

Mineral Safeguarding Comments on the Prior Extraction Assessment supporting the Proposed Development at Land South of Holt Road, Wrexham Planning Application P/2019/0005

Introduction

Wardell-Armstrong have prepared the Prior Extraction Assessment to support an outline planning application for 600 dwellings at Land South of Holt Road, Wrexham.

The site is located to the east of Wrexham Town Centre extending to the east along Bryn Estyn Road, bound by Holt Road to the north of the site. The majority of Wrexham Town is underlain by sand and gravel which has been sterilised by non-mineral development. Borrass Quarry (operated by Breedon Aggregate) is located approximately 1km to the north of the application site.

Site Geology

The published geological plans in this area show the application site is underlain by Devensian glaciofluvial sand and gravel sheet deposits. Such deposits, on a regional basis, are some of the best quality aggregate resources in Wales. The only areas near the site not covered by glacial deposits are those where the deposits have already been extracted for sand and gravel. Borehole data in this area (SJ35 SE26) provided as Appendix 1 of the Prior Extraction Assessment shows that there is very little overburden (0.3m) and depth of mineral is in excess of 25 metres.

The material at the application site is shown on the Geological Survey Map as being part of the same geological horizon currently worked at Breedon Aggregate's Borrass Quarry, particularly the northern excavation area. The borehole logs provided suggest the material is predominantly sand, however with a proportion of gravel which is in accord with lower Borrass material.

Policy Framework

PPW 10 paragraph 5.14.7 states that *"it is important that access to mineral resources, including secondary, recycled and marine dredged materials, which society may need, as well as the minerals related infrastructure to deliver this need, is safeguarded in order to prevent sterilisation by other forms of permanent development. Planning authorities should consider the long term and the need for preventative action to avoid the creation of problems in the future. Safeguarding does not indicate an acceptance of mineral working, but that the location and quality of the mineral is known and that the environmental constraints associated with extraction, including the potential for extraction of mineral resources prior to undertaking other forms of development, have been considered."*

Minerals Technical Advice Note 1: Aggregates, paragraph 32 states (in relation to sand and gravel) *"resources must be safeguarded for possible use by future generations."*

The Welsh Government has issued a letter to Chief Planning Officers, dated 14th November 2012, which highlights that a national aggregates safeguarding map has

been published. The letter goes on to advise that *“the Aggregate Safeguarding Map of Wales provides a key evidence base for Local Development Plan preparation, enabling plan strategies to fully recognise the importance of mineral resources and to avoid their unnecessary sterilisation.* The map is accompanied by a technical guide which explains how the maps have been derived and identifies the categorisation of different mineral resources. Sand and gravel resources, specifically glacio-fluvial, brown sand and river terrace sand and gravel deposits are identified as Category 1 resources which are *“those resources that have a national importance in Wales (and in some cases the UK)”*.

Although policy and guidance regarding safeguarding is limited, this is interpreted to mean that the main aim of policy is to prevent sterilisation of resources, and where not possible, ensure that mineral is extracted in advance of non-mineral development where possible. There is no guidance on how much of that mineral should be extracted prior to the non-mineral development.

Policy MW9; Protection of Mineral Resources of the adopted Wrexham UDP provides the policy context for safeguarding minerals within Wrexham and it states... *“Resources of sand and gravel, and clay, will be safeguarded from non-mineral development in order to prevent the sterilisation of unworked mineral deposits. The identification of mineral resource areas gives no presumption in favour of the working of any deposits. Within such areas, non-mineral development will be strongly resisted unless a resource assessment (or other information) is provided to demonstrate that no exploitable reserves exist within the development site. Where non-mineral development which materially prejudices mineral resources is granted planning permission on land holding mineral deposits, provision should be made for the prior removal of mineral deposits.”*

The Deposit Draft Local Development Plan for Wrexham also contains policies in relation to safeguarding and the proposed development site. The Plan’s “Policy SP3 Key Strategic Housing Sites” relates to an allocated site identified as “Land East of Cefn Road”, the northern part of which is the subject of the proposed development site. The text accompanying the policy states that *“In order to minimise the loss of mineral, a Prior Extraction Assessment will be sought in accordance with Policy MW1 as it is considered that any opportunities to recover mineral prior to housing development should be sought.”*

Emerging Policy MW1 states that non-mineral development will only be permitted in a Mineral Safeguarding Area where it can be shown that:

- i. the mineral does not merit extraction; or
- ii. there is an overriding need for the incompatible development; or
- iii. prior extraction can be undertaken satisfactorily; or
- iv. the development is temporary; or
- v. essential mineral industry infrastructure would not be compromised.

Consideration of the Submitted Prior Extraction Assessment

The applicant has prepared a Prior Extraction Assessment in accordance with Wrexham's existing and emerging minerals safeguarding policies and has provided evidence to support their conclusion that prior extraction would not be economically viable, and therefore there is no exploitable resource. The report concludes that the mineral resource at the application site does not merit extraction.

Evidence has been presented in the form of data from 12 boreholes that were drilled to 5 metres in depth. An extract of a BGS log in this location has also been submitted as evidence which provides data on the sand in this location to a depth of 25 metres. Additional site investigations have been carried out where the applicant excavated 7 soakaway pits. Sand and gravel were taken from the pits at a depth of 4 metres for analysis. The applicant has analysed the samples from the boreholes and produced Particle Size Distribution graphs. The results show that in most cases the sand particles are smaller than 0.5mm diameter and in most cases the sample contained little or no gravel. The applicant concludes that due to the very fine sand present on site, the sand is of no commercial use in its natural state.

The argument put forward by the applicant to justify why prior extraction would not be commercially viable relies heavily on the economic viability of producing sand and gravel for concrete production/sales. They claim that since the results of the borehole logs demonstrate a very low percentage of gravel, then the mineral would *"not be commercially viable as a mineral resource, and therefore not a commercially exploitable reserve."* They go on to justify why the resource does not need safeguarding as the mineral is predominantly sand, with insufficient gravel to be commercially viable. They conclude that the low proportion of gravel renders it uneconomically viable and does not merit extraction.

The applicant argues that a commercially viable resource of sand and gravel must contain at least 25% gravel content. They argue that their assessment demonstrates that there are no exploitable resources within the development site because the mineral is primarily sand, with almost no gravel content, and therefore is not suitable for commercial use. They conclude that the proposal does not conflict with the minerals safeguarding policy.

The data provided from the sample boreholes presented in the report suggest this area comprises of a thick layer of sand and gravel of varying proportion with occasional clay horizons, which is what is to be expected based on the geology of this kind. Therefore, contrary to the applicant's assertions, the deposit does offer potential for aggregate resources.

Having considered the Particle Size Distribution (PSD) data submitted, it would appear that the samples of sand taken from the site are generally too fine to fall within the PSD range anticipated for a British Standard (BS) concreting sand. However, an aggregate appropriate for meeting the specification for concreting aggregate could be achieved via blending with material of an appropriate size.

In terms of the PSDs in relation to a BS building / mortar sand, individual samples may not conform to the Standard within certain size ranges, however, if an average grade for all the samples is taken the resulting PSD approaches both Type S and Type G grading curves of the BS1200 albeit a little too coarse in the 5 and 2.36 mm size ranges and slightly too fine in the 0.075 mm size. In terms of meeting the specification of the European Standard, an average PSD from all the samples produced once again is slightly too coarse in the 2.0mm+ range for both 0/2 and 0/1 FP. However, once again, with processing a suitable PSD could be achieved. On the basis of the samples for which data has been provided, it is likely that with appropriate processing or blending, sand suitable for building / mortar ('soft sand') or sand suitable for concrete ('sharp sand') could be produced.

During pre-application consultation, the applicant was advised that, on the basis of the above data, and the evidence of the available sand resource, that consideration should be given to blending the sand with courser material in making an aggregate product. However, it is noted in paragraph 3.10 of the submitted Prior Extraction Assessment that the applicant states that blending would entail a significant cost to excavate, load, haul and double handle the fine sand as well as the cost of sourcing and transporting a source of courser sand to mix with.

The applicant was also advised that Breedon Aggregates (who operate from neighbouring Borrass Quarry) would be interested in extracting this material prior to commencement of development. Despite this, paragraph 4.2 of the Prior Extraction Assessment, states that the quarry operator has been contacted in respect of prior extraction and has not expressed any interest in it. However, Breedon Aggregate have confirmed that they would potentially be interested in the prior extraction of this material. They have advised the North Wales Minerals and Waste Planning Service that they would be making a representation on this planning application.

The applicant was advised that a partnership arrangement should be explored between Barratt/Bloor Homes and Breedon Aggregate so that the nationally important resource is not unnecessarily sterilised. It would appear that no efforts have been made by the applicant to meet with Breedon Aggregates to discuss the possibilities of an arrangement for prior extraction, and this has been totally disregarded. Therefore, the costs and logistics of exporting the finer material for blending elsewhere have not been ascertained.

If sand was extracted at this site, then an operator would blend materials from different sources to achieve required sand gradings. With sand becoming a finite resource in many areas (particularly North Wales) many companies will now source grits, recycled glass and other materials to add to sands in order to create the required specifications. The sand in question would not be used as dug but, a given operator would process the material which would change the sand gradings for their many uses that need and require sand that would be sterilised should the planning application be granted without any amount of prior extraction.

Aggregate companies rely on many different locations for various materials to add and take away from materials in order to make a complete material. They are constantly designing theoretical blends in order to make a complete product so they really do need to rely on being able to source many different reserves. The majority of these sands, once washed would be suitable for asphalt sand in the use of HRA (hot rolled asphalt).

The availability of sand and gravel, at the historically required in-situ ratio, is ever increasingly rare. It is not new that the industry has blended fine sand with crushed aggregate to produce a conforming sand and thus concludes all sand resources as potentially exploitable. It is understood that it is common practice to import fine grade sands to Ready Mixed Concrete plants where it is combined with coarser, often washed Limestone dust, to form an aggregate suitable to make Ready Mixed Concrete to EN206 and BS8500. The BS and EN conformance certificates gained by ready mix concrete plants suggests that the final concrete produced through blending of fine sand with a coarser aggregate is of a high standard. This certification concludes that fine sand deposits are indeed exploitable and economic, and the use of similar techniques will become more common place as sand and gravel deposits are exhausted.

Whilst the mineral resource that is present beneath the application site may well be fine grained, it is common place for operators to blend finer grained material with coarse material imported from other sites to create aggregate products to satisfy their customer's requirements. Therefore, the North Wales Minerals and Waste Planning Service does not agree that the sand is not suitable for commercial use, as it can be blended with other products to create a saleable product.

The samples undertaken by the applicant to support the Prior Extraction Assessment also seem to come from relatively shallow depths. Eight of the trial pit samples do not reach the depth of the glacial sand & gravel (1.8m), and the other two only go into the top. Given likely variability of the top surface of the glacial S&G, it's possible the samples are not representative of the sand and gravel deposit so therefore, further borehole samples would provide more information on the sand and gravel resource available on this site. Furthermore, analysis of samples from the BGS borehole (SJ35-SE26) indicate that locally, the deposit comprises predominantly sand with a proportion of fines. However, BGS boreholes a short distance from the application site to the north (SJ35-SE25) and south (SJ35-SE22) indicate a higher proportion of gravel thus indicating the variable nature of the glaciofluvial deposits locally.

The report fails to mention the amount of sand resource present on site in terms of tonnages. Estimated tonnages have not been provided following the site investigations. The Local Planning Authority would need to know how much mineral would be sterilised if prior extraction didn't take place both directly and indirectly. The proposal would not only sterilise minerals of national importance on site, it would also further sterilise mineral in the adjacent land holdings to account for any future buffer zone should the mineral adjacent to the site be worked in the future. This information has not been presented within the assessment.

The applicant states that should the mineral be extracted it would create a void which would be unusable for the proposed development. The report does not consider extracting a lesser amount of mineral, despite advising the applicant that this should be considered during pre-application consultation. It would not be appropriate to work the entire mineral resource as it would present an inappropriate, and also it would take considerable time to extract all the resource which would not be compatible with the delivery of the housing scheme, should it be approved. A minimal amount of material could be extracted prior to commencement of construction, and in a phased manner. This has been totally over looked by the applicant and not addressed in the Prior Extraction Assessment. Had the applicant discussed the possibilities of prior extraction with a mineral operator, this information could have been gathered and presented.

It is acknowledged that this application site is important for Wrexham's Housing Strategy and that it forms part of the Key Strategic Site 2 in the emerging Local Development Plan. However, this application site and KSS2 impact on minerals of national importance and that need to provide housing, infrastructure and other community facilities in sustainable locations needs to be balanced with the need to safeguard the nationally important resource.

It is considered that the submitted Prior Extraction Assessment does not provide sufficient evidence to justify the loss of the resource. It does not include how much resource would be lost and it would be arguable that the data provided is not representative of the resource that may be present. It is considered to be commercially viable to extract fine grained sand resources with a lesser amount of gravel when blended with courser material, to create a saleable aggregate product, which is common place within the industry. Breedon Aggregate may be interested in the prior extraction of this resource and the applicant has not entered discussions with them.

The Prior Extraction Assessment in its current form would not provide the Local Planning Authority with sufficient information to demonstrate that there are no exploitable resources at the site. Furthermore, the conclusion of the report that the mineral does not merit extraction has not been substantiated with sufficient evidence and mineral operators working in North Wales disagree with this conclusion.

Given that the deposits in this site are some of the best quality aggregate resources in Wales, this is a very important issue that has not been sufficiently addressed within the planning application. The information has not demonstrated that there are no exploitable resources exist within the site. It is considered that, based on the information provided, the mineral does merit extraction. It is considered that, the information provided to date has not demonstrated compliance with Policy MW9 of the Wrexham UDP or the emerging Policies SP3 and MW1 of the Deposit Draft LDP.

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