

East Riding & Hull Joint Minerals Local Plan

Mineral Resource and Infrastructure Safeguarding Background Paper

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1. Introduction

- 1.1 This background paper describes the approach taken in defining Mineral Safeguarding Areas (MSA) within the East Riding Local Plan (ERLP) and the emerging East Riding of Yorkshire and Hull Joint Minerals Local Plan (JMLP).
- 1.2 The purpose of MSAs is to ensure that mineral resources and infrastructure are adequately and effectively considered in land use planning decisions, so that they are not needlessly sterilised by non mineral surface development. They inform relevant parties where minerals resources or infrastructure is present and make specific planning policies applicable to those areas. These policies seek to ensure mineral resources are not needlessly sterilised by non-mineral surface development.
- 1.3 It is important to note that the safeguarding of mineral resources is not an indication that the resource will necessarily be extracted at some time in the future. The safeguarding process is very much distinct from the identification of new locations for mineral working or infrastructure.
- 1.4 Safeguarding does not necessarily preclude other non-mineral forms of development from taking place over, or in close proximity to, mineral resources or associated facilities where it is deemed necessary. However, it does provide a mechanism for ensuring that the importance of the minerals concerned can be balanced against the importance of the proposed non-mineral surface development. Where the mineral is deemed of sufficient importance, either an alternative location needs to be found for the surface development, or, if practical, the mineral is extracted first. In the case of minerals infrastructure, alternative handling or recycling capacity may be provided elsewhere.
- 1.5 MSAs should focus on identified mineral resources that are of current local economic importance, whilst recognising the fact that the market may change in the future resulting in changing demands for different resources.
- 1.6 The proposed approach does not restrict the proposed extent of safeguarding areas within national and international nature conservation designations. This is because of the clear consideration that safeguarding does not imply any presumption that planning permission for mineral extraction will be forthcoming. Safeguarding does not remove the importance of conserving the designated area or the need to address all possible impacts associated with any form of development therein.
- 1.7 In addition, there may be situations where it is necessary to maintain a standoff from the quarry to prevent potentially conflicting land uses from coming into close proximity. This is achieved by requiring proposed non-mineral development adjacent to safeguarding MSAs to address the impact it could have on the adjacent resource.

National Planning Policy

1.8 In preparing Local Plans the National Planning Policy Framework, at paragraph 143, states that local planning authorities should:

- Define MSAs and adopt appropriate policies in order that known locations of specific minerals resources of local and national importance are not needlessly sterilised by non-mineral development, whilst not creating a presumption that resources defined will be worked; and define Minerals Consultation Areas based on these MSAs;
- Safeguard existing, planned and potential rail heads, rail links to quarries, wharfage and associated storage, handling and processing facilities for the bulk transport by rail, sea or inland waterways of minerals, including recycled, secondary and marine-dredged materials to be safeguarded; and
- Safeguard existing, planned and potential sites for concrete batching, the manufacture of coated materials, other concrete products and the handling, processing and distribution of substitute, recycled and secondary aggregate material.

2. Identification of mineral resource information

2.1 To help mineral planning authorities develop their approach to safeguarding, the British Geological Survey (BGS) produced Mineral Resource Maps for each area. Good practice¹ states this is a 'robust and credible starting point for defining MSAs'. If no other information is available then this resource information is considered adequate for the purposes of defining MSAs. The use of these digital datasets and maps largely eliminates the need for MPAs to make their own judgements on which mineral deposits are or may become of potential economic interest. Each Mineral Resource Map is accompanied by a report that outlines the characteristics of the resources shown on the map.

2.2 The Humberside Minerals Resources Map (2005), which includes East Riding of Yorkshire, Kingston upon Hull, North Lincolnshire and North East Lincolnshire unitary authorities. Together with the accompanying report, and GIS shapefile which includes updates to the published map, it has provided the main source of information to identify the proposed MSAs within the plan area. This has been supplemented by:

- Discussions direct with the BGS regarding some queries arising from the resources map GIS information and accompanying report.
- Consideration of consultation responses on safeguarding from earlier versions of the either the emerging JMLP or the ERLP.

2.3 Aspects of the BGS 'Mineral safeguarding in England good practice advice' (2011) were used in the mineral resource safeguarding methodology. The seven step BGS methodology and how this has been addressed through the ERLP/JMLP is as follows:

¹ Mineral safeguarding in England: good practice advice (2011), British Geological Survey and The Coal Authority.

Step 1: Identify the best geological and resource information.

- 2.4 As previously mentioned the Humberside Minerals Resources Map (2005) (as updated in GIS format) was used to identify the best geological and resource information. This was used alongside information from site operators, for example within site nominations/land bids.

Step 2: Decide which mineral resources to safeguard and the physical extent of MSAs.

- 2.5 Section 3 of this paper provides details on identifying which mineral resources to safeguard and the physical extent of MSAs.

Step 3: Undertake consultation on the draft MSAs.

- 2.6 Consultation was undertaken on the Joint Minerals Development Plan Document Preferred Approach in (2010), the East Riding Core Strategy Document in 2010, the draft East Riding Local Plan Strategy and Allocations Documents in 2013, the proposed submission East Riding Local Plan Strategy and Allocations Documents in 2014, proposed submission East Riding Local Plan Strategy Document Schedule of Modifications (2015), and the JMLP Revised Preferred Approach (2016).

Step 4: Decide on the approach to safeguarding in the Local Plan.

- 2.7 The Joint Minerals Development Plan Document Preferred Approach (2010) previously set out the approach to safeguarding, which has since been refined via developing the documents listed in para 2.6 above. The approach to safeguarding is set out in section 3 below.

Step 5: Include Development Management policies in a Development Plan Document (DPD).

- 2.8 A specific MSA policy for mineral resources has been included within the ERLP Strategy Document as Policy EC6 'Protecting Mineral Resources'.

Step 6: Inclusion of mineral safeguarding in District DPDs.

- 2.9 Step 6 relates to District Authorities within two tier Local Government arrangements. Both of the Joint Authorities are Unitary Authorities and so step 6 does not apply here. However, MSA are included on the ERLP Policies Map (there are no Mineral Resources Safeguarding areas defined for Hull City Council's administrative area).

Step 7: Include mineral assessments in the local list of information requirements.

- 2.10 Mineral assessments are listed as required in appropriate circumstances within the supporting text to ERLP Strategy Document Policy EC6 'Protecting Mineral Resources'.

3. Description of Strategic Mineral Resources and Proposed Safeguarding Approach

- 3.1 A number of strategic mineral resources have been identified within the plan area for safeguarding. Many of these already have an adopted safeguarding area established through the ERLP. This section looks again at these and re-visits the merits of whether each type should be safeguarded or not.
- 3.2 Detailed resource information and the suggested approach to safeguarding for each one is presented below.

Sand and Gravel

- 3.3 Sand and gravel deposits in the plan area principally occur in the lower lying ground to the east and west of the Yorkshire Wolds. The following types of sand and gravel deposits are considered to be potentially strategically important:
- Glaciolacustrine deposits;
 - Glaciofluvial deposits;
 - Terrace and sub alluvial deposits;
 - Beach deposits;
 - Head (or fan) gravel deposits; and
 - Deposits of unknown origin (Undifferentiated sand and gravel).
- 3.4 All sand and gravel deposits are of variable quality, and some are interbedded with clay, which can be used for lining landfill sites and in flood prevention works. Most sand and gravel layers are relatively shallow, so prior extraction is feasible to a greater or lesser extent. This is particularly the case given the extraction process for sand and gravel does not involve blasting, and if required, processing can be carried out away from the extraction site.
- 3.5 The relative remoteness of most deposits does not necessarily mean that they are not at potential risk from being sterilised by surface development. There are examples of sand and gravel deposits having been rendered unworkable due to being crossed by the route of a pipeline, or by planning permission having been granted for small scale residential or commercial development on or close to the deposit.
- 3.6 A further consideration is that many of the sand and gravel deposits occur in areas that are liable to flood. However, the Flood Risk Vulnerability Classification of sand and gravel extraction in the Planning Policy Guidance is that it is a water-compatible development, and therefore need not be excluded from taking place within areas that are liable to flood. Most forms of surface development are vulnerable to flooding and therefore unlikely to be proposed within flood prone areas, but there are exceptions, including water and sewage infrastructure and pipelines, various recreation uses and MoD installations. The degree of prior mineral extraction that is feasible may be restricted in flood prone areas.
- 3.7 **Glaciolacustrine deposits** were previously identified on the Minerals Resources Map but have since been removed from the latest iteration of the BGS's GIS data. A large part of the area

west of the Wolds contains glaciolacustrine deposits of sand and gravel, although it becomes more patchy and dispersed further west. An extensive area occurs to the west of Pocklington, running down to the Humber at North Ferriby. The deposits consist in most places of sand, fine grained (soft) and commonly silty and clayey. Thicknesses up to 10m are recorded but generally the lower sand is no more than 5m thick.

- 3.8 These deposits were removed from the Minerals Resources Map GIS data because they comprise predominantly laminated clay with only local patches of generally fine sand. The BGS consider that although the deposits are locally worked in specific locations, often coincidentally with clay, they are too-fine grained for concreting aggregate and considered to have a low resource potential. As a result of this the BGS advised in 2014 that the glaciolacustrine deposits, on a regional scale, did not constitute a sand and gravel resource and that these deposits have been removed from the data.
- 3.9 Notwithstanding the BGS view, it needs to be borne in mind that the largest single sand and gravel operation in the East Riding is located on this deposit at North Cave. The operator has also expressed an interest in expanding this operation into adjacent land, which is the subject of preferred area allocations in the plan. There has also been some limited interest from operators in the sand and gravel deposit elsewhere in the East Riding.
- 3.10 Coarse and medium concreting sand is becoming scarce in the Yorkshire region. Elsewhere within the UK, the industry is increasingly using a fine sand / limestone fines blend to as a substitute. Although the glaciolacustrine deposits may be considered marginal in economic terms at present, they may become increasingly sought after and valuable as traditional sources of concreting sand are exhausted.

What is the Plan's approach to safeguarding Glaciolacustrine sand and gravel resources?

- 3.11 Given the local importance of this deposit, as well as its increasing national importance as a substitute blending material to make concrete, the whole extent of this resource is safeguarded outside of development limits. In addition, locally important sources of the resource as indicated by the existence of existing or proposed (allocated) workings are also safeguarded.
- 3.12 **Glaciofluvial deposits** are mainly located in the area to the east of the Wolds. They are fairly dispersed, with the most extensive deposits in the Catwick to Brandesburton area, and stretching north and south from Bridlington. West of the Wolds there is a larger deposit of glaciofluvial sand and gravel at Pocklington, with smaller patches further south. Pocklington gravel is one of the coarsest and homogeneous gravelly formations in this area. This formation is generally greater than 1m in thickness except at its eastern margins.
- 3.13 **Terrace and sub alluvial deposits** of sand and gravel are localised in East Riding of Yorkshire to the banks of the Gypsey Race, west of Bridlington. They rest on an irregular channelled surface and are thus of very variable thickness. Locally the deposits can be 20m (for example in the Trent and Ouse Valleys). However, they are commonly thinner (generally less than 4m) and occur beneath thick overburden. These deposits are always saturated and require wet working.

What is the Plan's approach to safeguarding Glaciofluvial deposits, and terrace and sub-alluvial deposits sand and gravel resources?

- 3.14 Glaciofluvial deposits, and terrace and sub-alluvial deposits yield mainly sharp sand and gravel, and building sand suitable for a wide range of uses. The entire resource areas, as identified on the BGS Mineral Resources Map, are safeguarded outside of development limits. In addition, locally important sources of the resource as indicated by the existence of existing or proposed (allocated) workings will be safeguarded.
- 3.15 **Beach deposits** of sand and gravel occur principally along the modern coast and along a relatively narrow belt of country adjacent to it.

What is the plan's approach to safeguarding Beach gravel sand and gravel resources?

- 3.16 The coast of East Riding of Yorkshire is very vulnerable to coastal erosion. Therefore any extraction would be resisted, even prior extraction that is associated with permitted surface development. Safeguarding this deposit is not considered appropriate.
- 3.17 The precise origin of the **Head (or fan) gravel deposits** of sand and gravel is unknown. They comprise gravelly deposits that have been involved in mass movement downslope to their current position. Such movement commonly takes place under cold climatic conditions when vegetation is sparse and frozen ground leads to run off. The gravel is commonly mixed with other lithologies present on the slope resulting in a very variable deposit. The deposits often accumulate as lobes or fans. Deposits are most likely older alluvium or glaciofluvial, due to the uncertainty in formation.

What is the Plan's approach to safeguarding Fan gravel sand and gravel resources?

- 3.18 This deposit is considered of high enough value to safeguard for its potential use as hoggin. The entire resource area, as identified on the BGS Mineral Resources Map, is safeguarded outside of development limits. In addition, locally important sources of the resource as indicated by the existence of existing or proposed (allocated) workings have also been safeguarded.
- 3.19 **Deposits of unknown origin (Undifferentiated sand and gravel)** occur along the eastern side of the Wolds leading into the Holderness Plain. The deposits are variable in type with the main deposit of chalk sand and gravel locally worked around Garton-on-the-Wolds used as a road sub-base and as hard standings, paths and agricultural lime. Deposits elsewhere are less well known, but are unlikely to consist mainly of chalk like at Garton.

What is the Plan's approach to safeguarding gravel sand and gravel Deposits of unknown origin?

- 3.20 Aside from around Garton, given the limited knowledge of these deposits, a precautionary approach has been taken which safeguards these deposits in the Plan.

Chalk

- 3.21 Chalk occurs very extensively in the plan area being the underlying mineral for the whole of the Yorkshire Wolds. The deposits vary between higher and lower purity chalk, with higher purity chalk consisting of between 93% and 98% Calcium Carbonate, and lower purity consisting of under 93% Calcium Carbonate. In some areas the deposits are overlain by extensive drift deposits which thicken towards the east, and the BGS Mineral Resources Map shows the eastern flank of the deposit as 'concealed'.
- 3.22 Within the East Riding of Yorkshire material won from high quality chalk deposits is used for a range of specialist industrial uses, including lime production, and chalk whitening for paper and plastics. There are quarries and works for processing industrial chalk at Lund, Melton and Queensgate. Some industrial grade chalk is also extracted from the chalk quarries at Huggate and Greenwick. Lund and Queensgate are located on the concealed part of the deposit.
- 3.23 Generally the quality of the chalk deposits within the plan area for aggregate use is poor and there are limited resources of chalk suitable as crushed rock aggregate. Small quantities are sold for low grade aggregate applications such as fill and sub base roadstone.
- 3.24 Chalk is currently extracted from ten quarries in the East Riding. The Yorkshire Wolds are marked by numerous small disused quarries where the chalk has been dug historically for local use as agricultural lime and hardcore.

What is the Plan's approach to safeguarding Chalk resources?

- 3.25 The quantity of material extraction for specialist industrial uses is notably less than required for aggregate uses, which calls into question the value of safeguarding the whole of the extensive chalk deposit. However, the BGS advise that this would be in keeping with safeguarding methodologies elsewhere, even in areas where there is no active extraction in operation. Examples of extensive safeguarding areas being defined elsewhere are North Yorkshire and Cumbria.
- 3.26 The chalk deposits which are not marked as concealed together with concealed areas of higher purity chalk as shown on the BGS Mineral Resources Map outside of development limits are safeguarded. In addition, locally important sources of the resource as indicated by the existence of existing or proposed (allocated) workings are safeguarded.

Limestone

- 3.27 The plan area also contains Lincolnshire Limestone dating from the Middle Jurassic Period. This bed outcrops in a narrow band along the south west edge of the Wolds between the Humber River and Newbald. The limestone deposit in the plan area is of better quality for aggregate purposes than chalk, but limited in extent. This deposit has been historically worked for aggregate limestone, again mainly for lower grade applications, but nevertheless interest has been expressed by operators in this deposit as a potential source of crushed rock in the future.

What is the Plan's approach to safeguarding Limestone resources?

- 3.28 The entire limestone resource area, as identified on the BGS Mineral Resources Map is safeguarded outside of proposed development limits due to the quality of the limestone deposit in the plan area. In addition, locally important sources of the resource as indicated by the existence of existing or proposed (allocated) workings are also safeguarded.

Silica Sand (Blown Sand)

- 3.29 Silica sand is also known as industrial sand and contains a high proportion of silica as quartz. This is an essential raw material for the glass and foundry casting industries. It is also used in the manufacture of ceramics and chemicals, and for filtering water. Silica sand is a high value resource resulting in it serving a wider geographical market than other types of sand.
- 3.30 The principal silica sand deposit within the plan area occurs close to Newbald, to the west of the Wolds. This deposit has several smaller outlying outcrops, the largest being slightly to the North West. There are no silica sand processing works in East Riding. The nearest silica sand works are to the south of the Humber near Messingham in North Lincolnshire. Blown sand deposits of Quaternary age around Messingham is worked and processed for coloured glass manufacture, and for foundry sand and other incidental uses.

What is the Plan's approach to safeguarding Silica Sand resources?

- 3.31 There is no indication at this stage that there is any intention to establish a new silica sand works on the deposit within the plan area. However the deposits are understood to be of similar potential to those in North Lincolnshire. They could have long term potential, either for in-situ exploitation should a works be established, or for extraction and supply to the works in North Lincolnshire or elsewhere. The entire resource area, as identified on the BGS Mineral Resources Map outside of development limits is safeguarded.

Brick Clay

- 3.32 Within the plan area there is an important deposit of brick clay at Broomfleet. This has been worked for over 100 years and is used in the manufacture of a range of roofing tiles and bricks which are sold to national and international markets.
- 3.33 Clayworks represent considerable levels of investment in processing facilities to produce tiles and brick and therefore require extensive reserves in order to provide long term security for the investment required.
- 3.34 The extent of clay resources within the East Riding of Yorkshire as shown on the BGS Mineral Resources Map is limited to that within the immediate vicinity of the Broomfleet works. Much of the area is at high flood risk, so there are limited pressures for other types of surface development.

What is the plan's approach to safeguarding Brick Clay resources?

- 3.35 The entire resource area, as identified on the Humberside Mineral Resources Map, is safeguarded due to the limited extent of this resource.

- 3.36 Elsewhere in the plan area, there is also clay found in association with sand and gravel sites including at Keyingham and Newton on Derwent. This clay is good quality but is not used for brickmaking. It is more suitable for engineering of landfill sites and for flood defence works. This interbedded clay is safeguarded where it occurs within the sand and gravel safeguarding area.

Peat

- 3.37 There are significant areas of peat bog in the south west of the East Riding at Goole Moor. Elsewhere in the East Riding and Hull, just one other area of peat has been identified on the BGS Mineral Resources Map between Gilberdyke and Holme-on-Spalding-Moor.

What is the plan's approach to safeguarding Peat resources?

- 3.38 The south western deposits provide a rich, albeit threatened, wildlife habitat. Thorne, Crowle and Goole Moors SSSI, at nearly 2000 hectares, is the largest lowland raised mire in England. Together with parts of Hatfield Moor SSSI has been recognised as being of European importance under the Habitats Regulations and is designated as both a Special Protection Area and Special Area of Conservation. Parts of the site, including two areas of Goole Moor, were declared a National Nature Reserve (NNR) in 1995 and are known as the Humberhead Peatlands. Peatlands are rich in archaeological material which seldom survives elsewhere; ancient boats, bodies, track ways, and organic remains which have vanished from dry sites, all endure in peat bogs. They are also a rich source of information about past environments and climate change, and can act as a 'carbon sink'.
- 3.39 National Planning Policy states that new or extended sites for peat extraction should not be identified in local plans nor granted planning permission. For this reason as well as the potential for significant nature conservation, archaeological or paleo-ecological interest within peat deposits, safeguarding of this deposit is not considered appropriate.

Historic Sources of Building and Roofing Stone

- 3.40 The plan area has historically produced a variety of building stone for local use. The Middle Jurassic the buff coloured, oolitic and shelly limestones of the Lincolnshire Limestone formation have been extensively used locally.
- 3.41 A Strategic Stone Study undertaken by English Heritage in 2004 has identified a number of former quarries which provided significant building stone used to maintain and repair historic buildings within the plan area. The identified quarries are as follows:
- Boynton Quarry: this former quarry was important for providing Flamborough chalk to serve buildings around the Bridlington area. The site now consists of woodland.
 - Brough Pits Quarry: moderately sized medaeval stone quarry in the Jurassic Oolite limestone which was used for ashlar work. The site now consists of undulating ground with woodland cover.

- Everthorpe Quarry: this former quarry was important for providing Wold stone in the form of Cave Oolite Limestone. The site now consists of agricultural land and woodland.
- Sancton Quarry: this former quarry was important for providing Wold stone in the form of Cave Oolite Limestone. The site now consists of agricultural land and woodland.
- Grass Pits Quarry: moderately sized quarry in the Jurassic Oolitic limestone with good ashlar quality stone, located on the north side of Cliffe Road at the junction of the A1034. The quarry is believed to have been used in the Roman period, and continued in use until the 1960s, its heyday being the 12th-13th centuries when stone was produced for Beverley Minster and many other local village churches. Later stone was supplied for Hull Docks and the sea wall at Hornsea. Grass Pits is thought to be the site of the earliest quarries, but was disused by the 17th century when it was used as a pasture for sick animals. The site has since been re-developed for industrial uses.
- Sands Top Quarry: quarried and landfilled under a permission which expired in 2009.
- North Newbald Quarry- this now consists of woodland and a small amount of tipping has taken place also.
- Hessle Quarry (assumed to be Humberfield Quarry and South Field Quarry from data available): quarried and landfilled in the case of Humberfield Quarry and redeveloped as allotments and now surrounded by residential development in the case of South Field Quarry.
- Stepney Quarry: previously a chalk quarry extracting Flamborough chalk. Quarried and developed for residential use.

What is the Plan's approach to safeguarding Historic Sources of Building and Roofing Stone?

3.42 Although none of these quarries are active, it is important to safeguard those that have not since been developed/sterilised by non-mineral surface development in case there is a future requirement for the deposits they provide. Those safeguarded are:

- Boynton Quarry
- Brough Pits Quarry
- Everthorpe Quarry
- Sancton Quarry
- Brantingham Quarry
- North Newbald Quarry

3.43 These quarries are already safeguarded as part of MSAs for the resources discussed above.

Proximal Safeguarding

- 3.44 The issue of proximal safeguarding has been dealt with within ERLP Strategy Document Policy EC6, which applies to proposed non-mineral development within and adjacent to Mineral Safeguarding areas.

Urban Areas, Settlements and Existing Development

- 3.45 The following approach has been established through the ERLP Strategy when considering the relationship of MSA to existing development. MSAs are identified outside of a settlement Development Limit (as defined by Policies S3 and S4 of the ERLP Strategy Document) for the:

- Whole extent of the sand and gravel resource shown on the BGS Mineral Resources Map; and
- Whole extent of the chalk resource shown on the BGS Mineral Resources Map, with the exception of concealed lower purity chalk.

- 3.46 Where potentially important mineral resources underlie urban areas, these tend to be either sand and gravel or chalk. Both of these resources are very extensive within the East Riding. In considering this issue, the Inspector's Report on the ERLP Strategy Document explained (in paragraph 266 and 267) that:

It has been suggested that the MSAs should be expanded into the district's urban areas. The PPG makes two points of relevance:

"... safeguarding is the process of ensuring that non-minerals development does not needlessly prevent the future extraction of mineral resources ..." [my emphasis]

"... Safeguarding mineral resources should be defined in designated areas and urban areas where necessary to do so. For example, safeguarding of minerals beneath large regeneration projects in brownfield land areas can enable suitable use of the mineral ..." [my emphasis]

I note that MSAs have been defined across urban areas in other districts. However, there is no clear evidence that it is necessary to do so in this case. No large brownfield regeneration schemes are envisaged in the plan, and no other comparable, suitable opportunities for extraction in urban areas are apparent to me. On the contrary, it is evident that much new development will be on greenfield sites, and that there is a clear need to bring such sites forward, especially for housing. On the evidence produced, I consider that excluding the MSAs from within settlements is the most appropriate approach, and will not lead to the needless sterilisation of mineral deposits.

- 3.47 Locally important sources of the chalk, and sand and gravel resources, are indicated by the existence of existing or proposed (Preferred Area and Area of Search allocations) workings. As outlined above, it is proposed through the JMLP to amend the adopted Local Plan Policies Map to identify these additional resources as MSAs. This has applied the previously adopted approach to incorporate the full extent of the resource where this is located outside of a settlement Development Limit.

- 3.48 Policy EC6 of the ERLP Strategy Document requires greenfield non-mineral allocations adjacent to a development limit abutting a MSA to address the provisions of the policy by virtue of the MSAs being included up to development limits, where appropriate.

What is the Plan's approach to safeguarding within Urban Areas, Settlements and Existing Development?

- 3.49 Account has been taken of the:

- abundance of the types of mineral resources (eg chalk and sand and gravel) within the East Riding which typically underlie some urban areas;
- existence of large areas of unsterilised resource within proposed MSAs;
- lack of any large regeneration projects in brownfield areas in the East Riding; the
- fact that resources have already been sterilised within urban areas; and
- requirement for greenfield non-mineral allocations adjacent to a development limit abutting a MSA to address the provisions of policy EC6 by virtue of the MSAs being included up to development limits, where appropriate.

The Council has therefore re-affirmed the view that it is not necessary to define MSAs within urban areas. MSAs are therefore excluded from areas contained within proposed development limits. As set out above, this is an approach found to be appropriate for the East Riding by the Planning Inspector, who examined the ERLP Strategy Document.

- 3.50 It should be noted that several other Authorities have taken a similar approach to MSAs and urban areas. For example:

- Lincolnshire County Council, which has adopted a Minerals and Waste Core Strategy (2016). This states 'guidance advises that, in urban areas, MPAs should define MSAs to highlight the potential for extracting minerals beneath large regeneration projects and brownfield sites. In Lincolnshire, however, such opportunities are probably limited to small scale building stone operations to provide stone for Lincoln Cathedral/ Lincoln Castle. Other mineral resources that are present do not generally lend themselves to prior extraction in built-up areas because of the nature of their extraction methods, and the possibility of such circumstances arising seems too slim to warrant safeguarding.'
- Lancashire County Council, which has adopted a Site Allocations and Development Management Policies Document (2013). It states that Current guidance advises that mineral safeguarding should not be curtailed by any other planning designation, such as urban areas or environmental designations without sound justification. The mineral deposits within the Plan area are extensive and whilst they continue beneath urban areas they are already sterilised by non mineral development and are not sufficiently valuable with very little prospect of future working. Therefore in a wish to make our safeguarding realistic and practical as possible we have excluded such areas from the mineral safeguarding areas.

- Cambridgeshire County Council, which has an adopted Core Strategy 2011). This contains a safeguarding methodology which explains that it is not practical to identify all mineral reserves as MSAs due to a number of factors such as some resources already being sterilised beneath existing urban development. Areas that are defined as urban settlements in local plans that prevent extraction due to sterilisation of minerals are excluded from MSAs.

4. Identification of mineral infrastructure information

4.1 As well as safeguarding mineral resources, the plan needs to safeguard:

- existing, planned and potential rail heads, rail links to quarries, wharfage and associated storage, handling and processing facilities for the bulk transport by rail, sea or inland waterways of minerals.
- Existing, planned and potential sites for concrete batching, the manufacture of coated materials, other concrete products and the handling, processing and distribution of substitute, recycled and secondary aggregate material.

Marine landing facilities

4.2 The following infrastructure has been identified:

Marine Aggregates Landing Facilities

- King George Dock: sand and gravel landing and aggregate export moved here from Alexandra Dock where Siemens wind turbine operation has been constructed. The dock can accommodate bigger vessels and is large enough to land some 300,000 tonnes per annum. It is also connected to the rail network.

4.3 A Marine Aggregates Study for Yorkshire and Humber identified a number of wharfs in the East Riding considered to have potential for use for handling aggregates. These wharfs were: New Bridge Wharf, Glucose Wharf, Croda Wharf, Linpac Wharf, M.O.D Wharf, Tilcon Wharf, Howendyke (3 locations), and Port of Goole. The ERLP safeguards these for general use through Policy S8. Given these wharfs have not been, are not currently or planned to be used for minerals transportation; it would not be appropriate to safeguard these through the JMLP.

Rail Facilities Handling Mineral Resources

4.4 Facilities within the joint area that currently handle mineral resources or have done in the past are:

- Melton railway sidings (Omya UK), which was previously used to transport chalk from Omya's Melton Bottom Quarry.
- Dairycoates rail terminal in Hull, currently operated by Tarmac.

4.5 Hull Docks Branch railway also services land adjacent to King George and Queen Elizabeth Docks, where the replacement marine aggregates landing facility is located.

Concrete batching, manufacturing, other concrete products, and substitute, recycled and secondary aggregate facilities

4.6 Minerals infrastructure facilities within the City of Hull are:

- Concrete Plant (Ashcourt Group), Foster Street;
- Concrete Plant (Breedon Group), Hotham Street;
- Depot/Transfer Station (Biffa Group), Stoneferry Road;
- Rail Depot, Asphalt Plant & Concrete Plant (Tarmac Ltd), Dairycoates Terminal/Freightliner Rd;
- Ready Mix Concrete Plant (Edgar Ready Mixed Concrete Ltd), Queen Elizabeth Dock;
- Ready Mix Concrete Plant (Hull Readymix Concrete), Albert Dock;
- Aggregate landing/storage facility (Mike Wakefield Tippers), Queen Elizabeth Dock;
- Concrete Plant (Sandsfield Sand & Gravel Co Ltd), Foster Street;
- Concrete Plant (W Clifford Watts), Freightliner Road Plant, Freightliner Road, Hull; and
- Titan Cement, King George Dock.

4.7 Minerals infrastructure facilities within the East Riding of Yorkshire are:

- Concrete Plant (Breedon Group), Lancaster Road, Pocklington;
- Concrete Plant (Breedon Group), Dutch Riverside, Goole;
- Ready Mix Concrete Plant (Sandsfield Ready Mix Ltd), Catwick Lane, Brandesburton;
- Concrete Plant (Sandsfield Ready Mix Ltd), Swinemoor Lane, Beverley;
- Readymix Concrete Plant (Contech UK), Hereford Road, Pocklington Industrial Estate;
- Readymix Concrete Plant (Hanson), Pinfold Lane, Bridlington;
- Readymix Concrete Plant (Cemex), Warfield Road, Kellythorpe Industrial Estate, Driffield;
- Concrete Plant (W Clifford Watts), Station Yard, Station Road, South Cave;
- Concrete Plant (W Clifford Watts), Park Farm Quarry, Burton Agnes, Driffield;
- Recycled Aggregate Processing Plant (Yarrows Aggregates), Leven By-Pass, Leven;
- Asphalt Plant (Cemex), Greenwick Quarry, Huggate; and
- Asphalt Recycling Plant (Aggregates Recycling Ltd), Back O'Newton, Newton upon Derwent .

5. Mineral Safeguarding Policies

- 5.1 There is a requirement that a specific policy (or policies) on mineral safeguarding are included in Local Plans to effectively safeguard mineral deposits and infrastructure.

Mineral Resources

- 5.2 In terms of mineral resources, this can be achieved through outlining criteria against which planning applications for non mineral land use and development in MSAs will be considered and the specific information required to accompany applications.

- 5.3 Policy EC6 - Protecting Mineral Resources, within the East Riding Local Plan Strategy Document (April 2016) states that:

A. Mineral Safeguarding Areas for sand and gravel, crushed rock, limestone, industrial chalk, clay, and silica sand are identified on the Policies Map.

B. Within or adjacent to Mineral Safeguarding Areas, non-mineral development, which would adversely affect the viability of exploiting the underlying or adjacent deposit in the future, will only be supported where it can be demonstrated that the:

- 1. Underlying or adjacent mineral is of limited economic value;***
- 2. Need for the development outweighs the need to safeguard the mineral deposit;***
- 3. Non-mineral development can take place without preventing the mineral resource from being extracted in the future;***
- 4. Non-mineral development is temporary in nature; or***
- 5. The underlying or adjacent mineral deposit can be extracted prior to the non-mineral development proceeding, or prior extraction of the deposit is not possible.***

- 5.4 All MSAs within the joint area are located within the East Riding and there are no MSAs identified in Hull. Therefore, there is no corresponding policy in the Hull Local Plan..

- 5.5 The supporting text to the policy confirms that non-mineral development, which would adversely affect the viability of exploiting an underlying or adjacent deposit in the future, will be supported within and adjacent to a Mineral Safeguarding Area where (quoted from paragraphs 7.78 7.81 of the Strategy Document):

- Test drilling, test pits or other evidence, including the quantity of mineral, overburden, mineral depth, mineral thickness, and how fine the deposits are, suggest the underlying or adjacent mineral is of limited economic value, and its value is unlikely to become significantly greater in future, for example, by being of insufficient amount or quality. Documented attempts to market the mineral may be required to demonstrate that the mineral resource is not viable;
- The need for the development outweighs the need to safeguard the minerals for the future, for example, the surface development is an essential piece of infrastructure and alternative sites are not available without a disproportionate cost;
- It can take place without preventing the mineral resource from being extracted in future. This could include development covering a smaller area, such as householder development. Some larger proposals containing only limited built development could

also take place without sterilising the resource, for example, golf courses or some types of agricultural development. This will depend on the nature of the proposal and the extent, nature and economic value of the mineral concerned. Other types of development which could take place without sterilising the mineral resource include, applications for alterations and extensions to existing buildings, change of use of existing development, advertisement consents, and applications for reserved matters following an outline consent;

- It is temporary in nature; or
- There is evidence that prior extraction of the mineral deposit is not possible, or that the deposit will be extracted in an environmentally acceptable manner prior to the non-mineral development proceeding.

5.6 In all instances it will also be necessary to consider the balance between how the quality, depth and thickness of the mineral deposit affects its viability, as well as the extent to which the non-mineral surface development would sterilise this resource. An assessment of the effect of the proposed development on the mineral resource beneath or adjacent to the site of the development (termed a Mineral Assessment) will normally be required. A proposal for a single dwelling, for example, could still sterilise a large area of resource if built in a certain location. In other cases, applications will be screened out of having to satisfy the policy's requirements by meeting one of a number of exemption criteria which include:

- Applications for householder development;
- Applications for alterations and extensions to existing buildings and for change of use of existing development, unless intensifying activity on site;
- Applications for advertisement consent;
- Applications for reserved matters including subsequent applications after outline consent has been granted;
- Prior notifications (telecoms, forestry, agriculture, demolition);
- Certificates of Lawfulness of Existing Use or Development (CLEUD) and Certificates of Lawfulness of Proposed Use or Development (CLOPUD);
- Applications for works to trees;
- Applications for temporary planning permission.

5.7 Where non-mineral development is considered acceptable within or adjacent to a Mineral Safeguarding Area it will be necessary to ensure that the proposal minimises the impact on the minerals deposit, for example, through the siting and layout of any buildings. In assessing whether a proposed non-minerals development is adjacent to a Safeguarding Area, it will be necessary to consider the nature of the resource being safeguarded. For example, chalk and limestone deposits may require the use of explosives for extraction and the close proximity of non-mineral development may limit the use of this resource. However, sand and gravel, which can be dug from open workings, has a much lower potential impact. Guidance published by the British Geological Survey provides examples of typical distances from Mineral

Safeguarding Areas for different mineral resources within which non-mineral development is likely to be considered to be 'adjacent'.

- Small heritage stone quarries (where currently disused)- 150 metres
- Sand and gravel- 250 metres
- Clay- 250 metres
- Silica sand- 250 metres
- Chalk (where blasting is likely)- 500 metres
- Limestone (where blasting is likely)- 500 metres

5.8 Within these distances proposals will need to consider part B of the policy. In addition, any Greenfield non-mineral allocations adjacent to a development limit where it abuts a Mineral Safeguarding Area will be required to address the provisions of the policy.

5.9 Although this policy only applies to areas within the East Riding, there are no existing or proposed safeguarded mineral deposits within the City of Hull, therefore a similar safeguarding policy is not needed within Hull's Local Plan.

Marine landing facilities

5.10 Policy AGG8- Safeguarding capacity for marine importation of mineral resources, within the JMLP recognises the role of the Port of Hull in the importation of minerals, including aggregate resources. It states:

A. The retention of capacity to land at least 300,000 tonnes per year of marine-won aggregates, as well as land other mineral resources, at the Port of Hull is supported. It forms an important part of having an adequate and steady supply of aggregate to the construction industry.

B. Proposals to redevelop parts of the Port of Hull used for the importation of aggregates and other mineral resources for non-port related development will only be supported if equivalent aggregate handling capacity serving the same market is provided elsewhere.

C. Marine aggregates development associated with the landing, storing and transporting of marine won or imported aggregates will be supported provided it will not:

1. Adversely impact on the Humber Estuary SPA, SAC, Ramsar site and SSSI; and
2. Have a severe impact on the local transport network; and
3. Adversely impact on the amenity or operation of existing land uses.

Rail Facilities

- 5.11 Policy AGG9- Safeguarding of Rail Facilities used for the Importation of Aggregates and Other Minerals:
- A. Proposals that would increase the capacity of the rail network to transport aggregates and other mineral resources will be supported.
 - B. Proposals for the redevelopment of existing rail facilities, and associated storage, handling and processing facilities as shown on the Policies Map, which would preclude their use for the importation of aggregates and other minerals, will only be supported, provided that equivalent capacity is provided elsewhere in a manner which does not interrupt the supply of mineral material, including aggregates.
 - C. Proposals for development close to rail facilities, and associated storage, handling and processing facilities used for the importation of aggregates and other minerals, which would prejudice their operation by reason of its sensitivity to impacts on amenity arising from such use of the facilities, will not be supported.

Minerals infrastructure and facilities

- 5.12 Policy AGG10- Safeguarding of Minerals Infrastructure and Facilities, within the emerging JMLP states:
- A. Existing infrastructure supporting the minerals industry will be safeguarded from inappropriate development, unless it can be demonstrated that:
 - 1. Replacement provision of an equal or greater capacity and quality will be provided in an alternative location serving the same market(s); or
 - 2. Sufficient facilities already exist in the area serving the same market(s).
 - B. Sensitive or inappropriate development that would conflict with the use of such sites for these purposes will be prevented.
- 5.13 The adopted Hull Local Plan (2017), Policy 1 parts 7 and 8 state:
- ‘Safeguarding Minerals Infrastructure
- 7. Existing, planned and potential infrastructure supporting the minerals industry will be safeguarded from inappropriate development. This includes railheads, rail links, wharfage and associated storage, handling and processing facilities for the bulk transport by rail, sea or inland waterways of minerals, including recycled, secondary and marine-dredged materials, concrete batching, manufacture of coated materials, other concrete products and the handling, processing and distribution of substitute, recycled and secondary aggregate material.
 - 8. Sensitive or inappropriate development that would conflict with the use of sites identified for these purposes will be prevented.’

6. Proposed Mineral Safeguarding Area

- 6.1 Mineral resource Safeguarding Areas defined according to the safeguarding approach set out in section 3 above are included on the following map.
- 6.2 The MSAs have updated MSAs within the adopted ERLP and include a limited number of amendments to the Policies Map. Green hatched areas shown on the map are additions to the MSAs adopted in the ERLP, and red hatched areas are deletions.
- 6.3 The principal reasons for the proposed additions to the MSAs are the:
- Inclusion of MSAs covering the preferred area and area of search mineral allocations in the JMLP.
 - the inclusion of Head (or fan) sand and gravel deposits within the MSAs.
- 6.4 The principal reasons for the proposed deletions to the MSAs are:
- the removal of MSA 'buffers' around existing quarries, recognising that proximal sterilisation of resources by non-mineral development is addressed by ERLP policy EC6
 - the removal of Beach sand and gravel deposits from the MSAs
- 6.5 The extent of marine and other minerals infrastructure and facilities (other than rail facilities) will not be safeguarded by a specific designation on the Policies Map. These facilities are more recognisable than underlying mineral resources. Not designating specific areas provides flexibility for any new facilities constructed over the plan period to also be subject to the relevant safeguarding policy.

Proposed MSAs Map

