVATION (c.10.6 HA.)
- CROSS SECTIONS
- CONTOURS
- GROUNDWATER MONITORING WELL LOCATIONS (D1 - D4)
- WATER SETTLEMENT POND
- SITE FACILITIES / PLANT
- GENERAL SURFACE WATER FLOW DIRECTION
- GENERAL DIRECTION OF EXTRACTION OPERATIONS / ADVANCEMENT OF FACES

Kilsaran
ideas taking shape

SLR CONSULTING IRELAND
7 DUNDRUM BUSINESS PARK
WINDY ARBOUR
DUBLIN 14
T: +353-1-2964667
F: +353-1-2964676
www.slrconsulting.com

KILSARAN CONCRETE UNLIMITED COMPANY
E.I.A.R. NON-TECHNICAL SUMMARY

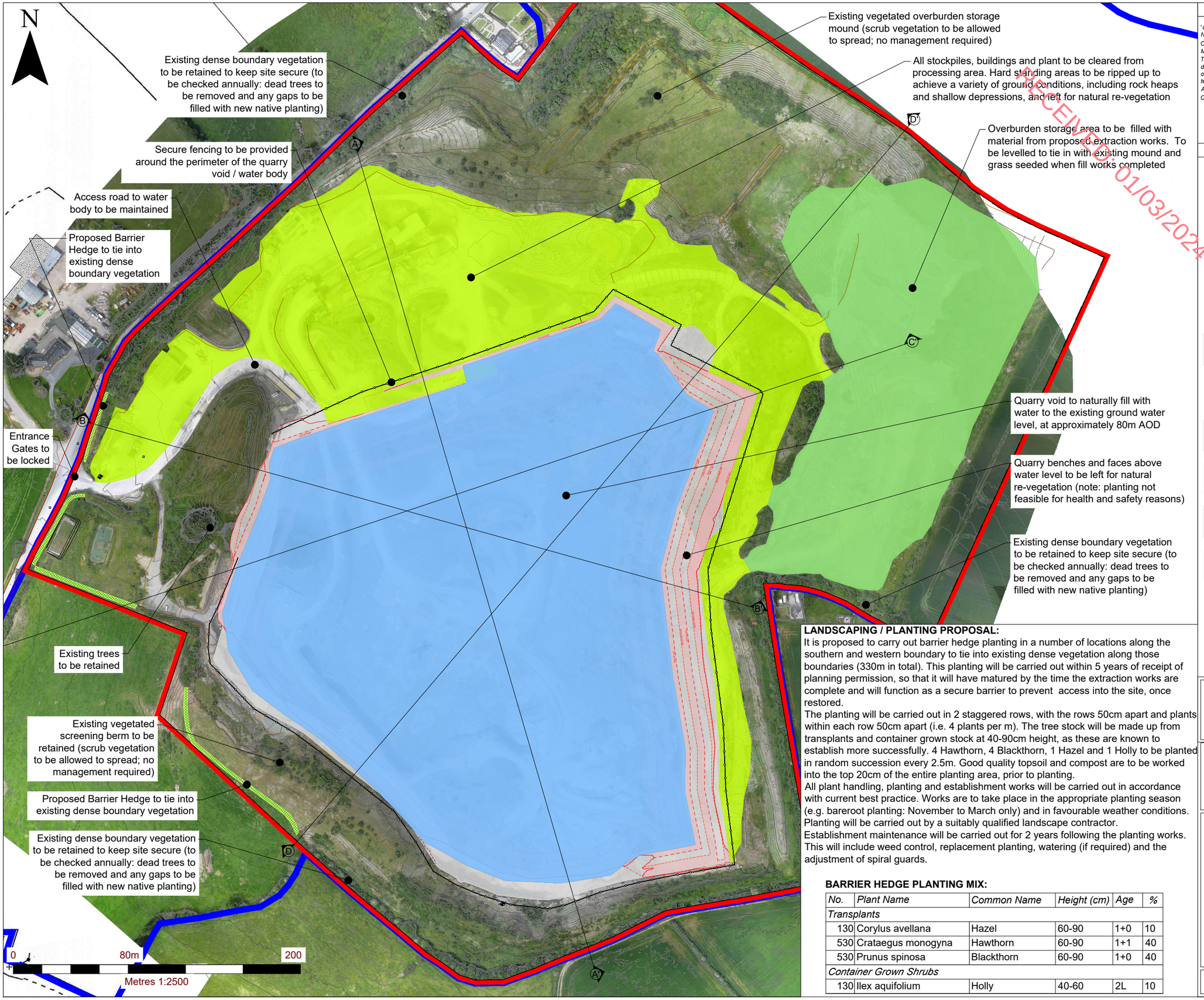
RATHCORE QUARRY
RATHCORE / CONNELLSTOWN TOWNLANDS
ENFIELD, CO. MEATH

PROPOSED SITE LAYOUT (FINAL EXTRACTION - YEAR 20)

FIGURE NTS-5

Scale: 1:2,500 @ A3
Date: FEBRUARY 2024

00036.064960 Rathcore EIAR-Fig 2-2 Proposed Layout.dwg



00036.064960 Rathcore EIAR-Fig 2-4 Landscape and Restoration Plan.dwg

NOTES

'Orthomosaic produced from Aerial Photography by SLR Consulting Ireland (IAA Permit No. 04/2015) www.slrconsulting.com Tel. +353-1-2964667.
Orthomosaic produced using Ground Control Points; Related to Irish Transverse Mercator Coordinate System and OS Malin Head Level Datum.
The accuracy of the orthomosaics and the digital elevation models (DEM) strongly depends on the flight height, lighting conditions, availability of textures, 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.
Copyright Reserved.'

LEGEND

- LANDHOLDING BOUNDARY (c.53.8 HA.)
- APPLICATION AREA (c.31.1 HA.)
- CROSS SECTION LOCATIONS

LANDSCAPE PROPOSALS
(TO BE CARRIED OUT WITHIN 5 YEARS OF COMMENCEMENT OF DEVELOPMENT)

- BARRIER HEDGE PLANTING TO PREVENT SITE ACCESS PLANTED WITHIN 5 YEARS

RESTORATION PROPOSALS
(SITE TO BE RESTORED TO A BENEFICIAL NATURAL HABITAT AFTERUSE)

- OVERBURDEN STORAGE AREA TO BE GRASS SEEDED AS SOON AS FILLED
- PROCESSING AREA TO BE CLEARED AND LEFT FOR NATURAL RE-VEGETATION ON COMPLETION OF ALL EXTRACTION WORKS
- WATER FILLED QUARRY VOID (APPROX. REBOUND LEVEL 80M AOD)
- SECURE FENCING TO BE PROVIDED AROUND THE QUARRY VOID / WATER BODY

LANDSCAPING / PLANTING PROPOSAL:
It is proposed to carry out barrier hedge planting in a number of locations along the southern and western boundary to tie into existing dense vegetation along those boundaries (330m in total). This planting will be carried out within 5 years of receipt of planning permission, so that it will have matured by the time the extraction works are complete and will function as a secure barrier to prevent access into the site, once restored.
The planting will be carried out in 2 staggered rows, with the rows 50cm apart and plants within each row 50cm apart (i.e. 4 plants per m). The tree stock will be made up from transplants and container grown stock at 40-90cm height, as these are known to establish more successfully. 4 Hawthorn, 4 Blackthorn, 1 Hazel and 1 Holly to be planted in random succession every 2.5m. Good quality topsoil and compost are to be worked into the top 20cm of the entire planting area, prior to planting.
All plant handling, planting and establishment works will be carried out in accordance with current best practice. Works are to take place in the appropriate planting season (e.g. bareroot planting: November to March only) and in favourable weather conditions. Planting will be carried out by a suitably qualified landscape contractor.
Establishment maintenance will be carried out for 2 years following the planting works. This will include weed control, replacement planting, watering (if required) and the adjustment of spiral guards.

BARRIER HEDGE PLANTING MIX:

No.	*Plant Name*	*Common Name*	*Height (cm)*	*Age*	*%*
Transplants					
130	Corylus avellana	Hazel	60-90	1+0	10
530	Crataegus monogyna	Hawthorn	60-90	1+1	40
530	Prunus spinosa	Blackthorn	60-90	1+0	40
Container Grown Shrubs					
130	Ilex aquifolium	Holly	40-60	2L	10

Kilsaran
ideas taking shape

SLR
global environmental solutions
SLR CONSULTING IRELAND
7 DUNDRUM BUSINESS PARK
WINDY ARBOUR
DUBLIN 14
T: +353-1-2964667
F: +353-1-2964676
www.slrconsulting.com

KILSARAN CONCRETE UNLIMITED COMPANY
E.I.A.R. NON-TECHNICAL SUMMARY

RATHCORE QUARRY
RATHCORE / CONNELLSTOWN TOWNLANDS
ENFIELD, CO. MEATH

PROPOSED LANDSCAPE AND RESTORATION PLAN

FIGURE NTS-6

Scale	Date
1:2,500 @ A3	FEBRUARY 2024