



**STEPHENSON
HALLIDAY**

Planning, Landscape & Environment
an **RSK** company

MAES Y DROLL QUARRY EXTRACTION OF INDUSTRIAL SAND

Environmental Statement
Volume II

Chapter 10: Transport

Silica Sand Mold Limited

Prepared by SCP Transport Limited

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10 TRANSPORT

10.1 Introduction

- 10.1.1 This Chapter assesses the likely significant environmental effects associated with traffic and transport arising from the Proposed Development at Maes y Droell Quarry. It has been informed by the Transport Assessment prepared by SCP, which is provided at **ES Volume III, Appendix 10.1: Transport Statement**.
- 10.1.2 The Transport Assessment informing this overall assessment document has been compiled by a competent expert, Mark Devenish, CEng FCIHT.
- 10.1.3 The Transport Assessment has been prepared by competent transport specialists and considers the suitability of the existing and proposed site access arrangements, baseline traffic conditions, vehicle speeds, highway safety, anticipated development traffic and the capacity of the local highway network to accommodate the Proposed Development.
- 10.1.4 The assessment is based on the maximum anticipated production scenario and therefore represents a robust assessment of the potential traffic and transport effects of the Proposed Development.

10.2 Methodology

- 10.2.1 The scope of the Transport Assessment was set out in a Transport Scoping Note submitted as part of the request for an Environmental Impact Assessment (EIA) scoping opinion and was subsequently accepted by the local highway authority.
- 10.2.2 The assessment considers:
- the location and existing use of the Site;
 - the characteristics of the surrounding highway network;
 - baseline traffic flows and vehicle speeds;
 - the existing highway safety record;
 - the suitability of the proposed access arrangements;
 - the anticipated volume and distribution of development traffic; and
 - the potential effects on highway operation and safety.
- 10.2.3 Baseline conditions were established through a review of the local highway network, Department for Transport personal injury accident data and seven-day Automatic Traffic Count surveys undertaken at four locations between 17th and 23rd May 2025. The traffic

surveys recorded vehicle flows, classifications and speeds on the unclassified road serving the Site and on the B5430 Graianrhyd Road.

10.2.4 The potential transport receptors comprise:

- highway users;
- pedestrians and other vulnerable road users; and
- noise-sensitive receptors adjacent to the access route.

10.2.5 Vehicle-related noise effects are considered separately in Chapter Noise and Vibration.

10.3 Baseline Conditions

10.3.1 The Site is located at Maes y Droell Quarry, approximately 6.5 km south of Mold and 12 km north-west of Wrexham. It comprises northern and southern areas separated by a public bridleway. The Site is currently accessed from an unclassified road running between Graianrhyd and Eryrys, approximately 370 m north of its junction with the B5430 Graianrhyd Road.

10.3.2 The existing Site access comprises a bellmouth-style entrance with double-width gates. The adjoining road widens to approximately 9 m over a length of around 60 m, and the access is hard surfaced for at least 30 m within the Site.

10.3.3 The unclassified road provides access between the B5430 to the south and the local road network to the north. It is approximately 5.5 m wide and has historically been upgraded to accommodate traffic associated with local quarrying activity. The road also forms part of a local bus route.

10.3.4 The B5430 Graianrhyd Road is approximately 6 m wide and provides connections to the A5104 to the east and the A494 to the west. A footway is present on the northern side of the road. The B5430 Allt Bryn-Fotty branches south from Graianrhyd Road and is subject to a 7.5-tonne weight restriction, except for access.

10.3.5 The recorded seven-day 85th percentile vehicle speeds were:

- 33.1 mph northbound on the unclassified road to the south of the Site access;
- 39.8 mph southbound on the unclassified road to the north of the Site access;
- 36.9 mph eastbound on Graianrhyd Road; and
- 34.0 mph westbound on Graianrhyd Road.

10.3.6 These recorded speeds informed the visibility requirements for the Site access and the junction between the unclassified road and Graianrhyd Road.

10.3.7 A review of Department for Transport accident data for the most recently available five-year period identified no recorded personal injury accidents within the defined study area (Department for Transport, 2025). The Transport Assessment therefore concludes that there

is no existing pattern of highway safety issues that would be exacerbated by the Proposed Development.

10.4 Proposed Development and Traffic Generation

- 10.4.1 The Proposed Development comprises a consolidating application for the extraction of silica sand and the recommencement of quarrying operations at the Site. The Site would operate for approximately 50 weeks each year, allowing for a two-week planned maintenance shutdown.
- 10.4.2 The core proposed hours for mineral extraction, processing and export or import would generally be 07:00 to 19:00 Monday to Friday and 07:00 to 14:00 on Saturdays. Processing and maintenance activities may also take place during the additional periods identified in the Transport Assessment.
- 10.4.3 At maximum production, the development is expected to generate up to 120 two-way HGV movements during a full working day, comprising approximately 60 vehicle arrivals and 60 departures. This equates to approximately 12 two-way HGV movements per hour, or around one HGV movement every five to six minutes across the working day. Eight-wheel tipper vehicles carrying loads of approximately 20 tonnes would be the principal HGV type.
- 10.4.4 The forecast movements are based on the theoretical maximum production level and are therefore considered to represent a robust worst-case scenario. Actual daily traffic levels may vary according to operational and seasonal requirements. Staff movements are anticipated to occur outside the typical highway network peak periods due to shift patterns.
- 10.4.5 All HGV traffic would approach and leave the Site from the south, using the unclassified road between the Site and the B5430 before travelling east along the B5430 towards the A5104. The proposed access geometry would encourage use of this route, while the geometry of the junction and the existing 7.5-tonne weight restriction on Allt Bryn-Fotty would discourage alternative routing. The route could also be secured through an HGV Traffic Management Plan controlled by planning condition.

10.5 Assessment of Potential Effects

Introduction

- 10.5.1 The assessment of potential effects upon highway users, noise sensitive receptors and pedestrians has been assessed adopting an assessment matrix set out in **Table 10-1: Transport Summary Assessment Matrix**, below.

Table 10-1: Transport Summary Assessment Matrix

Receptor	Description of Impact	Sensitivity	Magnitude of Impact	Significance of effects	Proposed mitigation measures
Highway Users	Additional vehicle movements resulting in potential delay	Low	Low	Not significant	Visibility splays to allow safe movement of all vehicles

Receptor	Description of Impact	Sensitivity	Magnitude of Impact	Significance of effects	Proposed mitigation measures
Noise Sensitive Receptors	Traffic noise and vehicle manoeuvring	High	Very Low	Not significant	Noise mitigation for quarry plant
Pedestrians	Increased Severance	High	Very Low	Not significant	None

Highway Users

- 10.5.2 The Proposed Development would introduce additional HGV movements onto the local highway network. However, the proposed haulage route already accommodates HGV traffic, including traffic associated with quarrying and other local activities. The forecast development traffic would be distributed across the working day and is not expected to result in a material impact on highway capacity or operation. The effect on highway users is therefore assessed as not significant.

Highway Safety

- 10.5.3 No personal injury accidents were recorded within the study area during the assessed five-year period. The access and junction visibility requirements have been informed by measured vehicle speeds, and the proposed visibility splays comply with the relevant requirements of Technical Advice Note 18: Transport. (Welsh Government, 2007). The Proposed Development is therefore not expected to result in an unacceptable effect on highway safety. The effect is assessed as not significant.

Pedestrians and vulnerable road users

- 10.5.4 The increase in traffic has the potential to affect pedestrians and other vulnerable road users through increased severance or perceived intimidation. However, development traffic would be restricted to the identified haulage route and spread throughout the operational day. The Transport Assessment does not identify any material pedestrian severance or safety effects. Effects on pedestrians and other vulnerable road users are therefore assessed as not significant.

Noise-sensitive receptors

- 10.5.5 HGV movements have the potential to affect residential and other noise-sensitive receptors through traffic noise and vehicle manoeuvring. The number of movements would be limited by the maximum production level and operational hours. Detailed consideration of road traffic and operational noise is provided in Chapter Noise and Vibration. Transport-related effects on noise-sensitive receptors are assessed as not significant.

Overall effects

- 10.5.6 The local highway network already accommodates HGV traffic, and no recurring highway safety problems have been identified. Subject to the access improvements and routing measures described below, the highway network is considered capable of accommodating

the forecast traffic generated by the Proposed Development. No significant traffic or transport effects are predicted.

Mitigation

- 10.5.7 A range of measures has been incorporated into the design and operation of the Proposed Development to ensure safe access and minimise effects on the surrounding highway network. These embedded mitigation measures comprise:
- retention and significant upgrading of the existing Site access;
 - provision of a 7.3 m wide access road with a 12 m southern radius to accommodate HGVs;
 - provision of a 6 m northern radius for light vehicles;
 - visibility splays of 2.4 m by 120 m to the north and 2.4 m by 90 m to the south at the Site access;
 - visibility splays of 2.4 m by 90 m in both directions at the junction with Graianrhyd Road;
 - an internal layout allowing vehicles to enter and leave the Site in forward gear;
 - sufficient internal space to prevent HGV queuing on the public highway;
 - wheel-cleaning facilities;
 - sufficient on-site space for staff parking and HGV servicing; and
 - routing of HGVs south from the Site and east via the B5430 towards the A5104.
- 10.5.8 Swept-path analysis confirms that a large tipper vehicle can enter and leave the Site using the proposed access arrangement. The access geometry would direct HGVs to and from the south and would minimise the potential for conflict between large vehicles and other highway users.
- 10.5.9 The identified haulage route and associated operational controls could be secured through an HGV Traffic Management Plan. Given the absence of significant effects and the inclusion of the embedded measures described above, no further transport mitigation is considered necessary.
- ## 10.6 Residual Effects
- 10.6.1 Following implementation of the proposed access improvements and operational controls, residual effects on highway users, highway safety, pedestrians and other sensitive receptors would be not significant.
- 10.6.2 The Proposed Development would not result in a material adverse impact on the capacity, normal operation or safety of the surrounding highway network.

10.7 Summary and Conclusion

- 10.7.1 The Proposed Development would generate up to 120 two-way HGV movements during a full working day at maximum production. These movements would be spread across the operational period and routed south from the Site before travelling east along the B5430 towards the A5104.
- 10.7.2 The proposed haulage route already accommodates HGV traffic, and the review of accident records identified no existing pattern of highway safety issues. Vehicle speed surveys confirm that compliant visibility splays can be achieved at the Site access and at the junction with Graianrhyd Road.
- 10.7.3 The existing Site access would be significantly upgraded and designed to accommodate the anticipated HGV type, with vehicles able to enter and leave in forward gear without queuing on the public highway.
- 10.7.4 The assessment concludes that the local highway network can safely accommodate the traffic generated by the Proposed Development. Following implementation of the embedded mitigation and operational controls, no significant residual traffic or transport effects are predicted, and the Proposed Development is considered acceptable in transport terms.