Lobinstown Quarry

Environmental Impact Assessment Report

Section 14

Roads & Traffic

2024

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14.1 INTRODUCTION

14.1.1 GENERAL

This section of the EIAR describes the road and traffic environment of the proposed quarry development at Heronstown, Lobinstown, Navan, Co. Meath ('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.

Blasting will continue to be used as the method of extraction, to fragment the rock prior to crushing, screening and aggregate rinsing using mobile plant on the quarry floor. 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 washing plant, settlement lagoon system, and other ancillaries, which will be maintained onsite for the duration of the works. An effluent treatment system also exists on-site (Refer to EIAR Figure 3.1).

PMCE Ltd were commissioned by Breedon Ireland to undertake a review of the traffic impacts associated with the proposed development.

This report has been prepared by Mr. Alan O'Reilly BA BAI MSc PGDip(PM) CEng MIEI RSACert. Alan is a Chartered Engineer with PMCE, and has over 10 years' experience in the area of Traffic and Transport Engineering including Road Safety Audits, Traffic and Transport Assessments, Collision Investigation and Road Design. Alan also has extensive experience working on road safety schemes in the UK and the Middle East.

14.1.2 SCOPE

The objective of this chapter is to examine the traffic implications associated with the proposed development in terms of its integration with existing traffic in the area. The chapter determines and quantifies the extent of additional trips generated by the development, and the impact on operational performance of such trips on the local road network.

14.1.3 METHODOLOGY

The methodology adopted for this assessment involved, in brief:

- A site visit on the 5th of April 2023, at which time the weather was dry and the ground surface was damp.
- Trip Generation and Trip Assignment – This is used to derive trip rates for both the AM and PM Peaks and to provide information as to which direction of travel vehicles will travel to/from the Lobinstown Quarry.
- Link Capacity Assessment – To obtain an AADT value for the main road linking the development to the surrounding network.
- Existing Traffic Assessment – The traffic count data were used to develop Junctions 9 models for the assessed junction.
- Future Year Assessments – The estimated future year volumes on the study area network, as a result of the increase in background traffic and any site related traffic, was used to assess the future operational performance of the junctions and surrounding road network for 2024, and at three future assessment years: current year +5 (2029), current year +15 (2039), and the current year +20 (2044).

14.1.4 LOCATION PLAN

Figure 14.1 shows the location of the proposed extension and the existing Lobinstown Quarry at Heronstown, Navan, Co. Meath and the surrounding road network.

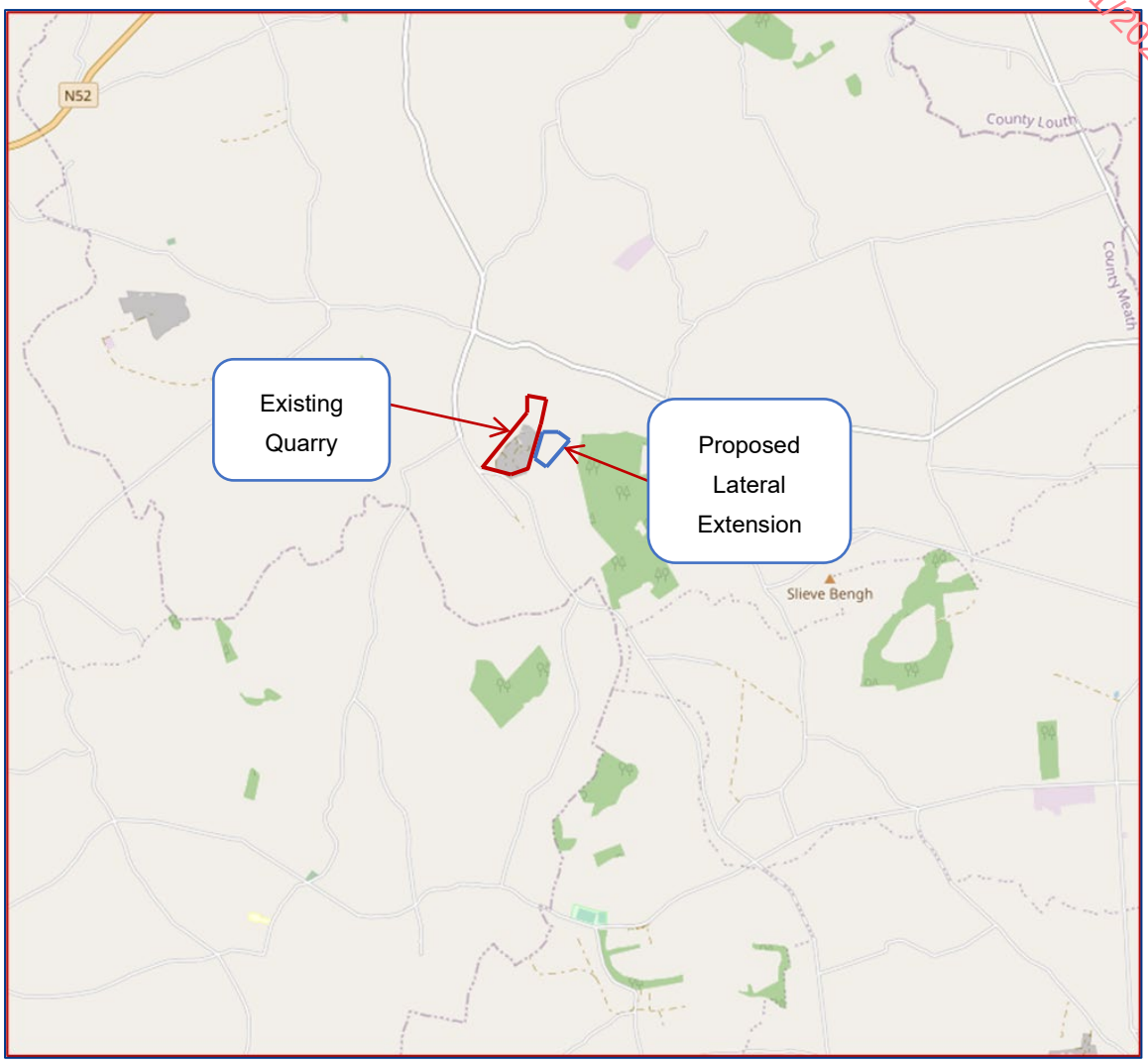

Figure 14.1 Location Plan of Quarry at Lobinstown (Source: www.openstreetmap.org)

14.2 EXISTING CONDITIONS

14.2.1 THE SITE

The area surrounding the quarry site is used primarily for agricultural purposes. The closest large residential settlement to the site is Lobinstown, which is located c. 2 km to the northwest. Ribbon developments are evident around junctions at Rathkenny and Lobinstown, 3.2 km southwest and 2.0 km northwest of the site, respectively.

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 Figure 4.1).

The material quarried at the site comprises a high Polished Stone Value (PSV) greywacke gritstone.

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 washing plant, settlement lagoon system, and other ancillaries, which will be maintained onsite for the duration of the works

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 from 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.

14.2.2 EXISTING ROAD NETWORK

The existing road network around the quarry comprises rural local roads. 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.

14.2.2.1 L1603 Local Road

The L1603 is a local road from which the Lobinstown Quarry is accessed. The road is approximately 14 km in length and runs in a north-south direction, extending from the N52 in the north to the N51, approximately 1 km west of Slane, in the south. The L1603 is known as

the Slane Road south of the McEntaggart's Crossroads junction, in the vicinity of the site access.

The Slane Road is a two-way single carriageway road approximately 6 m wide. There are no hard shoulders or footpaths provided on either side of the road in the vicinity of the site access.

Figure 14.2 Slane Road (Sally Gardens Crossroads, c. 3.5km south) Looking northwards towards the site

14.2.2.2 L1604 Local Road

The L1604 is a local road that intersects the L1603 at the McEntaggart's Crossroads junction to the north of the site access. The road is approximately 10 km in length and runs in an east-west direction, extending from the N52 in the west to Leaby Cross in the east. The L1604 is known as the Collon Road to the east of the McEntaggart's Crossroads junction.

The Collon Road is a two-way single carriageway road approximately 5.5 m wide. There are no hard shoulders or footpaths provided on either side of the Collen Road in the vicinity of the McEntaggart's Crossroads junction.

Figure 14.3 Slane Road at McEntaggart's Crossroads Looking southwards towards the site

14.2.3 TRAFFIC VOLUMES

Traffic Counts (12-hour classified junction turning counts) were carried out on Tuesday the 14th of March 2023 at three junctions, including the McEntaggart's Crossroads, the Quarry Access on the L1603 and the Sally Gardens Crossroads. Each of the traffic surveys were carried out between 7:00 am and 7:00 pm, which includes the peak hours on the adjacent road network. Surveyed vehicles were broken down into five categories as follows:

- Cars
- LGVs (Light Goods Vehicles)
- OGV1 (Two and three axle goods vehicles)
- OGV2 (Four and five axle goods vehicles)
- Buses.

The morning and evening peak hours have been established as follows:

- **4-Arm Crossroads Junction of the Ardee Road/Slane Road and Collon Road (referred to as the 'McEntaggart's Crossroads Junction' in this report)** – 08:15 to 09:15 (AM Peak) and 17:00 to 18:00 (PM Peak)
- **3-Arm T-Junction of the Slane Road and Lobinstown Quarry Access (referred to as the 'Quarry Access Junction' in this report)** – 07:30 to 08:30 (AM Peak) and 16:45 to 17:45 (PM Peak)
- **4-Arm Crossroads Junction of the Slane Road and the Drogheda Road/Rathkenny Road (referred to as the 'Sally Gardens Crossroads Junction' in this report)** – 07:30 to 08:30 (AM Peak) and 16:45 to 17:45 (PM Peak)

The count data for each site have been converted to Annual Average Daily Traffic (AADT) values using the methodology described in "Expansion Factors for Short Period Traffic Counts" (Unit 16.1 NRA Project Appraisal Guidelines, October 2016). Annexes A to C of the above document were used in the expansion of traffic counts to AADTs. The AADT was calculated to determine the percentage increase in traffic volumes on the road network as a result of the trips generated by the proposed development.

A combined factor of 0.811 was arrived at by combining the individual hourly factors for the count duration. This factor was then used to determine the 24-hour traffic flow. This was then converted to a Weekly Average Daily Traffic (WADT) using an index of 0.97 for the Tuesday traffic count. Finally, this was converted to AADT using an index of 1.02 for the month of March. These factors were used to calculate the AADT for each of the 3 junctions.

The resulting AADT figures at each junction are provided below.

Table 14.1 AADTS at the McEntaggart's Crossroads Junction

Hour Ending	Ardee Rd (N).	Collon Rd. (E)	Slane Rd (S).	Collon Rd. (W)
08:00	109	58	80	65
09:00	158	110	114	118
10:00	108	96	75	61
11:00	79	58	69	74
12:00	92	52	62	58
13:00	92	51	57	74
14:00	98	84	60	78
15:00	122	89	85	94
16:00	121	61	76	92
17:00	110	72	93	73
18:00	184	100	130	106
19:00	110	58	83	85
Period Total	1,383	889	984	978
Period Total HGVs	137	65	136	78
% HGVs	9.9%	7.3%	13.8%	8.0%
Total AADT	1,688	1,085	1,201	1,194

Table 14.2 AADTS at the Quarry Access Junction

Hour Ending	Slane Rd.
08:00	67
09:00	95
10:00	65
11:00	52
12:00	60
13:00	47
14:00	55
15:00	77
16:00	64
17:00	79
18:00	120
19:00	73
Period Total	**854**
Period Total HGVs	**89**
% HGVs	**10.4%**
Total AADT	**1,042**

Table 14.3 AADTS at the Sally Gardens Crossroads Junction

Hour Ending	Slane Rd. (N)	Drogheda Rd.	Slane Rd. (S)	Rathkenny Rd.
08:00	91	65	101	44
09:00	116	86	117	45
10:00	75	59	72	38
11:00	56	37	59	16
12:00	66	48	64	34
13:00	61	57	80	38
14:00	73	48	81	26
15:00	80	65	97	40
16:00	75	52	79	32
17:00	101	87	104	54
18:00	129	93	161	57
19:00	96	75	119	60
Period Total	1,019	772	1,134	481
Period Total HGVs	137	86	136	53
% HGVs	13.4%	11.1%	12.0%	11.0%
Total AADT	1,244	942	1,384	587

14.3 PROPOSED DEVELOPMENT

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.

Blasting will continue to be used as the method of extraction, to fragment the rock prior to crushing, screening and aggregate washing using mobile plant on the quarry floor. 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 washing plant, settlement lagoon system, and other ancillaries, which will be maintained onsite for the duration of the works. An effluent treatment system also exists on-site (Refer to EIAR Figure 3.1).

14.3.1 TRIP GENERATION

The application seeks an annual extraction rate of up to 300,000 tonnes of material from the site. In determining the daily traffic volumes associated with the development, an average of 43 loads per weekday from the site has been calculated based on the following assumptions:-

- The facility will operate for 50 weeks per year.
- Material will be transported from the site in both 20 tonne and 28 tonne loads (25 tonne load average assumed).
- The facility will operate for 5.5 days per week (Monday to Saturday) inclusive.
- The facility opening times will be 07:00 to 18:00 on Monday to Friday and 07:00 to 14:00 on Saturday.

Table 14.4 Proposed Exported Material

Exported Quantities	
Quantity per annum (tonnes)	300,000
Quantity per week (tonnes) (50 operational weeks / year)	6,000
Loads per week (25 tonnes / load)	240
Loads per hour (62 working hours / week)	4 (3.87)
Loads per weekday (11 working hours / weekday)	43 (42.57)

14.3.1.1 Ready-mix Concrete Batching Plant

As mentioned in Section 14.2.1, a ready-mix concrete batching plant is permitted at the site under Planning Ref. No. 22328; however this plant has not been constructed to date. The 'Planning & Environmental Report' issued as part of the planning application associated with this batching plant outlines the additional HGV movements that would be generated by the batching plant, when constructed, and Table 14.5 below has been extracted from Section 6.11 of this report to show the volume of HGV traffic generated on a weekday.

The ready-mix concrete batching plant was therefore found to generate 28 HGV trips at the quarry site for an average weekday.

Table 14.5 Concrete Batching Plant Weekday HGV Traffic Generation

	Daily Trips (rounded up)	Daily Movements
Imports		
Cement	1	2
Sand	2	4
Admixtures	1	2
Exports		
Ready-mix	10	20

14.3.1.2 Staff Trips

The quarry will continue to employ 4 staff members and it is not anticipated that these numbers will increase. Staff movements will therefore 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.

14.3.1.3 Miscellaneous Trips

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, however, for a robust traffic assessment they have been included in the development's peak hour traffic.

14.3.1.4 Derived Trip Rate

The total daily trips associated with the quarry operation accounts for 132 movements daily, 114 of which relate to HGVs (86.4%). These numbers are arrived at by summing the following components:

- 86 daily truck movements, associated with the export of materials from the quarry, enter and exit the site.
- 28 daily truck movements, associated with the ready-mix concrete batching plant, enter and exit the site.
- 8 staff trips daily.
- 10 miscellaneous trips daily.

14.3.2 TRIP DISTRIBUTION

The TRICS database was used to derive the forecast arrivals/departures distribution at the quarry. By inspection, it can be seen that the pattern of arrivals/departures is consistent with a short turnaround within the site, e.g., that vehicles generally arrive and depart within a short time period, likely to be less than an hour.

The distribution of the development traffic on the adjacent road network is based on an assessment of the existing traffic flows at the site access derived from the traffic count data. Table 14.6 details the trip distribution that has been applied to the development traffic as part of the junction capacity analysis.

Table 14.6 Summary of Predicted Daily Trips in Opening Year and Beyond

Development	Type of Traffic	Daily Trips	
		Arrivals	Departures
Quarry	Transportation of Material (HGVs)	43	43
	Staff (LVs)	4	4
	Miscellaneous (LVs)	5	5
Concrete Batching Plant	Transportation of Material (HGVs)	14	14
Total		66	66

14.3.3 TRIP ASSIGNMENT

The distribution of the development traffic on the adjacent road network is based on an assessment of the existing traffic flows at the site access derived from the traffic count data. The traffic assignments are illustrated in Figure 14.4.

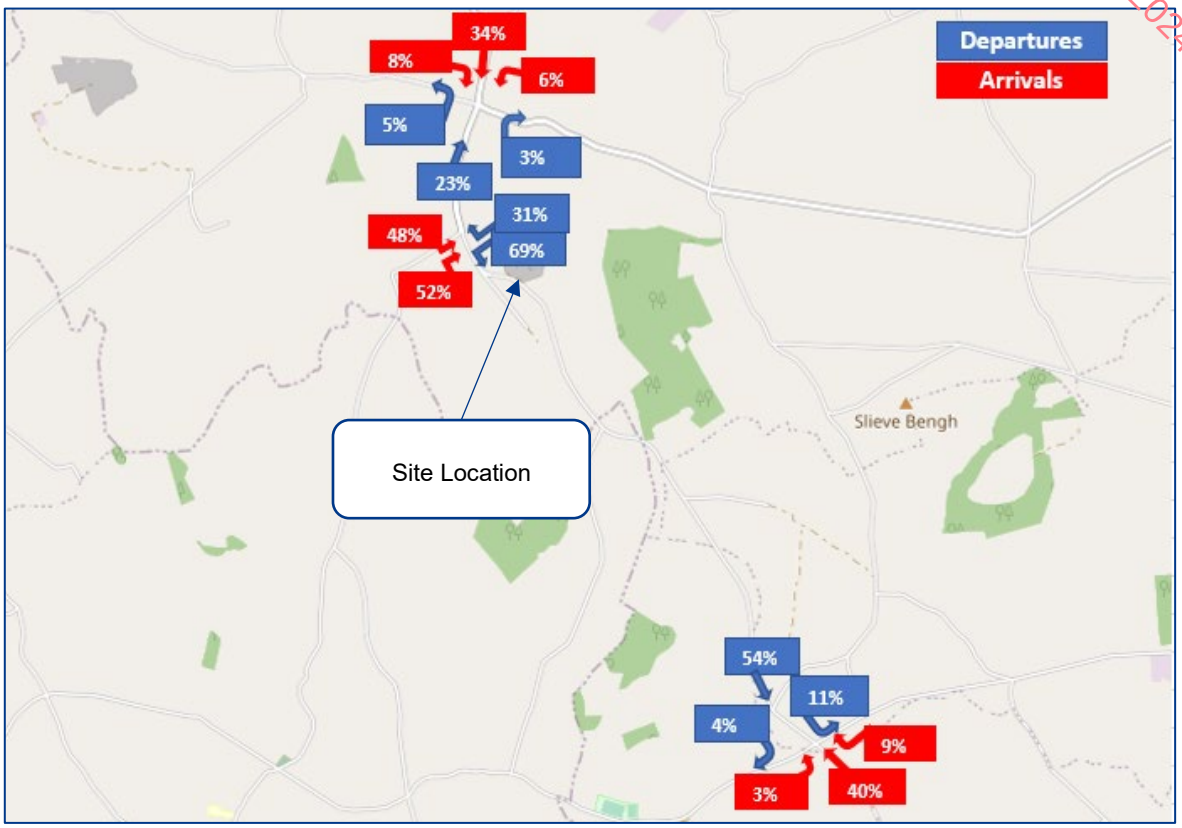

Figure 14.4. Assignment of Development Traffic throughout the Adjacent Road Network

14.3.4 SCOPE OF ASSESSMENT

Section 2.1 of the "Traffic and Transport Assessment Guidelines" published by Transport Infrastructure Ireland recommends that in a rural setting that a traffic assessment should cover all of the roads and junctions where the development traffic exceeds 10% of background traffic.

Figure 14.5 outlines the distributed development traffic as a percentage of the background traffic on the adjacent road network.

As can be seen from Figure 14.5, the development traffic does not exceed 10% of the background traffic at any of the three junctions where traffic counts were undertaken. However, to ensure a robust assessment is undertaken, junction capacity at the Quarry Access junction has been assessed (Refer to Section 14.4.4.1 below).

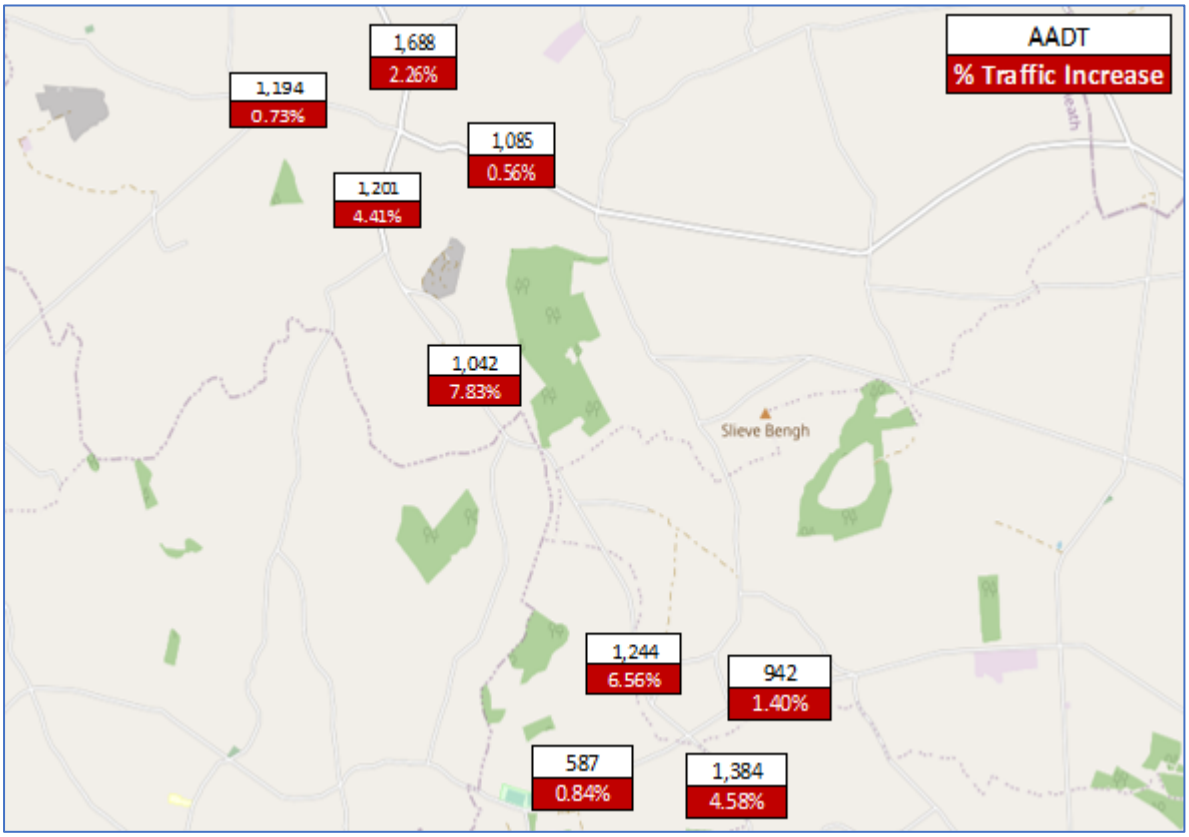

Figure 14.5: AADT and Development Traffic as a Percentage of Existing Traffic.

14.4 ROAD IMPACTS

14.4.1 ASSESSMENT YEARS

The “Traffic and Transport Assessment Guidelines” published by Transport Infrastructure Ireland recommend the assessment of traffic in the Opening Year, for the Opening Year +5 years and the Opening Year +15 years. For the purpose of this traffic assessment the term “Opening Year” refers to development subject to any future grant of planning permission pending the outcome of this application.

As per Section 4.9 of the “Quarries and Ancillary Activities Guidelines for Planning Authorities” (2004) published by the Department of the Environment, Heritage and Local Government, where the expected life of a proposed quarry exceeds 5 years it will normally be appropriate to grant permission for a longer period (such as 10–20 years). To accommodate this guidance, the traffic in the Opening Year +20 years has also been included in this assessment.

The assessment years for the impact assessment are therefore 2024 for the assumed Opening Year, and 2029, 2039, and 2044 for the Future Assessment Years.

14.4.2 TRAFFIC GROWTH

The "Project Appraisal Guidelines - Unit 5.3 – Travel Demand Projections (PE-PAG-02017)" published by TII in October 2021 have been used to determine future year traffic flows on the network from the 2023 traffic count.

Table 14.7 contains a summary of the traffic growth factors published in the "Project Appraisal Guidelines." For this assessment, a central growth scenario has been adopted (a ‘central’ growth scenario was assumed given the site location and scale).

Table 14.7 Future Year Traffic Growth Figures (Co. Meath)

Year	Low Growth		Central Growth		High Growth	
	LV	HV	LV	HV	LV	HV
2016 - 2030	1.0156	1.0349	**1.0173**	**1.0365**	1.0205	1.0400
2030 - 2040	1.0052	1.0164	**1.0070**	**1.0186**	1.0108	1.0226
2040 - 2050	1.0043	1.0189	**1.0059**	**1.0207**	1.0116	1.0304

14.4.3 LINK CAPACITY ASSESSMENT

The TII Publications document reference DN-GEO-03031 provides guidance on recommended rural road layouts in its Table 6.1. It advises that the capacity of a Type 3 Single Carriageway Road with 6m cross-section is 5,000 AADT for a Level of Service (LOS) D. The Slane Road, adjacent to the site, has an average cross-section width of approximately 6m with no hard shoulders present. Therefore, the Slane Road is considered to be most similar to the

Type 3 Single Carriageway cross-section in this document with a capacity of 5,000 AADT for Level of Service D.

The combined background and site traffic volumes, outlined in Table 14.8 for each of the assessment years is less than the LOS D capacity of 5,000 AADT for a Type 3 Single Carriageway. It is considered, therefore, that the Slane Road will operate within capacity for each of the assessment years.

Table 14.8 Combined AADT for Each Assessment Year (Slane Road)

	Assessment Year			
	2024	**2029**	**2039**	**2044**
Background Traffic	1,062	1,170	1,272	1,322
Additional Development Traffic	132	132	132	132
Combined Traffic (Background + Additional Dev. Traffic)	1,194	1,302	1,404	1,454
Additional Traffic as % of Combined Traffic	11.06%	10.14%	9.40%	9.08%

14.4.4 JUNCTION CAPACITY ASSESSMENT

The capacity of the surveyed junctions was assessed using the Transport Research Laboratory's (TRL) Junctions 9 computer programme.

Junction performance is measured as a ratio between the flow and capacity (RFC). The capacity analysis has been carried out for a period of 12 hours, which corresponds to the operational hours of the quarry for each of the assessment years (2024, 2029, 2039, and 2044). A rural junction with an RFC below 0.85 is considered to be operating within capacity, and an RFC of 0.85 indicates a junction operating at capacity.

The capacity of a stream or arm of a junction refers to the maximum flow of vehicles entering the junction, within a given time period and is based on the formula given in LR942 (Kimber, 1980). The formulae describing the theoretical capacity of a junction were derived empirically and have a ±15% confidence interval. Consequently, the standard approach to junction capacity analysis, for priority-controlled junctions, uses an RFC of 0.85 to describe the theoretical maximum capacity, however in reality there may be additional capacity above this level.

Where the flow on an arm, in a given time period, exceeds the theoretical capacity this will result in increased time to traverse the junction, leading to delays and queues forming. In normal operation, queues forming at a junction will dissipate over time as the volume of vehicles arriving at the junction fall below the available capacity.

The capacity of a signalised junction can also be measured by its Level of Service (LOS). The LOS is denoted by a letter ranging from A – F. The following list describes the traffic conditions on a road network for each LOS:

- LOS A: Free-flow traffic with individual users virtually unaffected by the presence of others in the traffic stream (free-flow)
- LOS B: Stable traffic flow with a high degree of freedom to select speed and operating conditions but with some influence from other users (reasonably free flow)
- LOS C: Restricted flow that remains stable but with significant interactions with others in the traffic stream. The general level of comfort and convenience declines noticeably at this level (stable flow)
- LOS D: High-density flow in which speed and freedom to manoeuvre are severely restricted and comfort and convenience have declined even though flow remains stable (approaching unstable flow)
- LOS E: Unstable flow at, or near, capacity levels with poor levels of comfort and convenience (unstable flow)
- LOS F: Forced traffic flow in which the amount of traffic approaching a point exceeds the amount that can be served. This is characterised by stop-and-go waves, poor travel times and low comfort and convenience (forced or breakdown flow).

It is therefore considered that a junction operating at a LOS E is close to, or at, capacity and a junction operating at LOS F is considered to be above capacity.

14.4.4.1 QUARRY ACCESS JUNCTION

A summary of the junction capacity analysis results for the T-Junction of the Quarry Access and L1603 are shown in Table 14.9. The results indicate that the junction will continue to operate within capacity for each of the assessment years 2024, 2029, 2039, and 2044.

Table 14.9 Summary of Traffic Analysis at the Quarry Access Junction

	12 Hours (07:00 – 19:00)			
	Queue (Veh)	**Delay (s)**	**RFC**	**LOS**
Stream	**2024 Without Development**			
Quarry Access – Slane Road (N)/Slane Road (S)	0.0	10.60	0.02	B
Slane Road (S) – Slane Road (N)/Quarry Access	0.0	14.40	0.02	B
Stream	**2024 With Development**			
Quarry Access – Slane Road (N)/Slane Road (S)	0.0	10.64	0.03	B
Slane Road (S) – Slane Road (N)/Quarry Access	0.0	14.46	0.03	B
Stream	**2029 Without Development**			
Quarry Access – Slane Road (N)/Slane Road (S)	0.0	10.64	0.02	B
Slane Road (S) – Slane Road (N)/Quarry Access	0.0	14.42	0.02	B
Stream	**2029 With Development**			
Quarry Access – Slane Road (N)/Slane Road (S)	0.0	10.69	0.03	B
Slane Road (S) – Slane Road (N)/Quarry Access	0.0	14.48	0.03	B
Stream	**2039 Without Development**			
Quarry Access – Slane Road (N)/Slane Road (S)	0.0	10.68	0.02	B
Slane Road (S) – Slane Road (N)/Quarry Access	0.0	14.44	0.02	B
Stream	**2039 With Development**			
Quarry Access – Slane Road (N)/Slane Road (S)	0.0	10.73	0.03	B
Slane Road (S) – Slane Road (N)/Quarry Access	0.0	14.50	0.03	B
Stream	**2044 Without Development**			
Quarry Access – Slane Road (N)/Slane Road (S)	0.0	10.70	0.02	B
Slane Road (S) – Slane Road (N)/Quarry Access	0.0	14.46	0.02	B
Stream	**2044 With Development**			
Quarry Access – Slane Road (N)/Slane Road (S)	0.0	10.75	0.03	B
Slane Road (S) – Slane Road (N)/Quarry Access	0.0	14.51	0.03	B

14.4.5 SIGHTLINES

Sightlines have been assessed at the site access in accordance with Section 5.6.3 of TII Publications document DN-GEO-03060, which requires 160 m of unobstructed visibility (where the design speed is 85 kph) at a point 3.0 m back from the edge of the carriageway.

The posted speed limit on the L1603 is 80 kph. According to TII Publication Document DN-GEO-03060, a road with a design speed of 85 kph requires 160 m of unobstructed visibility in each direction. Visibility to the north (right) and south (left) from the quarry access is adequate for the design speed on the Slane Road, with sightlines in excess of 160 m being available in each direction.

Figure 14.6 Forward Visibility (NB) for Right-turners entering the Quarry

Figure 14.7 Visibility to the South (Left) and North (Right) from the Site Access

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.

14.4.6 PARKING

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.

Provision will be 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.

14.4.7 PUBLIC TRANSPORT

There are no existing public transport provisions in place in the vicinity of the site.

14.4.8 PEDESTRIANS & CYCLISTS

There are no existing pedestrian footways or cyclist provisions in place along the Slane Road in the vicinity of the quarry site. However, it is not envisaged that there is a desire line for pedestrians and cyclists to/from the quarry.

Eight sheltered bicycle parking spaces may be provided to the East End of the new office building (P.A Ref. 23/917).

14.5 ASSESSMENT OF IMPACTS

The following Impact Assessment matrix provides an indication of the significance of potential effects arising during the life cycle of the development not accounting for any mitigation measures.

The impact of the proposed development on the local, regional and national road network has been assessed for the continued operation of the proposed extension at the Lobinstown Quarry. The quarry, which is proposed to be extended, is an existing site that is currently operational with all of the facilities and plant needed to undertake the extension currently on site. As such, any construction traffic required shall be very low, and included within the additional HGV trips assessed under the future operational phase. Therefore, the impacts of the Operational Phase only for the proposed extension have been assessed.

Table 14.10 Traffic Impact Assessment During Operational Phase

'Do Nothing' Impacts	**x**
Direct Impacts	**x**
Indirect Impacts	**x**
Cumulative Impacts	**x**
Residual Impacts	**x**
`Worst Case' Impacts	**●**

None/imperceptible: x; Slight: ●; Moderate: ●; Significant/Very significant: ●.

Refer to Appendix 3 for definition of Significance

14.5.1 'DO-NOTHING' IMPACTS

The 'Do Nothing' impacts will be none or imperceptible as the quarry development will remain as it exists today. Table 14.9 shows the results of the junction capacity analysis at the quarry access both with, and without, the proposed development. The results of this analysis indicate that, should the quarry development maintain its current layout, and operations, it will continue to operate within capacity, and without any additional impacts on the surrounding road network.

Under the 'Do Nothing' scenario, all existing quarrying and ancillary activities would continue for the duration of the existing planning permission relating to the quarry and the site would continue to have a negligible impact on the surrounding road network. The site would be restored as per the requirements of the existing planning permission (P.A. Ref. LB200106). There would be a slight, temporary impact from the decommissioning and restoration phases.

If the continuing use of the quarry did not proceed, the local supply of good quality aggregates would be more restricted resulting in the need to transport aggregates from more remote locations to meet demand in the region.

14.5.2 DIRECT IMPACTS

Increasing the extraction rate by an additional 100,000 tonnes per annum would, therefore, result in a consequent increase in traffic volumes in the order of 15 vehicles a day, all of which would be HGVs. It would be most pronounced along the Slane Road from the site entrance to the Sally Gardens crossroads junction to the southeast.

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 quarry site 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 Table 14.8 and Table 14.9). The existing capacity of the adjacent road network has been shown to accommodate 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 capacity 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.

14.5.3 INDIRECT IMPACTS

The volume of traffic generated by the proposed development will result in an increase in the total daily vehicle flow to 66 vehicles, resulting in 132 daily trips. It has been shown that this increase can be accommodated by the local road network.

There will be no indirect impacts during the construction and decommissioning phases of the development due to the low requirement for mobilisation of earthmoving equipment to the site during these phases.

14.5.4 CUMULATIVE IMPACTS

It should be noted that in preparation of the above traffic assessment that traffic counts would have taken into consideration existing traffic on the local and regional network including traffic generated by other commercial and industrial operations. As such continuance of use of the quarry and associated concrete product manufacturing facility is not considered to result in in any additional cumulative impact.

There will be no cumulative impacts resulting from the proposed development during the operational, or decommissioning phases of the proposed development.

14.5.5 TRANSBOUNDARY IMPACTS

The EIA Directive 2014-52-EU invokes the Espoo Convention on Environmental Impact Assessment in a Transboundary Context, 1991, and applies its definition of transboundary impacts. Given the location (c. 30 km from the border with N. Ireland), nature, size, and scale of the proposed development, it is expected that the impacts of the development would not have any significant transboundary effects on traffic and roads.

14.5.6 RESIDUAL IMPACTS

As a result of the proposed mitigation and enhancement measures incorporated in the design, no significant, adverse residual impacts are predicted in terms of roads and traffic during the operational phase.

It is considered that following full restoration and closure of the site that there will also be no significant, long-term, adverse impacts in terms of the local road network. The restored quarry will provide a change in land-use from mineral extraction to a beneficial after-use as a wildlife amenity.

14.5.7 'WORST-CASE' IMPACTS

It is considered that the Worst-Case Impact of the development could be the accelerated deterioration of the pavement along the Slane Road due to increased HGV traffic, particularly at the site entrance. This may require maintenance works during the life of the development. The mechanism for dealing with this long-term maintenance issue can be incorporated in a planning condition to be agreed with the Road Engineering Department of Meath County Council.

14.6 MITIGATION

The proposed development at the existing quarry site will generate increased traffic movements on the surrounding road network. A number of mitigation measures will be put in place to reduce the impacts of quarry traffic on the local road network. The mitigation measures proposed are as follows:

- The Slane Road, in the vicinity of the entrance, will be mechanically swept on a regular basis.
- The pavement in the vicinity of the existing quarry is in good condition and will be reviewed with the Roads Section of Meath County Council at an agreed frequency.
- The parking requirements for the proposed development mainly relate to the quarry employees and visitors. It is proposed to maintain sufficient parking spaces within the quarry for employees and visitors. The maximum number of direct employees will be four.
- Provision will be made to ensure HGVs awaiting entry to the quarry, prior to opening, are allowed to queue inside the quarry. This will ensure a queue of HGVs awaiting entry does not form along the L1603.
- The visibility splays in both directions on the Slane Road at the Quarry Access are currently not restricted by boundary vegetation adjacent to the site. However, this vegetation will be routinely cut/trimmed to ensure the required visibility splays are maintained at all times.

14.7 CONCLUSIONS

The Traffic and Roads chapter of this EIAR makes the following conclusions:

1) Link capacity analysis was carried out on the Slane Road, and it was determined that the road will continue to operate within capacity for each of the assessment years: 2024, 2029, 2039, and 2044.
2) The results of the junction capacity analysis indicates that all junctions will operate within capacity for each of the assessment years: 2024, 2029, 2039, and 2044.
3) Adequate visibility splays are available at the quarry access on the Slane Road.
4) There is sufficient parking provision within the site to accommodate staff parking.
5) The results of this traffic and transport assessment demonstrate that the development will have an imperceptible impact on traffic flows on the existing road network due to the low volumes of traffic being generated.

14.8 REFERENCES

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Traffic Count Survey Data, collected by Traffinomics.