

# **Lobinstown Quarry**

# **Environmental Impact Assessment Report**

Section 3

# **Description of the Proposed Project**

2024



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### **3 DESCRIPTION OF THE PROPOSED PROJECT**

### 3.1 INTRODUCTION

This Environmental Impact Assessment Report (EIAR) pertains to a proposed development at an existing quarry at Heronstown, Lobinstown, Navan, Co. Meath, known as the Lobinstown Quarry. The development will consist of the continuance of operation of the existing permitted quarry and associated infrastructure (ABP Ref. 17.QD.0017; P.A. Ref. LB200106 & ABP Ref. 309109-21), deepening of the quarry extraction area by 1 no. 15 metre bench from 50 m OD to 35 m OD, a lateral extension to the quarry over an area of c. 4.8 ha to a depth of 35 m OD, provision for aggregates and overburden storage, and restoration of the site to natural habitat after uses following completion of extraction, within an overall application area of c. 18.5 hectares. An extraction capacity of up to 300,000 tonnes per annum is sought to provide the applicant with the ability to respond to demand for aggregates in the region. Permission is sought for a period of 20 years in order to extract a known resource with a further 2 years to fully restore the site.

Blasting will continue to be used as the method of extraction, to fragment the rock prior to crushing and screening using mobile plant on the quarry floor, and aggregate washing within the site using mobile wash plant. The existing site infrastructure includes site entrance with c. 350 m long paved internal roadway, internal access roads, weighbridge, wheelwash, portacabin office, car park, mobile crushing, screening and wash plant, settlement lagoon system, and other ancillaries, which will be maintained on-site for the duration of the works. An effluent treatment system also exists on-site (Refer to EIAR Figure 3.1).

Discharge of water from the settlement lagoon at the northern boundary of the existing quarry into the adjacent Killary Stream and ultimately the Dee River is undertaken in compliance with a current, valid trade effluent discharge licence consent (Ref. 20/01).

Settlement lagoons are in place as per the requirement of the Ref. 20/01 Section 4 Discharge Licence in the northern part of the application area.



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### 3.2 CHARACTERISTICS OF THE PROJECT

The description of the whole project should comprise information on the site, layout, design, size/scale resource use, waste production, emissions and nuisance, and risk of accidents. It should consider the full life cycle of these characteristics across all relevant phases of the life of the project. Projects that require EIA have the potential to generate different effects at different times and different places, both on- and off-site, from construction through to operation, and in some cases to decommissioning, closure and restoration (EPA 2022).

### 3.2.1 THE EXISTING SITE

### 3.2.1.1 General Site Description & Layout

The site is located in the Townland of Heronstown c. 2 km southeast of Lobinstown and c. 9 km northwest of Slane, Co. Meath. The quarry is located on the north side of, and with direct access onto, the L1603 local road, which extends from the N52 south before crossing the L1604 Local Road (i.e., Collon Road) c. 1.2 km east of Lobinstown and continuing on to the N51 at Harlinstown Crossroads c. 1.5 km west of Slane (Refer to EIAR Figures 1.1 & 1.2). The L1603 is known as the Slane Road south of McEntegart's Crossroads and in the vicinity of the site (Refer to EIAR Figure 1.2 & 1.3).

The existing quarry is generally rectangular in shape with an axial orientation of NE-SW, an extraction area covering c. 4.5 ha, and a permitted extraction depth of 50 m OD (permitted under P.A. Ref. LB200106 & ABP 309109-21). The proposed extension will extend east from the northern section of the existing quarry and result in a roughly inverted L-shaped extraction area. The extension area comprises four contiguous fields which are characterised by discontinuous internal hedgerows.

The existing site infrastructure includes site entrance with c. 350 m long paved internal roadway, internal access roads, weighbridge, wheelwash, portacabin office, car park, mobile crushing, screening and wash plant, settlement lagoon system, and other ancillaries, which will be maintained on-site for the duration of the works. An effluent treatment system also exists on-site (Refer to EIAR Figure 3.1).

To date, extraction has taken place to a depth of c. 65 m OD in a series of benches in the southern and central sections of the active, permitted quarry. The quarry comprises disturbed ground with a level processing area located in the central section of the site and an oval-shaped extraction area developed in the central and southern sections of the site. The northern section of the site accommodates the settlement pond and screening embankment along the northern site boundary with the Killary Stream (KILLARY WATER\_010, IE\_NB\_06K010100). The site holds a valid, current Section 4 Discharge Licence (Ref. 20/01), which was issued by Meath County Council in 2020, for a discharge from the treatment systems (settlement lagoons) to the Killary Stream.

In June 2022, Breedon were granted planning permission to develop a readymix concrete plant in the northern section of the quarry (P.A. Ref. 22/328). However, this concrete plant has not been developed to date.



In December 2023, Breedon Ireland were granted planning permission for construction of a new single storey office building and associated ancillary works (P.A. Ref. 23/917) adjacent to the quarry entrance onto the L1603 local road.

The internal access road extends from the site entrance at the L1603 local road on the southern boundary around the western perimeter, connecting to the northern part of the active quarry. The portacabin office, wheelwash and weighbridge are adjacent to the internal access road on the western side of the active quarry. The application area under consideration will require no new access roads and can be accessed from the internal routes already established within the quarry.

The existing quarry is bounded by thick, mature hedgerows on all boundaries (Refer to EIAR Figure 1.3). Perimeter earthen berms will be constructed from the stripped overburden and seeded on the boundaries of the proposed extension area and site of the readymix concrete batching plant in the field north of the Killary Stream.

The southern boundary of the proposed extension area is defined by a geological boundary, which was determined by Ground Investigation (Refer to EIAR Section 6.5.4) and defines the limit of the high polished stone value (PSV) sandstone/mudstone metasediment unit that is the rock of interest. The lands to the south of the proposed lateral extension area were determined to be underlain by less suitable, highly weathered, banded tuff with slaty metamudstones.

Extension further to the east is principally limited by above ground physical constraints rather than geological features. A 220 kV overhead transmission line traverses the eastern side of the landholding in an NNW-SSE orientation. A 10 and 20 m standoff will be maintained to the application and extraction areas, respectively.

Another physical constraint is an ephemeral stream or drainage channel to the east of the application area that is driven by rainfall runoff. It is proposed to retain this feature and associated hedgerow, while the extraction area will remain at least 10 m from the feature. The western boundary of the proposed extension area is the current eastern boundary of the existing operational quarry site.

The site is located on lands immediately north of the L1603 local road. The internal access road extends from the processing area in the existing quarry passed the portacabin office at the weighbridge, along the western boundary to the main entranceway on southern boundary with the L1603. The section of the internal access road extending c. 350 m from the main entrance along the southern and western boundaries to the site office is paved. The access road is c. 9 m wide with an asphalt surface and accommodates two-way HGV traffic flow. The main entranceway has a well spayed, paved and secure entrance fitted with a heavy-duty, lockable gate.

Sight distances at the site entrance of at least c. 160 m are achievable in both directions along the L1603 at a distance of 3 m back from the edge of the carriageway. The visibility to the north (right) and south (left) from the quarry access is considered adequate for the prevailing vehicle speeds on the L1603 (SLR 2022). Hedges and trees near the quarry entrance will be maintained regularly in order to ensure that the sightlines at the access are kept clear at all times.

The topography of the region is characterised by relatively flat to undulating landform to the northwest, which is largely devoid of lakes and peatlands, and is relatively typical of the lowlands in



County Meath. However, a series of NE-SW trending hills, known as the Ferrard Hills are located c. 1 km southeast of the site, the highest of which, Mount Oriel, rises to 251 m OD. The lands in the vicinity of the site are typically at elevations of 85-120 m OD and gradually increase to the southeast from c. 83 m OD at the northwestern boundary of the landholding to c. 111 m OD at the eastern boundary and 225 m OD at Slieve Bengh, c. 2. 5 m to the southeast. The lands overlie Palaeozoic rocks of the Longford-Down Massif, close to the northeastern margin of the Irish Midlands.

As the quarry has been developed into ground that rises to the southeast, there are a series of 10-15 m high benches currently developed in the southeastern corner of the extraction area. It is proposed to deepen the quarry within the current permitted extraction area by 1 no. 15 metre bench from 50 m OD to 35 m OD. The site will be worked from the existing quarry area in an easterly direction in a series of c. 15 m benches between c. 105 and 35 m OD (Refer to EIAR Figures 3.1 & 3.3). Development of the quarry at depth below the current floor will require continued dewatering of rainfall-runoff and groundwater infiltration and discharge to surface water in order to maintain a dry working environment on the floor of the quarry.

The roads in the wider area are of a local character and typical of a rural location, with the exception of the N52 National Road. The L1603 in the vicinity of the Lobinstown Quarry is c. 6.5 m wide single lane carriageway with 0.5-1 m grass verges and no road markings, including centre line.

The site is situated approximately 2 km southeast of Lobinstown Village with access to the N2, N51 and N52 National Roads provided via the L1603, which runs adjacent to the quarry site.

These are the main haulage routes, allowing the HGV traffic from the site to access the national and regional road network at the earliest opportunity, and thus avoids adverse impact on the local road network.

The surrounding area is rural in character with dispersed farmsteads and diffuse, clustered, or more rarely ribbon development along roadsides and around villages. Although the village of Lobinstown is located c. 2 km to the northwest, the closest large residential settlement to the site is Slane, which is located c. 9 km to the southeast. There are no occupied residences within the application site or landholding. The nearest residence is 120 m to the southwest of the permitted extraction area. There are 7 residences within 250 m, 15 within 500 m, 31 within 750 m and 45 within 1 km of the proposed extraction area. There are no community facilities near Heronstown, except for Heronstown National School (Scoil Naisiunta Mhuire primary school) on the L1604, which is located c. 627 metres north of the extraction area (Refer to EIAR Figure 4.1)

### 3.2.1.2 Planning History

Lobinstown Quarry has been in operation since 1958 (SLR 2020; ABP 2013). On 2<sup>nd</sup> July 2002, a planning application was submitted for the construction of an asphalt plant and associated material bays, shipping office, site office, wheelwash, weighbridge and all associated site development works, landscaping and carparking, as well as staff facilities, a Puraflo wastewater treatment system, oil interceptor and a well for domestic water supply at the existing quarry (P.A. Ref. SA20207). Planning Permission was granted by An Bord



Pleanála on Appeal (PL 17.204854) subject to 19 conditions on 15/03/04. This permission was not implemented.

The quarry (QY21) was registered under Section 261 of the Planning and Development Act 2000, as amended. Meath County Council subsequently imposed conditions on the operation of the quarry on 5<sup>th</sup> April 2007. The registration related to a quarry with a total area of c. 10.5 ha.

Under Section 261(A) of the Planning and Development Act 2000, as amended by Order dated 31<sup>st</sup> July 2012, Meath County Council (MCC) issued a Notification pursuant to section 261A(3), with a determination under section 261A(2)(a) that a remedial environmental impact assessment was required in respect of quarrying which has taken place; and a decision under Section 261A(3)(a) requiring the owner/operator to apply to An Bord Pleanála (ABP) for Substitute Consent within 12 weeks of the date of the Notice. A review of MCC's Order was lodged to ABP (PL 17.QV0027). By way of Order dated 28<sup>th</sup> July 2013 ABP's review upheld the MCC's Notice. On this basis, the ABP confirmation of MCC's Decision resulted in an application for Substitute Consent under Section 177E of the Planning & Development Acts 2000-2013 being made to An Bord Pleanála (ABP Ref. 17.SU.0066) on the 14 October 2013. A remedial EIS was submitted with the application. On 3<sup>rd</sup> May 2017, the Bord decided to grant substitute consent, subject to six attached conditions (ABP Ref. 17. SU.0066). On 20th January 2016, an application for a Section 37L planning permission for further quarry development was submitted concurrently with the above application for substitute consent (i.e., ABP Ref. 17.QD.0017). The development consisted of a continuation of extraction by way of lateral extension of existing benches to form a single bench to the currently established depth of 79 m OD. On 3<sup>rd</sup> May 2017, the Bord granted planning permission with 19 attached conditions.

On 3<sup>rd</sup> February 2020, Lagan Materials Ltd. submitted an application (P.A. Ref. LB200106) for planning permission for further quarry development, which was accompanied by an EIAR. The development consisted of the continuance of operation of the existing permitted quarry (ABP 17.QD.0017), a lateral and vertical extension to the existing quarry including the deepening of the quarry extraction area by two extractive benches to 50m OD, within a total quarry extraction area of c. 4.5 ha, an increase in the permitted extraction rate to 200,000 tonnes per annum, provision of an aggregates and overburden stockpiling area and settlement lagoon system, and restoration of the site to natural habitat after uses following completion of extraction, within an overall application area of c. 14.12 hectares, and all for a period of 20 years. On 18<sup>th</sup> February 2021, Meath County Council granted planning permission subject to 21 conditions. Lagan Materials Ltd. appealed condition No. 21 of the above decision pertaining to a special financial contribution, which the Bord ordered removed (ABP Ref. PL 17.309109-21).

On 15<sup>th</sup> March 2022, Lagan Materials Ltd. submitted an application for the installation and operation of a readymix concrete plant, closed circuit water management system, hardstanding area, aggregate storage bays and all ancillary works within an application area of c. 0.8 ha. On 16<sup>th</sup> June 2022, Meath County Council granted planning permission subject to five attached conditions (P.A. Ref. 22/328). Lagan Materials Ltd. appealed condition No. 5 of the above decision pertaining to a special financial contribution (PL 17.313691-22). On 17<sup>th</sup> August 2023, the Bord decided to remove condition No. 5.



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### 3.2.1.3 Trade Effluent Discharge Licencing

A current, valid discharge licence (Ref. 20/01) was granted on 16<sup>th</sup> November 2020 by Meath County Council in exercise of the powers conferred on it by the Local Government (Water Pollution) Acts 1977 and 2007 and the Local Government (Water Pollution) Regulations 1978 and 1992. Water management at the site is currently undertaken in compliance with the conditions of this discharge licence.



### Table 3.1 Planning History

Table 3.1	Planning H	listory				<i>Ŷ</i> <sub>∧</sub>
File No.	Decision	Received Date	Decision Date	Expiry Date	Name	Description
23/917	Conditional	22/09/23	08/11/23	N/A	Lagan Materials Ltd.	a) construction of a new single storey office building and associated ancillary works (c. 189 sq. m gross), b) proposed new viewing deck to the north of the office building overlooking satisfying quarry (c. 30 sq.m), c) installation of 9 no. car parking spaces d) installation of sheltered bicycle parking. The development also consists of e) retention of existing wastewater treatment system and associated percolation area (c. 30 sq. m) that will serve the proposed new office building, all within an application area of c. 0.29 hectares
22/328 PL 17.313691-22	Conditional Special Financial Condition removed	15/03/2022	16/06/22 & 21/08/23	17/02/31	Lagan Materials Ltd.	The installation and operation of a readymix concrete batching plant, closed circuit water management system, hardstanding area, aggregate storage bays and all ancillary works within an application area of c. 0.8 hectares
LB200106 PL17.309109-21	Conditional Special Financial Condition removed	03/02/2020	18/02/21 & 23/03/22	17/02/31	Lagan Materials Ltd.	The development will consist of the continuance of operation of the existing permitted quarry (ABP 17.QD.0017), a lateral and vertical extension to the existing quarry including the deepening of the quarry extraction area by two extractive benches to 50 m OD, within a total quarry extraction area of c. 4.5 ha, an increase in the permitted extraction rate to 200,000 tonnes per annum, provision of an aggregates and overburden stockpiling area and settlement lagoon system (c. 2,000 m <sup>2</sup> ), and restoration of the site to natural habitat after uses following completion of extraction, within an overall application area of c. 14.12 hectares, and all for a period of 20 years.
ABP Ref. 17.QD.0017	Section 37L Conditional	20/01/16	03/05/17	02/05/27	Mountain House Quarries Ltd.	Application for further quarry development and is related to file Ref. SU0066, application for substitute consent lodged on the 14/10/13 accompanied by a remedial EIS. Continuation of extraction by way of lateral extension of existing benches to form a single bench to the currently established depth of 79 m AOD. The footprint of the extraction area is not being extended.
ABB. Ref. 17.SU.0066	Section 261A Substitute Consent	14/10/2013	03/05/17	N/A	Mountain House Quarries Ltd.	Application for Substitute Consent accompanied by remedial EIS was required and granted (17.SU.0066) concurrent with application for further development (PL 17.QD0017) above.
PL 17.QV0027	Quarry Review - Notice Confirmed	31/07/12	28/06/13	N/A	Mountain House Quarries Ltd.	<ul> <li>Development was carried out after the 1st day of February, 1990 which development would have required, having regard to the EIA Directive, an environmental impact assessment. The Board, therefore, confirms Meath County Council's Determination in respect of this development made under section 261A(2)(a)(i) of the Planning and Development Act 2000, as amended.</li> <li>Given that: <ul> <li>(a) the quarry commenced operations before 1st October 1964, and</li> <li>(b) the requirements in relation to registration under section 261 of the 2000 Act, as amended, were fulfilled,</li> <li>the Board, therefore, confirms Meath County Council's decision in respect of this development Act 2000, as amended.</li> </ul> </li> </ul>
QY21	Section 261 Quarry Registration	19/04/2005	05/04/07		Mountain House Quarries Ltd.	Quarry Registration under Section 261 of the Planning and Development Act 2000, as amended related to a total area of c. 10.5 ha.
SA20207 PL 17.204854	Conditional Granted on Appeal	02/07/2002	15/03/2004	31/03/19	Irish Asphalt Ltd.	The construction of an Asphalt Plant and associated material bays, shipping office, site office, wheelwash, weighbridge and all associated site development works, landscaping and carparking with the addition of staff facilities and a puraflo wastewater treatment system, oil interceptor and a well for domestic water supply at the existing quarry as submitted under further information. The permission was no implemented.
P77/1561	Conditional	Not Known	Not Known	N/A	Not Known	Planning permission granted an entrance to the quarry. Date Unknown (File not available for review).



### 3.2.2 PROPOSED DEVELOPMENT

### 3.2.2.1 Development Overview

The proposed development will consist of the continuance of operation of the existing permitted quarry and associated infrastructure (ABP Ref. 17.QD.0017; P.A. Ref. LB200106 & ABP Ref. 309109-21), deepening of the quarry extraction area by 1 no. 15 metre bench from 50 m OD to 35 m OD, a lateral extension to the quarry over an area of c. 4.8 ha to a depth of 35 m OD, provision for aggregates and overburden storage, and restoration of the site to natural habitat after uses following completion of extraction, within an overall application area of c. 18.5 hectares. An extraction capacity of up to 300,000 tonnes per annum is sought to provide the applicant with the ability to respond to demand for aggregates in the region. Permission is sought for a period of 20 years in order to extract a known resource with a further 2 years to fully restore the site.

Blasting will continue to be used as the method of extraction, to fragment the rock prior to crushing and screening using mobile plant on the quarry floor, and aggregate washing within the site using mobile wash plant. The existing site infrastructure includes site entrance with c. 350 m long paved internal roadway, internal access roads, weighbridge, wheelwash, portacabin office, car park, mobile crushing, screening and wash plant, settlement lagoon system, and other ancillaries, which will be maintained on-site for the duration of the works. An effluent treatment system also exists on-site (Refer to EIAR Figure 3.1).

To date, extraction has taken place to a depth of c. 65 m OD in a series of 10-15m high benches in the southern and central sections of the active, permitted quarry. The quarry comprises disturbed ground with a level processing area located in the central section of the site and an oval-shaped extraction area developed into the central and southern sections of the site. The northern section of the site accommodates the settlement pond and screening embankment along the northern site boundary with the Killary Stream.

The site will continue to be worked from the existing quarry area in an easterly direction in a series of typically 15 m high benches with consideration given to direction of working, phasing of development and progressive restoration of quarry faces (particularly upper southern quarry face) to reduce the visual impact from views to the north (Refer to EIAR Figures 1.3 & 3.1 to 3.3).

The existing quarry is bounded by thick, mature hedgerows on all boundaries. Perimeter earthen berms will be constructed and seeded on the boundaries of the quarry extension area and site of the readymix concrete plant.

Conventional drilling and blasting methods are used in the breaking of quarry rock faces. Extracted rock is loaded by excavator or front-end loader to a mobile crushing and screening plant on the quarry floor. This will reduce handling of material and will also have the benefit of screening these activities from outside views, and being at depth, will also mitigate impacts associated with noise and dust. The crushing and screening operation comprises primary, secondary and tertiary stages to produce the range of sizes required. The aggregates produced are then stockpiled and subsequently loaded out by a front-end loader to road trucks for transport off-site. There are no changes proposed to the method of extraction and processing in this planning application.



Plant and machinery that operate in the application area consist of tracked excavators, wheeled loaders and mobile processing plant. Ancillary plant, such as a drilling rig and a water bowser, will be utilised on an intermittent basis.

The workable aggregate reserves within the proposed extraction area have been calculated as c. 6 million tonnes . An extraction capacity of up to 300,000 tonnes is sought.

The Water Management Plan is presented in EIAR Section 7.0 and includes design specifications for settlement tanks, ponds and mechanisms of discharge, and appropriately sized hydrocarbon interceptors.

Development of the quarry at depth below the current floor will require continued dewatering and discharge to surface water. Waters will collect in the quarry sump and will be pumped to the settlement lagoon, via a hydrocarbon interceptor prior to discharge. Discharge of water from the settlement lagoon at the northern boundary of the existing quarry into the adjacent Killary Stream and ultimately the Dee River is undertaken in compliance with a current, valid trade effluent discharge licence consent (Ref. 20/01). The settlement lagoons are in place, as per the requirement of the Ref. 20/01 Section 4 Discharge Licence.

A double skinned fuel tank is provided on-site for refueling of some site vehicles, mobile plant and machinery. For larger mobile plant such as crushers and screeners, refuelling takes place on the quarry floor on an as-needs basis by a mobile fuel truck. Spill trays and spill kits are provided Servicing of vehicles will take place off-site. Hauliers HGVs will not be refuelled onsite. Small amounts of oils and lubricants will be stored on-site for use on mobile equipment. All hydrocarbons will be handled and stored in accordance with the Environmental Management Guidelines - Environmental Management in the Extractive Industry (Non-Scheduled Minerals) (EPA 2006).

The proximity to residences and the requirement to protect their amenity value has been given due consideration through scale, siting and layout of plant and machinery, phasing and direction of working and site restoration. A working scheme has been designed for the quarry that provides for the sequence and direction of working. The objective of this scheme is to reduce as far as possible the overall visual impact of the workings (Refer to EIAR Figures 3.1 to 3.3). Furthermore, mitigation measures to alleviate any adverse impacts from the development on the environment have been incorporated into the design to ensure that the development can be operated above / within accepted standards for this type of development.

The site is situated approximately 2 km southeast of Lobinstown Village with access to the N2, N51 and N52 National Roads provided via the L1603, which runs adjacent to the quarry site. These are the main haulage routes, allowing the HGV traffic from the site to access the national and regional road network at the earliest opportunity, and thus avoids adverse impact on the local road network.

The entranceway has substantial splays providing good visibility. Sight distances at the site entrance of at least c. 160 m are achievable in each direction along the L1603 at a distance of 3 m back from the hard shoulder, as required under P.A. Ref. LB200106. Hedges and trees near the quarry entrance will continue to be maintained regularly in order to ensure that the sightlines at the access are kept clear at all times. At the quarry access junction on the L1603, when travelling to/from the quarry, it is anticipated that development traffic will be split 30:70 to the north and south.



The L1603 in the vicinity of the Lobinstown Quarry is a c. 6.5 m wide, single lane carriageway with 0.5-1 m grass verges and no road markings, including no centre line. It is bounded on both sides by a grassed verge and hedgerow, or property boundaries, to its hear. The speed limit of the L1603 in the vicinity of the site is 80 kph. The pavement of the L1603 in the vicinity 79/07/2028 of the quarry is in good condition.

### 3.2.2.2 Description of Design

Details of the description of design are addressed in Section 2.1.6 Alternative Designs.

Figure 3.1 shows the site layout including the position of the mobile crushing and screening plant, wheel wash, weighbridge, portacabin offices, water management system including hydrocarbon interceptor, and other ancillaries. Cross sections through the site also illustrate the effectiveness of working the guarry top-down, phasing, with progressive restoration of the back face (Refer to EIAR Figure 3.3).

The main site activity including mobile processing plant will continue to be sited on the quarry floor and as such benefit from screening afforded by the existing quarry faces, perimeter berms, hedgerows and trees.

In June 2022, Breedon were granted planning permission to develop a readymix concrete plant in the northern section of the quarry (P.A. Ref. 22/328). However, this concrete plant has not been developed to date.

A perimeter screening berm will be constructed from the stripped overburden and augmented with trees and hedgerow planting.

As a natural consequence of the planning and EIA process, alternative schemes in terms of the working phases, face heights, direction of working and site restoration, etc. have been considered. By a process of examination and elimination the final scheme now proposed is considered to be the most appropriate.

### 3.2.2.3 Description of Size or Scale

The development will consist of the continuance of operation of the existing permitted quarry and associated infrastructure (ABP Ref. 17.QD.0017; P.A. Ref. LB200106 & ABP Ref. 309109-21), deepening of the quarry extraction area by 1 no. 15 metre bench from 50 m OD to 35 m OD, a lateral extension to the quarry over an area of c. 4.8 ha to a depth of 35 m OD, provision for aggregates and overburden storage, and restoration of the site to natural habitat after uses following completion of extraction, within an overall application area of c. 18.5 hectares.

To date, extraction has taken place to a depth of c. 65 m OD in a series of 10-15 m high benches in the southern and central sections of the active, permitted quarry. The quarry comprises disturbed ground with a level processing area located in the central section of the site and an oval-shaped extraction area developed into the central and southern sections of the site. The northern section of the site accommodates the settlement pond and screening embankment along the northern site boundary with the Killary Stream

The existing quarry is bounded by thick, mature hedgerows on all boundaries, whereas the proposed extension is only partly bounded by field boundary hedgerows, while elsewhere it traverses open fields. A perimeter earthen berm will be constructed and seeded on the perimeter



boundaries of the proposed extension and the site of the readymix plant in the field north of the drainage ditch and south of the Killary Stream. The proposed development will not include provision of any new site infrastructure (Refer to EIAR Figures 1.3 & 3.1 for details of the site layout).

The workable aggregate reserves within the proposed extraction area have been calculated as c. 6 million tonnes. An extraction capacity of up to 300,000 tonnes is anticipated over a 20 year life.

The quarry at Heronstown has been in operation since the commencement of extraction in 1958. The site will continue to be worked from the existing quarry area in an easterly direction in a series of typically 15 m high benches with consideration given to direction of working, phasing of development and progressive restoration of quarry faces (particularly upper southern quarry face) to reduce the visual impact from views to the north (Refer to EIAR Figures 1.3 & 3.1 to 3.3).

### 3.2.2.4 Duration of Permission

This application seeks to secure permission for the extraction of further mineral reserves within the landholding. This is extremely important if the site is to be worked in accordance with sound planning practice. In particular, the ongoing restoration of the site needs to be considered as part of a restoration scheme for the whole of the site.

Many extractive operations begin without a long-term strategic vision, principally because of the tendency for granting of short-term permissions only. Such short-term permissions lead to a fragmented approach to site operation and in particular to the site restoration.

It is a strategic objective of Meath County Council CDP (RUR DEV SO 3) "to identify and protect known or potential aggregate resources, where feasible, from development which would prejudice their sustainable future usage".

The goal of the Council is to facilitate adequate supplies of aggregate resources to meet the future growth needs of the county and the wider region, while addressing key environmental, traffic and social impacts and details of rehabilitation.

It is the policy of the Council (RD POL 22)"to facilitate the exploitation of the county's natural resources and to exercise appropriate control over the types of development taking place in areas containing proven deposits, whilst also ensuring that such developments are carried out in a manner which would not unduly impinge on the visual amenity or environmental quality in the area".

There is a clear need to make future provisions for the long-term supply of aggregates. These reserves are needed to meet the demand that is being placed on the extractives industry to supply raw materials for continued development within Meath and surrounding areas. Thus, the proposed development is required to supply such materials for the continued social and economic growth of the region.

The working of minerals generally takes place over medium to long term time scales. Without the certainty of a planning permission of reasonable duration there cannot be a long-term strategy.



It is considered that the planning authority should have regard to the expected life of the reserves within the site. The need for a reasonable duration of planning permission is also recognised within Guidance issued by the Department of the Environment to Planning Authorities i.e., 'Quarries and Ancillary Activities Guidelines for Planning Authorities (April 2004). Section 4.9 - L of planning permissions states that "Where the expected life of the proposed quarry exceeds 5 years it will normally be appropriate to grant permission for a longer period (such as 10 - 20 years), particularly where major capital investment is required at the outset. In deciding the length of the planning permission, planning authorities should have regard to the expected life of the reserves within the site".

In this case, the applicant already has in place the necessary infrastructure together with a buoyant market for the aggregate products.

The proposed development is required for a duration of c. 20 years in order to extract a known resource with a further 2 years to fully restore the site to a secure wildlife refuge / amenity use, and to justify the capital expenditure and provide for the continued employment of the current workforce within the local community and a supply of locally sourced construction aggregates and concrete.

### 3.2.3 GOVERNMENT POLICY

Government Policy in both the National and Regional contexts with respect to the proposed development, as well as Planning & Development Control, are addressed in Appendix 1 – Background to Project.



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### 3.3 **EXISTENCE OF THE PROJECT**

The description of the existence of the project considers all aspects of the project lifecycle 79/07/2028 from construction to decommissioning. These include the following:

- Construction;
- Commissioning; •
- Operation;
- Changes to the project; and
- Decommissioning. •

### 3.3.1 DESCRIPTION OF CONSTRUCTION

### 3.3.1.1 Land-Use

The development will consist of the continuance of operation of the existing permitted quarry and associated infrastructure (ABP Ref. 17.QD.0017; P.A. Ref. LB200106 & ABP Ref. 309109-21), deepening of the quarry extraction area by 1 no. 15 metre bench from 50 m OD to 35 m OD, a lateral extension to the quarry over an area of c. 4.8 ha to a depth of 35 m OD, provision for aggregates and overburden storage, and restoration of the site to natural habitat after uses following completion of extraction, within an overall application area of c. 18.5 hectares.

The existing site infrastructure includes site entrance with c. 350 m long paved internal roadway, internal access roads, weighbridge, wheelwash, portacabin office, car park, mobile crushing, screening and wash plant, settlement lagoon system, and other ancillaries, which will be maintained on-site for the duration of the works. An effluent treatment system also exists on-site (Refer to EIAR Figure 3.1). The development will not include provision of any new site infrastructure.

A long history of quarrying exists at the site and Breedon have full control of the lands via a freehold interest in the c. 24.8 ha landholding that encompasses the existing quarry and proposed extension area (Refer to EIAR Figure 1.2 & 1.3).

The guarry is located on the north side of, and with direct access onto, the L1603 local road, which extends from the N52 south before crossing the L1604 Local Road (i.e., Collon Road) c. 1.2 km east of Lobinstown and continuing on to the N51 at Harlinstown Crossroads c. 1 km west of Slane (Refer to EIAR Figures 1.1 & 1.2).

The site is located in a rural area consisting mostly of agricultural fields with minor levels of scrub and forestry plantation in the wider area. The region is characterised by relatively flat to undulating landform to the northwest, which is relatively typical of the lowlands in County Meath, while a series of NE-SW trending hills, known as the Ferrard Hills are located c. 1 km southeast of the site. The lands in the vicinity of the site are typically at elevations of 85-120 m OD and gradually increase to the southeast from c. 83 m OD at the northwestern boundary of the landholding to c. 111 m OD at the eastern boundary and 225 m OD at Slieve Bengh, c. 2. 5 km to the southeast.



Topographically the lands are within the Dee\_SC\_030 subcatchment of the Newry, Fane, Glyde and Dee Catchment. The lands overlie Palaeozoic rocks of the Longford-Down Massif, close to the northeastern margin of the Irish Midlands. These are siliciclastic rocks that consist predominantly of greywackes, siltstones, shales and black mudstones. The extracted resource at Lobinstown Quarry consists of hard, indurated greywacke gritstone.

The area is generally characterised by rolling topography and vigorous hedges with many hedgerow trees, which provide screening from near and middle-distance views. There are limited middle distant views from the north along a section of the L1604 local road west of the Scoil Mhuire primary school.

The existing quarry is bounded by thick, mature hedgerows on all boundaries (Refer to EIAR Figure 1.3), while the proposed extension is only partly bounded by field boundary hedgerows and elsewhere traverses open fields. These new boundaries will be secured with stock fencing and earthen berms will be constructed and planted. The eastern limit of the extension is restricted by the presence of a 220 kV transmission line suspended on pylons that traverses the eastern side of the landholding. A 10 and 20 m standoff will be maintained to the application and extraction areas, respectively.

As the proposed development will be largely located within the existing permitted quarry of c. 14.1 ha, the only additional land take relates to an extension of c. 4.8 ha. This will result in the loss of some pasture and hence a minor change in land cover, with a commensurate impact on agriculture. The total application area covers c. 18.5 ha of lands (Refer to EIAR Figures 1.2 & 1.3).

The general configuration of the site is that the quarry was excavated into the northern flank of a NW-SE oriented hill/ridge. To date, extraction has taken place to a depth of c. 65 m OD in the southern and central sections of the active, permitted quarry. The quarry comprises disturbed ground with a large, level processing area located in the central section of the site and an oval-shaped extraction area developed into the central and southern sections of the site. The northern section of the site accommodates the settlement pond and a screening embankment along the northern site boundary with the Killary Stream (Killary Water \_010, IE\_NB\_06K010100).

The site is bounded by the L1603 to the south, the Killary Stream to the north and agricultural lands, mostly pasture, to the east and west. Tracts of afforestation occur nearby to the east and to the north of the drainage ditch that traverses the site, except for the northern field which has been held in pasture. The boundaries of the existing quarry are lined by mature hedgerows, while the perimeter of the proposed extension crosses field boundaries and will require construction and planting of screening berms.

The quarry area is largely dominated by bare, exposed ground with stockpiles of aggregate and an area of grassland, known here as the northern field, which accommodates the settlement pond and a screening embankment along the northern site boundary with the Killary Stream. Planning permission (P.A. Ref. 22/328) for a concrete plant in the northern part of the site was granted in June 2022. The overburden has been stripped from the southern and central sections of the site permitted under P.A. Ref. LB200106, and it is proposed to extend extraction to the east of this area.



The quarry has been worked below the water table, and in order to maintain a dry working environment on the floor of the quarry, some rainfall-runoff and groundwater is discharged from site in compliance with discharge licence Ref. 20/01.

The site will be worked from the existing quarry area in an easterly direction in a series of c. 15 m benches between c. 105 and 35 m OD (Refer to EIAR Figures 3.1 & 3.3). It is proposed to develop an additional extractive bench below the current quarry floor to 35 m OD. Development of the quarry at depth below the current floor will require continued dewatering of rainfall-runoff and groundwater and discharge to surface water in order to maintain a dry working environment on the floor of the quarry.

Discharge of water from the settlement lagoon at the northern boundary of the existing quarry into the adjacent Killary Stream and ultimately the Dee River is subject to the requirements of an existing trade effluent discharge licence (Ref. 20/01) granted by Meath County Council on 16<sup>th</sup> November 2020.

Residential development typically occurs as dispersed farmsteads and diffuse or sporadic ribbon development along roadsides and around towns and villages. The closest residential settlement to the site is Lobinstown c. 2 km to the northwest, while the nearest census town is Slane c. 9 km to the southeast. Roads are of a local character and typical of a rural location. There are no occupied residences within the application site or landholding. The nearest residence is 120 m to the southwest of the permitted extraction area. There are 7 residences within 250 m, 15 within 500 m, 31 within 750 m and 45 within 1 km of the proposed extraction area. Heronstown National School is c. 627 metres north of the extraction area (Refer to EIAR Figure 4.1).

The site has had a long history of quarrying, such that these activities have co-existed with other, predominantly agricultural, land uses in the area. The proposed land use on-site will continue the tradition of quarrying activities and associated operations. Consideration has been given to screening of the development, phasing and direction of working and restoration of the upper quarry face with respect to receptors so as to reduce the visual impact, while impacts due to noise and dust are substantially attenuated.

### 3.3.1.2 Aggregate Reserve Assessment

The aggregate reserves within the proposed extraction area have been calculated following a detailed geological and drilling programme (Refer to Appendix 6).

SLR Consulting (Ireland) undertook a geological appraisal of the bedrock underlying the application site and immediate surrounds in 2021 (Appendix 6.1). The aim of this assessment was to confirm the quality of rock in the area. The visual inspection performed as part of those works confirmed that the existing quarry has been developed in medium to thickly bedded metasandstones and metamudstones. The ratio of metasandstone to metamudstone across the existing quarry varies with occasionally highly weathered areas of thinly bedded metamudstones, particularly on the western face.

In July 2021, Apex Geophysics carried out a geophysical survey on the lands and underlying bedrock in and around the quarry extension — the subject lands of this application (Appendix 6.2). The objectives were to investigate overburden thickness, bedrock type, bedrock quality, presence of fault/fissure zones and resource volumes.



The geophysical interpretation report recommended a series of rotary core boreholes should be drilled to confirm overburden thickness, weathered layer thickness and properties, and rock type and quality. A number of these borehole target locations were subsequently drilled during the follow-on SLR and Hydro-G ground investigation programmes in 2021 and 2023, respectively. All historic application BH Logs and both the 2023 Drilling Records and BH Logs are presented in Appendix 6.3.

The current quarry extraction area has been stripped of overburden. It is proposed to deepen the quarry within the current permitted extraction area by 1 no. 15 metre bench from 50 m OD to 35 m OD. Drilling in the active quarry area confirms very hard competent metasediments at depth with no significant groundwater inflows. The southern, western and northern boundaries of the active quarry are well defined and will remain as they were historically.

Site investigations in the proposed extension lands to the east of the working quarry indicate relatively shallow overburden of soils and subsoils (less than 3 m) requiring stripping and use in perimeter screening berms and/or quarry restoration works. The bedrock within the eastern extension application area is the same high PSV metasediment with little to no groundwater other than at the subsoil bedrock interface, which is normal.

The southern boundary of the proposed extension area was revised after the site investigations were completed and reported, specifically Apex's Geophysical Survey (Apex 2021) and SLR's Geological Assessment (SLR 2021). The site investigations identified the transition from the highly competent 'Salterstown' sandstone/mudstone metasediment unit, that is the rock of interest, to the less suitable, highly weathered, banded tuff with slaty metamudstones. The bedding planes dip at c.  $40^{\circ}$  to the southeast, and therefore, it is projected that the proposed excavations under consideration will not intersect the weathered bedrock immediately south of the proposed extension area.

The high PSV stone is considered a premium product primarily used as a constituent in bituminous mixtures for surface dressing and for surface treatments of roads. The crushed stone also has a use in added value concrete and concrete products.

An aerial drone survey of the site was used to produce orthorectified images and a centimetre accurate Point Cloud for existing topography of the site. Digital terrain modelling (DTM) software was then used to produce 3D models of the existing topography, geological formations, and quarry design.

The following design constraints were incorporated into the calculations (i.e., standard criteria were adopted with regard to face heights, bench widths, haul road design, etc.):

- 1:2 Side slopes for soils and construction of screening berms;
- 1:10 Longitudinal gradient for internal haul road ramps within the quarry;
- Provision for construction of 1.5 m high safety berms along quarry ramps;
- Quarry working face at 80°;
- 10 m residual benches between subsequent benches;
- Deepening of the quarry extraction area by 1 no. 15 m bench from 50 m OD to 35 m OD,
- A lateral extension to the quarry over an area of c. 4.8 ha to a depth of 35 m OD



- It is proposed to deepen the quarry within the current permitted extraction area by 1 no. 15 m bench from 50 m OD to 35 m OD.
- The site will be worked from the existing quarry area in an easterly direction in a series of c. 15 m benches between c. 105 and 35 m OD (Refer to EIAR Figures 3.1 & 3.3).
- Development of the quarry at depth below the current floor will require continued dewatering of rainfall-runoff and groundwater infiltration and discharge to surface water in order to maintain a dry working environment on the floor of the quarry.
- For the purpose of calculations, an average rock density of 2.6 tonnes / m<sup>3</sup> was assumed.

The workable aggregate reserves within the proposed extraction area have been calculated as c. 6 million. An average extraction capacity of 300,000 tonnes is anticipated over a 20-year extraction life for the proposed development, plus an additional two years to complete final restoration works.

### 3.3.1.3 Preliminary Development Works

The site is an existing hard rock quarry and therefore the infrastructure required for this type of extraction operation is already in place. The development will not include provision of any new site infrastructure (Refer to EIAR Figures 1.3 and 3.1 for details of the site layout).

In June 2022, Breedon were granted planning permission to develop a readymix concrete plant in the northern section of the quarry (P.A. Ref. 22/328). However, this concrete plant has not been developed to date. In December 2023, Breedon were granted planning permission for construction of a new single storey office building and associated ancillary works (P.A. Ref. 23/917) adjacent to the quarry entrance onto the L1603 local road. These developments are subject to compliance with their respective planning permission and as such any preliminary works with respect to these developments are not considered further.

Within the proposed quarry extension area, preliminary works will include the stripping of soils and overburden. The soils and overburden once stripped will be utilised to the benefit of the overall development as follows:

- Construction of screening embankments at strategic locations around the site;
- Progressive restoration of some of the areas of the existing quarry that have been previously worked out.

Details of soil and overburden removal and its placement are described more fully in EIAR Section 3.3.3.4 - Management of Topsoil & Overburden Soils.

The perimeter of the entire working area is/will be secured in accordance with the requirements of the Safety, Health and Welfare at Work (Quarries) Regulations.

### 3.3.1.4 Access

It is proposed to continue to use the existing entrance to the site. Access to the proposed development is directly onto the L1603 local road. All materials from the site are transported directly via McEntegart's Crossroads c. 1.5 km to the north or the Sally Gardens Crossroads and Harlinstown Cross Roads c. 3.8 and 7.7 km, respectively, to the south. At the quarry access



junction on the L1603, when travelling to/from the quarry, it is anticipated that development traffic will be split 30:70 to the north and south, respectively.

The main entranceway has a well spayed, paved and secure entrance with a lockable gate and CCTV coverage. Sight distances at the site entrance of at least c. 160 m are achievable in both directions along the L1603 at a distance of 3 m back from the edge of the carriageway. The visibility to the north (right) and south (left) from the quarry access is considered adequate for the prevailing vehicle speeds on the L1603 (SLR 2020). Hedges and trees near the quarry entrance will be maintained regularly in order to ensure that the sightlines at the access are kept clear at all times.

The internal access road extends from the processing area in the existing quarry passed the weighbridge office, along the western boundary to the main entranceway on the southern boundary with the L1603 local road. The section of the internal access road extending c. 350 m from the main entrance along the southern and western boundaries to the weighbridge office is paved. The access road is c. 9 m wide with an asphalt surface and accommodates two-way HGV traffic flow. Signage, bollards and speed bumps are also used to control internal traffic. A speed restriction of <15 kph applies to all vehicles along the access road.

A wheelwash is already in-situ and will ensure that the wheels and undersides of all vehicles transporting aggregate from the site onto the public road are cleaned. A weighbridge is also insitu to ensure that all vehicles transporting materials are weighed prior to exiting site and meet weight restriction requirements for commercial HGV's.

Warning signs are displayed at appropriate intervals along the property and excavation boundary. The existing boundaries around the site perimeter will be maintained and will be reinforced, where necessary. The boundaries will be maintained in accordance with the operator's obligations under various health and safety legislation. The access gate is kept padlocked outside of the normal working hours unless exceptional circumstances require otherwise.

### 3.3.1.5 Site Drainage

The application site is located in the Dee\_SC\_030 subcatchment of the Newry, Fane, Glyde and Dee Catchment (Hydrometric Area 06). The site is located on gently sloping ground with the topography falling away to the northwest, and as such drains to the northwest to the Killary Stream (Killary Water\_010), which forms the northern boundary of the landholding (Refer EIAR Figure 7.4). Downstream, the waters of the Killary Stream drain into the Killary Water River (Killary Water\_020) c. 2.5 km to the west, subsequently drain into the Dee River (Dee\_050) c. 5 km to the north-northwest, and ultimately outfall into Dundalk Bay c. 21.5 km from the quarry. There are no Natura 2000 or other designated sites downstream of the quarry other than the Dundalk Bay SAC (Site Code: 000455) and SPA (Site Code: 004026). However, these sites are located c. 21.5 km distant, while the downstream distance is much greater at c. 43.3 river km.

While there is a tentative hydrological pathway to the Dundalk Bay SAC and SPA via the Killary Water and the Dee River further downstream, potential impacts to the European sites are highly unlikely given the distance of water and potential contaminant assimilation and removal over 43 km downstream flow path. In addition, the intervening freshwater and



estuarine water bodies would involve dilution to the extent that a pollution event would be imperceptible at 1 km from the application site boundary. Monitoring results suggest that the Section 4 compliant discharge is completely assimilated within 100 m of the site. Therefore, a pollution event would be assimilated within 1 km.

There is an extensive array of established, proven, water management components already in use at the site. These water management components were specified in the Section 4 Discharge Licence (Ref. 20/01) issued by Meath County Council in November 2020. The water management components were specified in the Discharge Licence because they were designed by SLR to retain waters, attenuate for the required duration to remove solids, intercept contaminants (oil interceptor), and provide a mechanism of discharge (diffuse on a plinth) that would ensure protection of the receiving water. There are four components separating the site from the receiving water: the sump, the western lagoon, the final lagoon and the oil separator.

The established water management system includes the following:

- The floor sump in the south of the working bedrock extraction area.
- A western lagoon that collects rainfall runoff water from the road that is used by trucks entering and leaving the site.
- A fully functioning wheel wash and associated sump and silt settlement system.
- A final lagoon that receives water pumped from the floor sump and the western sump.
- A Class 1 oil separator.
- A flow meter.
- A discharge pipe with concrete plinth to diffuse and aerate discharge water as it is delivered to the receiving water.

With respect to the ability of the site's existing infrastructure to treat the future proposed total area's waters to the satisfaction of the conditions of the existing Section 4 Discharge Licence, the only parameter that has the potential to change is the Suspended Solids (SS) concentrations arising. All other parameters will average the same for the working area. SS can change with blasting and workings.

The site discharges an average concentration of 3 mg/l SS. The permitted ELV for SS is 20 mg/l (DL. 20/01). Therefore, the site uses 15% of the ELV limit as mg/l. However, if one were to consider that 1,728 m<sup>3</sup>/d is permitted at 20 mg/l then the LOAD of SS permitted is 34.56 kg/d. The site discharges, on average, 174 m<sup>3</sup>/d at 3 mg/l = 0.52 kg/d, such that the site is discharging only 1.5% of the permitted load of SS. Therefore, there is treatment function and hydraulic capacity in the systems already in place on the site. The significant capacity available in the Discharge Licence Conditions; the available underutilised treatment capacity and treatment function in the as built settlement lagoons, is such that the chemistry of all the water anticipated to be encountered by the proposed extension can be accommodated and treated by the existing infrastructure. The proposed development's waters will be adequately treated and appropriately attenuated in compliance with the existing site discharge licence without the need for any additional water treatment infrastructure.



The main settlement pond has a footprint of 2,112 m<sup>2</sup> (length = 64 m, width = 33 m) and is fully functional. The surface water level in the settlement pond was measured to be 86.1 m OD in November 2023, with a bank top of 86.5 m OD, above a pond base elevation of 85 m OD, approximately. The depth capacity of this main settlement lagoon is therefore 1.5 m.

Given the dimensions of the final settlement lagoon, the hydraulic capacity is 3,105 m<sup>3</sup>. On the basis that the maximum discharge rate is 1,728 m<sup>3</sup>/d, there is a guaranteed 1.75 day retention time in the settlement lagoons. This retention time is significantly greater than best practice specifications for retention times for settlement of solids. Calculations supporting the adequate design capacity are presented later in the Water Management Section 7 of the EIAR.

Risks to surface water and groundwater on-site relate primarily to the use and storage of hydrocarbon liquids.

The main emphasis with respect to water management is on prevention to ensure that the proposed development will have no effect on the groundwater table and/or surface waters.

A double skinned fuel tank is provided on-site for refueling of some mobile plant and machinery. For larger mobile plant such as crushers and screeners, refuelling takes place on the quarry floor on an as-needs basis by a mobile fuel truck. Servicing of vehicles will take place off-site. Hauliers HGVs will not be refuelled onsite. Small amounts of oils and lubricants will be stored on-site for use on mobile equipment.

- Spill trays and hydrocarbon spill kits will continue to be provided as necessary.
- The operator has in place an emergency response procedure for hydrocarbon spills and appropriate training of site staff in its implementation.
- Road sweeping regular sweeping of paved areas including the site entrance will continue to be carried out to ensure public roads in the vicinity remain free from sediment derived from the quarry.
- The site access from the wheel wash to the entrance has been paved.

All hydrocarbons will be handled and stored in accordance with the Environmental Management Guidelines - Environmental Management in the Extractive Industry (Non-Scheduled Minerals) (EPA 2006).

### 3.3.1.6 Concrete Batching Plant

In June 2022, Breedon were granted planning permission to develop a readymix concrete plant in the northern section of the quarry (P.A. Ref. 22/328). However, this concrete plant has not been developed to date. This development once constructed will be subject to compliance with a separate planning permission.

### 3.3.2 DESCRIPTION OF COMMISSIONING

On some large projects there is a considerable time delay between the end of construction and the commencement of full operation.

In this case, given that the development is located within an existing, working quarry, which has the necessary plant and machinery and site infrastructure, including site offices, welfare facilities, an experienced workforce and an established EMS, there will be no expected delay



to the continuance of operations. Minimal construction is anticipated unless required by conditions under the planning permission.

The proposed development will continue to be carried out in accordance with a phased working plan with progressive restoration of residual quarry faces (Refer to EIAR Figures 3.1 to 3.3).

### 3.3.3 OPERATION OF THE PROJECT

### 3.3.3.1 Management of the Facility

### 3.3.3.1.1 Technical Competences & Site Management

Breedon Ireland has appointed a competent quarry manager with the relevant experience of extraction, crushing and screening, washing and haulage of construction aggregates.

It is not anticipated that the staff numbers will increase. Indirect employment will continue for several sub-contractors e.g., local hauliers and crushing contractors.

### 3.3.3.1.2 Environmental Management & Monitoring

Breedon Ireland operates asphalt plants, concrete plants, aggregate quarries, and associated products manufacturing facilities in strategic locations in order to have the ability to service all but the remotest regions of Ireland. The Company's regional head office is based on the outskirts of Dublin at Rosemount Business Park, Ballycoolin.

The Company has established an environmental management system (EMS) which is accredited to ISO 14001:2015 standard and the Quality Management standard ISO 9001:2015. The integrated management system IMS is a two-tier system with this top-level Environmental Manual based on ISO EN 14001:2015 being applicable to all activities. The top-level Quality manual then feeds down to the Factory Production Control (FPC) Quality Plans and the depot specific Environmental Management Plans.

The FPC Quality Plans incorporate the procedures and controls in place to reflect the quality system for asphalt and aggregate production. The Environmental Management Plans (EMP's) are depot specific and have been designed to comply with the requirements of ISO EN 14001:2015. The EMP's record the procedures and controls in place to reflect the Quality System and the specific environmental aspects and impacts and the legislative requirements applicable at each depot.

The Company has implemented a quality assurance system and an environmental management system and has certification to the ISO 9001 and ISO 14001 standards. The Company's experience and implementation of the systems has identified the advantages of a structured and systematic approach in achieving managerial objectives. The establishment of an IMS will ensure that the objectives and targets that the Company sets themselves in the environmental and quality policies are appropriate.

The Operations Director will implement the company requirements at regional level and is responsible for the establishment of the EMS. The Head of Land, Minerals & Environment is responsible for ensuring that the company's EMS requirements are implemented and



maintained in order to comply with the requirements of ISO 14001. The Depot (Operations) Manager implements the day-to-day requirements of the EMS at depot lever and will report on the effectiveness of the operation of the EMS. The Managing Director will ensure that sufficient resources are allocated to the system to ensure its satisfactory operation.

A copy of the Environmental Management Plan (EMP) for the Lobinstown Quarry is included in Appendix 13. This will be updated in accordance with any new planning consents or licences.

The EMP contains the following documentation:

- 1. Environmental Manual;
- 2. Depot Procedures Manual;
- 3. Current Planning Permits, Registrations, Licences and Authorisations;
- 4. Audit and Inspection Sheets; and
- 5. Environmental Training for Contractors.

The Depot Procedures manual contains procedures and instructions that govern the environment-critical activities of the product/ service in accordance with the stated objectives of the Environmental Manual.

The detailed procedures to be followed, in respect of monitoring for the purpose of demonstrating compliance with Permits/ Licences, etc. are outlined in the Depot Procedures Manual. Monitoring procedures, recording, and reporting procedures and specific procedures for dealing with non-compliances, and corrective actions are outlined in these procedures.

Table 3.2 provides a summary of the Depot Procedures that have been put in place for the quarry at Heronstown.

The EMP for the quarry will include regular monitoring activities (e.g., Water, Blasting, Noise and Dust) to demonstrate that the development is not having an adverse impact on the surrounding environment.

The facility will also be operated in accordance with current relevant guidance issued by the EPA and DoELHG, i.e.;

- Environmental Management Guidelines Environmental Management in the Extractive Industry (Non-Scheduled Minerals), have been produced by the EPA (EPA 2006); and
- Quarries and Ancillary Activities Guidelines for Planning Authorities (DoEHLG 2004).

The locations of environmental monitoring stations used to inform the EIAR for the proposed development are shown on the Existing Site Plan of EIAR Figure 1.3.

The results of any future monitoring programme will be recorded and placed on file at the site office and will be submitted to Meath County Council as required for their review and records.

The monitoring programs will be compiled to demonstrate compliance with any environmental conditions attached to any decision to grant planning permission, and also to ensure that the development is not having an adverse impact on the surrounding environment.



### Table 3.2 Depot Procedures

Depot Procedure No.	Depot Procedure Title			
DP001	Air Quality & Air Emissions Management			
DP002	Energy Management			
DP003	Waste Management			
DP004	Emergency Preparedness & Response			
DP005	Legislation Management			
DP006	Fuel oil, Bitumen & Chemical storage			
DP007	Oil Interceptor Management			
DP008	Water Management			
DP009	Ecological Management			
DP010	Noise & Vibration Management			
DP011	Landscape & Visual Impact			
DP012	Traffic Management			
DP013	Archaeology Impact Management			
DP014	End-of-Life Plant Management			
DP015	Site Security			
DP016	Contractor Management			
DP017	Communications, Incidents & Complaints			
DP018	Corrective & Preventive Actions			
DP019	Site Inspection Checklists			
DP020	Accident Prevention Policy			





### 3.3.3.2 Working Hours

The proposed quarry working hours are consistent with Condition No. 10 of P.A. Ref. LB200106 and Condition No. 4 of P.A. Ref. 22/328:

Monday to Friday:	07:00 to 18:00 hours.
Saturdays:	07:00 to 14:00 hours
Sundays/Public Holidays	No activities permitted unless otherwise agreed with the
	Planning Authority for Exceptional circumstances.

No rock-breaking activity shall be undertaken within any part of the site before 08:00 hours on any day.

It is considered that the proposed development can operate for the proposed working hours and comply with the EPA Recommended General Noise Limit Criteria (For EPA Scheduled Activities (NG4 2016) Daytime Noise Criterion, 55 dB LAr,T (07:00 to 19:00 hrs).

### 3.3.3.3 Duration of the Extraction

The planning application provides for a total depth of extraction down to the floor level of approximately 35 m OD. The workable aggregate reserves within the proposed extraction area have been calculated as c. 6 million tonnes. An average extraction capacity of 300,000 tonnes is anticipated over a 20-year extraction life for the proposed development (subject to economic demand), plus an additional two years to complete final restoration works. The development will provide for the continued employment of the current workforce within the local community and a supply of locally sourced construction aggregates.

### 3.3.3.4 Management of Topsoil & Overburden Soils

The results of site investigation (Refer to EIAR Section 6.5) have shown that the overburden is generally thin, averaging depths of less than 3 m within the proposed quarry extension area.

Topsoil and subsoil stripped to obtain access to the underlying greywacke resource have previously been, and will be, used directly for construction of peripheral screening berms to aid attenuation and visual impact or is stored for later restoration. The storage areas are vegetated as soon as possible, to reduce both visual impact and erosion.

Stripping is carried out in accordance with the principles of good soil handling. These principles are aimed at reducing possible adverse effects such as smearing and compaction of the soil. Measures which are to be incorporated to achieve this aim include:

- Storage of soils within perimeter security / screening embankment of the site. This is to allow the vegetation of these screening embankments as soon as possible;
- Placement of soils directly on completed sections of the quarry as part of the final quarry restoration;



- Soils are not handled in wet conditions or when the moisture content of the soils is too high. This will ensure that smearing of the soils does not take place and that the soil retains its structure;
- Soils are not stripped or placed when the moisture content is high, i.e., after heavy rainfall;
- No soils are moved when they are too dry or when there are unusually windy weather conditions. This will help to prevent erosion and any consequential creation of dust;
- All temporary storage mounds are given slope angles not greater than 1:1.5 and are revegetated as quickly as possible to avoid soil erosion by air and water; and
- Topsoil is stored to a height not exceeding 3 metres to preserve organic constituents.

### 3.3.3.5 Method of Extraction

There are no changes proposed to the method of extraction and processing as in this planning application. Drilling and blasting will continue to be utilised with processing of extracted rock using mobile crushing and screening plant located within the quarry floor. This will reduce handling of material and will also have the benefit of screening these activities from outside views, and being at depth, will also mitigate impacts associated with noise and dust. The broken rock will be excavated by a combination of either a wheeled loading shovel and/or excavator. Blasted material is then transported to a mobile crushing and screening plant, located on the quarry floor, where material is processed into various grades of aggregate depending on market demand and stored in designated stockpiles.

The rock will be extracted using the conventional extraction methods for hard rock quarries. There are a number of stages to the extraction process, which occur on a progressive basis as the quarry is developed. A pattern of shot holes will be drilled prior to the day of blasting by a specialist drilling contractor equipped with a tracked mounted drilling rig using air rotary drilling. A drilling contractor will be mobilised to site as and when required to undertake drilling operations. The operator will ensure that the drilling contractor uses a drill rig that is properly maintained and is fitted with adequate noise suppression and dust control/ extraction equipment to reduce any impact arising from drilling operations.

Blasting will be undertaken using slurry-based explosives by a company holding a current explosive licence (i.e., Irish Industrial Explosives). The rock will be fragmented utilising standard blasting procedures that have been long established at this location. The primary objectives of these procedures are to efficiently extract rock from the quarry face, while ensuring safety of all persons and property.

Blasting in quarries gives rise to ground transmitted vibrations as well as air overpressure, which also may be perceptible at nearby residences. In order to minimise these effects, the blast management practice at this quarry will include several mitigation measures, such as: (1) best professional practice in the design and execution of blasting; (2) only certified Shotfirers are used to conduct blasting; (3) millisecond time delays are used in sequential detonation of the explosives to limit the maximum instantaneous charge; and (4) explosive charges are properly confined by a sufficient quantity of quality stemming material.



Efficient blasts ensure as much of the explosive energy as possible is utilised for rock fragmentation, and by implication ground vibration and air overpressure is inefficient use of this energy. Air overpressure values arising from blasting operations fluctuate depending on the weather conditions, a factor outside the control of operators. The emission limit value 7.9107,2024 should be specified with a 95% confidence limit to address this issue.

The following measures should be considered to reduce the effects of blasting:-

- Optimise blast design;
- Monitor blasts and revise blast design, as required;
- Limit ground borne vibration and minimise air over pressure by:
  - taking care in unusual situations e.g., corners;
  - including geological considerations in blast design; •
  - Air overpressure is minimised through proper blast design, avoiding detonation of large unconfined charges, and by consideration of atmospheric conditions before blasting;
  - A blast must be carried out on a specified day as concerns over security does not allow • for explosives to be stored on-site. In exceptional circumstances or unforeseen circumstances (e.g. late delivery, security, meteorological conditions, etc.) a blast may be delayed or brought forward. Where possible the operator should endeavour to inform the public of the revised blasting timetable;
  - Adequate stemming of holes;
  - Ensure the correct blasting ratio is obtained. The blasting ratio is a measure of the amount of work expected per unit volume of explosives i.e., tonnes/kg; and
  - Notify nearest residences prior to the blast. •

The Environmental Protection Agency publication "Integrated Pollution Control Licensing -Guidance Notes for Noise in Relation to Scheduled Activities" states that "in the case of quarrying and mining operations, the vibration levels from blasting should not exceed a peak particle velocity of 12 mm/sec, measured in any three mutually orthogonal directions at a receiving location when blasting occurs at a frequency of once per week, or less. For more frequent blasting the peak particle velocity should not exceed 8 mm/sec. These levels are for low frequency vibration, i.e., less than 40 Hertz. Blasting should not give rise to air overpressure values at sensitive locations which are in excess of 125 dB (Lin) max peak".

This is consistent with Conditions No. 12 of Planning Permission P.A. Ref. LB200106:

12 (a). Vibration levels from blasting shall not exceed a peak particle velocity of 12 millimetres/second, when measured in any three mutually orthogonal directions at any sensitive location. The peak particle velocity relates to low frequency vibration of less than 40 hertz where blasting occurs no more than once in seven continuous days. Where blasting operations are more frequent, the peak particle velocity limit is reduced to eight millimetres per second. Blasting shall not give rise to air overpressure values at sensitive locations which are in excess of 125 dB (Lin)max peak with a 95% confidence limit. No individual air overpressure value shall exceed the limit value by mow than 5 dB (Lin).



(b) A monitoring programme, which shall include reviews to be undertaken at annual intervals, shall be developed to assess the impact of quarry blasts. Details of this programme shall be submitted to, and agreed in writing with, the Planning Authority prior to commencement of any quarrying works on the site. This programme shall be undertaken by a suitably qualified person acceptable to the Planning Authority. The results of the reviews shall be submitted to the Planning Authority within two weeks of completion. The applicant shall carry out any amendments to the programme required by the Planning Authority following this annual review.

Ground vibration and air overpressure measurements will continue to be undertaken taken at agreed residences within the area as per the requirement of Condition No. 11 of Planning Permission P.A. Ref. LB200106:

11. (a) Blasting operations shall take place only between 1000 hours and 1700 hours, Monday to Friday, and shall not take place on Saturdays, Sundays or Public holidays. Monitoring of the noise and vibration arising from blasting and the frequency of such blasting shall be carried out at the applicant's expense by an independent contractor who shall be agreed in writing with the Planning Authority.

(b) Prior to the firing of any blast, the applicant shall give notice of his intention to the occupiers of all dwellings within 500 metres of the site in accordance with the further information date received 21/09/20. An audible alarm for a minimum period of one minute shall be sounded. This alarm shall be of sufficient power to be heard at all such dwellings.

As such, the local community will continue to be informed by the Company of the blasting schedule as follows:

- Residences within 500 m of the quarry will be provided with a minimum of 24 hours' written notice of intention to blast.
- On the day of the blast a clearly audible warning siren is sounded before each blast. When blasting operations are completed an ALL CLEAR siren is sounded.

Breedon Ireland have in place a "Blast Notification Procedure & Blast Monitoring Programme". A copy of the procedure is provided in Appendix 10.4. This procedure will be amended as necessary on any future grant of planning permission for the quarry development.

This is the extraction method that has been in use at the quarry over many years.

Blasting procedures and a description of any potential environmental impacts, mitigation measures and monitoring of blasting operations is provided in Section 10 – Noise and Vibration.

### 3.3.3.6 Extraction Design & Phasing

The development will consist of the continuance of operation of the existing permitted quarry and associated infrastructure (ABP Ref. 17.QD.0017; P.A. Ref. LB200106 & ABP Ref. 309109-21), deepening of the quarry extraction area by 1 no. 15 metre bench from 50 m OD to 35 m OD, a lateral extension to the quarry over an area of c. 4.8 ha to a depth of 35 m OD, provision for aggregates and overburden storage, and restoration of the site to natural habitat after uses following completion of extraction, within an overall application area of c. 18.5 hectares.



To date, extraction has taken place to a depth of c. 65 m OD in a series of 10-15 m high benches in the southern and central sections of the active, permitted quarry. It is proposed to deepen the quarry within the current permitted extraction area by 1 no. 15 m bench from 50 m QD to 35 m OD.

The site will continue to be worked from the existing quarry area in an easterly direction in a series of typically 15 m high benches between c. 105 and 35 m OD with consideration given to direction of working, phasing of development and progressive restoration of quarry faces (particularly upper southern quarry face) to reduce the visual impact from views to the north (Refer to EIAR Figures 1.3 & 3.1 to 3.3).

The development will be worked in a phased manner to ensure full implementation of the mitigation and restoration measures proposed. The existing workings have been incorporated into the overall phasing of the scheme to ensure a consistent approach to landscaping and restoration within the entire project area. Plans and sections of the design and associated restoration are shown on EIAR Figures 3.1 to 3.3.

Development of the quarry at depth below the current floor will require continued dewatering of rainfall-runoff and groundwater infiltration with discharge to surface water in order to maintain a dry working environment on the floor of the quarry. The site's existing water management structure including settlement lagoons is of sufficient capacity to adequately treat and appropriately attenuate waters arising without the need for any more water treatment infrastructure under the conditions of the existing Section 4 Discharge Licence,

Cross sections through the site also illustrate the effectiveness of working the quarry top-down in successive benches, with progressive restoration of the upper back southern face to further reduce the visual impact of the development on the surroundings (Refer to EIAR Figures 3.1 to 3.3). The proposed development will enable the operator to fully complete the restoration of both the existing quarry and the proposed development to beneficial after-use. Plans and sections of the design and associated restoration are shown on EIAR Figures 3.1 to 3.3.

All crushing and processing will be carried out on the quarry floor being screened by the quarry face and perimeter screening berms. The working scheme has been phased with consideration given to implementation of landscaping proposals and restoration of worked out areas (in particular the upper quarry face) to further reduce the visual impact of the development on the surroundings (Refer to EIAR Section 11 – Landscape).

The main aim of the landscaping & restoration plan is to minimise the impact of quarrying on the existing landscape of the area both now and into the future. A restoration and landscaping plan has been prepared as part of the application (Refer to EIAR Figures 3.1 to 3.3).

A further 2 years will be required to implement and complete final restoration of the site to a secure wildlife refuge/ amenity use. The proposed development will also enable the operator to fully complete the restoration of both the proposed and existing quarry areas to beneficial after-use.

### 3.3.3.7 Stability of the Workings

A detailed working scheme/restoration plan (Refer to EIAR Figures 3.1 to 3.3) has been prepared. This working scheme was prepared by a qualified mining engineer. In preparing the design, standard criteria were adopted with regard to face heights and slopes, standoffs to site boundaries, etc. (Refer to EIAR Section 3.3.1.2 above).



Excavations at the site will also be subject to the requirements of the Safety. Health and Welfare at Work (Quarries) Regulations. These regulations replace the existing provisions in the Mines and Quarries Act 1965, various Regulations relating to quarries made under that Act, and the provisions of the Safety, Health and Welfare at Work (Extractive Industries) Regulations, 1997 (S.I. No. 467 of 1997), as it relates to quarries. The Regulations are accompanied by a comprehensive set of guidelines outlining how the regulations should be implemented.

### 3.3.3.8 Processing Methods

There are no changes proposed to the method of processing in this planning application. A wheeled loading shovel and / or backhoe excavator will be used to feed the blasted rock to the mobile crushing and screening plant, which will be relocated close to the working face so as to reduce handling of materials. Stockpiles will be strategically placed on the quarry floor area to reduce as much as possible their visibility from local residences.

All crushing and processing will be carried out on the quarry floor, which is screened by the quarry face and perimeter screening berms.

The crushing and screening operation will consist of primary, secondary, and tertiary stages to produce the range of sizes required. A mobile self-contained washing unit with a closed loop water supply system will also be used for washing of aggregate chips used for surface dressing. The system for washing of chips utilises c.  $\leq 2 \text{ m}^3/\text{d}$ .

### 3.3.3.9 Plant & Machinery

The following are brief descriptions of the plant and machinery associated with the proposed development:

- Drill Rig (mobilised to site as necessary);
- Dump trucks (2 no.) for stripping of overburden
- Wheeled loading shovels
  - o feeding the mobile crushing & screening plant;
  - Loading out;
- Backhoe excavator to feed the primary crushing unit at the quarry face;
- Mobile Crushers (primary, secondary and tertiary);
- Mobile Screening units;
- Self-contained mobile washing unit with recycling of water;
- Stacking conveyors for stockpiling of material; and
- Road trucks:
  - 4 axle 20 t capacity rigid bodied tippers;
  - 4 axle 28 t capacity articulated units.



### 3.3.3.10 Waste Management/Recycling

Waste produced from the development is minimal. Almost all products and by products arising from processing have commercial value. Any excess material produced as part of the extraction process (e.g., topsoil / overburden / fines) will be utilised in the restoration process.

Waste oils, batteries, scrap metal, etc. will be removed from site for recycling by approved contractors. A licensed waste collection contractor will remove any office/canteen waste requiring recovery/disposal to a licensed waste management facility.

### 3.3.3.11 Site Safety & Security

Warning signs are / will be displayed at appropriate intervals along the property and excavation boundary. The existing boundaries around the site perimeter will be maintained and, if necessary, reinforced. The boundaries will be maintained in accordance with the operator's obligations under various health and safety legislation. The access gate will be kept padlocked outside of the normal working hours unless exceptional circumstances require otherwise.

The following barrier system has/will be put in place in the interest of public safety and to prevent public access to the quarry.

The barrier system will be as follows:

- The perimeter of the entire working area will be secured in accordance with the requirements of the Safety, Health and Welfare at Work (Quarries) Regulations. All necessary warning signs will be displayed at visible locations along the boundary at appropriate intervals.
- Two rows of boulders of c. 1 m diameter will be placed at the limit of extraction to form a further permanent hurdle.
- The top of the existing face is largely protected by native barrier species, such as hawthorn and gorse, and this planting will be maintained and reinforced as necessary.
- The current quarry site is largely bounded by thick, mature hedgerows with mature trees and scrub (except for the boundary with the northern field) backed by vegetated perimeter berms. As such these form a substantial natural barrier. Perimeter berms will be constructed on the perimeter boundaries of the proposed extension site and readymix concrete plant site (i.e., northern field), and planted with screening vegetation.
- The existing hedgerow on the quarry perimeter will be retained, and if necessary reinforced, for the duration of the workings. Any gaps in the existing boundary which would provide uncontrolled access to the proposed quarry will be blocked by a suitable means and reinforced with further planting as necessary and / or fenced.
- In order to prevent unauthorised vehicular access, the site entrance has a lockable steel gate which will remain closed and locked outside normal working hours (Refer to Section 3.3.1.4).

This barrier is designed to be a permanent, maintenance-free barricade to man and farm animals. Together the berms, existing trees, hedgerows and all other natural vegetation will develop into a permanent, dense & impenetrable barrier. The above measures are considered sufficient to prevent accidental access to the quarry workings.



### 3.3.3.12 Fuel & Oil Storage

A double skinned fuel tank is provided on-site for refueling of some mobile plant and machinery. For larger mobile plant such as crushers and screeners, refuelling takes place on the quarry floor on an as-needs basis by a mobile fuel truck. Servicing of vehicles will take place off-site. Haulier HGVs will not be refuelled onsite. Small amounts of oils and lubricants will be stored on-site for use on mobile equipment.

- Spill trays and hydrocarbon spill kits will continue to be provided as necessary.
- The operator has in place an emergency response procedure for hydrocarbon spills and appropriate training of site staff in its implementation.
- Road sweeping regular sweeping of paved areas, including the site entrance will continue to be carried out to ensure public roads in the vicinity remain free from sediment derived from the quarry.
- The site access from the wheel wash to the entrance has been paved.
- All waste oils will be collected and removed off-site by an approved waste collection contractor in the area.

Refer also to Section 7 – Water for mitigation measures.

All hydrocarbons will be handled and stored in accordance with the Environmental Management Guidelines - Environmental Management in the Extractive Industry (Non-Scheduled Minerals) (EPA 2006).

### 3.3.3.13 Water Management

Development of the quarry at depth below the current floor will require continued dewatering of rainfall-runoff and groundwater infiltration with discharge to surface water in order to maintain a dry working environment on the floor of the quarry.

There is an extensive array of established, proven, water management components already in use at the site. These water management components were specified in the Section 4 Discharge Licence (Ref. 20/01) issued by Meath County Council in November 2020. The water management components were specified in the Discharge Licence because they were designed by SLR to retain waters, attenuate for the required duration to remove solids, intercept contaminants (oil interceptor), and provide a mechanism of discharge (diffuse on a plinth) that would ensure protection of the receiving water. There are four components separating the site from the receiving water: the sump, the western lagoon, the final lagoon and the oil separator.

The established water management system includes the following:

- The floor sump in the south of the working bedrock extraction area.
- A western lagoon that collects rainfall runoff water from the road that is used by trucks entering and leaving the site.
- A fully functioning, engineered, wheel wash and associated sump.
- A final lagoon, which receives water pumped from the floor sump and the western sump.



- A Class 1 oil separator.
- A flow meter.



• A discharge pipe with concrete plinth to diffuse and aerate discharge water as it is delivered to the receiving water.

With respect to the ability of the site's existing infrastructure to treat the future proposed total area's waters to the satisfaction of the conditions of the existing Section 4 Discharge Licence, the only parameter that has the potential to change is the Suspended Solids (SS) concentrations arising. All other parameters will average the same for the working area. SS can change with blasting and workings.

The site discharges an average concentration of 3 mg/l SS. The permitted ELV for SS is 20 mg/l (DL. 20/01). Therefore, the site uses 15% of the ELV limit as mg/l. However, if one were to consider that 1,728 m<sup>3</sup>/d is permitted at 20 mg/l then the LOAD of SS permitted is 34.56 kg/d. The site discharges, on average, 174 m<sup>3</sup>/d at 3 mg/l = 0.52 kg/d, such that the site is discharging only 1.5% of the permitted load of SS. Therefore, there is treatment function and hydraulic capacity in the systems already in place on the site. The significant capacity available in the Discharge Licence Conditions; the available underutilised treatment capacity and treatment function in the as built settlement lagoons, is such that the chemistry of all the water anticipated to be encountered by the proposed extension can be accommodated and treated by the existing infrastructure. The proposed development's waters will be adequately treated and appropriately attenuated in compliance with the existing site discharge licence without the need for any additional water treatment infrastructure.

The main settlement pond has a footprint of 2,112 m<sup>2</sup> (length = 64 m, width = 33 m) and is fully functional. The surface water level in the settlement pond was measured to be 86.1 m OD in November 2023, with a bank top of 86.5 m OD, above a pond base elevation of 85 m OD, approximately. The depth capacity of this main settlement lagoon is therefore 1.5 m.

Given the dimensions of the final settlement lagoon, the hydraulic capacity is  $3,105 \text{ m}^3$ . On the basis that the maximum discharge rate is  $1,728 \text{ m}^3/d$ , there is a guaranteed 1.75 day retention time in the settlement lagoons. This retention time is far greater than the usual specification for settlement of solids. Calculations supporting the adequate design capacity are presented later in the Water Management Section of the EIAR.

Risks to surface water and groundwater on-site relate primarily to the use and storage of hydrocarbon liquids.

The main emphasis with respect to water management is on prevention to ensure that the proposed development will have no effect on the groundwater table and/or surface waters.

A double skinned fuel tank is provided on-site for refueling of some mobile plant and machinery. For larger mobile plant such as crushers and screeners, refuelling takes place on the quarry floor on an as-needs basis by a mobile fuel truck. Servicing of vehicles will take place off-site. Hauliers HGVs will not be refuelled onsite. Small amounts of oils and lubricants will be stored on-site for use on mobile equipment.

- Spill trays and hydrocarbon spill kits will continue to be provided as necessary.
- The operator has in place an emergency response procedure for hydrocarbon spills and appropriate training of site staff in its implementation.



- Road sweeping regular sweeping of paved areas including the site entrance will continue to be carried out to ensure public roads in the vicinity remain free from sediment derived from the quarry.
- The site access from the wheel wash to the entrance has been paved.

All hydrocarbons will be handled and stored in accordance with the Environmental Management Guidelines - Environmental Management in the Extractive Industry (Non-Scheduled Minerals) (EPA 2006).

The quarry's water supply is provided from the supply well located near the site entrance (PW1). The water is pumped on demand from a submersible pump in the well to two storage tanks next to the wheel-wash, each with a 5,000 litre storage capacity. The stored water does not undergo any treatment and is used for the wheel-wash, road sprinklers, mobile dust suppression, toilets and canteen (non-potable).

The potable water supply for use in the office and canteen facilities is being met by an existing well (PW1) on-site (Refer to EIAR Figure 1.3 for location).

Relatively small amounts of water will be used for the purpose of process water, except for future concrete production:

- dust suppression, in the order of  $\leq 1 \text{ m}^3/\text{d}$ ;
- mobile plant sprinklers for washing of chips of  $\leq 2 \text{ m}^3/\text{d}$ ;
- wheelwash with a top-up water demand will be less than  $\leq 0.5 \text{ m}^3/\text{d}$ ;
- readymix concrete plant will use c. 1 m<sup>3</sup> of water pr 5 m<sup>3</sup> of concrete.

A wheel wash facility has been installed on-site and the roads have sprinkler systems. The site access from the wheelwash to the entrance has been paved with a permeable asphalt surface. Regular sweeping of paved areas, including the site entrance, is carried out to reduce the amount of sediment being washed into roadside drainage.

Domestic effluent generated by on-site office workers is treated by the wastewater treatment system (WWTS) providing secondary treatment (Tricel). This is located south of the portacabin office at the weighbridge. Treated effluent is disposed of via soil polishing filters.

### 3.3.3.14 Employment

Breedon Ireland has appointed a competent quarry manager with the relevant experience of extraction, crushing and screening and haulage of construction aggregates.

The quarry will continue to provide employment. It is not anticipated that the numbers will increase. Indirect employment will continue for several sub-contractors e.g., local hauliers and crushing contractors.

### 3.3.3.15 Transport & Access

Traffic entering and leaving the site will use the existing site access onto the L1603 local road. This is the sole access for the delivery of aggregates and concrete from the site and will be maintained for the life of the proposed development.

All materials from the site are transported directly via Lobinstown and the N52 to the northwest or via Slane to the south. At the quarry access junction on the L1603, when travelling to/from



the quarry, it is anticipated that development traffic will be split 30:70 to the north and south for arrivals and departures.

The site is situated approximately 2 km southeast of Lobinstown Village with access to the N2, N51 and N52 national roads provided via the L1603, which runs adjacent to the quarry site. These are the main haulage routes, allowing the HGV traffic from the site to access the national and regional road network at the earliest opportunity, and thus avoids adverse impact on the local road network.

The L1603 in the vicinity of the Lobinstown Quarry is c. 6.5 m wide single lane carriageway with 0.5-1 m grass verges and no road markings, including centre line. The speed limit of the L1603 in the vicinity of the site is 80 kph. The pavement of the L1603 in the vicinity of the guarry is in good condition.

The entranceway has substantial splays providing good visibility. Sight distances at the site entrance of at least c. 160 m are achievable in each direction along the L1603 at a distance of 3 m back from the hard shoulder, as required under P.A. Ref. LB200106. Hedges and trees near the quarry entrance will be maintained regularly in order to ensure that the sightlines at the access are kept clear at all times.

The site is serviced by an existing secured, industrial-style gateway with a paved apron and access road. The gate is set back to allow trucks awaiting entry to queue without obstructing traffic on the L1603. Provision is made to facilitate entry of HGVs into the site to queue safely prior to gate opening times. This will ensure that the formation of a queue of HGVs awaiting entry to the quarry prior to opening does not occur along the L1603.

The internal access road extends from the processing area in the existing quarry passed the portacabin office at the weighbridge, along the western boundary to the main entranceway on southern boundary with the L1603. The section of the internal access road extending c. 350 m from the main entrance along the southern and western boundaries to the weighbridge office is paved. The access road is c. 9 m wide with an asphalt surface and accommodates two-way HGV traffic flow. Signage, bollards and speed bumps are also used to control internal traffic. A speed restriction of <15 kph applies to all vehicles along the access road.

A wheelwash is already in-situ and will ensure that the wheels and undersides of all vehicles transporting aggregate from the site onto the public road are cleaned. A weighbridge is also insitu to ensure that all vehicles transporting materials are weighed prior to exiting site and meet weight restriction requirements for commercial HGV's (Refer to EIAR Figure 3.1).

In the event of material being spilled on the public road, the quarry 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. The L1603 road in the vicinity of the entrance will be mechanically swept on a regular basis.

An extraction capacity of up to 300,000 tonnes per annum is sought to provide the applicant with the ability to respond to demand for aggregates in the region. A quarry of this size would be considered to be at the lower end of medium scale for quarry development. Permission is sought for a period of 20 years.

Recent traffic surveys and junction capacity analysis for the Slane Road and access junction have indicated that the roads can accommodate production volumes well in excess of what is proposed at the quarry (Refer to EIAR Section 14).



The capacity of the Slane Road at the quarry access junction is 5,000 AADT, and the existing and proposed volume on the Slane Road falls within this envelope of available capacity, with spare capacity available. Thus, no additional access requirements will be needed for the proposed development.

The traffic impact of the proposed development on the Slane Road will result in an increase in traffic on the network, but this increase is imperceptible. The projected increase in traffic due to the quarry site is between 3.6% and 6.6% of the total traffic on the Slane Road, given the present and forecasted levels of activity at the quarry (Refer to EIAR Tables 14.8 and 14.9). The existing capacity of the adjacent road network has been shown to be capable of accommodating these minor increases.

The traffic impact on the Slane Road/Quarry Access junction will result in a slight increase in vehicles entering and exiting the quarry during the day. The increase in traffic at the Quarry Access Junction will result in a slight increase in flow at the junction, from an RFC of 0.03 (2023) to 0.07 (2044). There will also be a slight increase in delay at the junction, of the order of approximately 0.5 seconds. The increase in RFC and delay, however, is considered to have an imperceptible impact on the operation of the junction, which is forecast to have spare capacity for the lifetime of the development.

There will be no indirect impacts during the construction and decommissioning phases of the development due to the low requirement for mobilisation of earth moving equipment to the site during these phases. It is considered that there will be no significant cumulative impacts with respect to the operation of the proposed development given that the site is removed from other significant projects including extractive, industrial or commercial development in the locality.

Staff movements will continue to generate 8 peak hour trips, 4 trips inbound in the morning and 4 trips outbound in the evening peak. Staff car movements have been distributed in accordance with the existing light vehicle distribution at the site access.

A total of 5 trips has been assumed to occur daily to cater for possible miscellaneous trips associated with the site. These miscellaneous trips allow for operations meetings, site inspections, maintenance operations for plant and machinery, etc. It is not considered that these trips would coincide with the peak hours, although they have been included in the development's peak hour traffic for the purpose of a robust traffic assessment.

Given the size of the proposed development, and the number of staff (4), the existing parking provision within the site is considered to be adequate to accommodate the expected demand. Quarry workers will park in the existing car park in the quarry adjacent to the weighbridge.

There are no existing pedestrian footways or cyclist provisions in place along the Slane Road in the vicinity of the quarry site.

Appropriate signage is provided to direct traffic within the quarry area via a one-way system as illustrated on the Site Layout EIAR Figure 3.1.

### 3.3.4 SITE INFRASTRUCTURE

The existing site infrastructure includes site entrance with c. 350 m long paved internal roadway, internal access roads, weighbridge, wheelwash, portacabin office, car park, mobile crushing, screening and wash plant, settlement lagoon system, and other ancillaries, which



will be maintained on-site for the duration of the works. An effluent treatment system also exists on-site (Refer to EIAR Figure 3.1).

The presence of the existing quarry means that there is little development works required apart from stripping of overburden and construction of perimeter screening berms.

A weighbridge has been provided to ensure that no trucks leaving the site will be overbaded (Refer to EIAR Figure 3.1).

The processing area is currently located on the floor of the quarry at c. 65 m OD in the southern section of the site, where mobile crushing and screening plant has been installed. The mobile crushing and screening plant is located within the quarry void so as to reduce handling of material and also has the benefit of screening these activities from outside views, and also mitigate impacts associated with noise and dust.

### 3.3.4.1 Site Utilities

Electrical power is supplied by mains electricity, which is provided by an existing 3 phase supply and pole mounted transformer on the southern boundary east of the quarry entrance (Refer to EIAR Figure 1.3). An overhead telephone line serving the property runs along the southern verge of the L1603 and connects with the site office (Refer to EIAR Figure 3.1).

The site is supplied by water from a well on-site (PW1). Additionally, potable water dispensers are supplied from bottled water suppliers.

With respect to dust suppression and any spray waters in the conveyor belts of the crushers/screening units, the on-site well and/or the site's stormwater sump provides the waters that do not need to be of potable water quality.

Domestic effluent generated by on-site office workers is treated by the wastewater treatment system (WWTS) providing secondary treatment (Tricel). This is located south of the portacabin office at the weighbridge. Treated effluent is disposed of via soil polishing filters. No existing services (water / telephone / power) will have to be relocated as part of this development.

### 3.3.4.2 Site Lighting

The lighting for this development will be that attached to any mobile equipment, to the processing plant and utilised by the site office. Lighting is also provided at the site entrance, car parking areas, wheelwash and weighbridge. For those short periods when the operation will be working into darkness (i.e., over winter months), the operators will ensure that sufficient lighting is provided to ensure safe operations. All lighting is/will be directed downwards and into the quarry. As most quarry activity will be below ground level, light pollution from site activity will be minimal.



### 3.3.5 EXCEPTIONAL OPERATIONS

There will be no major servicing of plant and machinery carried out on-site apart from routine maintenance and running repairs. 79-0

### 3.3.5.1 Accident Prevention and Emergency Response

As outlined in Section 3.3.3.1.2, the operator has put in place an Environmental Management System (EMS) that will address such matters as Emergency Preparedness & Response in dealing with accident and emergency situations resulting in impacts on the environment.

A copy of the Environmental Management Plan (EMP) for the Quarry is included in Appendix 13. In order to prevent and mitigate the environmental impacts of accidents and emergency situations, the Company has established and maintains procedures to identify and respond to these situations. The Emergency Preparedness and Response Depot Procedures Manual (DP004) details how this function is managed.

The Company will review and revise, where necessary its emergency preparedness and response procedures. Special emphasis will be placed on such reviews and revisions should an accident or emergency situation actually arise.

In addition to emergency response procedures developed, the Company will provide staff with emergency and event-based instructions. Management will also ensure that if an employee is absent from work that his or her roles in an emergency event is reassigned to another adequately trained employee. Breedon Ireland also has in place and Accident Prevention Policy (Refer to DP020, Appendix 13).

The purpose of this Accident Prevention Policy (APP) is to set out the policies of the Company in respect of Accident Prevention at Breedon Ireland sites. The objective of this APP is to outline the protection provided for man and the environment by appropriate means, structures and management systems. The key features of this objective are:

- No major accidents; •
- No "near miss" incident capable of leading to a major accident;
- No requirement to evacuate persons from areas on the site; and •
- No injury to neighbours or employees or damage to the environment as a result of • accidental emissions.



### 3.4 SITE RESTORATION, DECOMMISSIONING & AFTER

### 3.4.1 SITE RESTORATION

The development will be worked in a phased manner to ensure full implementation of the mitigation and restoration measures proposed. Plans and sections of the design and associated restoration are shown on EIAR Figures 3.1 to 3.3.

Site restoration allows vegetation to become established during the course of the development, thereby reducing the overall impact of the development (i.e., visual impact, dust impact, flora and fauna impact, etc.). It also has the added benefit to the operator of spreading out the cost of restoration over the life of the development.

A well-coordinated restoration process (in consultation with the GSI; Refer to EIAR Mitigation Summary Table 6.7) will ensure that representative areas of quarry faces are left unvegetated. Parts of the upper benches will also be seeded with suitable species of shrubs and climbers to create vegetated ledges. Vegetation and natural colonisation on these benches will encourage growth on the faces and will subsequently break up the natural harshness of the exposed rock face.

Cross sections through the site also illustrate the effectiveness of working the quarry top-down in successive benches, including provision of a temporary berm at 98m OD within the eastern extension area, with progressive restoration of the upper back southern face and existing stockpiling area to further reduce the visual impact of the development on the surroundings (Refer to EIAR Figures 3.1 to 3.3).

The proposed development will enable the operator to fully complete the restoration of both the existing quarry and the proposed development to beneficial after-use. Plans and sections of the design and associated restoration are shown on EIAR Figures 3.1 to 3.3. This will ensure that the upper back face is restored at the earliest opportunity, that the working face is not open to view, and that as the quarry pushes northwards only the restored upper face will be revealed as quarrying progresses to the limit of extraction.

Further information on the restoration scheme is given in Section 3.4.2 below – Final Site Restoration Scheme and Section 11 – Landscape.



### 3.4.2 FINAL SITE RESTORATION SCHEME

The main aim of the restoration is to minimise the impact of quarrying on the existing landscape of the area, both now and into the future. As discussed in previous sections, restoration of the site will be carried out in a progressive fashion over the life of the operation (Refer to Section 3.4.1). Figure 3.2 shows the final layout of the restoration scheme at cessation of extraction operations, while EIAR Figure 3.3 shows sections through this restoration.

Final restoration will involve removal of the site infrastructure, including hard standings, fuel storage, site offices, wheelwash, weighbridge and other ancillaries.

It is anticipated that final restoration will be achieved within 2 years of completion of extraction operations. Final restoration will be to a beneficial after-use as a secure wildlife amenity with water feature. A detailed restoration and landscaping plan has been prepared as part of the application (Refer to EIAR Figure 3.2).

The EMS, including environmental monitoring (Surface & Groundwater only), shall remain in place and will continue to be actively implemented during the closure period.

### 3.4.3 LONG TERM SAFETY, STABILITY & SECURITY

A detailed working scheme / restoration plan has been prepared (Refer to Figures 3.1 to 3.3). In preparing the design, standard criteria were adopted with regard to face slopes, standoffs to site boundaries, etc. The final quarry face angles have been assessed by a geotechnical engineer to ensure long-term stability after completion of extraction operations. The stability of restored faces observed in the existing quarry indicates that the long-term stability of the final quarry faces will be satisfactory in this geological environment.

All components of the barrier system for the site protection outlined in Section 3.3.3.11 above will remain in place after quarry operations have ceased. The growth of vegetation over the duration of the operation will have created a thick, virtually impenetrable barrier around the site. This, in conjunction with the other barriers, is considered sufficient to prevent unauthorised access to the restored quarry.

### 3.4.4 LONG TERM WATER MANAGEMENT

The final site restoration will contain a landscaped woodland / amenity with water feature.

The intention is to create a habitat suitable for aquatic life and birds, such that the disused workings will eventually become of considerable amenity value. Some of the methods to be employed are detailed on the Restoration Plan EIAR Figure 3.2.

There will be no requirement for long-term water management following a short period of aftercare and monitoring.

### 3.4.5 DECOMMISSIONING

Redundant structures, plant equipment and stockpiles will be removed from site on cessation of quarrying activity. Plant and machinery will either be utilised by Lagan on other sites or sold as working machinery or scrap. In the case of machinery to be scrapped, all contaminants will be



removed, drained or flushed from all plant, tanks and pipelines. All residues containing fuels, oils and other contaminants will be removed off-site by a licensed waste contractor for recovery or disposal.

As part of the decommissioning process, all fuel and oil storage tanks will be removed from the site by a licensed waste contractor. The WWTS will also be removed from the site. Therefore, there will be no potential for fuel, oil or sewage to cause long-term water potential following cessation of quarrying and ancillary activities on-site.

The former plant areas will be restored using topsoil / overburden and planted with a mixture of native trees and shrubs.

The EMS shall remain in place and will continue to be actively implemented during the closure period.

### 3.4.6 AFTERCARE & MONITORING

There will be no on-going requirement for environmental monitoring after extraction operations have ceased.

A final site inspection 2 years after site closure will be carried out to ensure that the final site restoration scheme implemented is functioning and progressing as required.

It is evident from the above description, given the relatively short-term measures necessary to close the site satisfactorily, that there will be no environmental liabilities once closure, decommissioning and residuals management are completed.



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### 3.5 CHANGES TO THE PROJECT

The proposed development has taken into consideration the application area as a whole. It is considered that given appropriate stand-offs to sensitive receptors within the vicinity that the application area can accommodate the extraction area as proposed. Further development outside of the identified application area is restricted by the extent of the greywacke resource (i.e., the workable resource), land ownership, proximity to a high voltage transmission line and residential property.

Continuation of quarrying operations in accordance with the scheme proposed will provide for the security of the existing business of Breedon Ireland for the full duration of the permission being sought, i.e., 20 years plus 2 years to complete final restoration. Lobinstown Quarry is an important component in Breedon Ireland's future business model.

No future expansion of the development is expected, and the site will be decommissioned, and the lands will be restored in accordance with a Restoration Scheme agreed with the Planning Authority.

### 3.6 DESCRIPTION OF RELATED PROJECTS

In June 2022, Breedon were granted planning permission to develop a readymix concrete plant in the northern section of the quarry (P.A. Ref. 22/328). However, this concrete plant has not been developed to date. This development once constructed will be subject to compliance with a separate planning permission and is only considered here as it will form part of the integrated quarry development works on-site (Refer to Section 3.3.1.6 above).

In December 2023, Breedon were granted planning permission for construction of a new single storey office building and associated ancillary works (P.A. Ref. 23/917) adjacent to the quarry entrance onto the L1603 local road.

From a planning perspective, it is generally preferred that value added facilities are located on the site of aggregate extraction. This results in reduced materials handling and road transport impacts, as it is not necessary to export aggregates to other locations with value added facilities.

There are no required or apparent opportunities for any further associated developments at this time.



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### 3.7 CUMULATIVE IMPACT

Cumulative effects are defined as the addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects (Refer to Appendix 3).

There are several quarries in the wider area, including O'Reilly Concrete Lobinstown Quarry c. 2.5 km to the west (currently in final stages of restoration), Roadstone's Slane Quarry 7 km to the south, an unidentified quarry at Knockmooney on the N2 c. 8.5 km to the southeast and a disused quarry, now operating as an SRF, at Mullaghdillon c. 6 km to the southeast. The only significant industrial/commercial activity within 5 km of the site is the industrial/warehouse estate in Grangegeeth, c. 4.5 km to the southeast.

The nearest substantial commercial activity is Meade Farm Group's Packing, Storage and Distribution facility c. 1.25 km northeast of the site at Braystown. The substantial facility employs c. 340 employees. Whites Auto Electrical have a small commercial unit in Matthews Transport Yard, Heronstown, c. 800 m north of the site on the L1603 (c. 185 m north of McEntegart's Cross Roads). PS Supplies, which is a company supplying doors and floors based in Navan, maintains a small commercial unit in Lobinstown Village, while Myles Staircases Ltd. also maintains a workshop and showroom c. 785 m south of the site on the L1603.

There are also other developments nearby, including solar farms, both existing and proposed, that could give rise to potential cumulative impacts. However, these developments are subject to planning and/or the requirements for EIA and are subject to compliance with both planning and licensing conditions. There is no other significant industrial/commercial activity within a 5 km radius of Lobinstown Quarry.

It should also be noted that in preparation of the traffic assessment (Refer to EIAR Section 14), traffic counts would have captured and taken into consideration existing traffic on the local and regional network, which would include traffic generated by other commercial and industrial operations in the area.

Given the nature of the proposed development, compliance with the mitigation measures specified in the EIAR and the best practice measures that will be implemented during the Construction, Operational and Decommissioning Stages of the proposed development, it is considered highly unlikely that any significant cumulative impacts will arise as a result of the proposed development. Thus, it is our assessment that there will be no significant cumulative impacts with respect to the environment resulting from the proposed development in combination with other local existing developments, quarries, projects and plans.

An EMS, which is accredited to ISO 14001 standard, is in place at Lobinstown Quarry. It addresses monitoring of water, noise & vibration and dust, and may be revised to comply with any new condition of planning. The potential cumulative impacts will be assessed through the existing environmental monitoring programmes that have been established in compliance with the planning permission associated with the quarry. Mitigation measures are also in place at Lobinstown Quarry and included in the EMS. Continual monitoring and measurement will ensure the effective application of these mitigation measures and ensure that activities at Lobinstown Quarry should not result in any significant cumulative impact.



Cumulative impacts associated with other developments within the wider area are dealt with where necessary under the respective topic in the EIAR.

A separate Cumulative Impacts Assessment has been included as Appendix 15, which provides an assessment of other projects located within the wider area that are potentially significant with respect to cumulative impacts.



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### 3.9 FIGURES









