

5. Existing Minerals Sites

5.1 Overview

- 5.1.1 This section identifies the key transport features relating to each of the existing⁵ minerals sites, considering matters such as access arrangements, the existence of any routing restrictions and export volumes. This has been conducted using information supplied by DCC / DCiC and online resources. For each site, a subjective assessment of each of six key considerations from the assessment matrix is presented wherein green suggests that the impact is minimal, amber suggests that the site may have some minor noticeable impacts and red highlights potential issues for that particular criteria. The 'duration' of site has been separated from the other considerations as this can effectively double count some of the impacts related to the site.
- 5.1.2 Minerals sites typically export material using HGVs with capacities ranging between 20T and 30T, with some sites using larger capacity vehicles to lower the cost of transport and leading to a more efficient operation. To capture the differing vehicle capacities used across minerals sites in Derbyshire and Derby Minerals Local Plan area, a high and low HGV trip generation estimate has been calculated based upon 20T and 30T loads, respectively. It is expected that HGV trip generation for each site will fall somewhere between the high and low estimate. A standard 275 days per working year have been assumed in the calculations.
- 5.1.3 Sites were assumed to retain their existing point of access. In terms of routeing, whilst the source of minerals (i.e. the quarries) are fixed their destinations/markets are not. In many cases, they will be construction sites which by their very nature are temporary hence there is little opportunity for fixing routes apart from in the immediate vicinity of the site (e.g. in response to environmental constraints). It is also important to note that the cost of transport will form a significant proportion of the delivered product cost and, as such, the operator will look to deliver using the shortest route.

Note: Many sites are noted as having an end date of 2042. This date is an arbitrary end date applied to old extant mineral permissions which site owners were required to register with the Mineral Planning Authority under the Review of Mineral Permissions (ROMP) process.

5.2 Mouselow – MW

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
High Peak	Weinerberger	Millstone Grit Shale / Sandstone	Brick Clay / Building Stone / Aggregates	2042	55,000 (45,000 clay, 10,000 building stone / aggregates)

- 5.2.1 Mouselow Quarry is located to the north west of Glossop town centre. A Section 106 routing agreement is in place whereby HGVs are required to turn right out of the site along Dinting Road and Shaw Lane before joining Dinting Vale and Woolley Lane. From here, HGVs can access the A628.

⁵Although some sites are non-operational they have been included because they could resume during the Plan period.

- 5.2.2 The site is an existing site with established access arrangements via a simple priority junction as shown in Figure 5.1. The junction appears to conform to current highway standards.

Figure 5.1: Mouselow Quarry site access (© Google)



- 5.2.3 The site has an estimated average annual tonnage of 55,000tpa (consisting of 45,000 tonnes of clay and 10,000 tonnes of aggregates). Assuming 20T loads (high estimate), the site is expected to generate 10 full HGV loads per day (20 two-way movements). This is equivalent to 2 two-way movements per hour (assuming a 10 hour working day).
- 5.2.4 Using 30T loads (low estimate), the site would extract 7 full loads of material per day (14 two-way trips). This is equivalent to approximately 1 two-way trips per hour assuming a 10 hour working day.
- 5.2.5 Dinting Vale / Woolley Lane as well as the A628 are designated lorry routes as shown in the Derbyshire Freight Map. Dinting Road and Shaw lane are not designated HGV routes and pass several residential properties. HGVs may route westbound on the A628 to join the M67 motorway to the east of Manchester or eastbound to connect the site to the M1 motorway.
- 5.2.6 The site is not located within a weight restricted area, and the A628 is exempt from the restrictions associated with a restricted zone to the north of the site.
- 5.2.7 Vehicles routing along Dinting Vale / Woolley Vale pass through several Noise Action Planning Areas on the A6 to the north east of Buxton as shown in Figure 4.16. Other Noise Action Planning Areas are located on the A57 prior to the M67.
- 5.2.8 HGVs associated with the site are unlikely to route through an AQMA.
- 5.2.9 As noted in Figures 4.8 and 4.9, the A57 to the north east of Glossop is a source of journey time delay in both the AM and PM peak periods (Site A).
- 5.2.10 No collisions involving an HGV have occurred on Dinting Road, Shaw Lane or Dinting Vale / Woolley Lane or at the A57 / A628 junction. There is, however, a collision cluster located on the A628 that will impact vehicles routing to / from the M1 from the site.
- 5.2.11 Table 5.1 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.1: Site assessment summary – Mouselow (MW)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Mouselow (MW)							Routeing Agreement

5.3 Hayfield – HD

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
High Peak	O Shea and Sons	Millstone Grit	Building Stone	2042	2,000

5.3.1 Hayfield Quarry is located on the outskirts of the village of Hayfield, approximately 3.3km northeast of New Mills town centre.

5.3.2 Hayfield Quarry is accessed directly from the A6015 and comprises a simple priority junction as shown in Figure 5.2. The junction has limited visibility looking left owing to the curvature of the A6015 at this point.

Figure 5.2: Hayfield site access (© Google)



- 5.3.3 A planning condition restricts the number of daily HGVs to 150 two-way movements (75 imports and 75 exports).
- 5.3.4 The site has an estimated average annual tonnage 2,000tpa. Using either 20T or 30T loads this would only yield less than 1 full loads of material per average day.
- 5.3.5 The A6015 is a designated HGV route. From the A6015 HGVs may route east to join the A624 (connecting the site with the A57 at Glossop, which can be used to reach the M67, or the A6 to the south). Alternatively, HGVs could route west towards New Mills. From here, the A6 can be used to access the M60 to the north, or the M1 (via the A615 and A38) and the A38 to the south.
- 5.3.6 All routes discussed are designated HGV routes within the Derbyshire Freight Map. The site is not located within, or near to a HGV restricted zone.
- 5.3.7 As noted in Figures 4.8 and 4.9, HGVs routing south on the A6 will experience journey time delays around Buxton (Sites C & D), Bakewell (Site E) and Matlock (Site F). Additional delay may also occur on the A38 (Sites L and R). HGVs routing north may experience delays travelling on the A57 through Glossop (Site A).
- 5.3.8 Noise Action Planning Areas are in place on the A6015 starting just west of the site access, as well as on the A6 through New Mills. Further Noise Action Planning Areas are in place on the A6 near Dove Holes as shown in Figure 5.3.

Figure 5.3: Noise Action Planning Areas – Hayfield (HD)



- 5.3.9 No HGV collisions have been recorded on the A6015 within the last 5 full years of data, and no collisions are recorded on the A624 within several kms of the A6015 / A624 junction in Hayfield.

5.3.10 A cluster of collisions is recorded on the A6 to the south of New Mills (approximately 350m east of the A6015 // A6 junction) (Site B).

5.3.11 Table 5.2 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.2: Site assessment summary – Hayfield (HD)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Hayfield (HD)							Tonnage Limits

5.4 Dove Holes – DH

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
High Peak	Cemex	Carboniferous Limestone	Aggregates	2042	5,000,000

5.4.1 Dove Holes is accessed from Dale Road, via a simple priority junction (as shown in Figure 5.4). Dale Road passes several residential properties before meeting the A6 at a signalised crossroads in the heart of the village. The site being shared by a number of third parties (independent processing and manufacturing businesses) which would increase HGV movements using the access.

5.4.2 The site is an existing site, with the site access arrangements meeting acceptable highway standards. Established routing arrangements are in place, with approximately 50% of material travelling by road and 50% by rail (with the site connected via a railway siding to the mainline).

Figure 5.4: Dove Holes site access (© Google)



- 5.4.3 The site has an estimated average annual tonnage of 5,000,000. Currently, 50% of material is exported via rail and therefore only 2,500,000 tonnes per annum is transported via road. Using 20T loads (high estimate) this site would extract 455 full loads of material per day, this is equivalent to approximately 46 loads per hour. Including return movements this gives a total of 910 two-way HGV movements per day, making Dove Holes one of the largest minerals sites in terms of exports.
- 5.4.4 Using 30T loads (low estimate), the site would extract 304 full loads of material per day (608 two-way trips). This is equivalent to approximately 61 two-way trips per hour assuming a 10 hour working day.
- 5.4.5 HGVs routing to / from the north are expected to use the A6 before joining the M60 motorway to the south east of Manchester. HGVs routing to / from the M1 motorway are expected to use either the A623, A619 and A617 (before joining the M1 at junction 29) or the A6, A615 and A38 (before joining the M1 at Junction 28). HGVs may also route via the A6 to reach the A38 (to the north of Derby City) or the A515. All routes (with the exception of Dale Road) are designated HGV routes.
- 5.4.6 As noted in Figures 4.8 and 4.9, the A6 to the north of Buxton (Site D) is a source of journey time delay in both the AM and PM peak periods, as is the A6 near Bakewell and Matlock (Sites E and F, respectively) and Belper (Site H). HGVs routing through Chesterfield to reach the M1 Junction 29 experience delay on the A619 and A617 through the town (Site I) and at Junction 29 (Site K). Those routing via the A615 and A38 to reach the M1 junction 28 will experience

delays around Alfreton (Site L). Further delays are noted on the A515 near Ashbourne (Site G) and on the A38 near Derby City (Site R).

5.4.7 Noise Action Planning Areas are in place on the A6 through Dove Holes, as well as on the A6 to the north of Buxton and near New Mills. HGVs associated with the site are unlikely to route through an AQMA.

5.4.8 No HGV collisions have been recorded on Dale Road, or at the Dale Road / A6 junction within the past 5 full years of road safety data. There has been one ‘slight’ collision recorded approximately 1.8km to the south of the Dale Road / A6 junction. HGVs routing to / from the site pass through several collision clusters further from the site, including on the A6 near New Mills (Site B), M1 Junction 29 (Site D), and the M1 Junction 28 (Site E).

5.4.9 Table 5.3 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.3: Site assessment summary – Dove Holes (DH)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Dove Holes (DH)							Rail Connected

5.5 Tunstead – TU

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
High Peak	Tarmac	Carboniferous Limestone	Industrial Limestone / Aggregates	2042	5,500,000

5.5.1 Tunstead comprises two quarry sites: Tunstead Quarry and Old Moor Quarry. Old Moor Quarry is located within the Peak District National Park boundary but with a site access within Derbyshire. As such, both Tunstead Quarry and Old Moor Quarry have been treated as one site, with a shared site access point.

5.5.2 Tunstead is located approximately 3.3km east of Buxton town centre. The site is an existing site, with the site access arrangements meeting current highway standards. Established routing arrangements are in place, with approximately 50% of material travelling by road and 50% by rail (with the site connected via a railway siding to a multi-track railway line).

5.5.3 The site is accessed via a priority junction onto Waterswallows Road then onto the A6. The priority junction onto Waterswallows Road (shown in Figure 5.5) meets current highway standards. Waterswallows Road passes a few residential and commercial properties prior to

meeting the A6, and signage directs drivers to use Batham Gate Road to minimise impacts on sensitive receptors. The A6 is a designated lorry route within the Derbyshire HGV map.

Figure 5.5: Tunstead Quarry site access (© Google)



- 5.5.4 The site has an estimated average annual tonnage of 5,500,000. Currently, 50% of material is exported via rail and therefore only 2,750,000 tonnes per annum is transported via road. Using 20T loads (high estimate) this site would extract 500 full loads of material per day, this is equivalent to approximately 50 loads per hour. Including return movements this gives a total of 1,000 two-way HGV movements per day, making Tunstead one of the largest mineral sites in terms of exports.
- 5.5.5 Using 30T loads (low estimate), the site would extract 334 full loads of material per day (668 two-way trips). This is equivalent to approximately 67 two-way trips per hour assuming a 10 hour working day.
- 5.5.6 HGVs routing to / from the north are expected to use the A6 before joining the M60 motorway to the south east of Manchester. HGVs routing to / from the M1 motorway are expected to use either the A623, A619 and A617 (before joining the M1 at junction 29) or the A6, A615 and A38 (before joining the M1 at Junction 28). HGVs may also route via the A6 to reach the A38 (to the north of Derby City) or the A515. All routes (with the exception of Waterswallows Road) are designated HGV routes.
- 5.5.7 As noted in Figures 4.8 and 4.9, the A6 to the north of Buxton (Sites C & D) is a source of journey time delay in both the AM and PM peak periods, as is the A6 near Bakewell (Site E), Matlock (Site F) and Belper (Site H). HGVs routing through Chesterfield to reach the M1 Junction 29 experience delay on the A619 and A617 through the town (Site I) and at Junction 29 (Site K). Those routing via the A615 and A38 to reach the M1 junction 28 will experience delays around Alfreton (Site L). Further delays are noted on the A515 near Ashbourne (Site G) and on the A38 near Derby City (Site R).

- 5.5.8 Noise Action Planning Areas are in place on the A6 through Dove Holes, as well as on the A6 to the north of Buxton and near New Mills. HGVs associated with the site are unlikely to route through an AQMA.
- 5.5.9 No HGV collisions have been recorded on Waterswallows Road, or at the Waterswallows Road / A6 junction within the past 5 full years of road safety data. There have been two ‘slight’ collisions located on the A6 within the vicinity of the Waterswallows/ A6 junction. HGVs routing to / from the site pass through several collision clusters further from the site, including on the A6 near New Mills (Site B), M1 Junction 29 (Site D), and the M1 Junction 28 (Site E).
- 5.5.10 Table 5.4 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.4: Site assessment summary – Tunstead (TU)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Tunstead (TU)							Rail Connected

5.6 Ashwood Dale, Buxton (High Peak) – AD

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
High Peak	Breedon Southern Ltd	Carboniferous Limestone	Aggregates	2042	100,000

- 5.6.1 Ashwood Dale Quarry is located approximately 2.5km south east of Buxton town centre and is accessed directly from the A6.
- 5.6.2 The site is an existing minerals operation with established access arrangements. The site access (Figure 5.6) is a simple priority junction with no right-turn harbourage. Solid white central lines indicate sub-standard visibility for overtaking at the location of the access, which likely also indicates sub-standard visibility for traffic turning to and from the site access.

Figure 5.6: Ashwood Dale site access (© Google)



- 5.6.3 The site has an estimated average annual tonnage of 100,000tpa. It is understood that all material is exported via road. Using 20T loads (high estimate), this site would extract the equivalent of 19 full loads of material per day, or less than two loads per hour (assuming a ten-hour export period). Including return movements this gives a total of 38 two-way HGV movements per day.
- 5.6.4 Using 30T loads (low estimate), the site would extract 13 full loads of material per day (26 two-way trips). This is equivalent to approximately 3 two-way trips per hour assuming a 10-hour working day.
- 5.6.5 The site is located on the border of a 7.5T weight limit; however, the A6 itself is exempt from these restrictions.
- 5.6.6 HGVs routing to and from the north are expected to use the A6, which is a designated HGV route, before joining the M60 motorway to the south east of Manchester. HGVs routing to and from the south are expected to use either the A6, A615 and M1 or the A515 and A38. All anticipated routes are designated HGV routes.
- 5.6.7 As noted in Figures 4.8 and 4.9, the A6 to the north of Buxton is a source of journey time delay in both the AM and PM peak periods (Sites B & C), additional journey time delay is noted on the A6 (Sites E, F and H) as well as sections of the A38 (Sites L & R).
- 5.6.8 HGVs routing to / from the north will route through several Noise Action Planning Areas on the A6 to the north east of Buxton as shown in Figure 4.16. HGVs associated with the site are unlikely to route through an AQMA.

5.6.9 No HGV collision clusters are identified within proximity of the site access point; however, an HGV collision cluster is identified in Figure 4.10 on the A6 near New Mills (for HGVs routing to and from the north) (Site B). A further collision cluster is noted on the A515 (Site C) for HGVs routing south.

5.6.10 Table 5.5 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.5: Site Assessment Summary – Ashwood Dale (AD)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Ashwood Dale (AD)							None

5.7 Hillhead Quarry, Buxton – HI

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
High Peak	Tarmac	Carboniferous Limestone	Aggregates	2042	500,000

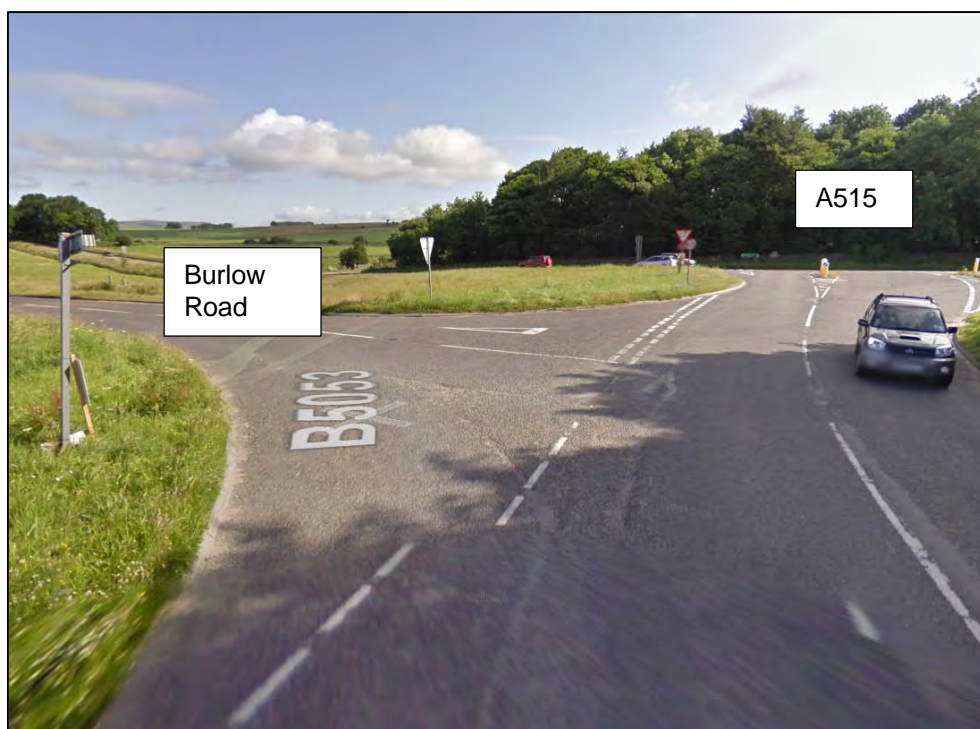
5.7.1 Hillhead Quarry is accessed via Burlow Road and is located to the south of Buxton. The site is an existing site with established access arrangements via a simple priority junction. The site has been non-operational for many years but is anticipated to recommence working in the near future.

Figure 5.7: Hillhead Quarry site access (© Google)



- 5.7.2 The site has an estimated average annual tonnage of 500,000tpa. It is understood that the site could potentially be connected to the rail network.
- 5.7.3 Assuming 50% of material is transported by rail, then the site would produce 92 two-way HGV movements per day (equivalent to 9 two-way HGV movements per hour) assuming 20T loads (high estimate). Using 30T loads (low estimate), then the site would produce 31 full loads per day (62 two-way trips). This is equivalent to 6 two-way trips per hour.
- 5.7.4 Should it not be possible to connect the site to the rail network, then 100% of exports would be via road, using 20T loads (high estimate) the site would extract 91 full loads of material per day, this is equivalent to 9 loads per hour. Including return movements this gives a total of 182 two-way HGV movements per day. Using 30T loads (low estimate) the site would extract 61 full loads of material per day, this is equivalent to 6 loads per hour. Including return movements this gives a total of 122 two-way HGV movements per day.
- 5.7.5 From Burlow Road, HGV must route towards the B5053 (with Burlow Road joining the B5053 at a priority junction), before joining the A515 via another priority junction. The A515 is a designated lorry route as shown in the Derbyshire Freight Map. The two priority junctions are shown in Figure 5.8.

Figure 5.8: Burlow Road / B5053 and B5053 / A515 junctions (© Google)



- 5.7.6 HGVs may route north on the A515 before joining the A6 at Buxton, which links the site with the M60 motorway to the south of Manchester. Alternatively, HGVs may route south on the A515 and use either the A50 or A52 to join the wider strategic road network (including the A38 and M1).
- 5.7.7 Vehicles routing north along the A515 (and A6 after Buxton) will pass through several Noise Action Planning Areas on the A6 to the north east of Buxton as shown in Figure 4.16. Other Noise Action Planning Areas are located on the A52 between Ashbourne and Derby as well as on the A50. HGVs routing to / from the south may pass through the recently declared AQMA in Ashbourne.
- 5.7.8 As noted in Figures 4.8 and 4.9, the A6 to the north of Buxton is a source of journey time delay in both the AM and PM peak periods (Site D), additional journey time delay is noted on the A515 through Ashbourne (site G).
- 5.7.9 The site is not located within a weight restricted area, and the A515 is exempt from restrictions associated with a restricted zone to the north of the route.
- 5.7.10 No collisions involving an HGV have occurred on Burlow Road or the B5053 within the past 5 full years of collision data. A 'serious' collision was recorded within 50m of the B5053 / A515 junction which occurred in 2018.
- 5.7.11 An HGV collision cluster is identified in Figure 4.10 on the A6 near New Mills (for HGVs routing to / from the north) (Site B). Further collision clusters are noted on the A515 (Site C) and through Ashbourne (Site G). For HGVs routing along the A50 to reach the wider strategic network, collision clusters are noted along the length of the A50 (Sites H, L and M).
- 5.7.12 Table 5.6 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.6: Site assessment summary – Hillhead (HI)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Hillhead (HI)							Potential rail connection.

5.8 Brierlow Quarry, Buxton – BL

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
High Peak	Lhoist UK Ltd	Carboniferous Limestone	Industrial Limestone / Aggregates	2042	500,000

5.8.1 Brierlow Quarry is located approximately 5.5km southeast of Buxton in the High Peak District of Derbyshire. The site is an existing site with established access arrangements via a simple priority junction onto the B5053 (see Figure 5.9) which appears to accord with local highway design standards. It is noted that the a mineral railway runs through the sites (via a tunnel) but there is no means of connection with this railway, despite adjacent quarries using it for export.

Figure 5.9: Brierlow Quarry site access (© Google)



- 5.8.2 It is understood that all material is exported from the site via road. The site has an estimated Average Annual Tonnage of 500,000. Using 20T loads (high estimate), this site would extract 91 full loads of material per day, this is equivalent to 9 loads per hour. Including return movements this gives a total of 182 two-way HGV movements per day.
- 5.8.3 Using 30T loads (low estimate), the site would extract 61 full loads of material per day (122 two-way trips). This is equivalent to approximately 12 two-way trips per hour assuming a 10 hour working day.
- 5.8.4 The B5053 is not a designated freight route. From the site access, HGVs are expected to turn right and route northbound on the B5053 until reaching a priority junction with the A515. There are no residential properties on the B5053 between the site access and the junction with the A515.
- 5.8.5 HGVs may route north on the A515 before joining the A6 at Buxton, which links the site with the M60 motorway to the south of Manchester. Alternatively, HGVs may route south on the A515 and use either the A50 or A52 to join the wider strategic road network (including the A38 and M1).
- 5.8.6 Vehicles routing north along the A515 (and A6 after Buxton) will pass through several Noise Action Planning Areas on the A6 to the north east of Buxton as shown in Figure 4.16. Other Noise Action Planning Areas are located on the A52 between Ashbourne and Derby as well as on the A50. HGVs routing to / from the south may pass through the recently declared AQMA in Ashbourne.
- 5.8.7 As noted in Figures 4.8 and 4.9, the A6 to the north of Buxton is a source of journey time delay in both the AM and PM peak periods (Site D), additional journey time delay is noted on the A515 through Ashbourne (site G).
- 5.8.8 No collisions involving an HGV have occurred on the B5053 in the past 5 full years of collision data. One ‘serious’ collision involving an HGV is recorded within 50m of the B5053 / A515 junction, this occurred in 2018.
- 5.8.9 An HGV collision cluster is identified in Figure 4.10 on the A6 near New Mills (for HGVs routing to / from the north) (Site B). Further collision clusters are noted on the A515 (Site C) and through Ashbourne (Site G). For HGVs routing along the A50 to reach the wider strategic network, collision clusters are noted along the length of the A50 (Sites H, L and M).
- 5.8.10 Table 5.7 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.7: Site assessment summary – Brierlow (BL)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Brierlow (BL)							None

5.9 Hindlow – HL

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
High Peak	Tarmac	Carboniferous Limestone	Aggregates	2042	2,000,000

5.9.1 Hindlow Quarry is accessed directly from the A515, which is a designated HGV route. The site is an existing site with established access arrangements via a simple priority junction, as shown in Figure 5.10. Solid white central lines indicate sub-standard visibility for overtaking at the location of the access, which may also indicate sub-standard visibility for traffic turning to and from the site access.

5.9.2 Hindlow Quarry site is used to process mineral extracted at Tunstead Quarry. The mineral is transported to and from Hindlow by rail. Extraction is anticipated to recommence at Hindlow in the near future with approximately 50% of exports by rail.

Figure 5.10: Hindlow Quarry site access (© Google)



5.9.3 The site is expected to recommence working shortly with an estimated average annual tonnage of 2mtpa

5.9.4 Assuming 50% of material is transported by rail, then the site would produce 364 two-way HGV movements per day (equivalent to 36 two-way HGV movements per hour) assuming 20T loads (high estimate). Assuming 30T loads (low estimate) then the site would produce 122 full loads per day (244 two-way trips), equivalent to 24 two-way movements per hour assuming a 10 hour working day.

- 5.9.5 Should it not be possible to connect the site to the rail network, then 100% of exports would be via road, using 20T loads (high estimate) the site would extract 364 full loads of material per day, this is equivalent to 36 loads per hour. Including return movements this gives a total of 728 two-way HGV movements per day. Using 30T loads (low estimate) the site would produce 243 full loads per day (486 two-way movements per day), equivalent to 24 one-way or 49 two-way movements per hour).
- 5.9.6 HGVs may route north on the A515 before joining the A6 at Buxton, which links the site with the M60 motorway to the south of Manchester. Alternatively, HGVs may route south on the A515 and use either the A50 or A52 to join the wider strategic road network (including the A38 and M1).
- 5.9.7 Vehicles routing north along the A515 (and A6 after Buxton) will pass through several Noise Action Planning Areas on the A6 to the north east of Buxton as shown in Figure 4.16. Other Noise Action Planning Areas are located on the A52 between Ashbourne and Derby as well as on the A50. HGVs routing to / from the south may pass through the recently declared AQMA in Ashbourne.
- 5.9.8 As noted in Figures 4.8 and 4.9, the A6 to the north of Buxton is a source of journey time delay in both the AM and PM peak periods (Site D), additional journey time delay is noted on the A515 through Ashbourne (site G).
- 5.9.9 The site is not located within a weight restricted area, and the A515 is exempt from restrictions associated with a restricted zone to the north of the route.
- 5.9.10 No collisions involving an HGV have occurred on the A515 within 100m of the site access junction, with one 'slight' collision occurring approximately 2.1km east of the site access. A further collision is recorded within 50m of the B5053 / A515 junction, which occurred in 2018. It was classified as 'serious' by police.
- 5.9.11 An HGV collision cluster is identified in Figure 4.10 on the A6 near New Mills (for HGVs routing to / from the north) (Site B). Further collision clusters are noted on the A515 (Site C) and through Ashbourne (Site G). For HGVs routing along the A50 to reach the wider strategic network, collision clusters are noted along the length of the A50 (Sites H, L and M).
- 5.9.12 Table 5.8 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.8: Site assessment summary – Hindlow (HL)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Hindlow (HL)							Rail Connection

5.10 Dowlow – DO

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
High Peak	Breedon Southern Ltd	Carboniferous Limestone	Industrial Limestone / Aggregates	2042	3,500,000

5.10.1 Dowlow Quarry is located 7km south east of Buxton town centre, and is accessed directly from the A515. The site is an existing site with established access arrangements via a simple priority junction. At the point of access, solid central lines indicate sub-standard visibility for over-taking vehicles.

Figure 5.11: Dowlow Quarry site access (© Google)



5.10.2 The site has an estimated average annual tonnage of 3,500,000. It is understood that approximately 50% of material is transported by rail, with the site connected via a single-track line to the Buxton Line (connecting to Manchester). The remaining material is transported by road. Using 20T loads (high estimate) this site would extract 318 full loads of material per day, this is equivalent to 32 loads per hour. Including return movements this gives a total of 636 two-way HGV movements per day.

5.10.3 Using 30T loads (low estimate), the site would extract 213 full loads of material per day (426 two-way trips). This is equivalent to approximately 43 two-way trips per hour assuming a 10 hour working day.

- 5.10.4 The A515 is a designated lorry route. HGVs may route north on the A515 before joining the A6 at Buxton, which links the site with the M60 motorway to the south of Manchester. Alternatively, HGVs may route south on the A515 and use either the A50 or A52 to join the wider strategic road network (including the A38 and M1).
- 5.10.5 Vehicles routing north along the A515 (and A6 after Buxton) will pass through several Noise Action Planning Areas on the A6 to the north east of Buxton as shown in Figure 4.16. Other Noise Action Planning Areas are located on the A52 between Ashbourne and Derby as well as on the A50. HGVs routing to / from the south may pass through the recently declared AQMA in Ashbourne.
- 5.10.6 As noted in Figures 4.8 and 4.9, the A6 to the north of Buxton is a source of journey time delay in both the AM and PM peak periods (Site D), additional journey time delay is noted on the A515 through Ashbourne (site G).
- 5.10.7 No collisions involving a HGV have occurred on the A515 within 100m of the site access junction, with one 'slight' collision occurring approximately 1.4km east of the site access. A further collision is recorded within 50m of the B5053 / A515 junction, which occurred in 2018 and was classified as 'serious' by police. Further from the site, an HGV collision cluster is identified on the A6 near New Mills (for HGVs routing to / from the north) (Site B). Further collision clusters are noted on the A515 (Site C) and through Ashbourne (Site G). For HGVs routing along the A50 to reach the wider strategic network, collision clusters are noted along the length of the A50 (Sites H, L and M).
- 5.10.8 Table 5.9 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.9: Site assessment summary – Dowlow (DO)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Dowlow (DO)							Rail Connected

5.11 Bone Mill Quarry (Ryder Point), Hopton – BO

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
Derbyshire Dales	Longcliffe Quarries Ltd	Carboniferous Limestone	Aggregates/ Industrial Dolomitic Limestone	2042	825,000

- 5.11.1 Bone Mill Quarry is located within the Derbyshire Dales approximately 2.8km west of Wirksworth. The site is accessed via an unnamed road before joining the B5023 and subsequently the A5012.
- 5.11.2 The site is an existing minerals operation with a simple priority junction site access which is shared with a processing plant, and a number of other non-minerals businesses. The HGV site access is shown in Figure 5.12, with HGVs required to route left out of the site access and route northbound along the unnamed local road. The unnamed road is narrow (whereby two HGVs passing would be challenging), with the HGV routing passing a few residential and commercial properties.
- 5.11.3 An additional access point to the site is available for light vehicles only to the south of the site. This links the site to Manystones Lane and forms a simple priority junction (see Figure 5.13).

Figure 5.12: Bone Mill Quarry site access (© Google)

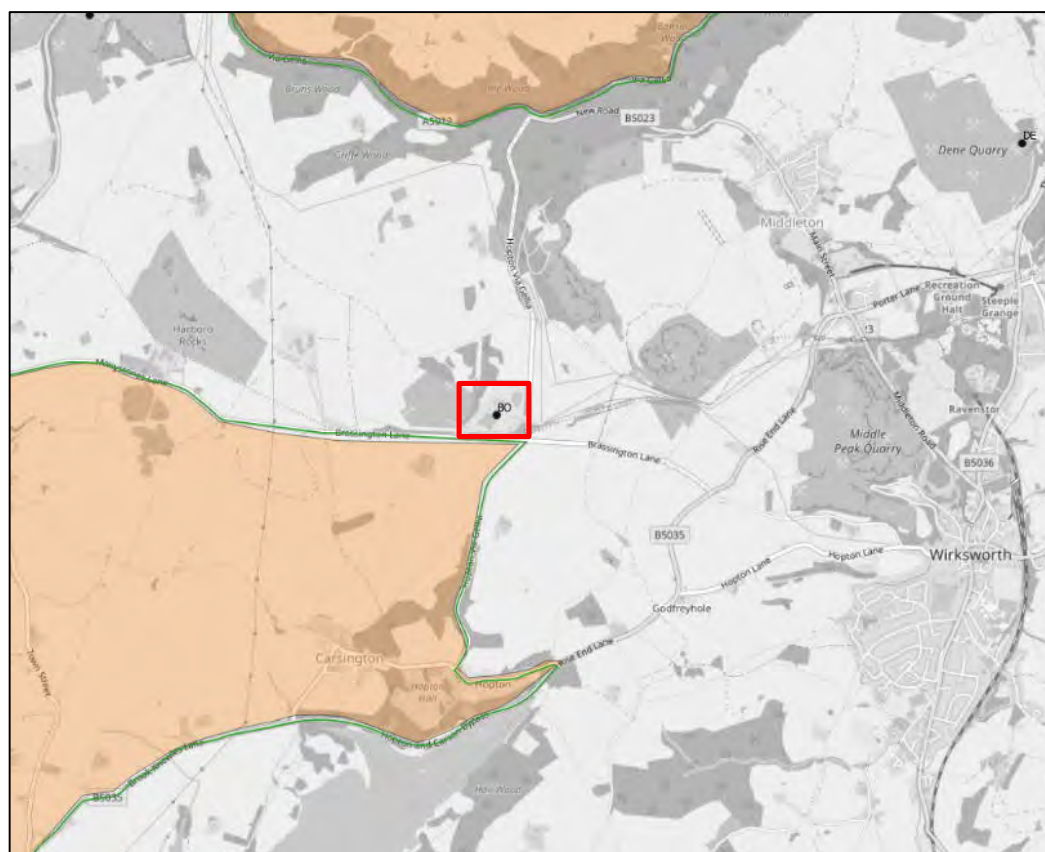


Figure 5.13: Bone Mill Quarry secondary access – light vehicles only (© Google)



- 5.11.4 It is understood that all material is exported via road, with an estimated average annual tonnage of 825,000tpa. Using 20T loads (high estimate) this site would extract 150 full loads of material per day, this is equivalent to 15 loads per hour. Including return movements this gives a total of 300 two-way HGV movements per day.
- 5.11.5 Using 30T loads (low estimate), the site would extract 100 full loads of material per day (200 two-way trips). This is equivalent to approximately 20 two-way trips per hour assuming a 10 hour working day.
- 5.11.6 The site is located on the border of a 7.5T gross restriction zone, however the roads used to connect the site to the wider highway network have no restrictions (see Figure 5.14).

Figure 5.14: HGV restrictions – Bone Mill (BO)



- 5.11.7 HGVs routing to / from the site would be expected to use the A5012 to either route towards the A6 in the east (and then onwards via the A610 to the M1 junction 26 or A38 to Junction 28) or the A515 to the west. From the A515, HGVs could route south towards the A52 or A50, or north towards the wider motorway network in the south of Manchester. The A5012, A6, A610, A38 and A515 are designated freight routes.
- 5.11.8 Vehicles routing north and south along the A6 pass through Noise Action Planning Areas at Matlock and Ambergate, respectively. In addition, HGVs routing via the A38 to M1 Junction 28 as well as the A610 also pass through Noise Action Planning Areas.
- 5.11.9 As noted in Figures 4.8 and 4.9, routes around Wirksworth and Matlock are identified as experiencing journey time delays (Site F), as is the A6 through Belper (Site H). Further journey time delays are noted on the A610 to the north of Ripley (Site N) and on the approach to the M1 Junction 28 (Site M). For HGVs utilising the A38, delays are noted through Derby City (Site R) and near Alfreton (Site L).
- 5.11.10 No HGV collisions have been recorded on the unnamed road. One collision involving an HGV was recorded on the A5012 to the west of the unnamed road / A5012 access, this was recorded as 'serious' by police. As shown in Figure 4.10, collision clusters are recorded on the A38 (Site F) and at the M1 Junction 28 (Site E). In addition, for HGVs routing north on the A515, a collision cluster is identified near the A515 / A5012 (Site C).
- 5.11.11 Table 5.10 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.10: Site assessment summary – Bone Mill (BO)

	Assessment Criteria (See Table 3.1)						Existing / Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Bone Mill (BO)							Weight limits

5.12 Brassington Moor – BR

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
Derbyshire Dales	Longcliffe Quarries Ltd	Carboniferous Limestone	Industrial Limestone / Aggregates	2035	1,000,000

5.12.1 Brassington Moor Quarry is an existing quarry with established access arrangements. The site is accessed via a priority junction onto the B5056, with an entrance / egress for light vehicles only and a separate entrance / egress for heavy vehicles (see Figures 5.15 and 5.16, respectively).

5.12.2 The junction is designed to acceptable highway standards, and it is understood that a Section 106 agreement is in place whereby the operator pays an annual contribution for carrying out repairs on the highway near to the site access.

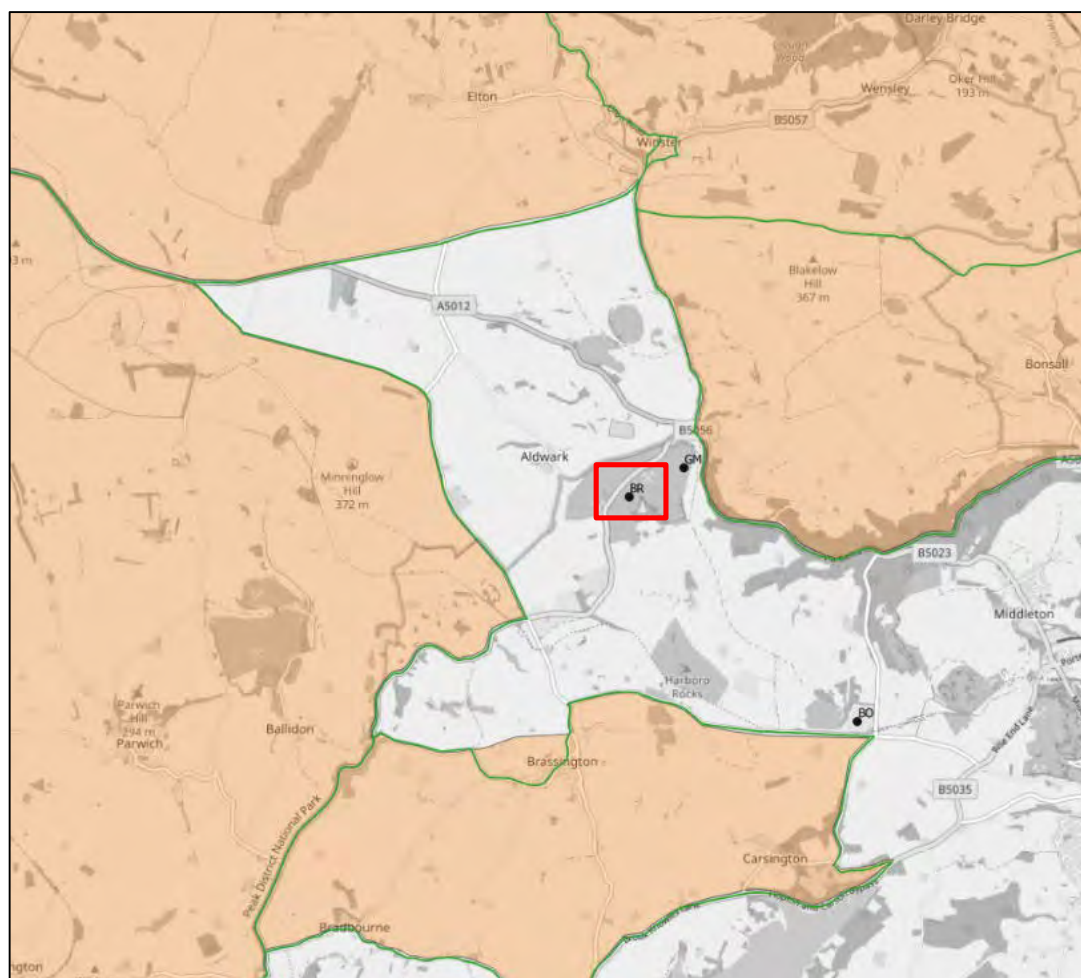
Figure 5.15: Brassington Moor site access – Light Vehicles (© Google)



Figure 5.16: Brassington Moor site access – HGVs (© Google)



- 5.12.3 It is understood that all material is exported via road. The site is expected to cease operations in 2035, with an estimated Average Annual Tonnage of 1,000,000. Using 20T loads (high estimate), this site would extract 182 full loads of material per day, this is equivalent to 18 loads per hour. Including return movements this gives a total of 364 two-way HGV movements per day.
- 5.12.4 Using 30T loads (low estimate), the site would extract 122 full loads of material per day (244 two-way trips). This is equivalent to approximately 24 two-way trips per hour assuming a 10 hour working day.
- 5.12.5 From the site access, vehicles may route southbound on the B5056, which eventually joins the A515 to the north of Ashbourne (from here vehicles can route north towards Manchester or south towards Birmingham via the A515 and M6), or northbound on the B5056 towards Grangemill where the A5012 can be used to access the A6 (and then onwards via the A610 to the M1 junction 26 or A38 to Junction 28).
- 5.12.6 The B5056 is not a designated freight route but is wide enough to accommodate two-way HGV traffic. Only one residential dwelling is located on the B5056 between the site access and the B5056 / A5012 junction and is located on the junction itself.
- 5.12.7 The site is located in proximity to a weight restricted area (as shown in Figure 5.17), however the B5056 and A5012 are exempt.

Figure 5.17: HGV restrictions – Brassington Moor (BR)

- 5.12.8 Vehicles routing north and south along the A6 pass through Noise Action Planning Areas at Matlock and Ambergate, respectively. In addition, HGVs routing via the A38 to M1 Junction 28 as well as the A610 also pass through Noise Action Planning Areas. Routes around Wirksworth and Matlock are identified as experiencing journey time delays (Site F), as is the A6 through Belper (Site H). Further journey time delays are noted on the A610 to the north of Ripley (Site N) and on the approach to the M1 Junction 28 (Site M).
- 5.12.9 No HGV collisions have been recorded on the B5056; however, one collision involving an HGV is recorded on the A5012 approximately 280m south of the B5056 / A5012 junction (classified as 'slight' by police). One further collision involving an HGV was recorded on the A5012 to the west of the B5023 / A5012 junction, this was recorded as 'serious' by police. As shown in Figure 4.10, collision clusters are recorded on the A38 (site F) and at the M1 Junction 28 (site E). In addition, for HGVs routing north on the A515 a collision cluster is identified near the A515 / A5012 (Site C).
- 5.12.10 Table 5.11 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.11: Site assessment summary – Brassington Moor (BR)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Brassington Moor (BR)							S106 & Weight Limits

5.13 Grange Mill Quarry, Wirksworth– GM

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
Derbyshire Dales	Ben Bennet Jnr Ltd	Carboniferous Limestone	Industrial Limestone / Aggregates	2042	300,000

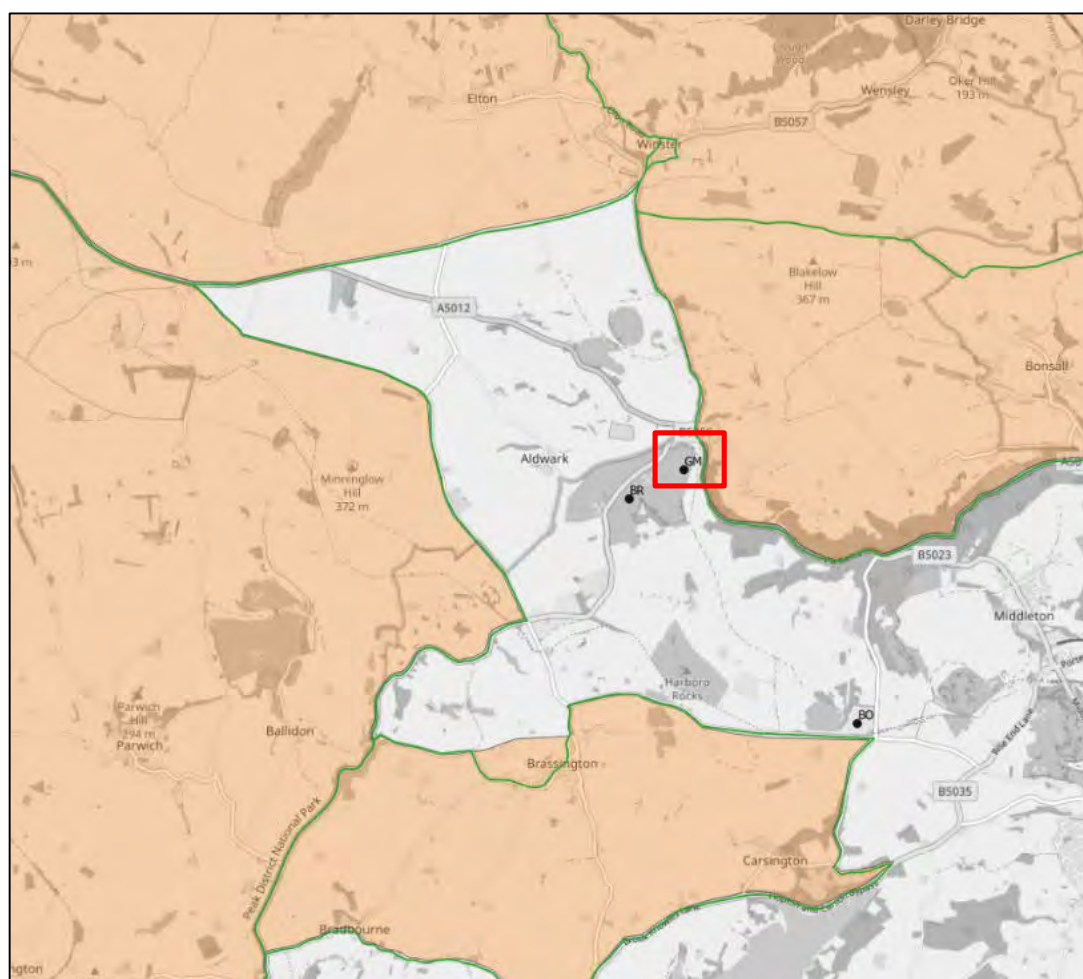
5.13.1 Grange Mill Quarry is an existing quarry with established access arrangements. The site is accessed via a priority junction onto the B5056 (see Figure 5.18). The presence of solid white central lines indicate sub-standard visibility for overtaking at the location of the access, which may also indicate sub-standard visibility for traffic turning to and from the site access.

Figure 5.18: Grange Mill site access (© Google)



- 5.13.2 The site has an estimated average annual tonnage of 300,000tpa. Using 20T loads (high estimate) this site would extract 55 full loads of material per day, this is equivalent to 6 loads per hour. Including return movements this gives a total of 110 two-way HGV movements per day.
- 5.13.3 Using 30T loads (low estimate), the site would extract 37 full loads of material per day (74 two-way trips). This is equivalent to approximately 7 two-way trips per hour assuming a 10 hour working day.
- 5.13.4 From the site access, HGVs may route southbound on the B5056, which eventually joins the A515 to the north of Ashbourne (from here vehicles may route north towards Manchester or south towards Birmingham via the A515 and M6), or northbound on the B5056 towards Grangemill where the A5012 can be used to access the A6 (and then onwards via the A610 to the M1 junction 26 or A38 to Junction 28).
- 5.13.5 The B5056 is not a designated freight route but is wide enough to accommodate two-way HGV traffic. Only one residential dwelling is located on the B5056 between the site access and the B5056 / A5012 junction and is located on the junction itself.
- 5.13.6 The site is located in proximity to a weight restricted area (as shown in Figure 5.19); however, the B5056 and A5012 are exempt.

Figure 5.19: HGV restrictions – Grange Mill (GM)



5.13.7 Vehicles routing north and south along the A6 pass through Noise Action Planning Areas at Matlock and Ambergate, respectively. In addition, HGVs routing via the A38 to M1 Junction 28 as well as the A610 also pass through Noise Action Planning Areas. Routes around Wirksworth and Matlock are identified as experiencing journey time delays (Site F), as is the A6 through Belper (Site H). Further journey time delays are noted on the A610 to the north of Ripley (Site N) and on the approach to the M1 Junction 28 (Site M).

5.13.8 No HGV collisions have been recorded on the B5056; however, one collision involving an HGV is recorded on the A5012 approximately 280m south of the B5056 / A5012 junction (classified as ‘slight’ by police). One further collision involving an HGV was recorded on the A5012 to the west of the B5023 / A5012 junction, this was recorded as ‘serious’ by police. As shown in Figure 4.10, collision clusters are recorded on the A38 (site F) and at the M1 Junction 28 (site E). In addition, for HGVs routing north on the A515 a collision cluster is identified near the A515 / A5012 (Site C).

5.13.9 Table 5.12 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.12: Site assessment summary – Grange Mill (GM)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Grange Mill (GM)							Weight limits

5.14 Halldale – HA

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
Derbyshire Dales	Marshalls	Sandstone	Building Stone	2042	750

5.14.1 Halldale Quarry is located approximately 3.7km to the north of Matlock, and 700m northeast of Darley Dale in the Derbyshire Dales District. The site is currently non-operational.

5.14.2 Halldale Quarry is accessed via Hallmoor Lane, with the site access consisting of a simple priority junction. The junction, in its current form, does not conform to current highway standards (see Figure 5.20).

5.14.3 In accordance with planning reference CM3/0602/36, the site is restricted in output to 750 tonnes per annum. This is equivalent to less than 1 full HGV load per day (assuming a 20T HGV is used). It is likely that (given site access limitations), smaller goods vehicles will be used to export material from the site.

Figure 5.20: Halldale Quarry site access (© Google)



- 5.14.4 Vehicles are required (according to a S106 agreement) to turn right out of the quarry and follow Hallmoor Road, Moor Lane, and Whitworth Road, before joining the A6. Hallmoor Road and Moor Lane do not provide sufficient width for two-way HGV movements and pass several residential dwellings. No collisions involving an HGV have been recorded on any of the roads comprising the routing arrangement for the site.
- 5.14.5 Figure 5.21 shows the junction of Hallmoor Road with Moor Lane. Neither Hallmoor Lane, Moor Lane or Whitworth Road are designated HGV routes. Geometrically, large HGVs would struggle to route through the Hallmoor Road / Moor Lane Junction, and would also struggle to access the site at the site access / Hallmoor Road junction.

Figure 5.21: Hallmoor Road / Moor Lane junction (© Google)



- 5.14.6 From the A6, HGVs may route southbound towards the A610 and join the M1 at junction 26, or use the A6 to join the A38 towards the north of Derby. This would involve travelling through Derby City. HGVs routing north may use the A6 to route towards the M60 motorway.
- 5.14.7 Based upon the above, additional network analysis has not been conducted since the trip generation from the site will have a negligible impact upon the highway network.
- 5.14.8 Table 5.13 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.13: Site assessment summary – Halldale Quarry (HA)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Halldale Quarry (HA)							Routeing and Tonnage Limits

5.15 Ball Eye Quarry, Cromford (Derbyshire Dales) – BE

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
Derbyshire Dales	Deepwood Mining	Carboniferous Limestone	Aggregates / Vein Minerals	2042	25,000

5.15.1 Ball Eye Quarry is located approximately 950m to the northwest of the village of Cromford in the Derbyshire Dales District. It is an existing site, but it has been non-operational since 2016/17.

5.15.2 The site is accessed off of the A5012 (Via Gellia Road), with the site access forming a simple priority junction. The access is not provided to current highway standards, partly due to limited visibility looking west along the A5012 (as shown in Figure 5.22). A solid central line marking also indicates sub-standard visibility for overtaking.

Figure 5.22: Ball Eye Quarry site access (© Google)



5.15.3 It is understood that all material associated with the site has previously been exported by road. Although currently non-operational, the site is understood to have an estimated average annual tonnage of 25,000. Using 20T loads (high estimate) this site would extract 5 full loads

of material per day, which is equivalent to less than one load per hour. Including return movements this gives a total of 10 two-way HGV movements per day.

- 5.15.4 Using 30T loads (low estimate), the site would extract 4 full loads of material per day (8 two-way trips). This is equivalent to less than 1 two-way trips per hour assuming a 10 hour working day.
- 5.15.5 Vehicles routing to / from Ball Eye Quarry could route west along the A5012 towards the A515 (from there routing north on the A515, A6 before joining the M60, or south via the A515 and A38). It should be noted, however, that HGVs cannot turn right out of this quarry. The gradient / camber on the quarry access is too steep and the A5102 is not wide enough at this point to accommodate turning traffic
- 5.15.6 Alternatively, HGVs could route east along the A5012 to Cromford before joining the A6, A610 and joining the M1 at junction 28. Some HGVs routing east along the A5012 may use the A6 to join the A38 towards the north of Derby. This would involve travelling through Derby City.
- 5.15.7 All routes described above are designated HGV routes. The site is located within a 7.5T weight restriction zone; however, the A5012 itself is exempt from these restrictions.
- 5.15.8 One serious collision involving a HGV occurred on the A5012 approximately 1.6km west of the site, however this occurred in 2019 when the site was no longer operational (and therefore cannot be attributed to the Ball Eye Quarry site).
- 5.15.9 Table 5.14 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.14: Site assessment summary – Ball Eye Quarry (BE)

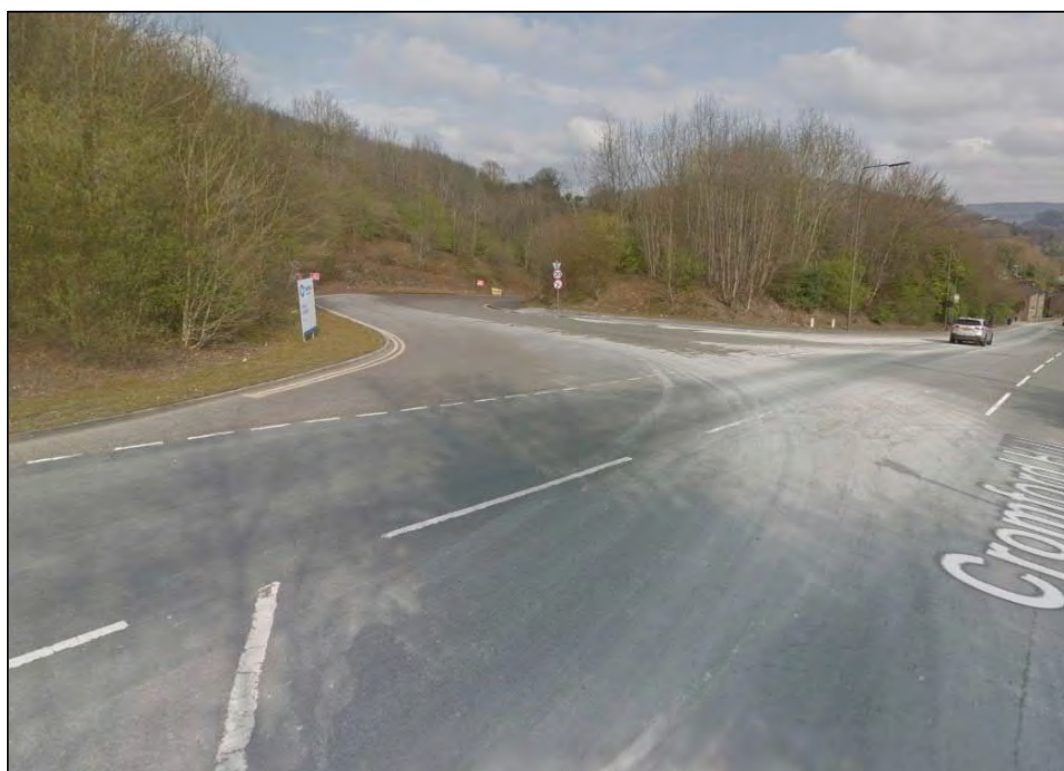
	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (<i>Multiplier</i>)	
Ball Eye (BE)							None

5.16 Slinter Top, Cromford – SL

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
Derbyshire Dales	Slinter Mining Co.	Carboniferous Limestone	Aggregates / Vein Minerals	2021* (planning application to extend to 2031 submitted)	100,000

- 5.16.1 Slinter Top Quarry is located to the northwest of the village of Cromford in the Derbyshire Dales District. It is an existing site, but mineral extraction will expire in 2021 under the current planning permission for the site.
- 5.16.2 An application has been submitted to extend the quarry life to 2031, but this has not yet been determined.
- 5.16.3 The site shares an access with Dene Quarry off of the B5036 via a simple priority junction. The junction appears to conform to current highway standards, although it should be noted that the B5036 (Cromford Hill) has a relatively steep incline (approximately 12%) at this point. The site access is shown in Figure 5.23. Given that this access is a shared access with Dene Quarry, HGV movements associated with this junction could be greater than indicated.

Figure 5.23: Slinter Top Quarry site access (© Google)



- 5.16.4 Currently all material associated with the site is imported and exported by road with a current estimated average annual tonnage of 100,000tpa. Using 20T loads (high estimate) this site would extract 19 full loads of material per day, this is equivalent to 2 loads per hour. Including return movements this gives a total of 38 two-way HGV movements per day.
- 5.16.5 Using 30T loads (low estimate), the site would extract 13 full loads of material per day (26 two-way trips). This is equivalent to approximately 3 two-way trips per hour assuming a 10 hour working day.
- 5.16.6 Vehicles travelling to / from Slinger Top Quarry route via the A6 (requiring HGVs to route through Cromford Village on the A5012 and B5036, passing several residential dwellings and commercial buildings) and A515 (via the B5036 and B5035). Neither the B5036 or B5035 are designated HGV routes, although the A6, A5012 and A515 are designated HGV routes.
- 5.16.7 From the A6, HGVs may route southbound towards the A610 and joining the M1 at junction 28, or use the A6 to join the A38 towards the north of Derby. HGVs routing north may use the A6 to route towards the M60 motorway. HGVs using the A515 may route north towards the M60 motorway, or south towards the A38.
- 5.16.8 A number of points along the likely HGV routes are recognised as experiencing journey time delay, especially on the A6 between Matlock and Ambergate (Site F), on the A6 near Belper (Site H), on the A610 (near Ripley) (Site N) and on the A38 travelling through Derby City (Site R). Furthermore, HGVs routing northbound (on either the A6 or A515) experiences some journey time delay on the A6 north of Buxton (Sites D & C)).
- 5.16.9 HGVs routing on the A38 through Derby City will pass in close proximity to AQMA areas, as shown in Figure 4.15. Moreover, HGVs will pass through Noise Action Planning Areas on the A6 (near Ambergate and Matlock), the A610 (to the east of Ripley), and the A38 (through Derby City). Any HGVs routing to / from the M1 junction 28 will also pass through Noise Action Planning Areas near Pinxton / South Normanton.
- 5.16.10 No collisions involving a HGV have occurred on the B5036 in the last 5 years of collision data. As shown in Figure 4.10 collision clusters are identified at the M1 Junction 28 (Site E) as well as on the A38 within the Derby City administrative boundary (Site I). Further collision clusters are recorded on the A515 (Site C) and on the A6 near New Mills (Site B) for HGVs routing towards the M60.
- 5.16.11 Table 5.15 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.15: Site assessment summary – Slinger Top Quarry (SL)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Slinger Top (SL)							Vehicle limits

5.17 Dene Quarry, Cromford – DE

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
Derbyshire Dales	Tarmac	Carboniferous Limestone	Aggregates	2026	500,000

5.17.1 Dene Quarry is located approximately 750m southwest of Cromford in the Derbyshire Dales District. It is an existing site with established site access and routing arrangements.

5.17.2 The site is accessed from the B5036 via a simple priority junction (which is shared with Slinter Quarry). The junction appears to conform to acceptable highway standards, although it should be noted that the B5036 (Cromford Hill) has a relatively steep incline (approximately 12%) at this point. The site access is shown in Figure 5.24.

Figure 5.24: Dene Quarry site access (© Google)



5.17.3 It is understood that all material associated with the site is transported by road, with an estimated average annual tonnage of 500,000tpa. Using 20T loads (high estimate) this site would extract 91 full loads of material per day, this is equivalent to nine loads per hour. Including return movements this gives a total of 182 two-way HGV movements per day.

5.17.4 Using 30T loads (low estimate), the site would extract 61 full loads of material per day (122 two-way trips). This is equivalent to approximately 12 two-way trips per hour assuming a 10 hour working day.

5.17.5 Vehicles travelling to / from Dene Quarry route via the A6 (requiring HGVs to route through Cromford Village on the A5012 and B5036, passing several residential dwellings and

commercial buildings) and A515 (via the B5036 and B5035). Neither the B5036 or B5035 are designated HGV routes, although the A6, A5012 and A515 are designated HGV routes.

- 5.17.6 It is understood that a Section 106 agreement is in place to provide an annual contribution towards the repair of the B5036 between its junction with the A5012 and B5035 (Porter Lane).
- 5.17.7 From the A6, HGVs may route southbound towards the A610 and joining the M1 at junction 28, or use the A6 to join the A38 towards the north of Derby. HGVs routing north may use the A6 to route towards the M60 motorway. HGVs using the A515 may route north towards the M60 motorway, or south towards the A38.
- 5.17.8 A number of points along the likely HGV routes are recognised as experiencing journey time delay, especially on the A6 between Matlock and Ambergate (Site F), on the A6 near Belper (Site H), on the A610 (near Ripley) (Site N) and on the A38 travelling through Derby City (Site R). Furthermore, HGVs routing northbound (on either the A6 or A515) experiences some journey time delay on the A6 north of Buxton (Sites D & C)).
- 5.17.9 HGVs routing on the A38 through Derby City will pass in close proximity to AQMA areas, as shown in Figure 4.15. Moreover, HGVs will pass through Noise Action Planning Areas on the A6 (near Ambergate and Matlock), the A610 (to the east of Ripley), and the A38 (through Derby City). Any HGVs routing to / from the M1 junction 28 will also pass through Noise Action Planning Areas near Pinxton / South Normanton.
- 5.17.10 No collisions involving a HGV have occurred on the B5036 in the last 5 years of collision data. As shown in Figure 4.10 collision clusters are identified at the M1 Junction 28 (Site E) as well as on the A38 within the Derby City administrative boundary (Site I). Further collision clusters are recorded on the A515 (Site C) and on the A6 near New Mills (Site B) for HGVs routing towards the M60.
- 5.17.11 Table 5.16 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.16: Site assessment summary – Dene Quarry (DE)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Dene (DE)							S106 & Routeing Agreement

5.18 Mercaston Quarry - ME

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
Derbyshire Dales	Hanson	Sherwood Sandstone	Sand and Gravel	2042	70,000

- 5.18.1 Mercaston Quarry is located 1.3km north of the village of Mercaston and approximately 12km northwest of Derby city centre. The site is an existing minerals operation with existing access arrangements. The site is accessed from Mercaston Lane via a simple priority junction as shown in Figure 5.25.
- 5.18.2 The mineral permission at Mercaston encompasses a number of separate sites which, if worked, may involve HGVs on local roads to access the plant site. However, the future working of these areas is uncertain and therefore the assessment refers to the current access arrangements.

Figure 5.25: Mercaston Quarry site access (© Google)



- 5.18.3 The site has an estimated average annual tonnage 70,000tpa. Using 20T loads (high estimate) this would only yield 13 full loads of material per day. Including return movements this gives a total of 26 two-way HGV movements per day, which is equivalent to 3 two-way movements per hour (assuming a 10-hour working day).
- 5.18.4 Using 30T loads (low estimate), the site would extract 9 full loads of material per day (18 two-way trips). This is equivalent to approximately 2 two-way trips per hour assuming a 10 hour working day.

- 5.18.5 From Mercaston Lane HGVs may route to / from the south via the A52 and A38. From here, the A38 or M1 (via the A52) can be used to reach the wider strategic network. HGVs routing to / from the north are required to route through small settlements on the A517 to reach the A6.
- 5.18.6 HGVs from the site are likely to experience journey time delays whilst passing through Derby City (Sites R and S) as well as on the A6 (near Belper (Site H) and Matlock (Site F)). Additional delay is noted at the M1 junction 25.
- 5.18.7 Furthermore, HGV traffic will route in close proximity to AQMA areas within Derby City, particularly along the A52. Moreover, HGVs routing through Derby City will pass through Noise Action Planning Areas.
- 5.18.8 No collisions have occurred on Mercaston Lane in the past 5 full years of collision data. However, a cluster of HGV collisions is noted at the A38 / A52 junction within Derby City (Site I) as well as at the M1 junction 25 (Site K).
- 5.18.9 Table 5.17 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.17: Site assessment summary – Mercaston (HL)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Mercaston (ME)							None

5.19 Whitwell – WH

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
Bolsover	Tarmac	Permian Limestone	Aggregates / Industrial Dolomitic Limestone	2025	1,000,000

- 5.19.1 Whitwell Quarry is located 1.4km to the south of Whitwell in the Bolsover District. Whitwell is an existing site with established access arrangement and a Section 106 routing agreement. The site is accessed via Crags Road. Two access points are provided to / from the quarry, Gate 1 is for cars only, whilst Gate 2 is used for HGV movements. Figure 5.26a shows the HGV access point at Gate 2, with the separate egress (served by one way system) in Figure 5.26b.

Figure 5.26a: Whitwell Quarry site access (© Google)

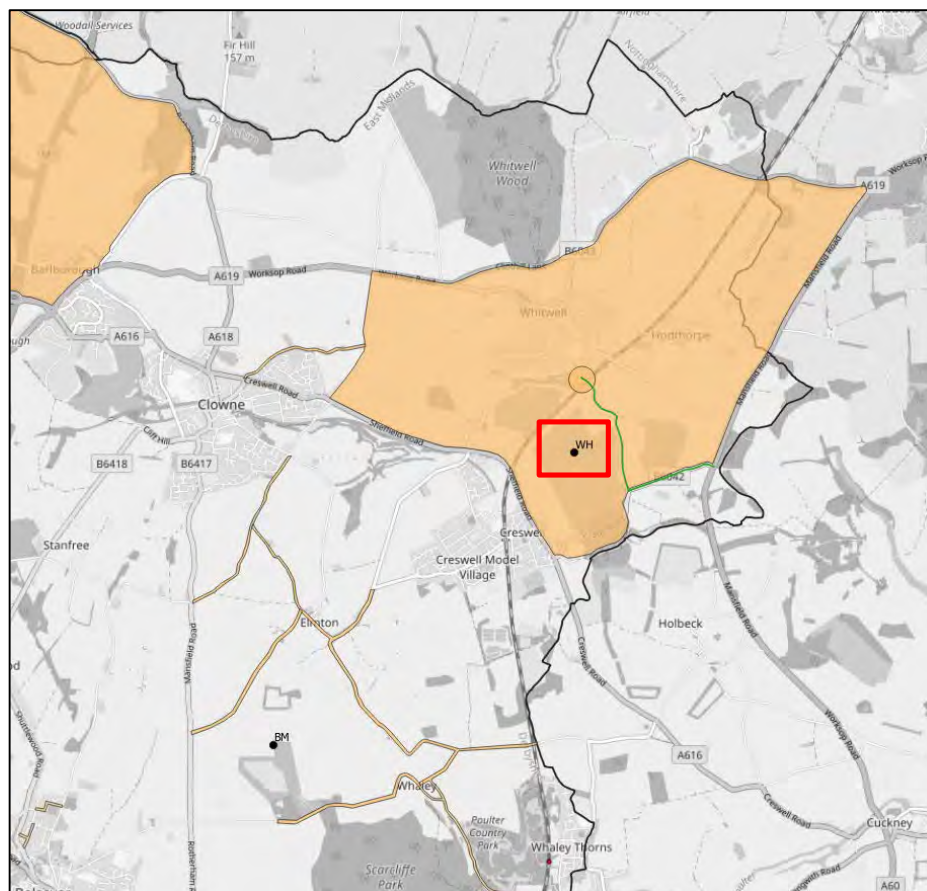


Figure 5.26b: Whitwell Quarry HGV Egress (© Google)



- 5.19.2 The site is expected to cease operations in 2025, and has an estimated average annual tonnage of 1,000,000tpa. Using 20T loads (high estimate) this site would extract 182 full loads of material per day, or 364 two-way movements per day. This equates to approximately 18 one-way or 36 two-way movements per hour assuming a 10-hour working day.
- 5.19.3 Using 30T loads (low estimate), the site would extract 122 full loads of material per day (244 two-way trips). This is equivalent to approximately 24 two-way trips per hour.
- 5.19.4 Under the Section 106 agreement, HGVs are required to use Craggs Road and Henny Moor Lane before joining the A60 at a priority junction.
- 5.19.5 Neither Craggs Road nor Henny Moor Lane are designated HGV routes; however, no residential dwellings are located along the route. The A60 is a designated lorry route and connects Worksop to the north to Mansfield to the south.
- 5.19.6 HGVs may route northbound on the A60 and westbound on the A619 to reach the M1 at Junction 30. Alternatively, HGVs may route southbound on the A60 and A38 to reach the M1 at Junction 28.
- 5.19.7 The site is located within a 3T gross weight limit area as shown in Figure 5.27, however the agreed HGV routing (via Craggs Road and Henny Moor Lane) is exempt. Further weight restrictions are in place in the vicinity of the site, also shown in Figure 5.27.

Figure 5.27: HGV restrictions – Whitwell (WH)



- 5.19.8 Some traffic delay is noted on the A60 to the north of the site approaching Worksop as well as on the A60 to the south of the site approaching Mansfield. Moreover, some traffic delay is noted on the A619 on the approach to the M1 Junction 30 near Barlborough.
- 5.19.9 Noise Action Planning Areas are in place at the M1 junction 30 as well as on the A60 to the north of the site approaching Worksop. Some Noise Action Planning Areas are also in place on the A619, with HGVs routing to / from the M1 Junction 30 passing through the areas. No AQMA's are in place within the vicinity of the site, or on the immediate routing.
- 5.19.10 No collisions have been recorded on Craggs Lane or Hennymomor Lane in the past 5 full years of HGV collision data; however, one collision involving an HGV has been recorded on the A60 approximately 1.1km north of the Hennymoor Lane / A60 junction. No collision clusters have been identified in the immediate vicinity of the site, or on A60, A619 or M1 Junction 30.
- 5.19.11 Table 5.18 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.18: Site assessment summary – Whitwell (WH)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Whitwell (WH)							S106 Routing Agreement

5.20 Bolsover Moor – BM

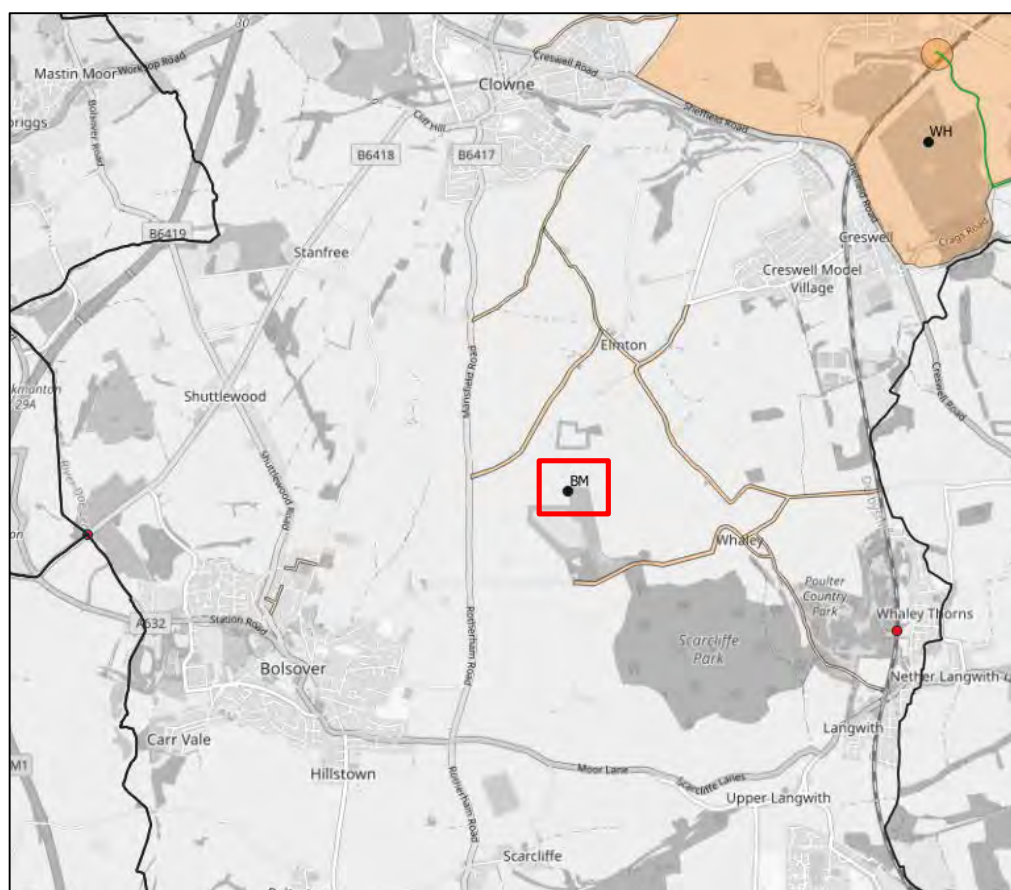
District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
Bolsover	Tarmac	Permian Limestone	Aggregates	2023	200,000

- 5.20.1 Bolsover Moor is an existing minerals site located approximately 2.8km east of Bolsover. It is currently non-operational and planning permission expires in 2023.
- 5.20.2 The site access is a simple priority junction with Suftig Road, as shown in Figure 5.28. Suftig Road (which later becomes Whaley Road) has a 7.5T gross weight limit starting just east of the site access. Further weight restrictions are in place in the vicinity of the site, as shown in Figure 5.29 which govern the routing of HGVs to and from the site.

Figure 5.28: Bolsover Moor site access (© Google)



Figure 5.29: HGV restrictions – Bolsover Moor (BM)



5.20.3 It is understood that all material associated with the site has previously been exported by road. Although currently non-operational, the site is understood to have an estimated average annual tonnage of 200,000. Using 20T loads (high estimate) this site would extract 37 full loads of material per day, which is equivalent to less than four loads per hour. Including return movements this gives a total of 74 two-way HGV movements per day.

- 5.20.4 Using 30T loads (low estimate), the site would extract 25 full loads of material per day (50 two-way trips). This is equivalent to approximately 5 two-way trips per hour assuming a 10-hour working day.
- 5.20.5 HGVs are required to turn right out of the site access and route westbound along Suftig Road before joining the B6417 (Rotherham Road) at a priority crossroads. Some residential properties are located on Suftig Road. From here, it is expected that most HGVs would route via the A632 to the M1 Junction 29A. This would involve passing through Bolsover town centre. The A632 is a designated freight route; however, the B6417 is not a designated freight route.
- 5.20.6 The A632 through Bolsover does experience some journey time delays as identified in Figures 4.8 and 4.9. HGVs routing to / from the site from the M1 Junction 29A would not pass through an AQMA and only a small Noise Action Planning Area to the west of Bolsover.
- 5.20.7 One collision involving an HGV has been recorded at the junction of the B6417 (Rotherham Road) and A632, this was classified as 'slight' by police. A small cluster of collisions is also recorded at the M1 junction 29A. All collisions at this location were recorded as 'slight' by police.
- 5.20.8 Table 5.19 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.19: Site assessment summary – Bolsover Moor (BM)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Bolsover Moor (BM)							Weight limits / Routeing Agreement

5.21 Moorhay Farm – MO

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
North East Derbyshire District	Moorhay Stone and Slate Quarry Ltd	Sandstone	Building Stone	2024	10,000

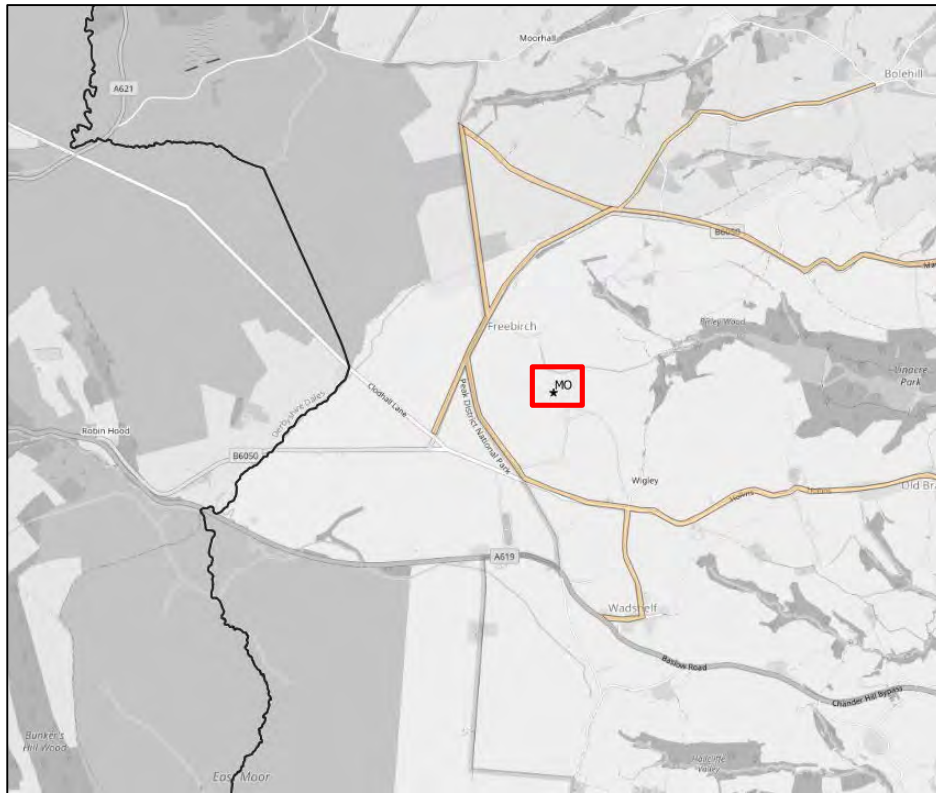
- 5.21.1 Moorhay Farm Quarry is located approximately 7.5km west of Chesterfield town centre. The site is an existing site with established access arrangements and routing agreements. The site is accessed from Top Lane, with HGVs required (via S106 traffic routing agreement) to turn left out of the site onto Top Lane, then onto the A619. The existing junction access does not conform to standard highway access requirements (see Figure 5.30).

Figure 5.30: Moorhay Quarry site access (© Google)



- 5.21.2 The site is expected to cease operations in 2024, with an estimated average annual tonnage 10,000tpa. Using 20T loads this would only yield 2 full loads of material per day. Including return movements this gives a total of 4 two-way HGV movements per day. It's likely given the nature of the site that smaller vehicles would be utilised to export materials.
- 5.21.3 From the site, vehicles are required to turn left onto Top Lane before joining the A619 at a priority junction to the south of the site. The A619 is a designated HGV route, and whilst Top Lane is not a designated route, HGVs using this route would not pass any residential dwellings. From the A619, HGVs are expected to route via the A619 and A617 to the M1 junction 29.
- 5.21.4 Top Lane is an HGV restricted zone as shown in Figure 5.31.

Figure 5.31: HGV restrictions



- 5.21.5 As noted in Figures 4.8 and 4.9, HGVs routing through Chesterfield to reach the M1 Junction 29 are likely to experience delay on the A619 and A617 through the town (Site I) and at Junction 29 (Site K). Several Noise Action Planning Areas are also in place along the A619 and A617.
- 5.21.6 No HGV collisions have been recorded along Top Lane, however a ‘slight’ collision has been recorded approximately 600m east of the Top Lane / A619 junction. The M1 Junction 29 is also identified as a collision cluster (Site D).
- 5.21.7 Table 5.20 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.20: Site assessment summary – Moorhay Farm

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Moorhay Farm (MO)							Routeing agreement

5.22 Dukes Quarry, Whatstandwell (Amber Valley) – DK

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
Amber Valley	Blockstone	Sandstone	Building Stone	2029	10,000

5.22.1 Dukes Quarry is located approximately 1.6km to the west of the village of Crich. It is accessed via Robin Hood Road, with the site access consisting on a simple priority junction. The junction, in its current form, does not conform to current highway standards (see Figure 5.32).

5.22.2 There is a condition on the planning permission that restricts HGV size to gross (laden) weight of 32 tonnes. The consent also restricts HGV movements so that they don't coincide with school drop off/pick up times e.g.8:30-9:30hrs and 15:15-16:00hrs when the school is open.

Figure 5.32: Dukes Quarry site access (© Google)



5.22.3 The site is expected to cease operations in 2029, and has an estimated average annual tonnage of 10,000tpa. Using 20T loads this site would extract 2 full loads of material per day, or 4 two-way movements per day. However, given the nature of the site (within a restricted zone and on a route with limited HGV connectivity), it is expected that the site would utilise smaller HGV vehicles.

- 5.22.4 Vehicles are required (according to a S106 agreement) to turn left out of the site access, route south along Robin Hood Road (which does not provide sufficient width for two-way HGV movements, and passes one residential dwelling), before turning right at the Robin Hood Road / B5035 (Main Road) junction. From here, a short section of the B5035 is used to reach the A6.
- 5.22.5 Figure 5.33 shows the junction of Robin Hood Road with the B5035 (Main Road). Neither Robin Hood Road, nor the B5035 are designated HGV routes. Geometrically, large HGVs would struggle to route through the Robin Hood Road / B5035 (Main Road) junction.

Figure 5.33: Robin Hood Road / B5035 (Main Road) junction (© Google)



- 5.22.6 From the A6, HGVs may route southbound towards the A610 and join the M1 at junction 26 or use the A6 to join the A38 towards the north of Derby. This would involve travelling through Derby City. HGVs routing north may use the A6 to route towards the M60 motorway.
- 5.22.7 A number of points along the likely HGV routes are recognised as experiencing journey time delay, especially on the A6 between Matlock and Ambergate (Site F), on the A6 near Belper (Site H), on the A610 (near Ripley) (Site N) and on the A38 travelling through Derby City (Site R).
- 5.22.8 HGVs routing on the A38 through Derby City will pass in close proximity to AQMA areas. Moreover, HGVs will pass through Noise Action Planning Areas on the A6 (near Ambergate), the A610 (to the east of Ripley), and the A38 (through Derby City). Any HGVs routing to / from the M1 junction 28 will also pass through Noise Action Planning Areas near Pinxton / South Normanton.
- 5.22.9 One serious collision involving an HGV occurred on the A6 approximately 380m north of the B5035 / A6 junction, whilst a further two collisions were recorded approximately 1.2km north of the junction. One collision was recorded as 'serious', whilst the other was recorded by police

as 'fatal'. As shown in Figure 4.10 collision clusters are identified at the M1 Junction 28 (site E) as well as on the A38 within the Derby City administrative boundary (Site I).

5.22.10 Table 5.21 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.21: Site assessment summary – Dukes Quarry (DK)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Dukes Quarry (DK)							S106 Routeing agreement. Hours of export to avoid school pick-up / drop-off times.

5.23 Waingroves Quarry, Ripley – WG

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
Amber Valley	Forterra	Coal Measures	Brick Clay	2042	60,000

5.23.1 Waingroves Quarry is located between Ripley and Langley Mill. The site is an existing quarry site with existing access arrangements. Waingroves Quarry is accessed via Whiteley Road, which connects the site to Peasehill. The site access is at the end of Whiteley Road as shown in Figure 5.34.

Figure 5.34: Waingroves Quarry site access (© Google)



5.23.2 Whiteley Road is shared with a number of other commercial units. Figure 5.35 shows the Whiteley Road / Peasehill junction.

Figure 5.35: Whiteley Road / Peasehill junction (© Google)



- 5.23.3 The site has an estimated average annual tonnage of 60,000tpa. Using 20T loads (high estimate) this site would extract 11 full loads of material per day, or 22 two-way movements per day. This equates to approximately 2 two-way movements per hour assuming a 10-hour working day.
- 5.23.4 Using 30T loads (low estimate), the site would extract 8 full loads of material per day (16 two-way trips). This is equivalent to less than 2 two-way trips per hour assuming a 10 hour working day.
- 5.23.5 From Peasehill, HGVs route westbound to join the B6179 at a roundabout junction. The B6179 passes several residential dwellings before joining the A38. Neither the B6179 nor Peasehill are designated HGV routes. The A38, which is a designated HGV route, can then be used to connect to the wider strategic highway network including the M1 (at junction 28 or 26) or the A50 to the south of Derby.
- 5.23.6 A number of points along the likely HGV routes are recognised as experiencing journey time delay, especially on the A38 near Alfreton (Site L), the M1 junction 28 (Site M) and on the A38 through Derby City (Site R). HGVs passing through Derby City on the A38 will pass in close proximity to Air Quality Management Areas as well as pass through several Noise Action Planning Areas.
- 5.23.7 No collisions involving an HGV have been recorded in the past 5 years on Whiteley Road, Peasehill or the B6179. There are however HGV clusters located on the A38 through Derby City (Site I) and on the A38 to the north of the site (Site F). Additional collisions clusters are noted at the M1 junction 28 (Site E) and along the A50 (Sites H, L and M).
- 5.23.8 Table 5.22 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.22: Site assessment summary – Waingroves (WG)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Waingroves (WG)							None

5.24 Elvaston – EV

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
South Derbyshire	Tarmac	Sand and Gravel	Aggregates	2025	300,000

5.24.1 Elvaston Quarry is located 8.8km southeast of Derby City centre, within the South Derbyshire District. The quarry is currently non-operational although there is an operational mortar plant on site.

5.24.2 The quarry is accessed off of the B5010 via a priority junction. The existing site access junction conforms to acceptable highway standards and has a right turn harbourage for vehicles turning right from the B5010 into the site. The site access junction is shown in Figure 5.36.

Figure 5.36: Elvaston Quarry site access (© Google)



5.24.3 Although currently non-operational, it is understood the site had an estimated average annual tonnage of 300,000tpa. Using 20T loads (high estimate) this site would extract 55 full loads of material per day, equivalent to 6 loads per hour. Over the full day this equates to 110 two-way movements per day.

5.24.4 Using 30T loads (low estimate), the site would extract 37 full loads of material per day (74 two-way trips). This is equivalent to approximately 7 two-way trips per hour assuming a 10 hour working day.

5.24.5 From the B5010, HGVs route west towards the A6 (via a roundabout junction), with a weight limit restricting movement through Shardlow village to the east. From the A50, HGVs can join the M1 at junction 24A. The B5010 is not a designated HGV route; however, both the A6 and A50 are designed HGV routes.

5.24.6 As shown in Figures 4.8 and 4.9, some journey time delay is noted on the B5010 approaching the A50 junction as well as on the A50 when approaching the M1 J24A. Journey time delay is

experienced on the A50 on the approach to the M1 junction 24A. HGVs routing north, there are journey time delays on the A52 and A61 routing through Derby (Site S).

- 5.24.7 HGVs routing on the A52 and A61 in Derby City pass close to AQMA areas and HGVs routing through Derby City will pass through Noise Action Planning Areas.
- 5.24.8 No collisions involving an HGV have been recorded within the past 5 full years of collision data on the B5010. One collision, recorded as ‘slight’ by police, was recorded at the B5010 / A6 roundabout junction. As shown on Figure 4.10, a cluster of collisions is noted on the A50 (Site M).
- 5.24.9 Table 5.23 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.23: Site assessment summary – Elvaston Quarry (EV)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Elvaston (EV)							Weight Limit

5.25 Shardlow – SH

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
South Derbyshire	Hanson	Sand and Gravel	Aggregates	2029	350,000

- 5.25.1 Shardlow Quarry is located to the south east of Derby City Centre, within the South Derbyshire District. The quarry is an existing site, with existing access arrangements.
- 5.25.2 Access to the site is directly off of the A50 (Derby Southern Bypass) via an on-slip and off-slip. An internal access then accommodates traffic between the quarry site and the A50. In times of flood (where the internal access road is impassable), access is permitted via Acre Lane to the west of the site. Acre Lane provides access onto Shardlow Road via a simple priority junction. From here, HGVs would be required to route via B roads and unclassified roads through Shardlow (for southbound traffic) and Thurlston (for northbound traffic) to reach the A50.
- 5.25.3 Figures 5.37 and 5.38 show the site access directly from the A50, whilst Figure 5.39 shows the site access at Acre Lane (only used in times of flood).

Figure 5.37: Shardlow Quarry site access – A50 off-slip (© Google)



Figure 5.38: Shardlow Quarry site access – A50 on-slip (© Google)



Figure 5.39: Shardlow Quarry site access – Acres Lane (© Google)



- 5.25.4 The site is expected to cease operations in 2029, with an estimated average annual tonnage of 350,000tpa. Assuming 20T loads (high estimate), the site is expected to generate 64 full HGV loads per day (128 two-way movements). Assuming a 10-hour working day, this is equivalent to 6 one-way or 12 two-way movements per hour.
- 5.25.5 Using 30T loads (low estimate), the site would extract 43 full loads of material per day (86 two-way trips). This is equivalent to approximately 9 two-way trips per hour assuming a 10 hour working day.
- 5.25.6 The A50 is a designated lorry route on the Derbyshire HGV route map. From the A50, HGVs may route eastbound towards the M1 Junction 24A, or westbound on the A50 to reach Stoke-on-Trent or use the A6, A52 and A61 (or A6) to route northbound through Derbyshire.
- 5.25.7 As shown in Figures 4.8 and 4.9 some journey time delay is noted on the A50 approaching M1 junction 24A . For HGVs routing north, there are journey time delays on the A52 and A61 routing through Derby City (Site S).
- 5.25.8 HGVs routing on the A52 and A61 in Derby City pass close to AQMA areas and HGVs routing through Derby City will pass through Noise Action Planning Areas.
- 5.25.9 One collision has occurred within 100m of the site access on-slip on the A50, which was classified as 'slight' by police. A collision cluster is also noted on the A50 (Site M).
- 5.25.10 Table 5.24 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.24: Site assessment summary – Shardlow Quarry (SH)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Shardlow (SH)							Alternative access arrangements in times of flood.

5.26 Swarkestone – SW

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
South Derbyshire	Tarmac	Sand and Gravel	Aggregates	2027	300,000

5.26.1 Swarkestone Quarry is located to the south of Derby City Centre, within the South Derbyshire District. The quarry is an existing site, with existing access arrangements. Access to the site is via the A5132 (Twyford Road).

5.26.2 Figure 5.40 shows the site access, which includes a right turn harbourage for HGVs turning right into the site and appears to conform to current highway standards.

Figure 5.40: Swarkestone Quarry site access (© Google)



- 5.26.3 The site is expected to cease operations in 2027, with an estimated average annual tonnage of 300,000tpa. Assuming 20T loads (high estimate), the site is expected to generate 55 full HGV loads per day (110 two-way movements). Assuming a 10-hour working day this is equivalent to 6 one-way or 12 two-way movements per hour.
- 5.26.4 Using 30T loads (low estimate), the site would extract 37 full loads of material per day (74 two-way trips). This is equivalent to approximately 7 two-way trips per hour assuming a 10 hour working day.
- 5.26.5 The A5132 (Twyford Road) is a designated lorry route within the Derbyshire HGV map. From the A5132 HGVs can route eastbound to join the A50 at junction 3 (which can then be used to reach the M1 at Junction 24A) or westbound to join the A38 (or A50). The A50, A6, A52 and A61 can then be used to route northbound through Derbyshire (via Derby City).
- 5.26.6 As shown in Figures 4.8 and 4.9, journey time delay is noted on the A50 on the approach to the M1 junction 24A. For HGVs routing north, there are journey time delays on the A52 and A61 routing through Derby City (Site S). Some journey time delays are also noted on the A5132 to the west of the site as the route approaches the A38. A Clean Air Zone is proposed in Derby City.
- 5.26.7 HGVs routing on the A52 and A61 in Derby City pass close to AQMA areas and HGVs routing through Derby City will pass through Noise Action Planning Areas.
- 5.26.8 No collisions involving an HGV have been recorded on the A5132 (Twyford Road) or at the A5132 / A38 junction within the past 5 full years of collision data. Collision clusters are however identified at the A50 / A38 junction (Site L), on the A50 towards Uttoxeter (Site H) and on the A50 towards the M1 (Site M). Additional collision clusters are also noted on the A38 passing through Derby City (site I).
- 5.26.9 Table 5.25 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.25: Site assessment summary – Swarkeston Quarry (SW)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Swarkestone Quarry (SW)							None

5.27 Willington - WN

District	Operator	Mineral Resource	End Use	End date of permission	Average Annual Tonnage (estimated)
South Derbyshire	Cemex	Sand and Gravel	Aggregates	2024	350,000

5.27.1 Willington is an existing minerals site located 1.2km east of Willington and 10km south west of Derby City Centre.

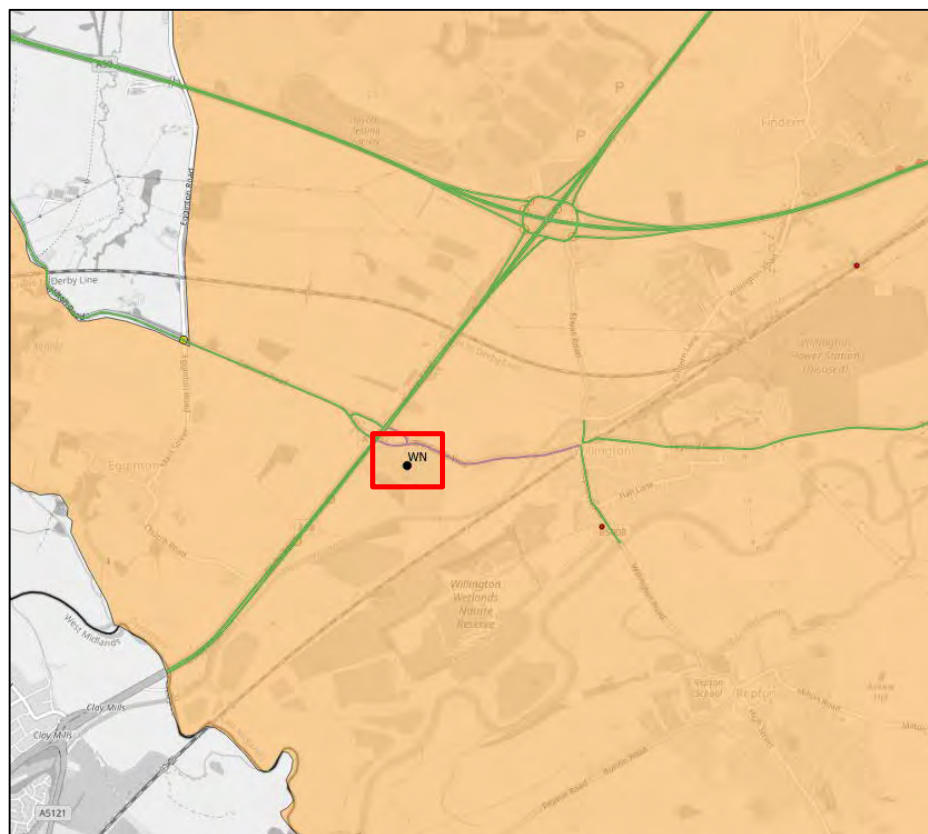
5.27.2 Access to the site is available directly off of the A5132 (The Castle Way) via a priority junction. As shown in Figure 5.41, the priority junction has a right turn harbourage for traffic turning right into the site from the A5132. A visual inspection indicates that the junction meets current highway standards.

Figure 5.41: Willington site access (© Google)



- 5.27.3 The A5132 is a designated lorry route within the Derbyshire HGV map and provides direct access onto the A38 which is a major trunk road in the region.
- 5.27.4 The site is expected to cease operations in 2024, and has an estimated average annual tonnage of 350,000tpa. Using 20T loads (high estimate) this site would extract 64 full loads of material per day, or 128 two-way movements per day. This equates to approximately 6 one-way or 12 two-way movements per hour assuming a 10-hour working day.
- 5.27.5 Using 30T loads (low estimate), the site would extract 43 full loads of material per day (86 two-way trips). This is equivalent to approximately 9 two-way trips per hour.
- 5.27.6 The site is located within a 7.5T gross weight limit area as shown in Figure 5.42, with the A5132 also subject to a gross weight limit of 3T. The A38 however is exempt from these restrictions.

Figure 5.42: HGV restrictions – Willington (WN)



- 5.27.7 Some traffic delay is noted on the A5132 to the west of the site as it approaches the A38, whilst traffic delay is noted on the A38 to the south (near Burton-on-Trent) and to the north approaching and through Derby City (Site R).
- 5.27.8 It is likely that HGV traffic routing to / from the site will pass in close proximity to Air Quality Management Areas in Derby City. Noise Action Planning Areas are in place on the A38 to the north and south of the A38 / A5132 junction.
- 5.27.9 No collisions have been recorded on the A5132 or at the A5132 / A38 junction. However, a collision cluster (Site L in Figure 4.10) is noted at the A38 / A50 junction to the north of the A5132 / A38 junction. Here 6 'slight' collisions and 1 'serious' collision have been recorded. A further 2 'fatal' collisions have been recorded on the A50 to the east of the A50 / A38 junction.

An additional collision cluster on the A38 through the Derby City region (Site I in Figure 4.10) is noted.

5.27.10 Table 5.26 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 5.26: Site assessment summary – Willington (WN)

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (<i>Multiplier</i>)	
Willington (WN)							None

5.28 Assessment Matrix

5.28.1 Table 5.27 summarises the assessment tables for each of the existing minerals sites.

Table 5.27: Matrix of assessment criteria impacts

	Assessment Criteria (See Table 3.1)						Existing Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Ashwood Dale (AD)	Green	Yellow	Yellow	Green	Green	Red	None
Ball Eye (BE)	Green	Yellow	Yellow	Green	Green	Red	None
Bolsover Moor (BM)	Green	Yellow	Yellow	Yellow	Yellow	Green	Weight limits
Bone Mill (BO)	Green	Green	Yellow	Red	Yellow	Red	Weight limits
Brassington Moor (BR)	Green	Green	Yellow	Yellow	Green	Red	S106 & weight limits
Brierlow (BL)	Green	Green	Yellow	Yellow	Green	Green	None
Dene (DE)	Green	Green	Yellow	Yellow	Red	Green	S106 & routing agreement
Dove Holes (DH)	Green	Green	Green	Yellow	Red	Red	Rail connected
Dowlow (DO)	Green	Yellow	Green	Green	Green	Red	Rail connected
Dukes Quarry (DK)	Green	Red	Red	Red	Yellow	Yellow	S106 routing agreement & avoiding school times
Elvaston (EV)	Green	Green	Yellow	Yellow	Red	Green	None
Grange Mill (GM)	Green	Yellow	Yellow	Yellow	Green	Red	Weight limits
Hall Dale (HA)	Green	Yellow	Red	Red	Red	Red	Routing agreement & tonnage limits
Hayfield (HD)	Green	Yellow	Yellow	Green	Green	Red	Tonnage limits
Hillhead (HI)	Green	Green	Green	Yellow	Yellow	Red	Potential rail connection
Hindlow (HL)	Green	Yellow	Green	Green	Green	Red	Potential rail connection
Mercaston (ME)	Green	Green	Yellow	Yellow	Yellow	Red	None
Moorhay (MO)	Green	Red	Yellow	Yellow	Green	Green	Routing agreement
Mouselow (MW)	Green	Green	Yellow	Yellow	Red	Red	Routing agreement
Shardlow (SH)	Green	Green	Yellow	Green	Green	Yellow	Alternative access arrangements in times of flood
Shirebrook (SB)	Grey	Grey	Grey	Grey	Grey	Grey	Grey
Slinter Top (SL)	Green	Green	Yellow	Yellow	Red	Green	Vehicle limits
Swarkestone (SW)	Green	Green	Yellow	Green	Green	Yellow	None
Tunstead (TU)	Green	Green	Green	Yellow	Yellow	Red	Rail connected
Waingroves (WG)	Green	Green	Yellow	Red	Red	Red	None
Whitwell (WH)	Green	Green	Yellow	Yellow	Green	Green	S106 routing agreement
Willington (WN)	Green	Green	Yellow	Green	Green	Green	None

5.29 Peak District National Park Minerals Sites

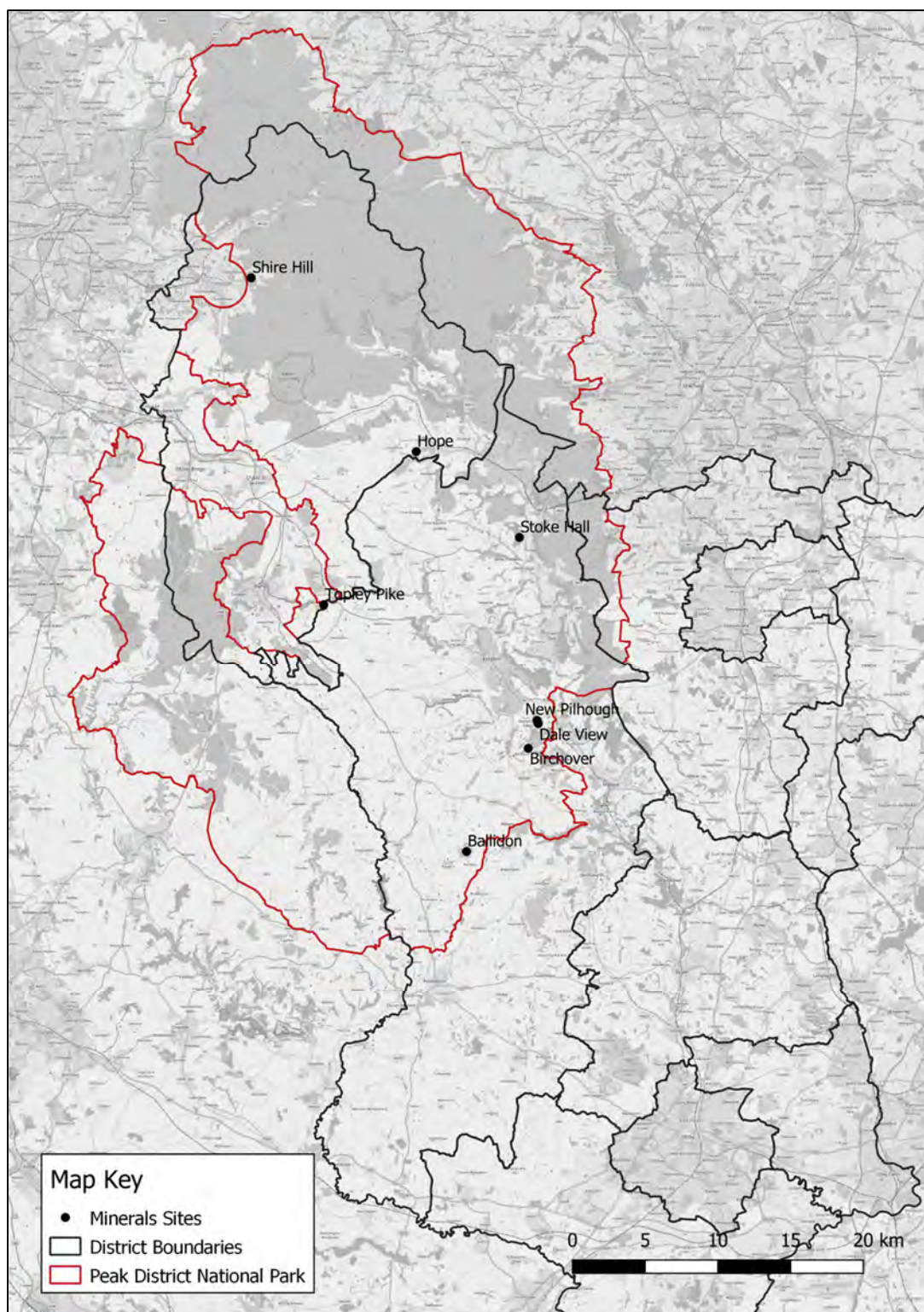
- 5.29.1 Whilst minerals sites within the Peak District National Park Authority (PDNPA) boundary lying within Derbyshire are not being considered as part of this study, their location has been considered since they are likely to generate HGV trips onto the DCC and DCiC transport network.
- 5.29.2 Table 5.28 lists the sites and their associated characteristics, whilst Figure 5.43 locates the sites.

Table 5.28: Peak District National Park (PDNP) mineral sites summary

Quarry	Operator	Mineral resource	End use	End date of permis sion	Annual Average Production (estimated)
Tunstead Old Moor (Tunstead)	Tarmac	Carboniferous Limestone	Industrial Limestone/ Aggregates	2040	N/A
Beelow Quarry, Buxton (Dove Holes)	Cemex	Carboniferous Limestone	Aggregates	2042	N/A
Shire Hill, Glossop	Marchington Stone	Gritstone	Dimension/ Block stone/ Aggregates	2042	200,000
Stoke Hall Quarry, Grindleford	Marshalls	Gritstone	Blockstone/ Aggregate	2042	30,000
Topley Pike	Aggregate Industries UK Ltd	Carboniferous Limestone	Aggregate	2025	250,000
Ballidon Quarry, Parwich	Tarmac	Carboniferous Limestone	Aggregates/ Industrial Limestone	2040	1,100,000
New Pilhough, Stanton in Peak	Blockstone Ltd	Gritstone	Dimension/ Blockstone	2022	18,000
Dale View Quarry, Stanton in Peak	Marshalls	Gritstone	Dimension/ Blockstone	2028	62,000
Hope Shale and Limestone Quarries	Breedon Cement Ltd	Carboniferous Limestone/Shale	Cement Manufacture	2042	1,500,000
Birchover Quarry	Birchover Stone Ltd	Gritstone	Dimension/ Blockstone	2040	22,000

- 5.29.3 Tunstead Old Moor and Beelow Quarry are located within the Peak District National Park but are operated as part of quarries located within the Plan area with site access points located within Derbyshire. Tunstead Old Moor is operated as part of the Tunstead Quarry, whilst Beelow Quarry will be operated as part of the Dove Holes Quarry.
- 5.29.4 Given the above, Tunstead Old Moor and Beelow Quarry have not been included within Figure 5.43 to prevent any potential double counting of HGV movements (given that site access points are within the Derbyshire boundary and will therefore have already been considered earlier within Section 6.)

Figure 5.43: PDNP mineral sites location



5.29.5 Table 5.29 summarises the HGV movements associated with each site, assuming an average of 20T loads (high estimate) and 10-hour working days. Table 5.30 summarises the HGV movements assuming 30T loads (low estimate). It is likely however, that some sites will utilise smaller capacity HGVs (such as trade export sales etc.).

5.29.6 Hope Shale and Limestone Quarry produces an average annual output of 1,500,000tpa; however, 50% of this is transported by rail (leaving 750,000tpa to be transported by HGV).

Table 5.29: PDNP mineral sites, estimated HGV movements (20T loads – high estimate)

Quarry	Daily		Hourly	
	One-way	Two-way	One-way	Two-way
Shire Hill, Glossop	37	74	4	7
Stoke Hall Quarry, Grindleford	6	12	1	1
Topley Pike	46	92	5	9
Ballidon Quarry, Parwich	200	400	20	40
New Pilhough, Stanton in Peak	4	8	0	1
Dale View Quarry, Stanton in Peak	12	24	1	2
Hope Shale and Limestone Quarries	137	274	14	27
Birchover Quarry	4	8	0	1

Note: Some values have been rounded up to the nearest whole number.

Table 5.30: PDNP mineral sites, estimated HGV movements (30T loads – low estimate)

Quarry	Daily		Hourly	
	One-way	Two-way	One-way	Two-way
Shire Hill, Glossop	25	50	3	5
Stoke Hall Quarry, Grindleford	4	8	0	1
Topley Pike	31	62	3	6
Ballidon Quarry, Parwich	134	268	13	27
New Pilhough, Stanton in Peak	3	6	0	1
Dale View Quarry, Stanton in Peak	8	16	1	2
Hope Shale and Limestone Quarries	91	182	9	18
Birchover Quarry	3	6	0	1

Note: Some values have been rounded up to the nearest whole number.

5.29.7 An analysis of the likely HGV routing has been undertaken using online mapping. The following Derbyshire roads are likely to be impacted by minerals operations within the Peak District National Park boundary:

- A57;
- A6;
- A515;
- A623;
- A6187;
- A6103;
- A628;
- A619;
- A617;
- A610;
- A38; and

- A615.

5.29.8 The above routes will be considered further in Stage 2, in terms of cumulative impacts and potential impacts of draft policies (not available at the time of writing this report).

6. Proposed Minerals Sites

6.1 Overview

- 6.1.1 This section identifies the key transport features relating to each of the proposed allocations for mineral working in the new Minerals Local Plan, considering matters such as access arrangements, the existence of any routing restrictions (such as weight limits etc) and export volumes. This has been conducted using information supplied by DCC / DCiC and online resources.
- 6.1.2 Where no information was available, it was assumed that materials would be exported using a 20T load. It should be noted that some operators will use larger 28T vehicles at their sites as this lowers the cost of transport and results in a more efficient operation. Where larger loads are transported then the overall highway impact, in terms of the number of HGVs, will be lower than those suggested in this assessment. It should also be noted that where sites are licensed to sell direct to trade, a variety of vehicles could be used to collect materials (including smaller HGV and flat-bed trucks) which would have the effect of increasing HGV movements over and above these estimates. More detailed trip generation estimates would need to be provided as part of any TA supporting a specific planning application.
- 6.1.3 In terms of access, proposed sites that are extensions to existing sites are assumed to use the same site access point unless otherwise stated whilst, for new sites, an initial assessment of potential access has been undertaken. Mapping software was used to determine the likely routes that would be used by HGVs.
- 6.1.4 Potential allocations for mineral working in the replacement Derbyshire and Derby Minerals Local Plan are:
- BR - Brassington Moor / Aldwark South (extension to existing site)
 - EV - Elvaston (extension to existing site)
 - FO – Foston (new site, replaces Shardlow)
 - SD – Sudbury (new site, replaces Willington)
 - SW - Swarkestone South (Extension to existing Swarkestone Site)
 - SN - Swarkestone North (extension to existing Swarkestone Site to follow on after Swarkestone South)

6.2 Brassington Moor Extension– BR

- 6.2.1 Brassington Moor Quarry is an existing, operational quarry with an established site access and routing arrangements. It is proposed to extend the site to the south (entitled 'Aldwark South'). If planning permission is successfully achieved this will extend the life of the quarry from 2035 until the end of the Derbyshire and Derby Minerals Local Plan period and beyond (2038+).
- 6.2.2 It is understood that the proposed extension would not lead to an intensification of extraction, increasing the life of the quarry only.
- 6.2.3 Based upon this, the site is expected to cease operations in 2038+, with an estimated average annual tonnage of 1,000,000. Using 20T loads (high estimate), this site would extract 182 full loads of material per day, this is equivalent to 18 loads per hour. Including return movements this gives a total of 364 two-way HGV movements per day.

- 6.2.4 Using 30T loads (low estimate), the site would extract 122 full loads of material per day (244 two-way trips). This is equivalent to approximately 24 two-way trips per hour assuming a 10 hour working day.
- 6.2.5 The site has an established site access point off of the B5056, with an entrance / egress for light vehicles only and a separate entrance / egress for heavy vehicles. Table 6.1 repeats the site transport characteristics from Section 5 using the assessment criteria described in Section 3.

Table 6.1: Site assessment summary – Brassington Moor (BR)

	Assessment Criteria (See Table 3.1)						Potential Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Brassington Moor (BR)							S106 & weight limits

6.3 Elvaston – EV

- 6.3.1 Elvaston Quarry is an existing site but is currently non-operational. It is proposed to begin operating the site in 2028 with existing reserves to be worked until 2033. From 2034, if planning permission is granted, the site will then be extended (entitled the ‘Elvaston Extension’) to continue operation until beyond the Plan period (2038+). It is understood that this will comprise an extension to the lifespan of the quarry only, rather than an intensification of extraction.
- 6.3.2 It is understood the site had an estimated average annual tonnage of 300,000tpa. Using 20T loads (high estimate) this site would extract 55 full loads of material per day, equivalent to 6 loads per hour. Over the full day this equates to 110 two-way movements per day.
- 6.3.3 Using 30T loads (low estimate), the site would extract 37 full loads of material per day (74 two-way trips). This is equivalent to approximately 7 two-way trips per hour assuming a 10 hour working day.
- 6.3.4 Table 6.2 repeats the site transport characteristics from Section 5 using the assessment criteria described in Section 3.

Table 6.2: Site assessment summary – Elvaston Quarry (EV)

	Assessment Criteria (See Table 3.1)						Potential Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Elvaston (EV)							None

6.4 Foston Quarry – FO

- 6.4.1 Foston Quarry is a proposed new site and would operate as a replacement site for Shardlow. It is located within an area of established minerals operations in the South Derbyshire district, with the nearest existing mineral site being Willington (10km to the east).
- 6.4.2 The site would be accessed off of Leathersley Lane, and a new site access conforming to current highway standards would need to be created. Leathersley Lane is classified as a 'local access road' and follows the national speed limit of 60mph. Visual inspection indicates that an acceptable site access could be created at this location, subject to detailed design.
- 6.4.3 If planning permission is granted it is proposed to begin operating the site in 2030 and cease operations in 2038. It is understood that the site has an expected estimated average annual tonnage of 450,000tpa. Using 20T loads (high estimate) this site would extract 82 full loads of material per day, equivalent to 8 loads per hour. Over the full day this equates to 164 two-way movements per day.
- 6.4.4 Using 30T loads (low estimate), the site would extract 55 full loads of material per day (110 two-way trips). This is equivalent to approximately 11 two-way trips per hour assuming a 10-hour working day.
- 6.4.5 Leathersley Lane currently joins the A515 at a priority T-junction. It is likely that HGVs would route towards the A515 before travelling towards the south to reach the M6 and M42 motorways. Vehicles routing north are likely to use the A50 to reach the M1 at junction 24A or the A515 and A6 to reach the wider highway network in Manchester (including the M62). The A515, A50 and A6 are designated HGV routes.
- 6.4.6 The proposed site currently lies within an HGV (7.5T gross) restricted zone as shown in Figure 6.1, and Leathersley Lane is not classified as exempt from these restrictions. Indeed, HGV restrictive signage is noted at the Leathersley Lane / A515 junction (see Figure 6.2). Traffic Regulation Orders would therefore need to be checked to determine if there are exemptions for access.

Figure 6.1: HGV restrictions

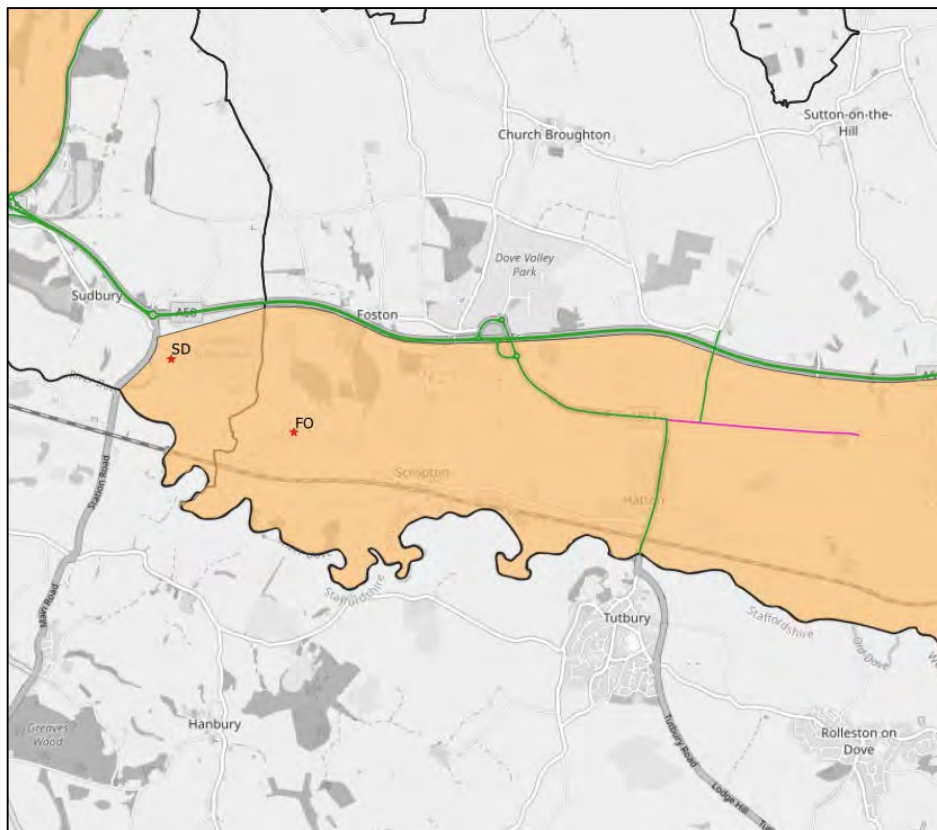


Figure 6.2: Leathersley Lane HGV restriction (© Google)



- 6.4.7 As shown in Figures 4.8 and 4.9, some journey time delay is noted at the A515 / A50 junction, whilst HGVs routing north on the A515 would experience delay through Ashbourne (Site G) and Buxton (Sites D and C). Some delay is also noted on the A50, specially at the A50 / A6 junction.
- 6.4.8 Noise Action Planning Areas are located close to the A5151 / A50 junction and in several places along the on the A50 itself.
- 6.4.9 No collisions involving an HGV have been recorded within the past 5 full years of collision data on Leathersley Lane; however, one 'slight' collision has been recorded at the Leathersley Lane / A515 junction and another at the A515 / A50 roundabout junction (recorded as 'slight'). The A50 has been identified as a collision cluster within Figure 4.10 (Sites H, L and M), as has the A515 through Ashbourne (Site G) and to the south of Buxton (Site C).
- 6.4.10 Table 6.3 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 6.3: Site assessment summary – Foston Quarry (EV)

	Assessment Criteria (See Table 3.1)						Potential Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Foston (FO)							TBC

6.5 Sudbury Quarry – SU

- 6.5.1 Sudbury Quarry is a proposed site located approximately 1.4km west of the proposed Foston Quarry, which would operate as a replacement for Willington Quarry. The site is in an established area of minerals operations, with the nearest existing mineral site being Willington (10km to the east).
- 6.5.2 The site would be accessed off of Leathersley Lane, and a new site access conforming to acceptable highway standards would need to be created. Leathersley Lane is classified as a 'local access road' and follows the national speed limit of 60mph. Visual inspection indicates that an acceptable site access could be created at this location, subject to detailed design.
- 6.5.3 If planning permission is granted it is proposed to begin operating the site in 2031 and continue operations beyond the end of the Plan period (2038+). It is understood that the site has an expected estimated average annual tonnage of 250,000tpa. Using 20T loads (high estimate) this site would extract 46 full loads of material per day, equivalent to 5 one-way loads per hour or 10 two-way movements per hour. Over the full day this equates to 92 two-way movements per day.
- 6.5.4 Using 30T loads (low estimate), the site would extract 31 full loads of material per day (62 two-way trips). This is equivalent to approximately 6 two-way trips per hour assuming a 10-hour working day.
- 6.5.5 Leathersley Lane currently joins the A515 at a priority T-junction. It is likely that HGVs would route towards the A515 before travelling towards the south to reach the M6 and M42

motorways. Vehicles routing north are likely to use the A50 to reach the M1 at junction 24A or the A515 and A6 to reach the wider highway network in Manchester (including the M62). The A515, A50 and A6 are designated HGV routes.

- 6.5.6 The proposed site currently lies within an HGV (7.5T gross) restricted zone as shown in Figure 6.3, and Leathersley Lane is not classified as exempt from these restrictions. Indeed, HGV restrictive signage is noted at the Leathersley Lane / A515 junction (see Figure 6.4). Traffic Regulation Orders would therefore need to be checked to determine if there are exemptions for access.

Figure 6.3: HGV restrictions

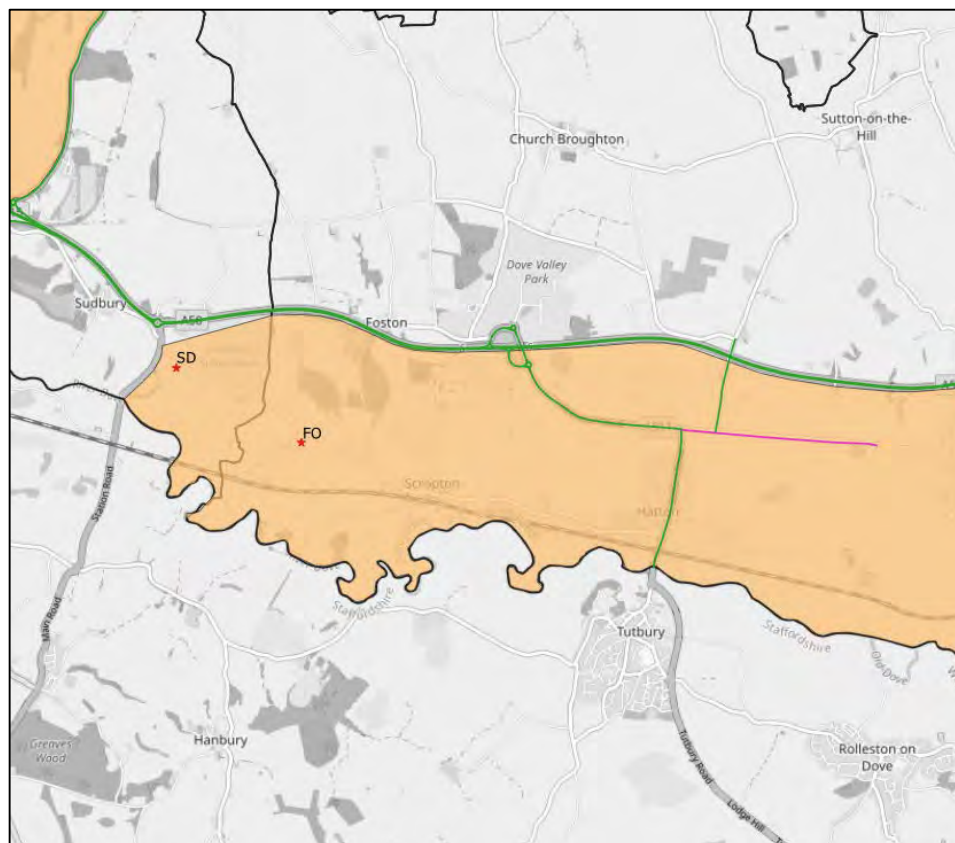


Figure 6.4: Leathersley Lane HGV restriction (© Google)



- 6.5.7 As shown in Figures 4.8 and 4.9, some journey time delay is noted at the A515 / A50 junction, whilst HGVs routing north on the A515 would experience delay through Ashbourne (Site G) and Buxton (Sites D and C). Some delay is also noted on the A50, specially at the A50 / A6 junction.
- 6.5.8 Noise Action Planning Areas are located close to the A5151 / A50 junction and in several places along the on the A50 itself.
- 6.5.9 No collisions involving an HGV have been recorded within the past 5 full years of collision data on Leathersley Lane; however, one 'slight' collision has been recorded at the Leathersley Lane / A515 junction and another at the A515 / A50 roundabout junction (recorded as 'slight'). The A50 has been identified as a collision cluster within Figure 4.10 (Sites H, L and M), as has the A515 through Ashbourne (Site G) and to the south of Buxton (Site C).
- 6.5.10 Table 6.4 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 6.4: Site assessment summary – Sudbury Quarry (SD)

	Assessment Criteria (See Table 3.1)						Potential Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Sudbury (SD)							TBC

6.6 Swarkestone (South) – SW

- 6.6.1 Swarkestone South is an extension to the existing (operational) Swarkestone Quarry. It is assumed that the site would utilise the same site access point and would extend the life of the quarry only (i.e. there would be no intensification of operations).
- 6.6.2 It is proposed that the extension would be operational from 2027 until 2034, with an estimated average annual tonnage of 300,000tpa. Assuming 20T loads (high estimate), the site is expected to generate 55 full HGV loads per day (110 two-way movements). Assuming a 10-hour working day, this is equivalent to 6 one-way or 12 two-way movements per hour.
- 6.6.3 Using 30T loads (low estimate), the site would extract 37 full loads of material per day (74 two-way trips). This is equivalent to approximately 7 two-way trips per hour assuming a 10 hour working day.
- 6.6.4 Table 6.5 repeats the site transport characteristics from Section 5 using the assessment criteria described in Section 3.

Table 6.5: Site assessment summary – Swarkeston (South) Quarry (SW)

	Assessment Criteria (See Table 3.1)						Assessment Score	Potential Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)		
Swarkeston (South) (SW)								None

6.7 Swarkestone North – SN

- 6.7.1 Swarkestone North is a proposed extension of the existing (operational) Swarkestone South Quarry. It is proposed to follow on after the proposed allocation Swarkestone South is worked out. The site would extend the life of the quarry only (i.e. there would be no intensification of operations).
- 6.7.2 It is estimated that the extension would be operational from 2034 with an estimated average tonnage of 300,000tpa. Assuming 20T loads (high estimate), the site is expected to generate 55 full HGV loads per day (110 two-way movements). Assuming a 10-hour working day, this is equivalent to 6 one-way or 12 two-way movements per hour.
- 6.7.3 Using 30T loads (low estimate), the site would extract 37 full loads of material per day (74 two-way trips). This is equivalent to approximately 7 two-way trips per hour assuming a 10 hour working day.
- 6.7.4 The A5132 (Twyford Road) is a designated lorry route within the Derbyshire HGV map. From the A5132 HGVs can route eastbound to join the A50 at junction 3 (which can then be used to reach the M1 at Junction 24A) or westbound to join the A38 (or A50). The A50, A6, A52 and A61 can then be used to route northbound through Derbyshire (via Derby City).
- 6.7.5 As shown in Figures 4.8 and 4.9, journey time delay is noted on the A50 on the approach to the M1 junction 24A. For HGVs routing north, there are journey time delays on the A52 and

A61 routing through Derby City (Site S). Some journey time delays are also noted on the A5132 to the west of the site as the route approaches the A38.

- 6.7.6 HGVs routing on the A52 and A61 in Derby City pass close to AQMA areas and HGVs routing through Derby City will pass through Noise Action Planning Areas.
- 6.7.7 No collisions involving an HGV have been recorded on the A5132 (Twyford Road) or at the A5132 / A38 junction within the past 5 full years of collision data. Collision clusters are however identified at the A50 / A38 junction (Site L), on the A50 towards Uttoxeter (Site H) and on the A50 towards the M1 (Site M). Additional collision clusters are also noted on the A38 passing through Derby City (site I).
- 6.7.8 Table 6.6 summarises the site transport characteristics using the assessment criteria described in Section 3.

Table 6.6: Site assessment summary – Swarkeston North Quarry (SW)

	Assessment Criteria (See Table 3.1)						Potential Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Swarkeston North (SN)	Yellow	Green	Yellow	Green	Green	Red	TBC

6.8 Assessment Matrix

6.8.1 Table 6.7 summarises the assessment for each of the proposed sites.

Table 6.7: Matrix of assessment criteria impacts – proposed sites

	Assessment Criteria (See Table 3.1)						Potential Mitigation
	Type of Site	Access	Export Mode	Export Route (Vehicular)	Sensitive Receptors	Duration of Operations (Multiplier)	
Brassington Moor (BR)	Green	Green	Yellow	Yellow	Green	Yellow	S106 & weight limits
Elvaston (EV)	Green	Green	Yellow	Yellow	Red	Red	None
Foston (FO)	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	TBC
Sudbury (SD)	Yellow	Yellow	Yellow	Yellow	Green	Red	TBC
Swarkestone North (SN)	Yellow	Green	Yellow	Green	Green	Red	TBC
Swarkestone South (SW)	Green	Green	Yellow	Green	Green	Yellow	None

7. Summary and Way Forward

- 7.1.1 A transport review has been conducted on the existing and proposed mineral sites that form part of the Derbyshire and Derby Minerals Local Plan. The Review has described the national and local policy context for taking transport issues into account in planning for mineral development. Taking this policy context into account the Review includes an evaluation matrix which comprises transport criteria designed to assess transport impacts.
- 7.1.2 The Review mapped the location of the existing and proposed sites in the context of the existing transport network including highways, rail and navigable waterways.
- 7.1.3 It has looked strategically at a county -wide level on factors which affect mineral transport such as condition of transport assets, congestion, HGV restrictions, HGV accident data, Air Quality Management Areas, Clean Air Zones and Noise Action Plan areas. It has looked at planned schemes (road, rail and water) which could improve transport conditions near to existing and proposed sites.
- 7.1.4 The existing and proposed sites have been reviewed based upon their site accesses, likely export modes and likely export routes taking into account collision clusters, areas of traffic delay, and the location of Noise Action Planning Areas and Air Quality Management Areas. Consideration has also been given to any HGV restrictions, as well as the available rail and waterway network.
- 7.1.5 The evaluation matrix which assesses the type of site and location, access, export mode, export route (vehicular) and nearby sensitive receptors has been used to provide a tabulated assessment of all sites and to highlight any potential issues that may require mitigation.
- 7.1.6 This report presents the findings of Stage One only. A report covering Stage Two will be produced that will assess the overall impact of maintaining the existing supply pattern of mineral sites and opening up new sites on the transport network including cumulative impacts. Stage Two will also assess the effectiveness of the plan's policies aimed at securing more sustainable modes of transport and development management policies aimed at mitigating the impacts of transporting minerals.

