

**IN RESPECT OF THE APPEAL AGAINST THE DECISION
OF HERTFORDSHIRE COUNTY COUNCIL FOR THE
DEVELOPMENT OF**

**LAND AT HATFIELD AERODROME, OFF HATFIELD
ROAD, HATFIELD, HERTFORDSHIRE**

**PLANNING INSPECTORATE REF: APP/M1900/W/24/3346607
LOCAL PLANNING AUTHORITY REF: PL/0232/21**

**Paper submitted by former Rule 6 parties now third parties
at the request of the Planning Inspector**

Highways and Traffic

Index

- 1 Sustainable Locations - Planning policy
- 2 Access Routes
- 3 A1057 St Albans – Hatfield Road
- 4 Comet Way
- 5 A414 and A1(M) junctions
- 6 Site Entrance
- 7 Vehicle movements
- 8 Cumulative impacts
- 9 Conclusions

1 Hatfield Quarry is Not a sustainable location

Hertfordshire Minerals Local Plan Review 2002-2016 - Adopted March 2007

This plan states as follows:

MINERALS POLICY 16 ~ TRANSPORT

Proposals which include the transport of minerals to or from the development site by non-road transport such as water or rail will be supported.

Mineral development will only be permitted when the provision for vehicle movement within the site, the access to the site, and the conditions of the local highways network are such that the traffic movements likely to be generated by the development including the proposed after use would not have an unacceptable impact on highway safety, the effective operation of the road network, residential amenity or the local environment.

In assessing the likely impact of traffic movements, account will be taken of any highway improvements, traffic management or other mitigating measures that may be provided in association with the development. Applicants must demonstrate, by a detailed transport appraisal, that the safest and least environmentally damaging methods of transporting minerals from extraction/production to markets, that are practically achievable, are used.

Planning permission will normally only be granted for the extraction of minerals which are capable of being transported from sites via Primary and Distributor Roads (as defined in the County Council's Local Transport Plan). Where the transport of material would require the use of local roads (as defined in the County Council's Local Transport Plan) to gain access from the site to the major road network, or where other roads may be unsuitable on traffic safety, engineering or environmental grounds for increased levels of heavy traffic, applicants seeking planning permission will normally be required to carry out, and submit the results of a study of the impact of heavy goods vehicle traffic on road safety and the environment.

As such one of the objectives is to promote/encourage the sustainable transport of minerals by road, rail, and water, including the safeguarding of railheads.

However, this site does not meet this criteria. The site has no access to sustainable transport links, rail, river, or canal therefore is totally dependent upon lorry transport therefore contrary to policy 16 above.

The overall plan for Hertfordshire sites the majority of sites for mineral extraction in one small section of the county. There will be increased transport mileage due to the concentration of all Hertfordshire's sand and gravel being supplied from one small area within the southwest corner of the county. Other sites are available, which would reduce transport mileage.

As detailed in the *Hertfordshire Minerals Plan Proposed Submission January 2019*:

The population of Hertfordshire is projected to increase by 187,700 (15.96%) over the 25-year period from 2016 to 2041 with populations for each individual district sharing the increase. East Herts is set to experience the largest increase of 27,600 people by 2041 and Stevenage the lowest increase of 12,000 by 2041.

This proposed site is one of the least accessible sites to the area of East Herts which as stated above is the area in the mineral plan forecasted to have the highest growth and hence demand for minerals. East Herts does have promoted sites within the Mineral Plan.

This application fails to meet Hertfordshire Mineral Plan objective 4 in promoting sustainable transport and relies purely upon lorry transport.

The site further fails to meet HCC climate objective in reducing Co2 emissions as alternative sites would reduce transport mileage thus Co2 emissions because they are closer to where the minerals will be needed.

2 Possible routes for accessing and departing from the quarry site

The proposed quarry site is on the eastern edge of St Albans and within St Albans 7.5ton vehicle limit, so in this section we consider and evidence the possible routes to the strategic road network. We do so based upon the following:

Environmental statement part 7 Transport

7.36 There may be the occasional export load which travels to a local site in St. Albans, west out of the site access. However, it is expected that the vast majority would travel towards the A1(M) to the east.

7.37 The study area has therefore been determined as the A1057 to the east of the proposed access to the connection with the A1 by means of Comet Way in both a north and south direction.

Much of St Albans has 7.5-ton weight limit as evidenced below, it is however acknowledged that finding suitable routes round and through it is difficult for HGV drivers (TruckNet UK.com).

The proposed site is within the St Albans 7.5-ton weight limit zone. The applicants environmental statement para 7.36 indicates that most site traffic will enter and leave the site via A1057 to Hatfield. Therefore, all traffic should use the St Albans Road, A1057 to Hatfield then Comet Way (A1001) to access the road network via A1M or A414. - unless delivering within the St Albans 7.5-ton weight limit zone. There is concern about both departing and arriving lorries and this access route must be heavily restricted and managed to ensure that the lorries do not enter St Albans and its restricted zone.

The current Draft Planning Conditions 2023 show the following:

HGV routing

15 Prior to the commencement of mineral extraction, a scheme shall be submitted to and approved in writing by the MPA that shall provide for HGVs exiting the site left only east bound to the A1001. The scheme shall include

- (i) a plan illustrating the route between the site and Comet Way/ A1(M) via the A1057*
- (ii) measures including signage to ensure all HGVs exit the site left only and travel eastbound on the A1057/Comet Way (A1001)/A1(M);*
- (iii) means to ensure compliance with the routing plan; and*
- (iv) management measures for addressing noncompliance by HGV drivers.*
- (v) The design shall provide that all HGVs shall exit the site left only (eastbound).*
- (vi) The junction arrangements shall be implemented in accordance with the approved plans.*
- (vii) The left only arrangement shall be maintained for the lifetime of the development. The site shall be operated in accordance with the approved scheme throughout the*

operation of the development and shall apply to all HGV movements related to (a) the export of minerals from the site, and (b) the importation of inert material for restoration.

Reason: *In the interests of highway safety and amenity.*

It is our contention that this should be more prescriptive in terms of vehicles only arriving at the site from a westbound direction along the A1057

The proposed draft conditions give the residents of Smallford and St Albans some protection from lorries using these roads but does nothing to protect the residents of Ellenbrook and Hatfield. If these conditions were not imposed, then -

Two routes exist heading west from the site.

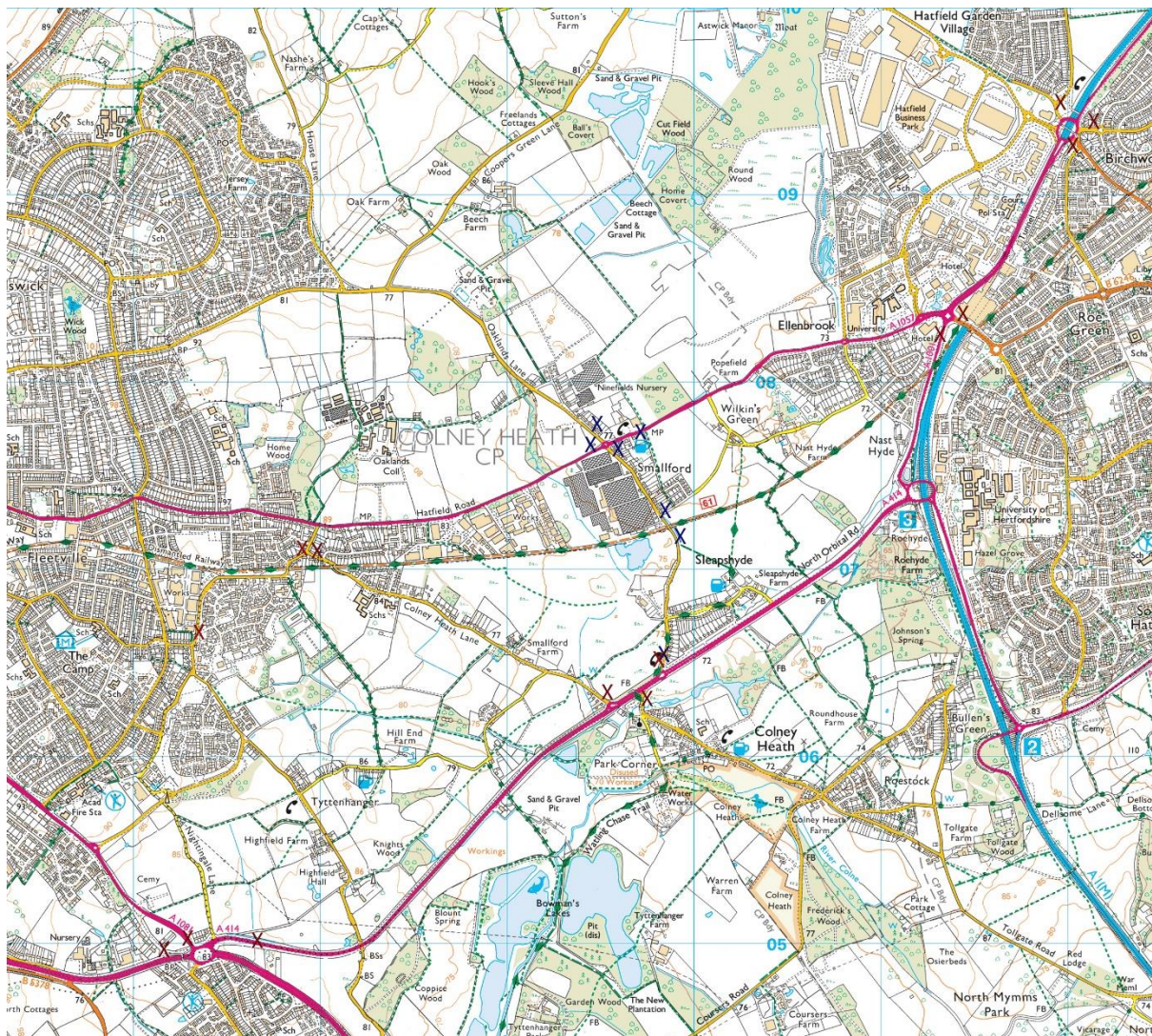
- 1) Hatfield Road A1057 which has possible links to A1081 after the business units on Hatfield Road is residential with houses along most of its route. Possible onward routes using either Ashley Road-Drakes Drive or Beechwood Avenue-Marshalswick Lane-Beech Road are also primarily residential roads.
- 2) Sandpit Lane is residential with houses along most of its route. Possible onward routes using either Ashley Road-Drakes Drive or Beechwood Avenue-Marshalswick Lane-Beech Road are also primarily residential roads.

The proposed site is within the St Albans 7.5-ton weight limit and currently no additional signs restrict HGV movement within the area southeast of St Albans other than the weight limits in Station Road, Smallford Lane, Colney Heath Lane and Hill End Lane. The restriction in Station Road and Colney Heath Lane are due to weight limits on old former railway bridges. (See map below).

From a resident's perspective the area has poor or non-existent enforcement of HGV weight limits with lorries regularly travelling through restricted zones.

Given the cumulative impact when taken with the existing Hatfield Quarry run by Cemex, the conditions attached to road movements must be robust to protect residents.

Below and overleaf are pictures of the various road referred to above.



Map show weight limits signs within St Albans and Hatfield area

Key X 7.5-ton weight limit

X 3-ton axial weight limit



A414 junction with A1081 east bound



A414 junction with A1081 west bound



A1081 at junction with A414



A414 Colney Heath long-about east bound.

All images taken between 25th September – 10th October 2021



A414 Colney Heath long-about west bound.



A414 - Colney Heath Lane



A1057 at Smallford east bound



A1057 at Smallford west bound



Oaklands Lane Smallford at A1057 junction



A1001 approaching Comet round-about north bound.



A1001 at Comet roundabout



Colney Heath Lane near A1057



Station road - Smallford Lane bridge

Highway Capacity

Unfortunately the most recent capacity information we can find relates to the WHaSH WHaSH (Welwyn/Hatfield and Stevenage/Hitchin) Highway Model produced by AECOM December 2014.

3.3 With Mitigation Network Development

Prior to the development of WHaSH, the DIAMOND traffic model was used to determine the strategic impact of developments on the highway network. WHBC share the HA's view that this high level assessment is not sufficient in providing evidence to make an appropriate response to the emerging core strategy, hence the reason WHaSH model is developed.

As part of the initial assessment using DIAMOND thirteen junctions were identified for requiring improvements to accommodate increased traffic demand as a result of development across the Local Plan area. A further three junctions (*listed in italics*) were identified in the light of current local plan tests. The combined 'with mitigation' package is as follows:

1. A1(M) Junction 6, including the Clock Roundabout;
2. Mundells Gyratory;
3. Broadwater Road / Bridge Road signalised junction;
4. A414 section between Mill Green & Tesco (Great North Road);
5. Jack Oldings Roundabout;
6. A1(M) Junction 4;
7. A1(M) Junction 3;
8. A1057 St Albans Road / A1001 Comet Way / B6426 Cavendish Way junction;
9. Stanborough Roundabout;
10. A414 Hertford Road / A1000 junction;
11. Birchall Lane / A414 Roundabout;
12. Holwell Lane / A414 Roundabout;
13. B197 Wellfield Road / A1001 Comet Way Roundabout;
14. *Coopers Green Lane Roundabout;*
15. *Ellenbrook Lane / St. Albans Road Roundabout; and*
16. *A1000 / South Way Overpass.*

The remedial measures for each junction have been coded into the 'with mitigation' network, where possible. More detailed information on mitigation scheme design can be found in the '*Welwyn and Hatfield Junction Design Improvement Feasibility Study*' submitted by AECOM in August 2014. This report includes proformas for each scheme. Their geographical location is provided in **Figure 3.2**.

The network described in section 3.2 is used to test the Reference Case and LPO2 (without mitigation) scenarios. Section 3.3 described the network used to test LPO2 (with mitigation). The traffic assignment results for these scenarios are discussed in **chapter 5**.

This highway (WHaSH) study identifies capacity issues along all the roads from the proposed quarry site to main highways network. Of the 16 identified locations in this report requiring mitigation 8 were on the principal routes traffic servicing the quarries would use. It is also likely that HGV's will use these local roads to access delivery sites especially in times of congestion.

5.5 Assessment of LPO2 Development Growth's Impact on Junction Delay

Comparing **Figures 5.1 and 5.2** provides an indication of the impact the LPO2 development growth has on junction delay within the Welwyn Hatfield transport network. An assessment has been undertaken to determine whether background or development growth is the main cause for a junction being forecasted to experience a considerable level of delay in the future year.

This is summarised in the **Table 5.4** whilst **Figure 5.3** displays the geographic location and size of development sites highlighting their proximity and potential impact on the sixteen junctions identified for mitigation testing. Comparison stress plots of each junction in the Reference Case and LPO2 are provided in **Appendix C**.

It is noted that Scheme 11, Birchall Lane / A414 Roundabout, is on the edge of the model and has loading points from the A414 and Birchall Lane. Part of the delay at this junction is artificial and is caused by the way the model is calibrated for accurately representing flows in the base year. This is discussed in more detail in **section 6.12** but as the model is calibrated in the same way for the Reference Case and LPO2 the impact of increased development on junction delay can still be assessed at this location.

Table 5.4: Impact of Development Growth on Junction Delay

Junction	Maximum AM/PM Delay in Reference Case (seconds)	Maximum AM/PM Delay in LPO2 (seconds)	Source of Delay?
1 - A1(M) Junction 6, including the Clock Roundabout	Clock = 28 Welwyn by-pass = 144	Clock = 28 Welwyn by-pass = 58 seconds	Decrease in delays is the result of vehicles re-routing to avoid the heavily congested A1000 in the PM Background Growth
2 - Mundells Gyratory	Bessemer Rd = 43 Herns Way = 6 Black Fan Rd = 11	Bessemer Rd = 13 Herns Way = 32 Black Fan Rd = 39	Minimal change to junction delays although link stress forecast to increase on majority of approaches – see Appendix C
3 - Broadwater Road / Bridge Road signalised junction	69	66	Slight reduction a result of vehicles re-routing to avoid junction from Bridge Road (west) and A1000 Background Growth
4 - A414 section between Mill Green & Tesco (Great North Road)	Eastbound = 10 Westbound = <1	Eastbound = 16 Westbound = <1	No significant change Background Growth
5 - Jack Oldings Roundabout	Great North Rd = 78 Comet Way / A1(M) SB = 0 A1(M) SB off slip = 23	Great North Rd = 135 Comet Way / A1(M) SB = 59 A1(M) SB off slip = 35	Increase in delays (Great North Road 73% inc.) Likely to be surrounding Development
6 - A1(M) Junction 4	119	109	Slight Reduction – Increased delays at Jack Oldings in LPO2 causing re-routing reducing the flows entering this junction from the east Unclear
7 - A1(M) Junction 3	A1(M) SB off = 99 A1(M) NB off = 10 A414 = 13 A1001 = 10 A1(M) NB on = <1	A1(M) SB off = 85 A1(M) NB off = 17 A414 = >500 A1001 = 121 A1(M) NB on = 58	Increase in delays (A414 and A1001 >100% inc) Very Likely to be surrounding Development

Junction	Maximum AM/PM Delay in Reference Case (seconds)	Maximum AM/PM Delay in LPO2 (seconds)	Source of Delay?
8 - A1057 St Albans Road / A1001 Comet Way / B6426 Cavendish Way junction	Comet Way South App. = 155 Mosquito Way / A1057 = 28	Comet Way South App. = 299 Mosquito Way / A1057 = 31	Increase in delays (CWS 92% inc.) Very Likely to be surrounding Development
9 - Stanborough Roundabout	East = 36 West = 30	East = 51 West = 56	Increase in delays of 41% and 86% Likely to be surrounding Development
10 - A414 Hertford Road / A1000 junction	EB on slip = 1 EB off slip = 0 EB / Chequers = 1	EB on slip = 1 EB off slip = 0 EB / Chequers = 1 (Large delay seen in Figure 5.2 and 5.3 is due to loading Lodge Drive to the south of the junction and is not related to the operation of the junction itself.)	No Delays
11 - Birchall Lane / A414 Roundabout	87	122	Increase in delays of 40% Likely to be surrounding Development
12 - Holwell Lane / A414 Roundabout	9	9	No Delays
13 - B197 Wellfield Road / A1001 Comet Way Roundabout	124	229	Increase in delays of 84% Likely to be surrounding Development
14 - Coopers Green Lane Roundabout	98	272	Increase in delays of >100% Very Likely to be surrounding Development
15 - Ellenbrook Lane / St. Albans Road Roundabout	78	344	Increase in delays of >100% Very Likely to be surrounding Development
16 - A1000 / South Way Overpass	101	>500	Increase in delays of >100% Very Likely to be surrounding Development

This detailed analysis also identifies significant delays on eight of the key junction's HGVs would need to use when accessing the major road network to and from the proposed quarry site.

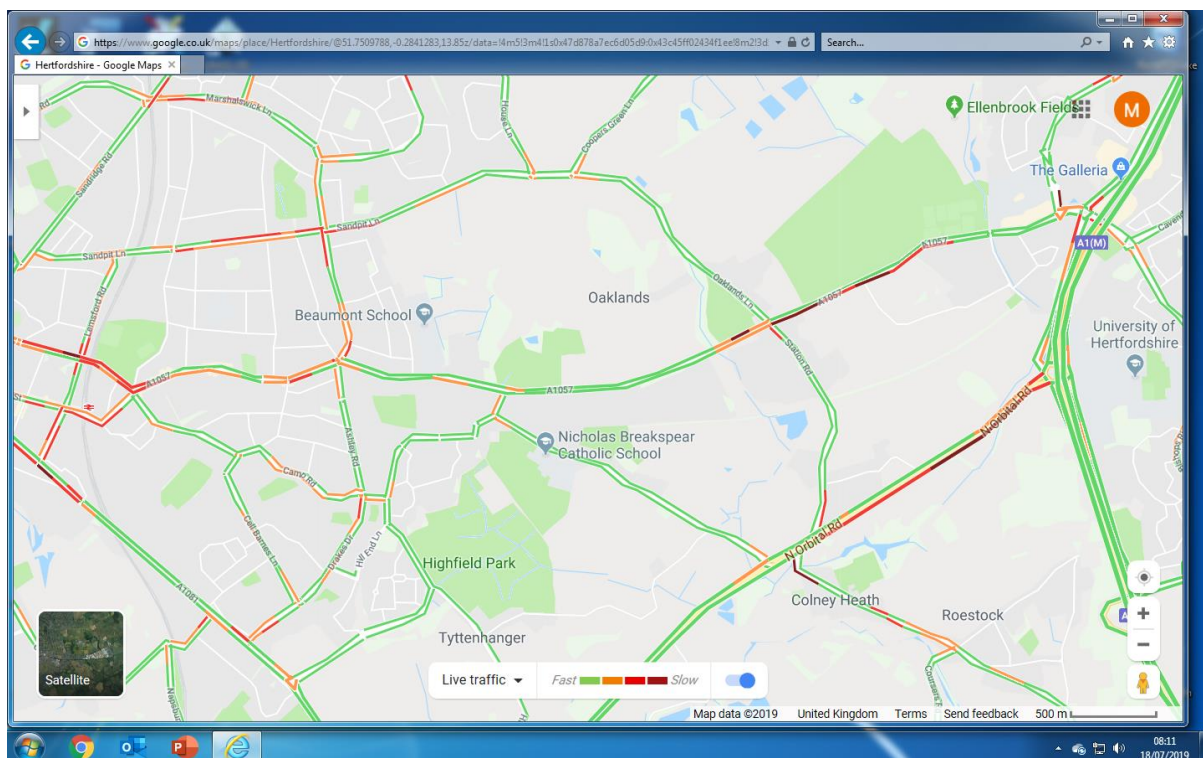
3 A1057 St Albans Road Smallford to Hatfield

The site entrance together with its impacts is considered in detail in section 6. We should note that use of this road, A1057, is shared with Hatfield quarry (Cemex) which already has agreed up to 250 vehicles movements per day most of which go through Smallford and Ellenbrook as its also within the St Albans 7.5-ton limit zone.

You can see from below the impact already thought to be coming for the routes without considering the new quarry traffic.

HCC Draft A414 Corridor Strategy 2018 segment 7

Sandpit Lane and Hatfield Road will be a focus for housing growth in the shorter term and are expected to facilitate new trips heading towards St Albans, Hatfield and onwards to more strategic routes such as the A414 and A1(M). Getting as many of these new trips onto more sustainable modes and encouraging mode shift for those already travelling by car along local routes such as Hatfield Road will be important to help reduce the impact of traffic on these local routes. This is particularly important given they already experience peak period congestion and opportunities to provide additional highway capacity are limited and undesirable given the close proximity of residential properties.



Google traffic 18th July 2019 8.11am.

This highlights both the current and possible future risks if more delays are created on A1057 and negative impact on residential Roads such as Sandpit Lane.

This modelling does not include the often problems created locally by delays on the M25 and A1(M) which results in traffic leaving the motorways and using local routes to avoid the congestion.

Possible improvements on A1057

The Welwyn Hatfield Local Plan within its infrastructure documents provides some indication of possible road improvements prepared without consideration of extra quarry traffic. These are set out below.

6 Mitigation Scheme Performance Review (WHaSH)

6.16 Scheme 15: Ellenbrook Lane / St. Albans Road (A1057) Roundabout Forecast Issue

Significant delays of over 5 minutes are forecasted at this junction in the PM. St. Albans Road itself is expected to be at capacity and with the addition of a significant amount of new dwellings to the north and south of this junction these delays can be expected.

Proposed Scheme

- *Implementation of a signalised crossed roads as opposed to current roundabout with a two lane approach from the east.*
- *Preliminary estimate suggests the overall cost to be £776,000 which includes ROADCON uplift (2009 to 2013) of 30%, in relation to an increase in rates since 2009.*

Mitigation Impact on Delays

Junction throughput is much improved with the significant reduction in delays so that now these are between one to two and half minutes in the PM peak hour. Improved flows at this junction and also Comet Way Roundabout (scheme 8) are also seen to reduce delays at the St. Albans Road / Station Road junction to the west.

Residents' experience, Google traffic, the traffic data for the Welwyn Hatfield Local Plan and HCC A414 corridor strategy have all identified problems on St Albans Road (A1057) between Smallford and Hatfield Comet round-about. It is therefore surprising that the applicants traffic data failed to identify any significant problems. The most significant delays occur at peak times. Any delays to vehicles entering the site and resulting from road cleaning operations would result in additional significant delays.

This road already has in place planning approval for 250 quarry related HGV trips per day from Hatfield Quarry (Cemex) however this quarry has no formal routing for HGVs. This equates to a possible 23 trips per hour during the working day. This application would add an additional 154 HGV movement per day, or 37 vehicles movements per hour. The evidence from Welwyn Hatfield Local Plan above shows

some mitigation is possible, but this does nothing to improve the lives of residents who live along the St Albans Road (A1057).

However, given the under declaration of the number of lorry loads covered elsewhere required to complete the backfilling and reinstatement some 112,500 – 157,500 lorry loads, this is very far from an accurate assessment of vehicle movements, see section 7 for full details.

3 Comet Way

HCC as the highway's authority, surprisingly, did not request a highway assessment beyond the St Albans Road A1057 and its junction with A1001 at the Comet round about which is contrary to Hertfordshire Minerals Plan Policy 16. The only route for HGVs to the highway network the A1(M) or A414 should have been included. This highlights a possible conflict of interests within HCC as they are both minerals and highway planning authority.

Comet Way (A1001) and links to road network A1(M) and A414

HCC officers have shown a lack of understanding of the highways network in the Hatfield area in only requiring modelling of A1057-Comet Way, A1057-Mosquito Way, A1057 Ellenbrook Lane and site access on to the A1057. Most of the links on these junctions lead into residential and or 7.5-ton weight limit zones. The only links to the road network are at either Hatfield North A1(M)-A414 Oldling's Corner or Hatfield south A1(M)-A414 University roundabout.

Residents and road users in the area know that the A1057-Comet Way, A1057-Mosquito Way, A1057 Ellenbrook Lane cause peak hour delays while the two A1M-A414 junctions cause considerable problems as identified below in the Welwyn Hatfield Local Plan documents.

The Welwyn Hatfield Local Plan within its infrastructure documents provides some indication of possible road improvements, these are set out below.

6 Mitigation Scheme Performance Review (WHaSH)

6.9 Scheme 8: The Comet Way Roundabout

Forecast Issue

In the PM this junction is forecasted to be operating to an acceptable standard with a maximum delay of one minute occurring at the Mosquito Way / St. Albans Road West roundabout. In the AM however there is a significant delay (up to 5 minutes) expected for vehicles entering the junction to the south from Comet Way.

Proposed Scheme

- *Comet Way approach left lane extension;*
- *Preliminary estimate suggests the overall cost to be £190,000 (2013 prices).*

Mitigation Impact on Delays

The scheme, when combined with signal optimisation, successfully reduces delays for vehicles entering from the south on Comet Way in the AM. Delays

of up to a minute are still occurring but this is a significant improvement from the without mitigation test.

5 A414 and A1(M) junctions

Delays

We highlight the significant data below relating to delays at A1(M) junctions 3 and 4 together with data for A414 at these junctions.

Welwyn Hatfield BC Technical Note -Diamond Application for Welwyn Hatfield 8th February 2010.

Table 13: A1(M) Junction 3

Slip Road	Road Section	Capacity	EERM Flow	Stress	Flow Changes by Scenario						
					1	2	3	4	5	6	7
A1 SB	Off Slip	2200	1912	0.87	26	173	25	43	40	119	25
A1 NB	On Slip	1640	1745	1.06	0	0	0	0	0	0	0
A1 NB	Off Slip	476	324	0.68	0	0	0	0	0	0	0
A1 NB	Through	4380	3725	0.85	0	0	0	0	0	0	0
A1 SB	Through	4380	2652	0.61	0	0	0	0	0	0	0

Table 14: A1(M) Junction 4

Slip Road	Road Section	Capacity	EERM Flow	Stress	Flow Changes by Scenario						
					1	2	3	4	5	6	7
A1 SB	On Slip	4000	1906	0.48	121	86	102	61	85	81	119
A1 SB	Off Slip	2054	1206	0.59	148	90	79	96	61	88	134
A1 NB	On Slip	4020	770	0.19	25	44	37	36	32	38	36
A1 NB	Off Slip	1872	1508	0.81	195	149	190	94	105	206	277
A1 NB	Through	6570	3857	0.59	29	30	30	35	34	41	30
A1 SB	Through	5312	2659	0.50	18	18	18	18	33	24	18

Table 13: A1(M) Junction 3

Slip Road	Road Section	Capacity	EERM Flow	Stress	Flow Changes by Scenario						
					1	2	3	4	5	6	7
A1 SB	Off Slip	2200	1912	0.87	26	173	25	43	40	119	25
A1 NB	On Slip	1640	1745	1.06	0	0	0	0	0	0	0
A1 NB	Off Slip	476	324	0.68	0	0	0	0	0	0	0
A1 NB	Through	4380	3725	0.85	0	0	0	0	0	0	0
A1 SB	Through	4380	2652	0.61	0	0	0	0	0	0	0

Table 14: A1(M) Junction 4

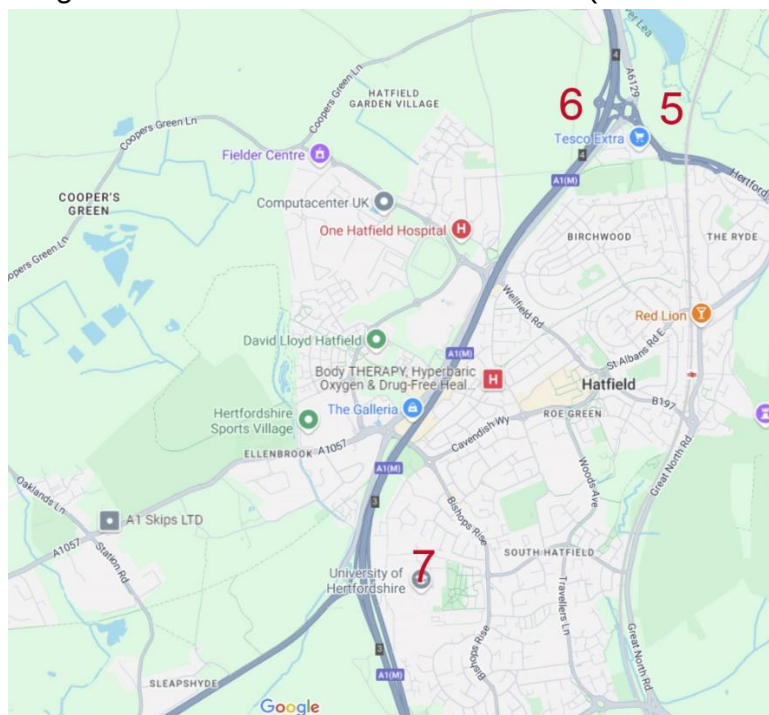
Slip Road	Road Section	Capacity	EERM Flow	Stress	Flow Changes by Scenario						
					1	2	3	4	5	6	7
A1 SB	On Slip	4000	1906	0.48	121	86	102	61	85	81	119
A1 SB	Off Slip	2054	1206	0.59	148	90	79	96	61	88	134
A1 NB	On Slip	4020	770	0.19	25	44	37	36	32	38	36
A1 NB	Off Slip	1872	1508	0.81	195	149	190	94	105	206	277
A1 NB	Through	6570	3857	0.59	29	30	30	35	34	41	30
A1 SB	Through	5312	2659	0.50	18	18	18	18	33	24	18

This data shows capacity issues on the A1(M) junctions 3 and 4 which are critical for distribution in Hertfordshire and are the key road and motorway links for the site.

Possible Highway improvements

Mitigations schemes have been considered in the WHaSH review and we look at the two most relevant below

Mitigation Scheme Performance Review (WHaSH cont.)



Map showing the location of the possible highway mitigation (WHBC local Plan)

Scheme 5: The Jack Oldings Signalised Roundabout

Forecast Issue

The main issue at this junction, in both peaks, is the delay of up to 2 and a half minutes for vehicles approaching from the A414 in the south. In addition, there is also a delay for vehicles turning from Comet Way onto the A1 (M) Southbound on-slip in the PM.

Proposed Scheme

- Extend lane split at Comet Way North approach*
- Extend the off-slip two lane split further along the A1(M) Southbound off-slip towards the A1(M)*
- Preliminary estimate suggests the overall cost to be £370,000 (2009 prices).*

Mitigation Impact on Delays

The scheme adds queuing capacity for vehicles turning left to the A1 (M) southbound on slip, but it does not provide any real increase in turning capacity, nor does it reduce delay times significantly. Delay at this junction is affected much more by the traffic signals and the green times. Traffic signal optimisation and micro modelling of this junction is hence recommended.

Scheme 6: A1(M) Junction 4

Forecast Issue

At this junction delays are forecasted to occur in the PM peak hour as vehicles exiting from the northbound off-slip have to give way to vehicles entering the on-slip at the roundabout.

Proposed Scheme

- Satellite roundabout enlargement;*
- Preliminary estimate suggests the overall cost to be £1,560,000 (2009 prices).*

It must be noted that half of this construction cost relates to earthworks due to the gradient of the decline adjacent to the existing highway. The extension of the highway towards the highway boundary will result in significant earthworks and pavement costs. However it is anticipated that the total cost for delivery could reduce during detailed design as the optimism bias reduces and risks are quantified.

Does Mitigation Reduce Delays

The scheme does not increase the roundabout capacity significantly. In addition, delays do not change significantly as improvements brought about by Scheme 13 (see section 6.14) mean more vehicles are able to travel north

along Comet Way to Junction 4 and access the A1 (M) northbound. This increased flow interferes with vehicles entering the junction from the off-slip. It is suggested to further investigate further signalling of the orbital roundabout in order to prioritize these two flows optimally.

From the assessment of schemes 4, 5 and 6 it is clear there needs to be a greater understanding of the interaction of flows between these junctions. For this purpose, it is recommended that a detailed operational assessment of these three junctions (i.e. microsimulation) is undertaken to evaluate the impact of growth and suitability of the schemes.

Scheme 7: A1(M) Junction 3

Forecast Issue

This is one of the more problematic junctions within Welwyn Hatfield in the reference Case. In the AM, significant delays of up to 5 minutes are forecast to occur on the A1 (M) southbound off-slip. In the PM delays are even higher with blocking back predicted across the junction with severe queues at the A414 approach as traffic is unable to enter the junction. However, it is felt that signal optimisation offers a greater potential to reduce delays than the scheme itself (see below).

Proposed Scheme

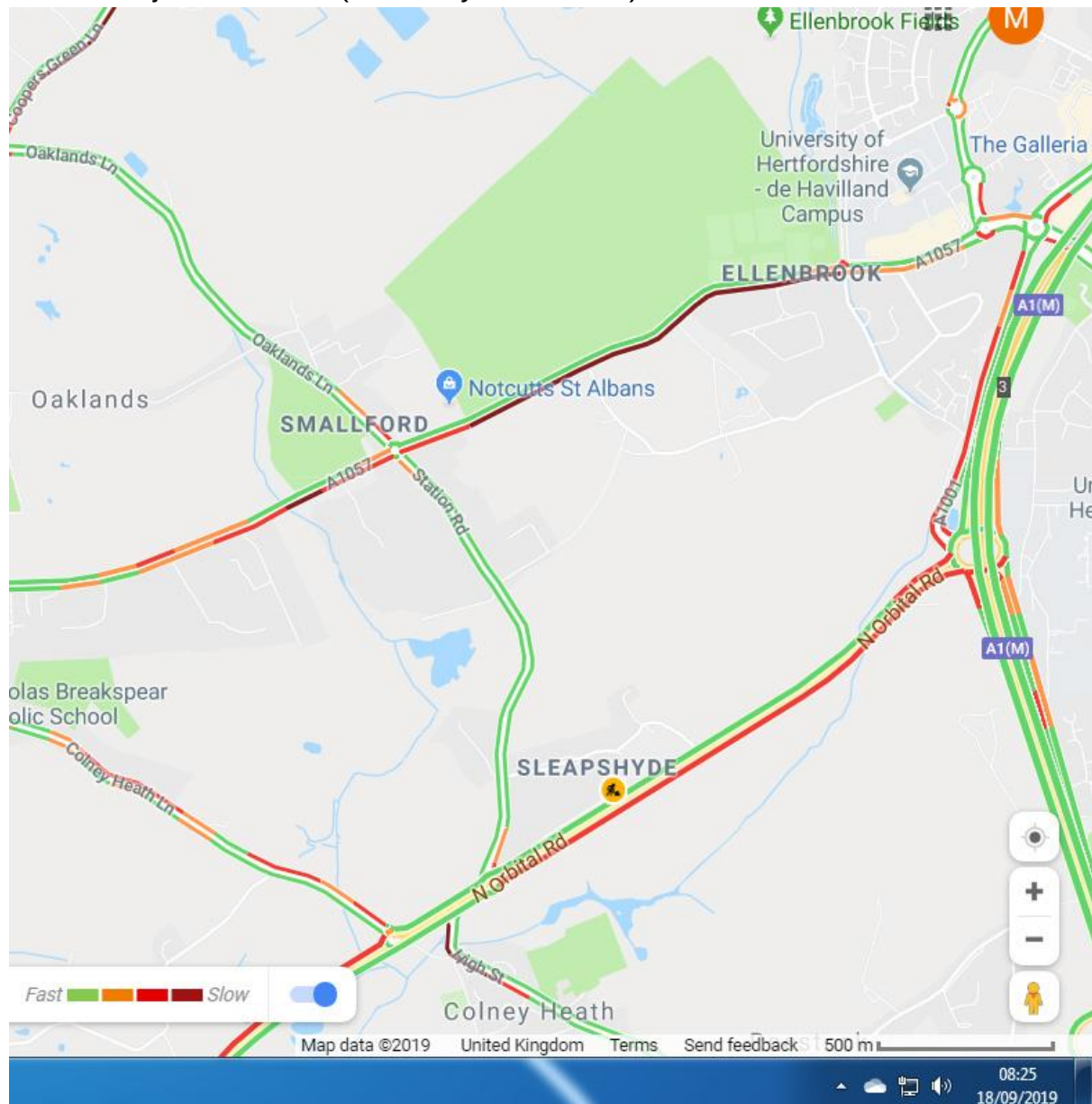
- It is proposed to provide a segregated left turn for the A414 North Orbital Road*
- Dual Comet Way Northbound.*
- It was also recommended to consult a Signals Engineer in order to investigate the optimisation of the signal timings at this junction. Preliminary estimate suggests the overall cost is estimated to be £5,325,000 due to the profile of the land west of the A414 and the inclusion of ROADCON uplift (2009 to 2013) of 30%, in relation to an increase in rates since 2009.*

Mitigation Impact on Delays

The scheme itself has no impact on delays at the junction and considering the costs involved the benefits of implementing this scheme are questionable. In the 'with-mitigation' scenario signal timings were optimised and the effect is considerable. This highlights the importance of pursuing signal optimisation at this junction

HCC A414 strategy document and Welwyn Hatfield Local Plan transport documents already highlight problems at the A1M and A414 junctions both at Hatfield south and north together with limited opportunities for improvement of these junctions.

Google traffic mapping regularly records delays between the Comet roundabout and A1M-A414 junction south (University roundabout).



Google Traffic image for 8.25 on Wednesday 18th September 2019 show traffic delays along much of the proposed access routes.

It is impossible to understand why these two key junctions were not included for traffic modelling in this application. In highlighting the problems of these key junctions' the impact is not just the area around Hatfield but the whole of Hertfordshire as these form part of the key east-west link across Hertfordshire. Within the HCC draft Minerals Plan is the need to complete Long-Term Harm assessments, Policy 16 Transport and within this to assess the impact on the major roads.

Therefore, Brett should have been required to model the impact at the Hatfield A1M junctions north and south of their proposal.

The current evidence is that these are highly sensitive to changes in traffic flow and volumes and currently suffer from considerable delays.

From the evidence available there are currently significant delays at both A1(M) and A414 junctions at J3 Hatfield south and J4 Hatfield north.

From the evidence in the Welwyn Hatfield Local Plan transport assessments, we conclude that there are limited opportunities to significantly improve these junctions. Junction 3 would appear to have the most significant delays together with least opportunities for improvement this also provides the best links to A1(M) south, M25 and strategic road network for the application traffic.

Due to the volumes of traffic using the A414-A1(M) junction 3 roundabout the arm from Comet Way (A1001) has a significantly reduced time for vehicles to join the roundabout. This is a particular issue for fully loaded HGVs due to its moderate incline onto the roundabout resulting often in only one lorry being able to join roundabout at each turn of the lights.

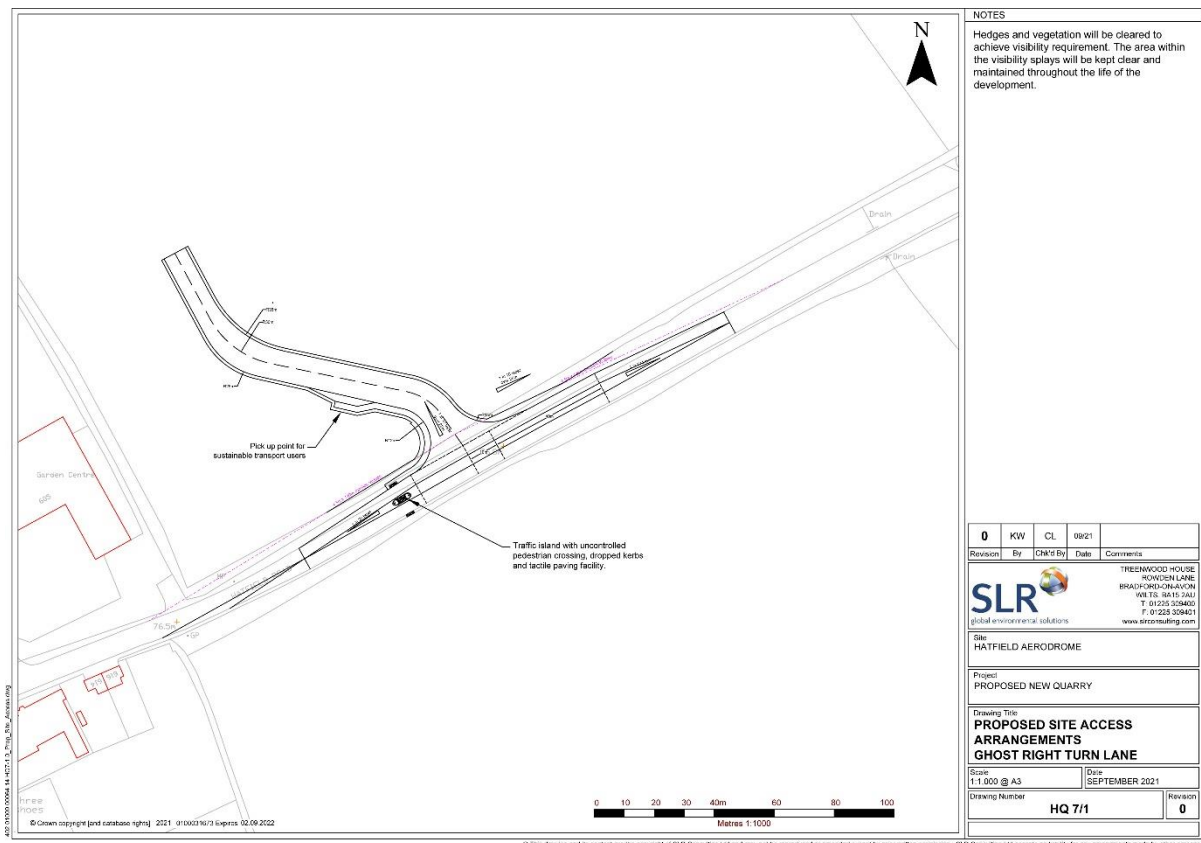
All of these factors need to be considered in any application.

6 Site Entrance

Road design & filter lane

Appellants Transport ES 7

- 7.155 *Following an initial assessment it was considered that a ghost right turn lane was not required to meet any general design guidelines or address any issues relating to junction capacity or safety. However, a ghost right turn lane facility is now proposed as a precautionary measure in acknowledgement that the access location would be an exception from the County Policy advice.*
- 7.156 *The access junction design, as detailed within Section 4 of the Transport Chapter Addendum, was designed with a Ghost Island (ghost right turn lane) facility.*
- 7.159 *Technical guidance provided within DMRB CD123 states that the use of 'simple' priority junctions, in new build situations, is appropriate up to a level of 300 vehicles Annual Average Daily Traffic (AADT) 2-way flow on the minor arm.*
- 7.160 *An AADT 2-way flow of 500 vehicles is quoted as being the desirable maximum level of use for an existing junction without upgrading being considered, or where vehicles waiting on the major road to turn right inhibit the through flow and create a hazard.*
- 7.161 *On the basis of the above, the arrangement proposed as part of the 2016 submission comprised a simple priority junction.*
- 7.162 *However, following discussions with HCC it was advised that a central ghost island arrangement may be preferable to allow for the free flow of traffic, although it was accepted that the volume of traffic may demonstrate that the current arrangement would be acceptable. Notwithstanding, it was advised that having a ghost island would help in demonstrating the exceptional case.*



SLR Drawing HQ 7/1 showing junction with A1057 and ghost island

The appellant records a milepost on the verge in drawing HQ 7/1 and in the heritage documents, as a milepost grade 2 listed no.163520 and is within the area of the access road. The last known photo was taken on 12th April 2015 however its now missing.

We have concerns about the turning from A1057 into the site near the village and Garden Centre. It would appear that the proposed filter lane design could only accommodate two lorries at a time. Due to the proposed number of lorry trips, the risk of causing significant delays to through traffic is greatly increased. It is noted that at Tyttenhanger landfill site a large number of lorries queue at the morning opening time to drop loads. Any queue beyond two lorries will effectively block the road a particular concern in morning rush hour when traffic is known to queue.



A draft planning conditions has been advanced as follows:

Draft Planning Condition 2023

Traffic Management Scheme

16. Prior to the commencement of the development, including the works shown on drawing HQ 3/7R Initial Site Establishment, a Traffic Management Scheme shall be submitted and approved in writing by the MPA, to include:

- (i) *a detailed plan to show the site layout between the junction with the public highway and the weighbridge, including the weighbridge, to include sufficient provision for queuing vehicles to stand clear of the highway b. a loop road to return HGVs to the public highway.*
- (ii) *a clear protocol for managing HGV arrivals and departures at peak times, including a managed system for HGVs arriving at the site;*
- (iii) *haul road signage*
- (iv) *schedule of cleaning and maintenance of the haul road;*
- (v) *operation of a wheel washing facility*
- (vi) *raised viewing platform to view loads;*
- (vii) *a double gate security system*
- (viii) *gates to secure the site access outside operational hours;*
- (ix) *signage setting out conditions of entry*
- (x) *advance signage to indicate when the site is open / closed*

The approved Traffic Management Scheme shall be implemented and operated throughout the duration of the development until final restoration has been completed. 26 For the purpose of condition 15 this means mineral extraction and restoration

Reason: *to minimise the impact of HGVs on the public highway in the interests of highway safety*

We have significant concerns with regard to this condition

Lorry movements

The number of lorry journeys appears to be understated by approximately 112,400 – 157,500 vehicle movement over the life of the quarry, see section 7 for full analysis. This will have a significant impact on the numbers of vehicles queuing to enter the site and using the local road network.

Risks on the Access Road and onsite

The airfield was bombed during World War 2 so there is a risk of unexploded bombs.

Mud on the Road

Tytenhanger Quarry landfill site Coursers Road, this has wheel cleaning facilities which are used but the road still requires regular cleaning by a road sweeper which travels quite slowly. While in operation long queues form behind the sweeper, we can find no evidence this has been considered. This is normally worst following rain when the mud can make the road extremely dangerous.



Mud on Coursers Road between site exit and Bell roundabout photo taken 8th October 2021 at 9.42am.

7 Vehicle Movements

CHPC analysis of the exported and imported materials indicates that there is a significant short fall based on the published data.

	Volume	Units	Average Load	HGV Trips per day
Exported material				
	250.000	tonnes	17t	54
Imported material				
	155,000	tonnes	20t	28
Totals				
HGV trips				82
HVG movements				154

Ref. Brett ES Transport 2022 table 7.6 based on 5.5 days per week, and 50 weeks per year.

From that data CHPC have produced this calculation –

Output 17tonnes x 54 loads = 918 tonnes per day
 918 tonnes x 5.5 working days =5049 tonnes per week
 5049 tonnes x 50 weeks = 252450 tonnes per annum
 252450 tonnes X 32 years = **8,078.400 tonnes**
 (This figure is confirmed by Brett's estimated output data)

Imported material 20 tonnes x 28 loads = 560 tonnes per day
 560 tonnes x 5.5 working days = 3080 tonnes per week
 3080 tonnes x 50 weeks = 154,000 tonnes per annum
 154.000 tonnes x 32 years = **4,928,000 tonnes**

Brett within their data have not indicated any vehicle movements during the final restoration phase, so we add in the maximum vehicle numbers stated as 82 loads per day.

Final restoration 20 tonnes x 82 loads = 1640 tonnes per day
 (2 years) 1640 tonnes x 5.5 working days = 9020 tonnes
 9020 tonnes x 50 weeks = 451,000 tonnes
 451,000 tonnes x 2 years = **902,000 tonnes**

Imported material total tonnage **5,830,000 tonnes**
Difference with imported material during restoration. **2,248,440 tonnes**

Difference without additional material during restoration **3,150,400 tonnes**
 CHPC information (web) – approximate weight per m3 of materials.

Material	Weight per m3	Notes
Clay (wet)	2.0t	
Crushed concrete	1.60t	
Crushed concrete 15% compaction	1.73t	
Gravel	1.68t	
Gravel MOT type 1	1.92t	
Sand	1.682t	
Sand dry	1.60t	
Subsoil	1.0-2.4t	
Topsoil	1.3-1.7t	

The restoration period includes the levelling of the bunds and the removal of the processing area and general reinstatement of the site, no detail is included about bringing in additional material, however we have included the 902,000 tonnes during this period.

At an annual output of 250,000 tonnes this will result in 8,000,000 tonnes output over the life of the quarry, but with import of 155,000 tonnes per year will result in only 4,800,000 tonnes of landfill. It's unlikely that any imported material could be delivered in the first year of quarrying due to the lack of storage space. It's possible that landfill will continue to be delivered during the 2 years reinstatement period, however this will result in a considerable short fall in the landfill material. A marginal difference is expected due the lagoons being converted into lakes so not requiring to be fully backfilled however this is too small to account for the difference.

Decision notice - Appeal Ref: APP/M1900/W/21/3278097 para 26

'The EA also noted that the site lies over both groundwater protection zones II and III (SPZ2 and SPZ3). The EA would object to landfill in SPZ2 unless it was non-polluting matter such as inert, naturally excavated material, and would require mitigation of the risk of pollution in SPZ3.'

The EAs requirement for landfill material would indicate that the material will be most locally found subsoils, due the geology of the area and economics of transport the imported should be of broadly similar density to the exported sands and gravels. Therefore, the exported and imported volumes/tonnage should be broadly similar.

Assume density 1.6 te/m3 then volume would be 1,404,275 m3

This means nothing until; you relate it to something. An Olympic swimming pool is 50m x 25m x at lease 2metres (ref google) = 2500 m3

Therefore, we will have a hole/depression in the land of equivalent to just under 562 Olympic swimming pools!

It is very clear that additional material will be required for backfilling the quarried area and this has significant impact on either the number of lorries entering the site and

using the haul roads, or the time scale required to complete the quarry including full restoration or a combination of both.

The additional number of vehicle movements will differ slightly but based on the exported and imported materials being broadly similar in weight per ton the stated number of lorries bring in landfill is understated by about 112,400 -157,500 or 224,800-315,000 vehicle movements, which would a considerable impact on the local road network.

8 Cumulative Impacts

Impact from adjoining quarry sites

Cemex Oaklands Lane Smallford has a limit 250 vehicle movements per day 125 in and 125 out, the direction routes are not defined, approval decision notice 9th September 2021 (ref 5/1789-20)

There are further infill activities being undertaken by Cemex using Coopers Green Lane. Consideration of the cumulative impact of these journeys with the proposed movements of the Application must be modelled.

Routes In bound – up to 125 additional lorries per day using Coopers Green Lane either from Sandpit Lane or Hatfield Avenue. Due to the 7.5-ton weight limits in St Albans most would have use the A1001, Comet round-about and A1057.

Out bound – on joining Coopers Green Lane would join the B197 then a significant number would use A6129 then onto the A1(M)-A414 junction to then join the main road network.

10 Conclusions

The proposed site fails to comply with Hertfordshire Minerals Plan policy 16 as it is not a sustainable site as defined in the policy and is totally reliant on lorry transport.

Being reliant on lorry transport the proposed site further fails to meet HCC policy objective in reducing CO2 omissions. This is exacerbated by the fact that most of Hertfordshire sand and mineral working are centred around the small area between Smallford and Hatfield. This results in increased mileage due to location of a single area of quarrying, away from the fastest developing areas in Hertfordshire.

Smallford already has an active quarry which adjoins the proposed site and has had since the 1960s, therefore a cumulative impact would arise if permission were granted and this would be contrary to Hertfordshire Mineral Plan policy 11 Cumulative Impacts.

Fundamentally the appellant has submitted incorrect information in relation to landfill lorry movements which voids all other data and consultation responses, either the quarry will last longer or considerably more lorry movements will occur.

We are very concerned that HCC officers failed to request the traffic modelling to include the key junctions on A1(M) and A414 at Hatfield south and north. This could have very significant impacts across the county and result in drivers using a route through St Albans to avoid the delays ignoring weight limits.