

HATFIELD AERODROME

Town and Country Planning Act 1990, Section 78

Application for the establishment of a new quarry on land at the former Hatfield Aerodrome, including a new access onto the A1057, aggregate processing plant, concrete batching plant and other ancillary facilities, together with the importation of inert fill materials for the restoration of the minerals working

Application Ref. 5/0394-16

Section 78 Appeal against refusal of planning permission by Hertfordshire County Council.

Appeal Ref. APP/M1900/W/21/3278097

Proof of Evidence of Gregor Mutch FIQ BSc

Subject - The Applicants Site

Document - BAL2/1

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1.0 QUALIFICATIONS

- 1.1 I am Gregor John Mutch. I am employed as Director for Strategic Lands and Planning for Brett Robert and Sons Limited. I am also a Director in Brett Aggregates Limited.
- 1.2 I have over forty years of experience in the minerals and extractive industry.
- 1.3 I entered the industry in 1978 being employed by Tarmac whilst studying for a BSc in Quarrying. This degree included mineral extraction, mining, geology, and mineral processing.
- 1.4 I managed a number of production units across the UK before becoming a Regional Director for Hanson in 1996.
- 1.5 I was based with Hanson in North England and was responsible for Hanson's quarrying, ready mixed concrete and asphalt activities covering Scotland, North Wales and Northern England.
- 1.6 In 2008 I joined Brett Aggregates Limited as Managing Director. I was responsible for all aggregate, recycling, landfill, and asphalt activities. I was also responsible for the development and growth of the aggregate business.
- 1.7 In 2018 I moved to Robert Brett and Sons Head Office where I have taken on responsibility for Planning, Development, Health & Safety, Environment and Sustainability for the Group. I remain a Director of Brett Aggregates Ltd along with a number of other Sand & Gravel businesses located in SE England. I am also a Director in Britannia Aggregates (an aggregate dredging company).
- 1.8 In 2019 I joined the Board of Kent Nature Partnership (KNP). KNP is one of the Local Nature Partnerships set up through a Government initiative to reverse the decline in nature and restore our natural habitat. The Board includes a cross section of expertise including Natural England, Wildlife Trusts, County and District Councils and ecologists. One of the main areas of focus for KNP has been the development of Biodiversity Net Gain. My particular interest is restoration following mineral development giving a platform to improve habitat on a large scale in line with Lawton Principles.

2.0 PURPOSE OF MY EVIDENCE

- 2.1 My evidence provides a background to the shape of the Site and how it is intended to be worked. It explains the scale of operations along with basic geology without going into hydrology and hydrogeology which is covered in the Proof of Evidence of Peter Rowland.
- 2.2 I highlight how public access is maintained to non-operational phases of the development.
- 2.3 Finally, I provide evidence as to why it is better to use vehicles to convey freshly extracted sand and gravel to the stocking area rather than transporting by field conveyor.
- 2.4 The evidence which I have prepared and provide for this appeal reference APP/ M1900/W/21/3278097 (in this proof of evidence) is true and I confirm that the opinions expressed are my true and professional opinions.

3.0 LOCATION AND GEOLOGY OF THE SITE

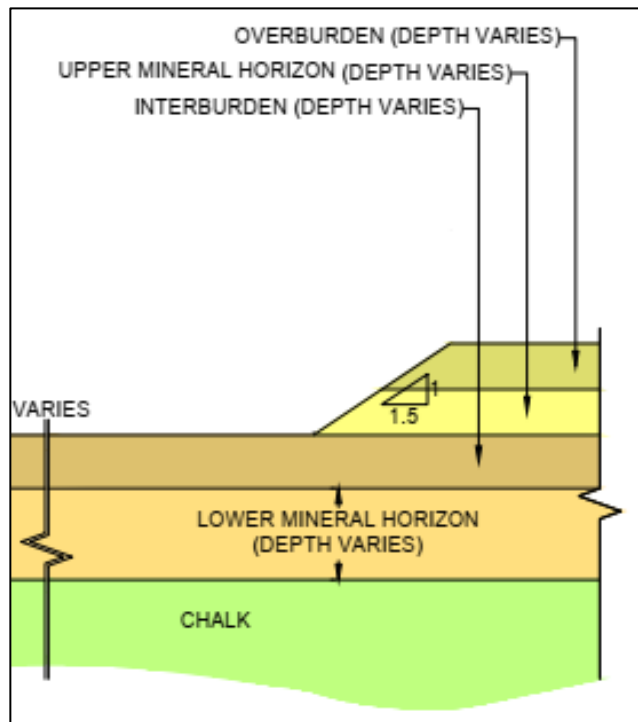
- 3.1 The location, plant processing site, extraction footprint and geology are the same for the 2016 application and the 2021 application. The information given below is relevant to either application. The concrete plant is designed to sit on the plant processing site which remains the same in area for both applications. The offer to increase the standoff from the bromate plume from 50m to 100m only applies to the Lower Mineral Horizon. (Note the standoff and method of working are controlled through the Water and Ground Water Management Plan (GWMP)). The Upper Mineral Horizon footprint remains identical for both applications.
- 3.2 Sand and Gravel deposits vary in shape and depth according to how they are formed and where they are located. A question often asked is "Why extract minerals at Hatfield and not elsewhere". Unlike other forms of development, minerals can only be extracted in the areas where they are found near the surface and unconstrained by development. Sand and Gravel is found in Hertfordshire running down between St Albans and Hatfield. Areas to the east are blighted by the bromate plume or

development. All sand and gravel extraction in Hertfordshire is within the Green Belt. This is the case for almost all land-based sand and gravel deposits in and around London.

3.3 The mineral under the Site consists of two layers of high-quality sand and gravel which is overlain by a layer of overburden and separated by interburden. The interburden is formed of boulder clay and acts as a barrier between the two mineral layers. The overall geology then sits above deep chalk deposits. (Figure 1).

3.4 Reference is made within the Proof of Evidence of Peter Rowland and in the Environmental Statement, Chapter 6, to there being two aquifers. The lower aquifer sits in the deep chalk and extends up into the lower layer of sand and gravel (Lower Mineral Horizon LMH); the upper aquifer sits above the clay interburden in the upper layer of sand and gravel (Upper Mineral Horizon UMH) and into the overburden. The two aquifers are separated by the clay interburden.

Figure 1 Schematic of deposit with overburden and UMH being extracted exposing the interburden.



The upper mineral horizon consists of circa 70% sand and the lower mineral horizon consists of circa 70% stone. The ratio required for construction purposes is 50% sand and 50% stone therefore, to maximise the benefit of the geology in this deposit the two layers should be worked together.

Table 1 Basic geology of the Site

Geological Unit	Description	Thickness
Overburden	Predominantly clayey, silty sands	0m – 2m
Upper Mineral Horizon (UMH)	Sand and gravel circa 70% sand	4m – 6m
Interburden	Boulder Clay	3m – 5m
Lower Mineral Horizon (LMH)	Sand and gravel circa 70% gravel	5m – 7m
Chalk Bedrock	Chalk	Deep deposit >60m

4.0 NO SCOPE FOR FUTURE EXTENSIONS

- 4.1 The Site is constrained by development to the south and west and by the bromate plume located to the north and east. The mineral to the north has previously been extracted. Due to these constraints the extractable deposit is relatively small and rectangular in shape measuring circa 900m by 700m.
- 4.2 Unlike most other deposits, for example Cemex Hatfield Quarry to the north and Tarmac Tyttenhanger to the south, both which have had a number of extensions across the years, the Site has no scope for further lateral extensions. The Site includes all available minerals with no further extensions.

5.0 SITE DESIGN MINIMISES LOCAL IMPACTS AND SAFEGUARDS MINERALS

- 5.1 The Site has been designed so that the mineral processing area does not sterilise viable mineral. The location of the processing plant is located remotely from key receptors.

Figure 2 Shows configuration of the Site showing the processing area and the mineral extraction area.



- 5.2 The two lagoons have been positioned on the northeast side of the Site. The bromate plume is located northeast of these two lagoons. (Hydrogeology is covered in the Proof of Evidence of Peter Rowland).

6.0 OPERATIONS

- 6.1 It will take Brett only circa 100 days per year to extract 250,000t of sand and gravel from the Site at an average rate of extraction of 2,500t/day. This allows the deposit to be worked seasonally taking into account groundwater levels assessed through ongoing site monitoring.
- 6.2 Extraction will require a machine to dig the mineral out of the ground and to move the overburden and interburden. It will then require two or three vehicles to convey the mineral an average 550m to the stocking area. The number of vehicles will vary depending on the proximity of the dig area

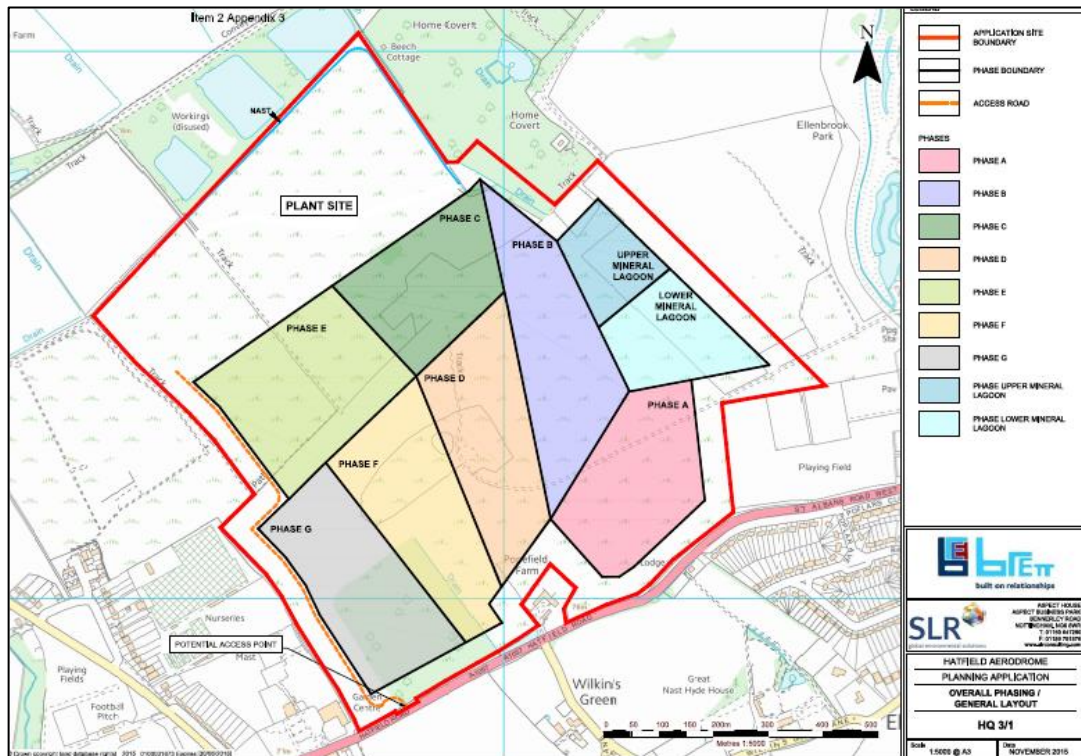
to the stocking area. (See Figure 3 below) Temporary roads will be installed for each phase for vehicles carrying minerals and inert restoration materials to access/egress the working areas.

- 6.3 An important point to note is that the Site will be worked seasonally in campaigns (most likely two campaigns of circa two months duration determined by borehole monitoring of water levels in the LMA) during favourable conditions and not across the whole year as is the case in most other mineral operations. The studies in the Environmental Assessments are based on our busiest periods to ensure we assess the worst-case scenarios, however for two thirds of the year there will be no mineral extraction.
- 6.4 The mineral in the UMH is extracted in a damp state and the mineral in the LMH is extracted wet. The mineral is transported in a damp state to the stocking area located next to the processing plant.
- 6.5 The stocking area located next to the processing plant has been designed so that it has the capacity to hold over six months of unprocessed material. This will be fed into the processing plant throughout the year, reducing in size until the next campaign replenishes it.

7.0 PUBLIC ASSESS MAINTAINED

- 7.1 A key consideration given throughout the design of the operation of the Site has been how we can maintain as much public access to the Site through the creation of temporary permissive paths during operations as is possible without compromising safety and the operation of the Site. The establishment of these permissive paths is identified as an operation during the construction phase (Planning Statement, Section 3, Development Description, Paragraph 3.10) **(CD 1.1)**
- 7.2 The quarry will be worked in phases. There are seven phases marked A to G on Figure 3. It will take on average four years to extract mineral from each phase. Inert fill materials will be used to restore levels before restoration can be completed. This means that two phases will be under operational control at any one time.

Figure 3 (Drawing HQ3/1) shows order of phasing for mineral extraction



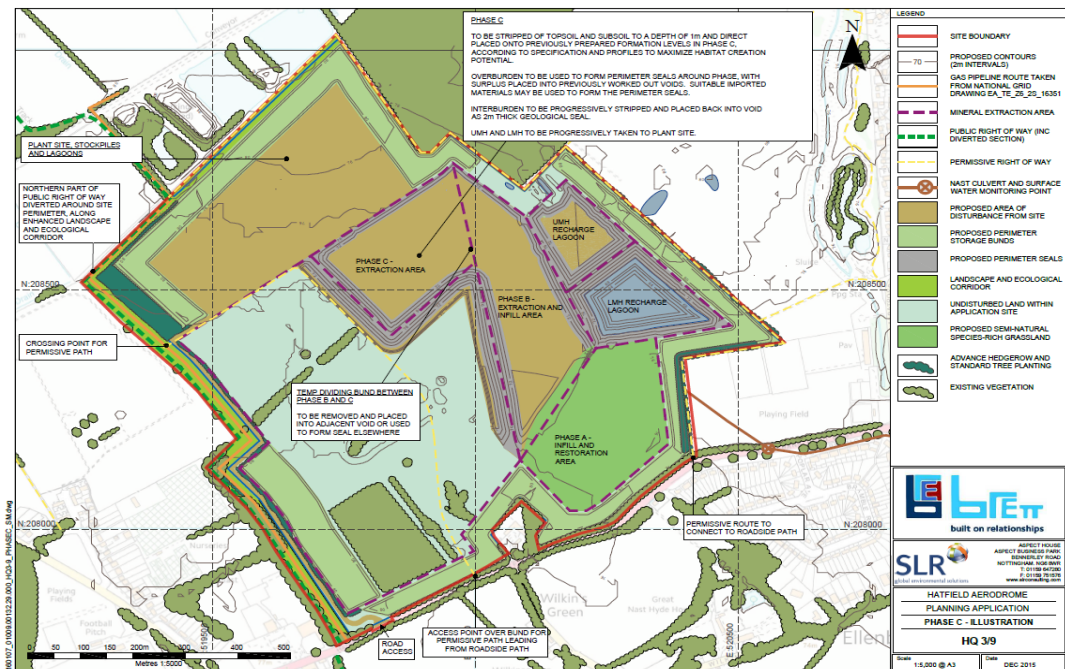
7.3 Public access will be maintained on non-operational areas of the Site.

7.4 A worked example of public access is given in Table 2 and Figure 4 below. It shows the plant area, lagoons, mineral extraction area and infill/restoration area having no public access and the areas that are unworked or restored having public access.

Table 2 Public Access

Example of access whilst Phase B and C Operational	Status	Public Access Y/N
Plant Area	Operational Area	No
Recharge Lagoons	Operational Area	No
Phase A	Restored	Yes
Phase B	Infill/Restoration	No
Phase C	Mineral Extraction	No
Phase D	Unworked	Yes
Phase E	Unworked	Yes
Phase F	Unworked	Yes
Phase G	Unworked	Yes

Figure 4 (Drawing HQ 3/9) Permissive Paths showing public access.



8.0 CONVEYOR V MOBILE HAULAGE

8.1 Consideration was given by the business to working the Site with conveyors. Hertfordshire County Council raised this question with us, and I intend to address the reasons behind our proposal to use vehicles.

8.2 Conveyors can offer an advantage of reducing carbon, noise and dust emissions. These advantages are only delivered on longer conveyor routes. Brett are strong advocates of using conveyors where benefits can be delivered. Such benefits are not delivered on this site due to the short flat distance from the extraction areas to the stocking area.

8.3 The reason there is no advantage on shorter conveyors is that two additional mobile loading shovels would be required to handle material at each end of the conveyor.

8.3.1 The first loading shovel would be required to carry and load the conveyor at one end.

8.3.2 The second loading shovel would be required at the processing plant site to lift material from the end of the conveyor, which has limited storage under the discharge point, and place in stock.

8.3.3 The fuel required to operate two loading shovels equates to three vehicles running an average 1.1km round trips on level ground. (It will take a vehicle less than two minutes to haul from the extraction area to the stocking area. Total cycle time less than eight minutes). Consequently, there would be no saving in power or carbon footprint through the introduction of a conveyor system.

8.4 In addition, the conveyor would be a fixed structure (typically 1.2m – 1.5m off the ground for most of its length, save for the feed hopper which would stand at 4.5m off the ground and the discharge end which would stand at 13.0m above the ground to develop a 'surge pile') for the duration of the development which would:

8.4.1 Reduced public access to a large part of the Site due to the fixed conveyor structure bisecting the Site.

8.4.2 The roads for accessing the working area would still be required for the movement of plant and importation of inert fill but would be moved as the Site is developed from phase to phase.

8.4.3 Would prevent mineral extraction and restoration along the first leg of the conveyor line until the end of the development.

Figure 5 shows a conveyor position for extraction of Phase A



8.4.4 The conveyor would be fixed to the mid pivot point and would be moved in an arc on the second leg to each phase of the development to reduce haulage (see Figure 5).

8.4.5 The business has conveyors available to install, but this is currently seen as a disbenefit to neighbours through impact to Green Belt and a reduction in public access.

8.5 Whilst conveyors can reduce noise and dust, compared to the use of vehicles, the Site operations have been assessed on a worst-case scenario of all machinery operating at the same time and any impacts have been found to be not significant (see the noise and air quality assessments within the Environmental Statement at CD 1.2, and the evidence of Michelle Dawson and Gordon Allison to this appeal).

9.0 SUMMARY AND CONCLUSIONS

9.1 The mineral deposit consists of two layers which should be worked together to produce the required blend of sand and gravel to meet market demand.

9.2 Unlike most other mineral deposits there is no scope for further extensions. This application covers all minerals allocated in the HCC Mineral Plan for this site.

9.3 The Site has been designed to recover allocated mineral whilst minimising impact on neighbours.

9.4 Mineral extraction will run for circa 100 days per year whilst the processing plant, sales of minerals and importation of inert material for restoration will continue throughout the year.

9.5 Public access is being maintained over as much of the Site as is possible on each phase of the development.

9.6 The proposal is to operate the Site using vehicles to haul aggregates rather than a conveyor system due to the impact the conveyors would have on the Green Belt and the reduction of public access which is not offset by environmental benefits.