



Hertfordshire Minerals Local Plan Site Selection Methodology Report

Final Report
Prepared by LUC and Cuesta Consulting Ltd
December 2015

Project Title: Hertfordshire Minerals Local Plan Review: Site Selection Methodology Report

Client: Hertfordshire County Council

Version	Date	Version Details	Prepared by	Checked by	Approved by
V1	16/02/15	Draft Report	Ben Miller, Catrin Owen, Alan Thompson	Catrin Owen	Taran Livingston
V2	15/05/15	Final Draft Report	Ben Miller, Catrin Owen, Alan Thompson	Catrin Owen, Taran Livingston	Taran Livingston
V3	27/05/15	Final Report	Catrin Owen, Alan Thompson	Catrin Owen	Taran Livingston
V4	03/12/15	Post-consultation Draft Report	Catrin Owen, Alan Thompson	Catrin Owen	Taran Livingston
V5	16/12/15	Post-consultation Final Report	Catrin Owen	Catrin Owen	Taran Livingston



www.landuse.co.uk

Hertfordshire Minerals Local Plan Site Selection Methodology Report

Final Report
Prepared by LUC and Cuesta Consulting Ltd
December 2015

Planning & EIA
Design
Landscape Planning
Landscape Management
Ecology
Mapping & Visualisation

LUC BRISTOL
12th Floor Colston Tower
Colston Street Bristol
BS1 4XE
T +44 (0)117 929 1997
bristol@landuse.co.uk

Offices also in:
London
Glasgow
Edinburgh



Land Use Consultants Ltd
Registered in England
Registered number: 2549296
Registered Office:
43 Chalton Street
London NW1 1JD
LUC uses 100% recycled paper

Contents

1	Introduction	1
	Background	1
	Report Structure	1
2	Policy Requirements	2
	National Policy and Guidance	2
	Local Policy	5
3	Purpose and Approach	6
	Purpose	6
	Approach	6
	Sustainability Appraisal	8
4	Site Selection Methodology for Sand and Gravel	9
	Sieve 1 – Major Constraints	9
	Sieve 2 – Resource Assessment	10
	Sieve 3 – Detailed Site Assessments	10
	Identification of Specific Sites, Preferred Areas or Areas of Search	13
5	Draft Site Selection Methodology for Brick Clay	27
6	Methodology for Defining MSAs and MCAs	28
Appendix 1		31
	Audit trail of changes to the Council’s previous site selection methodology (developed in 2009)	31
Appendix 2		33
	Comments received from the Interested Parties Workshop held on 19 th March 2015	33
Appendix 3		55
	Site Selection Findings Proforma	55
Appendix 4		61
	Call for Sites Proforma	61

Glossary of abbreviations

	Definition
AONB	Area of Outstanding Natural Beauty
BGS	British Geological Survey
BMV	Best and Most Versatile
HCC	Hertfordshire County Council
HRA	Habitats Regulations Assessment
IMAU	Industrial Minerals Assessment Unit
LAA	Local Aggregates Assessment
NNR	National Nature Reserve
NPPF	National Planning Policy Framework
MCA	Minerals Consultation Area
MLP	Minerals Local Plan
MPA	Minerals Planning Authority
MSA	Minerals Safeguarding Area
PPG	Planning Practice Guidance
SA	Sustainability Appraisal
SAC	Special Area of Conservation
SPA	Special Protection Area
SPD	Supplementary Planning Document
SSSI	Site of Special Scientific Interest

1 Introduction

Background

- 1.1 Hertfordshire County Council (HCC), as the Minerals and Waste Planning Authority, is reviewing the existing Minerals Local Plan (adopted in 2007) to ensure that it is up-to-date and provides a reliable plan for at least a further 15 year plan period. The content of a Minerals Local Plan must meet the requirements of the National Planning Policy Framework (NPPF) and have regard to the content of the online national Planning Policy Guidance (PPG); both of which are discussed further in **Section 2** below. One of the key aspects of a Minerals Local Plan is to plan for a steady and adequate supply of aggregates by identifying specific sites, preferred areas and/or areas of search.
- 1.2 LUC and Cuesta Consulting were commissioned in January 2015 by HCC to review the Council's previous mineral site selection methodology (developed in 2009), amend and update it where required, and then apply the methodology to identify suitable sites for the extraction of **sand and gravel** and **brick clay** in the county. In addition, a methodology for the identification of Minerals Safeguarding Areas (MSAs) and Minerals Consultation Areas (MCAs), and its subsequent implementation was required.
- 1.3 The conclusions and recommendations of the site selection study will inform the emerging Minerals Local Plan (MLP), forming a key piece of its evidence base. This report details the process undertaken to develop the site selection study methodologies, which will be implemented in the winter of 2015/16 and spring 2016.

Report Structure

- 1.4 This report includes a thorough review of national policy and guidance, together with national and local information which has informed the analysis and approach undertaken. It was critical that the site selection methodology meets the statutory local plan requirements: be positively prepared, justified, effective and consistent with national policy and guidance.
- 1.5 The remainder of this report is structured as follows:
 - Chapter 2:** National and local policy requirements relating to selecting sites for inclusion in MLPs and identifying MSAs and MCAs.
 - Chapter 3:** Sets out the purpose of the site selection study and the approach followed to develop the site selection methodologies.
 - Chapter 4:** Describes the site selection methodology for sand and gravel.
 - Chapter 5:** Details the site selection methodology for brick clay.
 - Chapter 6:** Describes the methodology for defining MSAs and MCAs.
- 1.6 In addition, the report contains four appendices:
 - Appendix 1:** Audit trail of changes to the Council's previous site selection methodology (developed in 2009).
 - Appendix 2:** Comments received from the interested parties workshop held on 19th March 2015.
 - Appendix 3:** Site Selection Findings Proforma.
 - Appendix 4:** Call for Sites Proforma.

2 Policy Requirements

National Policy and Guidance

- 2.1 Minerals are essential to support economic growth and our quality of life. Paragraph 142 of the NPPF¹ states that it is important that there is a sufficient supply of material to provide the infrastructure, buildings, energy and goods that the country needs, and emphasises that minerals can only be worked where they are found and it is important to make best use of them to secure their long-term conservation. This highlights the importance of the need to facilitate a steady and adequate supply of minerals, as required by the NPPF. Therefore a positively prepared, justified, effective approach to the site selection methodology and site selection study, which is consistent with national policy and guidance, is essential.

Site Selection for Aggregates

- 2.2 The NPPF states in paragraph 145 that Mineral Planning Authorities (MPAs) should plan for a steady and adequate supply of aggregates by:
- *"...making provision for the land-won and other elements of their Local Aggregate Assessment in their mineral plans taking account of the advice of the Aggregate Working Parties and the National Aggregate Co-ordinating Group as appropriate. Such provision should take the form of specific sites, preferred areas and/or areas of search and locational criteria as appropriate;*
 - *...making provision for the maintenance of landbanks of at least 7 years for sand and gravel and at least 10 years for crushed rock, whilst ensuring that the capacity of operations to supply a wide range of materials is not compromised...;"*
- 2.3 The online National Planning Practice Guidance² elaborates on the policies included in the NPPF, stating in paragraph 008 that MPAs should "plan for the steady and adequate supply of minerals in one or more of the following ways (in order of priority):
- *designating Specific Sites – where viable resources are known to exist, landowners are supportive of minerals development and the proposal is likely to be acceptable in planning terms. Such sites may also include essential operations associated with mineral extraction;*
 - *designating Preferred Areas, which are areas of known resources where planning permission might reasonably be anticipated. Such areas may also include essential operations associated with mineral extraction; and/or*
 - *designating Areas of Search – areas where knowledge of mineral resources may be less certain but within which planning permission may be granted, particularly if there is a potential shortfall in supply."*
- 2.4 In exceptional circumstances, such as where a MPA is largely made up of designated areas protection areas such as Areas of Outstanding Natural Beauty (AONBs), it may be appropriate to rely largely on policies which set out the general conditions against which applications will be assessed. However, it should be noted that HCC is not largely made up of designated sites/areas, and the main resource in the County, sand and gravel, is located outside the Chilterns AONB.
- 2.5 It is essential that when undertaking site selection that accurate and high quality data is used, as paragraph 009 of the PPG states that the better the quality of data available to MPAs, the better the prospect of a site being designated as a Specific Site. Designating Specific Sites in minerals plans provides the necessary certainty on when and where development may take place.

¹ Available at: <http://planningguidance.planningportal.gov.uk/>

² Available at: <http://planningguidance.planningportal.gov.uk/>

2.6 It must be borne in mind that under certain circumstances it may be preferable to focus on extensions to existing sites rather than plan for new sites. For example, it is likely that due to plant and infrastructure already being in place, an extension to an existing mineral site may, in some cases, be able to work resources that would not otherwise be commercially viable, if worked in isolation as a new site. However, paragraph 010 of the PPG states that the suitability of each proposed site, whether an extension to an existing site or a new site, must be considered on its individual merits, taking into account issues such as:

- need for the specific mineral;
- economic considerations (such as being able to continue to extract the resource, retaining jobs, being able to utilise existing plant and other infrastructure);
- positive and negative environmental impacts (including the feasibility of a strategic approach to restoration; for example the use of ecosystem services and landscape-scale restoration opportunities to guide the location of future minerals extraction such that it optimises the generation of long-term environmental benefits); and
- the cumulative impact of proposals in an area.

Industrial Minerals

2.7 Industrial minerals are accounted for separately in the NPPF and PPG due to differences in the ways in which they are worked, the wide range of uses they have and the range of markets they supply. As a result, paragraph 086 of the PPG states that MPAs should recognise that there are marked differences in geology, physical and chemical properties, markets and supply and demand between different industrial minerals, which can have different implications for their extraction. The differences of particular relevance to brick clay, and which therefore need to be taken account of in the site selection methodology, include:

- geology influencing the size of the mineral resource, how it may be extracted and the amount of mineral waste generated;
- the fact that markets are based on the consistent physical properties of the products (bricks, in this case); and
- the potential for the quality of clay extracted from a single site varying considerably within the site. This may require multiple extraction faces within one quarry and blending to produce a consistent end-product.

Environmental Considerations

2.8 Environmental impacts from both aggregate and industrial mineral extraction require assessment. Significant environmental impacts are best addressed through consideration of an Environmental Impact Assessment which accompanies planning applications for most new mineral workings. However, when undertaking site selection as part of minerals plan preparation, MPAs need to consider planning and environmental constraints and site specific details for similar issues, albeit it in a different level of detail. Paragraph 013 of the PPG states that the principal issues that MPAs should address, bearing in mind that not all issues will be relevant at every site to the same degree, and not all issues can be addressed at the plan preparation stage, include:

- noise associated with the operation;
- dust;
- air quality;
- lighting;
- visual impact on the local and wider landscape;
- landscape character;
- archaeological and heritage features;
- traffic;
- risk of contamination to land;

- soil resources;
- geological structure;
- impact on best and most versatile agricultural land;
- blast vibration;
- flood risk;
- land stability/subsidence;
- internationally, nationally or locally designated wildlife sites, protected habitats and species, and ecological networks;
- impacts on nationally protected landscapes (National Parks, the Broads and Areas of Outstanding Natural Beauty);
- nationally protected geological and geomorphological sites and features;
- site restoration and aftercare;
- surface and, in some cases, ground water issues; and
- water abstraction.

2.9 Not all of the issues listed above will be relevant to all sites, and not all of them will be able to be addressed properly at the site selection stage, but this list provides a useful starting point for issues to be considered.

Green Belt

2.10 Policy such as paragraph 90 of the NPPF also needs to be taken into account when considering planning and environmental constraints. Paragraph 90 outlines how mineral extraction is not an inappropriate form of development in Green Belt provided it preserves the openness of the Green Belt and does not conflict with the purposes of including land in Green Belt. The purposes of Green Belt are:

- to check the unrestricted sprawl of large built-up areas;
- to prevent neighbouring towns merging into one another;
- to assist in safeguarding the countryside from encroachment;
- to preserve the setting and special character of historic towns; and
- to assist in urban regeneration, by encouraging the recycling of derelict and other urban land.

Mineral Safeguarding

2.11 Paragraph 143 of the NPPF sets out the requirement for Mineral Planning Authorities to ensure that their Local Plans define Mineral Safeguarding Areas and adopt appropriate policies in order that known locations of specific minerals resources are not needlessly sterilised by non-mineral development, whilst not creating a presumption that resources defined will be worked. Mineral Consultation Areas should then be defined based on the MSAs. In addition to mineral resources, Local Plans should safeguard existing, planned and potential facilities for the bulk transport of minerals by rail, sea and inland waterways; and set out policies to encourage the prior extraction of minerals, where practicable and environmentally feasible, if it is necessary for non-mineral development to take place. In the case of Hertfordshire, this means that existing and disused railheads, such as the five rail depots which transport mineral throughout the county and beyond, should be safeguarded.

2.12 The PPG and the British Geological Survey report 'Mineral safeguarding in England: good practice advice'³ provides guidance on minerals safeguarding, including the steps Mineral Planning Authorities should take to safeguard mineral resources, and what the role is of the district council, as the local planning authority, in safeguarding minerals.

³ British Geological Survey (BGS) report 'Mineral safeguarding in England: good practice advice' (Wrighton et. al., 2011)

- 2.13 The PPG states that MPAs should adopt a systematic approach for safeguarding mineral resources, which:
- uses the best available information on the location of all mineral resources in the authority area. This may include use of British Geological Survey maps as well as industry sources;
 - consults with the minerals industry, other local authorities (especially district authorities in two-tier areas), local communities and other relevant interests to define Minerals Safeguarding Areas;
 - sets out Minerals Safeguarding Areas on the policies map that accompanies the local plan and defines Mineral Consultation Areas; and
 - adopts clear development management policies.
- 2.14 The PPG (paragraph 005) also outlines the important role district councils have in safeguarding minerals, for example, having regard to the local minerals plan when identifying suitable areas for non-mineral development in their local plans, and showing MSAs on their policy maps.

Local Policy

- 2.15 In accordance with paragraph 145 of the NPPF, MPAs should plan for a steady and adequate supply of aggregates by preparing an annual Local Aggregates Assessment (LAA), either individually or jointly by agreement with another or other MPAs, based on a rolling average of 10 years sales data and other relevant local information, and an assessment of all supply options (including marine-dredged, secondary and recycled sources).
- 2.16 Paragraph 061 of the PPG defines the LAA as "*an annual assessment of the demand for and supply of aggregates in a MPAs area*". The purpose of the LAA is to assess the current local mineral provision against the requirements detailed in the NPPF and PPG, including the Government's Guidance on the Managed Aggregate Supply System.
- 2.17 Hertfordshire County Council published its most recent LAA in 2014⁴. The LAA states that the county council will seek to plan for the agreed East of England Aggregates Working Party sub-regional apportionment level for sand and gravel (1.39 million tonnes per annum (mtpa)) to provide for flexibility to maintain supply when the economy recovers. This will ensure that an adequate and steady supply of aggregate is achieved over the longer term.
- 2.18 Chapter 5 of the 2014 Hertfordshire LAA states that using the East of England Aggregates Working Party sub-regional apportionment of 1.39 mtpa, the county does not have sufficient permitted reserves to fulfil the requirement for a 15 year Minerals Local Plan period (the same would be true if the alternative approaches of using the 10 year rolling average sales or the 3 year average sales figures were to be followed, see **Table 2.1**). As a result, HCC is seeking to address the identified shortfall in permitted reserves by allocating sufficient land in the review of the Minerals Local Plan. This site selection methodology report and the subsequent site selection study aim to support this process.

Table 2.1: Sand and gravel apportionment levels from the 2014 Hertfordshire LAA

Apportionment Level	Total
East of England AWP apportionment figure	1.39 million tonnes per annum
10 year average sales figure (2004-2013)	1.12 million tonnes per annum
3 year average sales figure (2011-2013)	1.17 million tonnes per annum

⁴ Available at: <http://www.hertsdirect.org/services/envplan/plan/hccdevplan/mlp/locaggassmt/>

3 Purpose and Approach

Purpose

- 3.1 The purpose of the site selection study was to develop, consult upon, refine and finalise:
- a. a site selection methodology for sand and gravel;
 - b. a site selection methodology for brick clay; and,
 - c. a methodology for the identification of MSAs and MCAs.
- 3.2 The purpose of the site selection methodology for sand and gravel is two-fold:
- The first purpose is to assess the potential sand and gravel sites put forward through the Call for Sites process: HCC will undertake a Call for Sites in early 2016, the aim of which will be to receive detailed site proposals from quarry operators, land owners etc. It is anticipated that the site-specific information submitted through this process will be detailed, thereby enabling a comparative assessment of potential sites through implementation of the site selection methodology. This process will identify, where appropriate, specific sites for allocation in the Minerals Local Plan.
 - The second purpose is to enable the identification of areas to be allocated as preferred areas or areas of search. LUC and Cuesta Consulting, on behalf of HCC, will apply the site selection methodology for sand and gravel to the known resource in order to identify preferred areas or areas of search for allocation within the Minerals Local Plan (see paragraph 2.3 above).

Approach

- 3.3 The approach to developing the site selection methodologies for sand and gravel and brick clay, and methodology for the identification of MSAs and MCAs began with a review of the Council's existing site selection methodology, taking account of current policy requirements as summarised in **Section 2**. The review of policy requirements provided the background and context for developing the methodologies.
- 3.4 The Council's existing site selection methodology was used to identify sand and gravel sites during development of the 2007 Hertfordshire Minerals Local Plan, and was consulted upon in 2009. The comments received during that consultation, the current policy requirements, and updated background data and assumptions, were all used to inform the updated draft site selection methodologies. These were prepared by LUC and Cuesta, working alongside officers at HCC. An audit trail of changes made to the previous site selection methodology is presented in **Appendix 1**.
- 3.5 Once drafted, the site selection methodologies for sand and gravel and brick clay, together with the methodology for the identification of MSAs and MCAs, were discussed at the Interested Parties Workshop held on 19th March 2015. The workshop involved invited representatives of statutory and non-statutory consultees, industry and neighbouring local authorities.
- 3.6 The discussions that took place at the Workshop and comments made were noted and collated by HCC. Invitees were also given a two week period following the Workshop within which any additional comments could be submitted to HCC. All comments and discussions noted have been summarised within **Appendix 2**. These were reviewed and used to inform the final draft site selection methodologies for public consultation.
- 3.7 The following key changes were made to the site selection methodologies in light of the Workshop:

Sand and Gravel

Sieve 1

- A greater degree of flexibility was incorporated, rather than applying the suggested criteria rigidly. Sites put forward by industry need not meet those criteria, provided that they are supported by evidence regarding economic viability.

Sieve 2

- Sieve 2 was no longer split into two stages (Sieve 2A and 2B) and only included those major constraints considered to be 'absolute' i.e. urban areas, areas with planning permission, and Ancient Woodland.
- All landscape, historic and biodiversity constraints previously included in Sieves 2A/2B were considered instead as part of Sieve 3.

Sieve 3

- Additional criteria previously included in Sieve 2 (e.g. landscape, historic and biodiversity constraints), and new criteria (e.g. sustainably transport by road) were considered as part of Sieve 3.
- Some criteria were removed due to the designations not existing in Hertfordshire (e.g. Areas of High Landscape Value, and Key Wildlife Sites).
- The subjective categorisation of all criteria in Sieve 3 (e.g. High, Medium and Low) was removed to ensure that criteria, and sites, can be compared equally and objectively.

Brick Clay

- The whole resource was proposed to be identified as an area of search, due to insufficient geological information to enable a more specific allocation to be identified which would represent 25 years' supply. It was agreed that it will be left to the existing operators to undertake their own exploration within the area of search.

MSAs/MCAs

- The proposed methodology for identification of MSAs and MCAs was amended to explicitly state that all resources will be safeguarded and not just those areas which are considered to be economically viable at the present time.

- 3.8 The final draft site selection methodologies were consulted upon as part of the initial consultation on the review of the Minerals Local Plan, which took place between 3 August and 16 October 2015. Consultation responses received were analysed and used to inform the final site selection methodologies described in **Sections 4, 5 and 6** below.
- 3.9 The following key changes were made to the sand and gravel site selection methodology following public consultation:

Economic Viability Criteria

- The consultation representations received indicated confusion regarding the use of the economic viability criteria for industry promoted sites. The main issue identified was that economic viability would be established by the promoter before putting a site forward, and therefore the criteria were not sufficiently flexible.

Major Constraints Criteria

- Representations to the consultation largely questioned the placement of ancient woodland in major constraints; either suggesting that it should lie within the detailed site assessment criteria or that other international and national nature designations should be moved to major constraints. Representations also highlighted the importance of international and national nature conservation designations.

Detailed Site Assessment Criteria

- Representations reiterated points similar to those raised above for major constraints. In addition, many representations raised issues which would need to be dealt with at the planning application stage once site-specific proposals are fully understood.
- 3.10 In taking account of the representations received, the purpose of the original economic viability criteria was re-examined and the use of specific criteria replaced. This also led to original Sieves 1 and 2 being switched round, so that major constraints are examined first. Further detail is provided in **Section 4**.
- 3.11 The final sand and gravel site selection methodology includes ancient woodland within Sieve 3 and the addition of a 'dark red' (very high) category in the scoring framework for certain criteria. This will allow sites with international and national designations (including ancient woodland) that are subject to an exceptions or alternatives test in national policy, to be highlighted through the use of the 'dark red' (very high) category in the scoring.

Sustainability Appraisal

- 3.12 Under the Planning and Compulsory Purchase Act 2004, Sustainability Appraisal (SA) is mandatory for Local Development Documents, including MLPs prepared by County Councils and National Park Authorities. For these documents it is also necessary to conduct an environmental assessment in accordance with the requirements of the Strategic Environmental Assessment (SEA) Directive (European Directive 2001/42/EC). Therefore, it is a legal requirement for the emerging MLP to be subject to SA and SEA throughout its preparation.
- 3.13 To this end, the proposed site selection methodologies which were subject to initial consultation were reviewed against the SA framework. Further information regarding this can be found in the Hertfordshire Minerals Local Plan Sustainability Appraisal and Strategic Environmental Assessment Scoping Report (May 2015). The next stage of the SA/SEA will need to consider the final site selection methodologies, and will also appraise the sustainability effects of all the potential mineral site options once they have been put through the relevant site selection methodology.

4 Site Selection Methodology for Sand and Gravel

- 4.1 The proposed methodology for site selection for sand and gravel involves the process of identifying potential sites through a Call for Sites exercise, using a set of criteria and an associated assessment framework to narrow down alternative options, thereby identifying the most appropriate sites for allocation within the MLP. In addition, a resource assessment will be undertaken to establish potential preferred areas and/or areas of search. The British Geological Survey resource map for Hertfordshire will be used as the starting point for the identification of preferred areas and/or areas of search.
- 4.2 The proposed site selection methodology consists of three stages referred to as 'sieves'; at each stage some of the options will be discarded as they will not meet the assessment criteria, while other site and/or areas will progress to the next sieve and be subject to further more detailed assessment.
- 4.3 It is important to note at this stage that the detailed site assessments undertaken for the MLP are not replacements for the assessments required as part of a planning application for a minerals site.
- 4.4 The three stages in the site selection methodology are:
- **Sieve 1 – Major Constraints:** Discounting sites and/or areas, either in part or in full, which are subject to identified major constraints.
 - **Sieve 2 – Resource Assessment:** With regard to the identification of specific sites, this sieve involves the verification of evidence relating to commercial viability and deliverability put forward through the Call for Sites process. In relation to the identification of preferred areas or areas of search, this sieve involves the refinement of the British Geological Survey resource areas with any readily available up to date information.
 - **Sieve 3 – Detailed Site Assessments:** Assessing the sites and/or areas that have passed through Sieves 1 and 2 against more detailed environmental and planning constraints and issues to identify those most appropriate for inclusion in the emerging MLP.
- 4.5 The three sieves are described further below.

Sieve 1 – Major Constraints

- 4.6 Certain constraints are acknowledged as absolute constraints to future minerals working, therefore any areas of resource or proposed sites (from the Call for Sites process) that fall within these constraints will not be taken forward to Sieve 2. Where a site or area falls partly within an absolute constraint, that proportion of the site or area will be discounted. The absolute constraints are:
- Urban areas, based on the Office of National Statistics urban area dataset, which includes built up areas and built up area subdivisions⁵ (built-up areas (BUA) and built-up area subdivisions (BUASD) are a new geography, created as part of the 2011 Census outputs. This data provides information on the villages, towns and cities where people live, and allows comparisons between people living in built-up areas and those living elsewhere. The definition follows a "bricks and mortar" approach, with BUAs defined as land with a minimum area of 20 hectares (200,000 square metres), while settlements within 200 metres of each other are linked).

⁵ <http://www.ons.gov.uk/ons/guide-method/geography/beginner-s-guide/census/built-up-areas---built-up-area-sub-divisions/index.html>

- Sites with extant planning permission for other development (for the identification of preferred areas or areas of search, these will be limited to those sites whose area is greater than 5ha due to difficulties associated with collection of data for smaller planning permissions such as house extensions etc.).
- Previously worked areas.

4.7 As noted above, the British Geological Survey resource map for Hertfordshire will be used as the starting point for the identification of preferred areas and/or areas of search.

Sieve 2 – Resource Assessment

- 4.8 It is important that any sites or areas put forward in the Minerals Local Plan are viable and deliverable in practice. It is assumed that the economic viability and deliverability of sites proposed through the Call for Sites process will already have been determined by the operator or owner. However, site-specific evidence for this will need to be provided through the Call for Sites process to demonstrate deliverability during the Plan period.
- 4.9 Examples of the evidence required for specific sites put forward in this way include confirmation of both mineral operator and land owner willingness for mineral development to take place during the Plan period; evidence of the tonnage of reserves likely to be capable of being extracted within the Site; and details of any mitigation measures to avoid significant adverse effects on the local environment which have been taken into account in assessing the Site's economic viability.
- 4.10 It is also important that the identification of preferred areas and/or areas of search are based on the most up to date information available, to ensure that any areas included within the Minerals Local Plan are sufficiently justified. The British Geological Survey resource map for Hertfordshire, used as the starting point for this exercise, will be updated with additional information on spatial distribution and technical characteristics, where such information (e.g. borehole data or reports) is readily available from mineral operators in the county or from HCC.

Sieve 3 – Detailed Site Assessments

- 4.11 The final step of the site selection methodology will involve the consideration of high level designations together with more detailed local planning and environmental constraints, considerations and opportunities, and (where practicable) site specific details, including findings from the parallel Sustainability Appraisal (SA) process.
- 4.12 Those sites and/or areas that pass through Sieve 2 will be assessed against these more detailed criteria and subjected to the evaluation process and scoring system outlined in **Table 4.1** below. Each criterion includes an explanation of how each score will be applied in order to evaluate the relative merits and constraints of potential sites and areas. This will allow for a more detailed comparison to be made between site options. This sieve may also reduce the size of the areas taken forward rather than discounting them completely.
- 4.13 The criteria included for consideration in **Table 4.1** have been informed by Paragraph 013⁶ of the PPG which outlines the principal issues that MPAs should address (as stated in **Section 2**), professional experience and feedback received through the Interested Parties Workshop and public consultation. Specific definitions of the term 'proximity' used within the scoring framework in **Table 4.1** will be established during implementation of the site selection methodology, using established policy, guidance and best practice distances where possible. For example, paragraph 022 of the online PPG advises local planning authorities to:

"...consult the Forestry Commission about development proposals that contain or are likely to affect Ancient Semi-Natural woodlands or Plantations on Ancient Woodlands Sites (PAWS) (as defined and recorded in Natural England's Ancient Woodland inventory), including proposals where any part of the development site is within 500 metres of an ancient semi-natural woodland

⁶ Available at: <http://planningguidance.planningportal.gov.uk/blog/guidance/minerals/assessing-environmental-impacts-from-minerals-extraction/>

or ancient replanted woodland, and where the development would involve erecting new buildings, or extending the footprint of existing buildings”.

- 4.14 To exclude potential sites at an earlier stage can be a difficult balancing exercise – taking account of the need for greater ‘front-loading’ of the planning process (as required by the Planning and Compulsory Purchase Act 2004), without risking the challenge of judicial review. Therefore, it is prudent to limit the depth of analysis carried out during this sieve, focusing primarily on any obvious reasons for inclusion or exclusion.
- 4.15 It is important that this evaluation process is not seen as a means of pre-judging the outcome of subsequent planning applications. It would be wrong, for example, to exclude a proposed site simply because it is overlapped with a particular designation, if it was felt that the resulting impacts were capable of being adequately mitigated; or if it were considered likely that the only alternative options would be less sustainable, overall. In many cases, such issues can only be properly addressed at the planning application stage, following detailed environmental assessment (which may include Environmental Impact Assessment required by the EIA Regulations).
- 4.16 It is also important to note that few, if any, designations are an absolute obstacle to mineral extraction. For example, some of the designations considered in Sieve 3 are subject to the highest level of protection in the NPPF but, nevertheless, do not entirely exclude the possibility of mineral extraction (for example if there is an overriding need for the mineral and no reasonable alternatives, or if potential impacts can be adequately mitigated and/or if there are sufficient beneficial effects that could be achieved through appropriate restoration). However, recognising the statutory protection afforded to national and international designations is important, therefore these criteria include a ‘dark red’ (very high) category.
- 4.17 A number of potential criteria were considered for inclusion in Sieve 3, but not taken forward, for the following reasons:
- **Major Services** (gas pipelines, water pipelines, electricity transmission lines): Discounted due to detailed data and information not being available at this strategic stage of assessment.
 - **Drainage**: Discounted as drainage is a site specific matter that would be dealt with at the planning application stage.
 - **Commercial and economic issues**: Discounted due to this information being problematic to quantify and score consistently and comparably. Economic resource viability issues are dealt with under Sieve 2.
 - **Mineral sterilisation**: This is partly addressed through the Sieve 3 criterion: Proximity of allocated residential or built development. However, scoring resource areas/sites on the extent to which mineral may be vulnerable to sterilisation by other development if not allocated for extraction is not considered appropriate as part of the site selection methodology. Economically viable minerals in Hertfordshire will be afforded relevant protection by the designation of MSAs and MCAs, and the supporting development management policies adopted as part of the emerging MLP.
 - **Chalk streams**: The inclusion of a criterion relating to chalk streams was raised during the public consultation. Whilst recognised as an important natural feature and habitat, it is possible for mineral extraction to occur in close proximity to a chalk stream. This is considered to be a site specific issue that would be dealt with at the planning application stage.
 - **Sensitive receptors**: The inclusion of an additional criterion to assess proximity of potential mineral extraction sites to particularly sensitive receptors was raised during the public consultation. Such considerations beyond those criteria already included in Sieve 3, are considered to be site specific issues that would be dealt with at the planning application stage.
- 4.18 It is important to bear in mind that mineral workings are considered to be compatible with certain constraints such as Best and Most Versatile (BMV) agricultural land and Green Belt. Whilst the PPG includes ‘impact on BMV land’ as an environmental issue that must be addressed by MPAs,

minerals extraction is not precluded on this land designation. Paragraph 12 of the NPPF states that:

"Local planning authorities should take into account the economic and other benefits of the best and most versatile agricultural land. Where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of a higher quality."

- 4.19 It has long been recognised that minerals working can be accommodated on BMV agricultural land provided that high environmental standards are maintained, best practice soil handling techniques are adhered to and sites are well restored. The PPG goes on to require that where mineral working is proposed on BMV land, the outline restoration and aftercare strategy should show, where practicable, how the methods used in the restoration and aftercare enable the land to retain its longer term capability, though the proposed after-use need not always be for agriculture.
- 4.20 The NPPF states that the Government attaches great importance to Green Belts, noting that the fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence. Paragraph 90 of the NPPF lists those forms of development which are not inappropriate in Green Belt provided that they *"preserve the openness of the Green Belt and do not conflict with the purposes of including land in Green Belt"*. These potential exemptions include mineral extraction, (largely because this is recognised as being a temporary use of land, with a capability of delivering progressive restoration, and because minerals can only be worked where they occur).
- 4.21 It is important to note that some of the criteria identified in **Table 4.1** (e.g. Cumulative Effects and Restoration) will also be able to be considered in greater detail once all potential resource areas/sites are known, as it is difficult to consider this solely on a site by site basis.
- 4.22 As shown in **Table 4.1** each of the criteria will be considered in detail and not be approached as blanket constraints. As noted earlier, in some cases a potential effect can be made acceptable through the use of appropriate mitigation and it is important that the sieve methodology does not pre-judge matters that should more properly be dealt with at the planning application stage. The assessment of a site and/or area against each of these criteria will not result in a simple yes or no; a range of evaluation scores and assumptions for each consideration have been developed, complementing the approach that will be undertaken during the SA of the Minerals Local Plan.
- 4.23 The information used to assess sites and areas against the criteria in **Table 4.1** will be provided from a range of sources including spatial data in GIS form, HCC's own expertise (such as the highways team and the Minerals and Waste Planning Team), accessible online data sources maintained by statutory consultees (e.g. Environment Agency) and other sources of relevant environmental and sustainability information. However, data for some of the proposed criteria, such as infrastructure and access requirements, restoration opportunities, economic implications, employment provision and other unique local factors will not be able to be supplied in GIS format. Such data will be sought, during the Call for Sites, from those putting forward potential sites and areas for consideration and/or from other stakeholders. In addition, the baseline information and findings from other studies undertaken by and for the Council such as the Sustainability Appraisal, Habitats Regulations Assessment and Strategic Flood Risk Assessment will be used.
- 4.24 Finally, while most of the site selection judgements throughout the Sieves will be done through desk-based review of relevant information, as detailed above, site visits will also be undertaken during Sieve 3 to verify judgements made on site.
- 4.25 In order to record the findings of the site selection process, a simple proforma (see **Appendix 3**) will be completed for each site or area, compiling information derived from GIS analysis of spatial data (e.g. proximity to environmental designations and sensitive or incompatible existing / planned development) and other (non-GIS) factors, and providing a score for each criterion. The scores for each site against all criteria will be summarised within an Excel spreadsheet. This approach provides a simple but effective way to evaluate sites in a consistent, robust and transparent manner.

Identification of Specific Sites, Preferred Areas or Areas of Search

- 4.26 Once potential sites and/or areas have been assessed through the site selection process, consideration will be given as to whether each of them should be identified as a Specific Site, Preferred Area or Area of Search as appropriate. This will depend on the level of information and known degree of deliverability of the areas/sites in question, as indicated by the definitions provided in paragraph 008 of the PPG:
- **Specific Sites** – are designated where viable resources are known to exist, landowners are supportive of minerals development and the proposal is likely to be acceptable in planning terms. Such sites may also include essential operations associated with mineral extraction;
 - **Preferred Areas** – are areas of known resources where planning permission might reasonably be anticipated. Such areas may also include essential operations associated with mineral extraction; and/or
 - **Areas of Search** – areas where knowledge of mineral resources may be less certain but within which planning permission may be granted, particularly if there is a potential shortfall in supply.
- 4.27 It is important to note that if the required tonnage to meet Hertfordshire’s shortfall in sand and gravel is not identified through the identification of Specific Sites, Preferred Areas or Areas of Search, then sites discounted at earlier sieve stages may have to be re-assessed; alternatively further site identification or an additional Call for Sites may have to take place.

Table 4.1: Evaluation Framework for Sieve 3

4.28 The scoring key used in the evaluation framework is outlined below. As described in the methodology section above, the justification and reasoning behind the scores given will be detailed in a comments section of the evaluation framework, thereby ensuring transparency and understanding of the decisions made:

Key

Score	Description
Positive	There are positive impacts or benefits/enhancements.
Low	There are no / insignificant impact(s) / issue(s).
Medium	There is a minor/moderate impact / issue which may be acceptable (and may involve mitigation).
High	There is a major impact / issue which may or may not be adequately mitigated.
Very High	There is an impact on a site or area of international or national significance within which working will only be permitted once an exception or alternative test in national policy has been met.

Criterion	Justification	Score	Scoring explanation	Data available
Ancient Woodland	Ancient woodland is afforded protection through the NPPF, which notes that it is irreplaceable. Local planning authorities should refuse planning permission for development resulting in the loss or deterioration of ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss.	Positive	The potential for positive effects on ancient woodland is dependent on the exact nature and proposed design of the restoration of the minerals site, which may protect or increase the ecological connectivity of the woodland. However, this will not be known until the planning application stage.	Natural England’s Ancient Woodland inventory.
		Low	Sites or areas which are distant from ancient woodland.	

Criterion	Justification	Score	Scoring explanation	Data available
		Medium	Sites or areas which lie in close proximity to ancient woodland.	
		High	Sites or areas which are immediately adjacent to ancient woodland.	
		Very High	Sites or areas that partly or entirely within ancient woodland.	
Aquifers	Aquifer designations are defined in the EU Water Framework Directive, and these designations reflect the importance of aquifers in terms of groundwater as a resource (drinking water supply) but also their role in supporting water flows and wetland ecosystems. Mitigation measures and/or a precautionary approach to the operation of mineral workings can often be implemented. However, this is unlikely to be known until the planning application stage.	Positive	N/A	Environment Agency Dataset/ GIS information from HCC.
		Low	Sites or areas which are outside of a designated aquifer.	
		Medium	Sites or areas which are located partly or entirely within a Secondary Aquifer.	
		High	Sites or areas which are located partly or entirely within a Principal Aquifer.	
		Very High	N/A	
BAP Priority Species or Habitats	The NPPF requires that, where possible, biodiversity loss, including direct loss of habitats and indirect losses through the fragmentation of green infrastructure networks, should be avoided. It is also necessary to consider sites that are not afforded statutory protection but are of local importance; especially those that provide ecological connectivity (including BAP habitats).	Positive	The restoration of minerals sites is increasingly adopting innovative practice and this could have positive effects on BAP Priority Species and Habitats for restoration to nature conservation. However, this would be very dependent on the exact nature and proposed design of the restoration of the minerals site, which may not be known until the planning application stage.	GIS information from HCC. Any relevant information from the HRA. Information provided through the Call for Sites.
		Low	Sites or areas which are outside of areas known to include BAP Priority Species and Habitats.	
		Medium	Sites or areas which are partly within areas known to	

Criterion	Justification	Score	Scoring explanation	Data available
			include BAP Priority Species and Habitats.	
		High	Sites or areas that are entirely within areas known to include BAP Priority Species and Habitats.	
		Very High	N/A	
BMV land	Minerals extraction is not precluded on BMV. It has long been recognised that minerals working can be accommodated on best and most versatile (BMV) agricultural land, provided that high environmental standards are maintained, best practice soil handling techniques are adhered to and sites are well restored. Although, the potential to ensure these standards may not be known until the planning application stage.	Positive	N/A	National datasets
		Low	Sites or areas not located within BMV Land or on lower grades (not 1, 2 or 3).	
		Medium	Sites or areas located within higher grades of BMV land.	
		High	N/A	
		Very High	N/A	
Cumulative effects	The NPPF states that local planning authorities should take into account the cumulative effect of multiple impacts from individual sites and/or from a number of sites in a locality. The NPPF states that local planning authorities must put in place policies that ensure high quality restoration and aftercare of mineral sites takes place, including for agriculture (safeguarding the long term potential of best and most versatile agricultural land and conserving soil resources), geodiversity, biodiversity, native woodland, the historic environment and recreation.	Positive	Opportunities exist for contributing to a landscape-scale approach to mineral extraction and restoration. For example, this could include contributions to identified green infrastructure networks or corridors, but will depend upon the information available regarding such initiatives.	Visual analysis of Ordnance Survey (OS) base maps. GIS information from HCC.
		Low	Sites or areas that are distant from existing mineral sites, or sites that are adjacent to or within close proximity to existing mineral sites but are distant from sensitive receptors and settlements.	
		Medium	Sites or areas that are adjacent or in close proximity to existing mineral sites and within close proximity to the same settlement or sensitive receptor(s).	

Criterion	Justification	Score	Scoring explanation	Data available
	Opportunities may sometimes exist for the creation of positive cumulative effects by adopting a landscape-scale approach to mineral extraction and restoration - for example by creating or re-establishing wildlife corridors and connectivity of habitats; by creating water storage / flood alleviation features; and/or by creating aesthetically pleasing landscape features.	High	N/A	
		Very High	N/A	
Ecological status of water bodies	<p>The EU Water Framework Directive (2000/60/EC) looks at the ecological health of both groundwater and surface water with the aim of achieving 'good ecological status' by 2027, and to ensure that there is no deterioration from existing statuses.</p> <p>The operation of mineral extraction sites can have a number of different impacts on habitats and species either within the boundary of the extraction site or in proximity to the site. There may be the potential for water pollution e.g. through addition of dust and silts to waterbodies or through accidental spills or run-off of oil from machinery for example. Thereby affecting the ecological status of water bodies.</p> <p>Noise and vibration arising from sand and gravel extraction could also affect aquatic species, however, it should be possible to avoid or mitigate adverse impacts, for example by timing works to avoid critical periods (e.g. spawning or breeding periods), or preventing work from being undertaken at night to avoid disturbance to nocturnal</p>	Positive	N/A	<p>Visual analysis of Ordnance Survey (OS) base maps.</p> <p>Any relevant information from the HRA.</p>
		Low	Sites or areas which are not located near to a water body.	
		Medium	Sites or areas located adjacent to a water body.	
		High	Sites or areas located within the boundary of a water body.	
		Very High	N/A	

Criterion	Justification	Score	Scoring explanation	Data available
	species (e.g. otters).			
Flood risk	<p>As stated in the PPG, local authorities should take a sequential approach to developing in areas at risk of flooding, giving preference to locating development in Flood Zone 1, followed by Flood Zone 2 then Flood Zone 3.</p> <p>Minerals working and processing (except sand & gravel working) are classed as less vulnerable, which means that they are potentially compatible with all flood zones except for Flood Zone 3b, the functional floodplain⁷. Sand and gravel workings are classed as water-compatible development and are potentially suitable for all flood zones including 3b, the functional floodplain. However, National Planning Practice Guidance⁸ also states that mineral workings should not increase flood risk elsewhere and need to be designed, worked and restored accordingly.</p>	Positive	Some sites, which may dewater, may hold the potential to store excess water in times of heavy rain, which would be seen as a positive in terms of preventing flood risk. However, this may not be known until the planning application stage.	GIS information from HCC.
		Low	Sites or areas located within Flood Zones 1-3a, and sand and gravel sites located within 3b.	
		Medium	N/A	
		High	N/A	
		Very High	N/A	
Geodiversity	National and locally important sites of geological/geomorphological interest (e.g. Local Geological Sites, formally RIGS) should be protected under the NPPF. Although it is noted that quarrying often provides substantial opportunities for the creation of new geological exposures and for the creation of geodiversity trails.	Positive	The site provides one or more opportunities for the creation of new geological exposures and /or for the creation of geodiversity trails.	GIS information from HCC. Information provided through the Call for Sites.
		Low	Sites or areas that are either distant from geological conservation sites, or which hold opportunities to incorporate, enhance or preserve important geological features within the site.	

⁷ Available at: <http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/flood-zone-and-flood-risk-tables/table-3-flood-risk-vulnerability-and-flood-zone-compatibility/>

⁸ Available at: <http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/the-sequential-risk-based-approach-to-the-location-of-development/>

Criterion	Justification	Score	Scoring explanation	Data available
	The NPPF requires planning authorities to aim to prevent harm to geological conservation interests through the use of criteria based policies, including minimising impacts on geodiversity. Mineral sites can potentially contribute to geodiversity by preserving and conserving geological features/landscapes that contribute towards the link between people, landscape and their culture. However, due to the methods of extraction and processing, this is more likely at less intensive sites (e.g. building stone) than aggregate sites.	Medium	Sites or areas that are within or adjacent to national sites of geological interest (SSSI) or Local Geological Sites (LGS), other than those which are classed as 'finite' sites.	
		High	Sites or areas that are within geological or geomorphological SSSIs which have been classified as 'finite' sites.	
		Very High	N/A	
Green Belt	NPPF states that the Government attaches great importance to Green Belts, noting that the fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence. The NPPF lists mineral extraction as a form of development which is not inappropriate in Green Belt providing that it preserves the openness of the Green Belt and does not conflict with the purposes of including land in Green Belt.	Positive	N/A	GIS information from HCC; check the purposes for its designation does not conflict with mineral working.
		Low	Sites or areas located outside of Green Belt and/or site located within Green Belt but do not conflict with the purposes for its designation.	
		Medium	Sites or areas located within Green Belt which conflict with the purposes for its designation.	
		High	N/A	
		Very High	N/A	
Groundwater vulnerability	The NPPF states that local planning authorities should set out environmental criteria against which planning applications will be assessed so as to ensure that permitted operations do not have unacceptable adverse impacts on the natural	Positive	N/A	GIS information from HCC.
		Low	Sites or areas located within Source Protection Zone 4 or outside of all Source Protection Zones.	

Criterion	Justification	Score	Scoring explanation	Data available
	environment, including from impacts on the flow and quantity of surface and groundwater and migration of contamination from sites. The extent to which a minerals extraction site will affect groundwater on a potential site depends on the type of mineral worked, site design and characteristics, and the geological conditions. Mineral sites that are in Source Protection Zone (SPZ) 1 could potentially lead to loss of contaminants or accidental pollution incidents. Potential for adverse effects on water quality will also be assessed at the planning application stage.	Medium	Sites or areas located within Source Protection Zones 2 and 3	
		High	Sites or areas located within Source Protection Zone 1	
		Very High	N/A	
Heritage designations	Heritage designations are protected by the NPPF. These include Scheduled Monuments, Listed Buildings, Conservation Areas, and Registered Historic Parks and Gardens. Such designations may be directly affected by minerals workings through their removal or damage, or by affecting their setting. Whilst the setting of heritage assets can be a critical part of their significance, it is not possible to consider this at the strategic planning stage. This will be an important consideration at the planning application stage. Working of minerals can lead to the investigation and recording of archaeological deposits, increasing knowledge and understanding. In addition, the restoration of a minerals site may improve the setting of a heritage asset. However it is not practicable to consider such issues at the strategic planning stage, but could be	Positive	N/A	GIS national datasets from Historic England. GIS information from HCC and district authorities.
		Low	Sites or areas which do not overlap with heritage designations.	
		Medium	Sites or areas which partly overlap or are immediately adjacent to heritage designations.	
		High	Sites or areas that contain heritage designations.	
		Very High	Sites or areas that are partly or entirely within an international and/or national heritage designation.	

Criterion	Justification	Score	Scoring explanation	Data available
	important issues at the planning application stage.			
International and national ecological designations	<p>International and national ecological designations are protected through European and National legislation. Such sites include Ramsar sites, Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs).</p> <p>These nature conservation designations are given the highest level of protection and therefore should be protected against harm and in general mineral extraction within them should be avoided. However, it is recognised that in occasional situations, minerals development can have positive effects on these designations. For example, through the provision of flood alleviation or the creation of specific habitats.</p>	Positive	The potential for positive effects on ecological designations is dependent on the exact nature and proposed design of the restoration of the minerals site, which may not be known until the planning application stage.	<p>GIS national datasets from Natural England's MAGIC database.</p> <p>GIS information from HCC.</p> <p>Information provided through the Call for Sites.</p>
		Low	Sites or areas which are distant from international and national ecological designations.	
		Medium	Sites or areas which lie in close proximity to international and national ecological designations.	
		High	Sites or areas which are immediately adjacent to international and/or national ecological designations.	
		Very High	Sites or areas that are partly or entirely within international and/or national ecological designations.	
Land ownership	The extent to which options put forward by industry are within their control can have a bearing on the likelihood sites will be available during the emerging MLP plan period.	Positive	N/A	Information provided through the Call for Sites.
		Low	Sites in the control of the industry.	
		Medium	Sites not in the control of the industry.	
		High	N/A	
		Very High	N/A	
Landscape	Landscape Designations (e.g. AONB) are protected by the NPPF. Both national and	Positive	The restoration of minerals sites is increasingly adopting innovative practice and this could have positive effects on	GIS national datasets from

Criterion	Justification	Score	Scoring explanation	Data available
designations	local landscape designations may be affected by the development of mineral workings. Landscape designations in poor condition could be enhanced through high quality restoration. However, this will not be able to be determined until the planning application stage.		landscape designations. However, this would be very dependent on the exact nature and proposed design of the restoration of the minerals site, which may not be known until the planning application stage.	Natural England's MAGIC database. GIS information from HCC. Information provided through the Call for Sites.
		Low	Sites which are outside of landscape designations.	
		Medium	Sites which are partly within or immediately adjacent to landscape designations.	
		High	Sites that are entirely within landscape designations.	
		Very High	Sites or areas that are partly or entirely within international and/or national landscape designations.	
Local Nature Reserves and/or Local Wildlife Sites	Locally important sites of nature conservation should be protected under the NPPF. Where possible, biodiversity loss, including direct loss of habitats and indirect losses through the fragmentation of green infrastructure networks, should be avoided. It is also necessary to consider sites that are not afforded statutory protection but are of local importance; especially those that provide ecological connectivity. However, the level of detail to aid understanding of potential impacts on Local Nature Reserves and/or Local Wildlife Sites would not be known until the planning application stage.	Positive	The restoration of minerals sites is increasingly adopting innovative practice and this could have positive effects on local nature reserves for restoration to nature conservation. However, this would be very dependent on the exact nature and proposed design of the restoration of the minerals site, which may not be known until the planning application stage.	GIS information from HCC. Any relevant information from the HRA. Information provided through the Call for Sites.
		Low	Sites or areas which are outside of Local Nature Reserves and/or Local Wildlife Sites.	
		Medium	Sites or areas which are partly within or immediately adjacent to Local Nature Reserves and/or Local Wildlife Sites.	
		High	Sites or areas that are entirely within Local Nature Reserves and/or Local Wildlife Sites.	
		Very	N/A	

Criterion	Justification	Score	Scoring explanation	Data available
		High		
Proximity of allocated residential or built development	There could be potential for land use conflict where minerals sites are within or in close proximity to areas allocated for future residential or built development, as mineral resources could be sterilised or mineral operations could conflict with the neighbouring sensitive land uses. Mineral sterilisation could be avoided via prior extraction. Conflict between mineral operations and sensitive land uses could be mitigated by the use of stand-off distances, noise bunds and visual screening. However, the potential for this to occur would not be known until the planning application stage for either land use.	Positive	N/A	Data on housing allocations from HCC.
		Low	Sites or areas are located away from planned built development.	Visual analysis of relevant Local Plan maps for areas planned for future residential development, however, the certainty of these development locations depends on the status of the Local Plan in question, i.e. how close to Adoption it is.
		Medium	Sites or areas are located in close proximity to or adjacent to planned built development.	
		High	Sites or areas are located within the boundary of planned built development.	
		Very High	N/A	
Recreation	The NPPF requires that planning decisions should guard against the unnecessary loss of valued social, recreational and cultural facilities and services, particularly where this would reduce the community's ability to	Positive	Sites or areas that have the potential for major enhancements for existing Public Rights of Way, open spaces or recreational facilities and/or the development of new Public Rights of Way, open spaces or recreational facilities.	GIS information from HCC, plus analysis of OS base map for other types of leisure/

Criterion	Justification	Score	Scoring explanation	Data available
	meet its day-to-day needs. Sites could have effects on the amenity of users of Public Rights of Way, open spaces (e.g. common land, access land, community forests) and recreational facilities if they are in close proximity. There may also be opportunities for enhancement to recreational facilities during the development of particular mineral sites, as set out in the NPPF. In addition, there may be opportunities to create new recreation areas/open spaces during the restoration of mineral sites.	Low	Sites or areas that have the potential for minor enhancements for existing Public Rights of Way, open spaces or recreational facilities, or are located away from Public Rights of Way, open spaces or recreational facilities.	recreational facilities and open spaces. Analysis of Sustrans Maps ⁹ will be completed for cycle routes.
		Medium	Sites or areas that are located within close proximity of Public Rights of Way, open spaces or recreational facilities.	
		High	Sites or areas that are adjacent to or are located within the boundary of Public Rights of Way, open spaces or recreational facilities.	
		Very High	N/A	
Restoration	The NPPF states that local planning authorities must put in place policies that ensure high quality restoration and aftercare of mineral sites takes place, including for agriculture (safeguarding the long term potential of best and most versatile agricultural land and conserving soil resources), geodiversity, biodiversity, native woodland, the historic environment and recreation. Appropriate restoration (i.e. the formation of final landform contours and replacement of soils) and reclamation (i.e. making the site	Positive	N/A	Information provided through the Call for Sites.
		Low	Sites or areas where there are clear opportunities for high quality restoration and aftercare.	
		Medium	Sites or areas where there are some opportunities for high quality restoration and aftercare.	
		High	Sites or areas where there is no prospect of restoration and reclamation to an appropriate future land use.	

⁹ Available at: <http://www.sustrans.org.uk/ncn/map?gclid=CIWvqcnx47kCFTIQtAodzCMACQ>

Criterion	Justification	Score	Scoring explanation	Data available
	suitable for an appropriate after-use), has always been an important aspect of mineral planning and is specified by conditions attached to most modern mineral permissions. Restoration should take place at the earliest opportunity, during a phased extraction or if appropriate upon completion of quarrying.	Very High	N/A	
Sensitive land uses	Minerals sites could have effects on the health and amenity of local residents and communities from dust, noise and vibration. The NPPF is clear that minerals planning authorities should ensure that unavoidable noise, dust and particle emissions and any blasting vibrations are controlled and mitigated or removed at source. Past (e.g. Minerals Policy Statement 2) and current guidance (e.g. NPPF) state that residential properties and other sensitive uses can be affected by dust up to 1km from the source, and that concerns are most likely to be experienced near to sources, generally within 100m depending on site characteristics and in the absence of appropriate mitigation.	Positive	N/A	Visual analysis of Ordnance Survey (OS) base maps.
		Low	Sites or areas are distant from sensitive land uses.	
		Medium	Sites or areas are in close proximity to sensitive land uses.	
		High	Sites or areas are located adjacent to or within the boundary of sensitive land uses.	
		Very High	N/A	
Sustainable transport	The NPPF states that plans and decisions should ensure developments that generate significant movements can maximise the use of sustainable transport modes. The majority of minerals sites will involve road transportation with some involving more movements than others. However,	Positive	N/A	National datasets and OS base map. GIS information from HCC. Information
		Low	Sites or areas with direct access to the rail network or navigable waterway network.	
		Medium	Sites or areas with economically viable access to the rail network or navigable waterway network.	

Criterion	Justification	Score	Scoring explanation	Data available
	proximity to rail lines/depots/sidings, rivers/canals or wharves could provide opportunities to explore more sustainable modes of transporting minerals.	High	Sites or areas distant from the rail network or navigable waterway network.	provided through the Call for Sites.
		Very High	N/A	
Sustainable transport and pollution to the environment (dust, air, water)	<p>Environmental receptors, including humans, are protected from pollution through a number of planning and environmental regulations. Mineral workings have the potential to result to pollution of water courses, aquifers and the air. However, there are strict environmental controls in place to prevent this occurring at the site level. Potential for adverse effects on surface water quality will be assessed at the planning application stage.</p> <p>Proposals for all types of minerals sites could contribute to increasing air pollution with regards to minerals transportation by road, as well as any air pollution associated with the operation of the sites and processes used such as dust from blasting, crushing and processing.</p> <p>The further vehicles transporting minerals have to travel along local roads (i.e. not on the primary road network), the higher the potential for more localised air pollution as they are likely to travel more slowly on local roads. In addition, if the mineral site is within, or vehicles are travelling through, AQMAs where existing air pollution issues have been identified, there is more potential for negative effects on air quality.</p>	Positive	N/A	<p>Visual analysis of Ordnance Survey (OS) base maps.</p> <p>GIS information from HCC.</p> <p>Information provided through the Call for Sites.</p>
		Low	Sites or areas where associated traffic would not be likely to travel through an Air Quality Management Area, or are located adjacent to a strategic road network.	
		Medium	Sites or areas where associated traffic would be likely to travel through an Air Quality Management Area, or are in close proximity to a strategic road network.	
		High	Sites or areas located within an Air Quality Management Area, or not in close proximity to a strategic road network.	
		Very High	N/A	

5 Draft Site Selection Methodology for Brick Clay

- 5.1 NPPF paragraph 146 requires MPAs to plan for at least 25 years' supply of brick clay, through the provision of a stock of permitted reserves sufficient to support the level of actual and proposed investment required for new and existing plant and the maintenance and improvement of existing plant and equipment. The extant Minerals Local Plan was produced before the introduction of the NPPF, and had not planned for a 25 year stock of clay reserves. The Council therefore has no previous site selection methodology for brick clay.
- 5.2 The location of the brick clay resource is provided by the BGS mineral resource information for development plans. No other detailed information is known to exist, within the public domain. This is not least because of the specialist nature of the bricks produced in this area and the relatively unusual nature of the Reading Formation and Clay-with-Flints resources which are used. These factors dictate different methods of extraction and processing, compared with those used in much larger brick pits (for example in neighbouring Bedfordshire) where the resources tend to be thicker and more consistent, and they also influence which parts of the resource can be utilised. There is one remaining brick clay operator in Hertfordshire: Bovington Bricks.
- 5.3 With the geology highly variable and the brick clay production very specialist in its nature, a detailed assessment such as that proposed for sand and gravel will not be possible for brick clay for the purpose of the MLP. As an industrial mineral, the full hierarchy of Specific Sites, Preferred Areas and Areas of Search is not applicable to Brick Clay; MPAs are simply required to provide a stock of permitted reserves of at least 25 years. However, in view of the lack of sufficiently detailed geological information to identify an appropriate area more precisely, it is proposed that the whole resource will be identified as an Area of Search, and a policy for clay included within the Minerals Local Plan.
- 5.4 Should specific sites be put forward during the Call for Sites process, this approach may be able to be refined. Subject to sufficient evidence being provided in relation to economic viability and potential environmental and social effects, and subject to planning permission eventually being obtained, such sites may be able to provide some or all of the stock of permitted reserves required for the Plan period. If a planning application (or applications) were to come forward during this site selection process they would be determined against the extant development management policies within the existing MLP until updated.

6 Methodology for Defining MSAs and MCAs

- 6.1 Mineral Safeguarding Areas (MSAs) and Mineral Consultation Areas (MCAs) are complementary aspects of ensuring that important mineral resources remain available for use by future generations, rather than being needlessly 'sterilised' (rendered unavailable for extraction) by other forms of development.
- 6.2 The reasoning behind this, as noted in paragraph 2.3.1 of the British Geological Survey (BGS) report 'Mineral safeguarding in England: good practice advice' (Wrighton et. al., 2011) is that mineral resources are finite and can only be worked where they naturally occur.
- 6.3 Safeguarding of selected mineral resources also helps to ensure that the planning system retains the flexibility to identify potential areas of future extraction which would have the least impact on the environment, if they were ever worked, whilst not creating a presumption that such working will necessarily occur.
- 6.4 Safeguarding is therefore a specific requirement identified in paragraph 143 of the NPPF which states that, in preparing Local Plans, local planning authorities should (inter alia): "*define Minerals Safeguarding Areas and define Minerals Consultation Areas based on these*". However, it should be noted that whilst MCAs should be based on the MSAs, the two areas need not coincide completely.
- 6.5 The PPG defines both MSAs and MCAs as:
- Minerals Safeguarding Area** – an area designated by a Mineral Planning Authority which covers known deposits of minerals which are desired to be kept safeguarded from unnecessary sterilisation by non-mineral development.
- Minerals Consultation Area** – a geographical area, based on a Mineral Safeguarding Area, where the district or borough council should consult the Mineral Planning Authority for any proposals for non-minerals development.
- 6.6 In addition, paragraph 143 makes clear that minerals planning authorities should also 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; and
 - 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.
- 6.7 HCC already has an adopted Supplementary Planning Document (SPD) relating to MCAs, which will be reviewed as part of the Minerals Local Plan Review and consolidated into the Plan itself. Whilst the current SPD identifies MCAs as a statutory consultation mechanism, it does not explicitly identify MSAs, as required by the NPPF. The difference may appear to be a subtle one (since MCAs are now required to be based on MSAs), but it is nevertheless important because MCAs alone do not explicitly safeguard the resources.
- 6.8 MSAs are the means by which the resource outcrops affected by mineral safeguarding policies are meant to be identified in Minerals Local Plans; whereas MCAs are intended to show the areas within which local district councils (in two-tier authorities) should consult with the Mineral Planning Authorities on relevant development proposals (which proposals that fall into this category are defined through policy). Whilst MSA and MCA boundaries can be coincident, they need not be: MSAs will usually cover the whole of a particular resource outcrop (unless that outcrop is very extensive and largely unconstrained, in which case only certain parts of it might need to be safeguarded); whereas MCAs may:
- extend beyond the minerals resource to incorporate a 'buffer' beyond the outcrop boundary, to protect the resource from sterilisation by proximal development;

- exclude areas of the MSA that have already been sterilised e.g. residential areas and therefore do not require consultation; and/or,
- exclude certain types of development that would not normally bring about the sterilisation of a resource through use of an exceptions policy. Such development would include householder extension or advertisement applications for example.

Methodology

- 6.9 The basic procedures for minerals safeguarding are clearly set out in the BGS guidance referred to above. This is explicitly referenced in the online PPG (most recently revised in March 2014) and is therefore a formal expectation of national policy.
- 6.10 The procedures comprise the following sequential steps (note that the guidance currently refers to Core Strategies and Development Plan Documents, but these terms have been updated below to refer to Local Plans in accordance with the requirements of the National Planning Policy Framework and the Town and Country Planning (Local Planning) (England) Regulations 2012):
- Step 1: Identify the best geological and mineral resource information.
 - Step 2: Decide which mineral resources to safeguard and the physical extent of MSAs.
 - Step 3: Undertake Consultation on MSAs.
 - Step 4: Decide on the approach to safeguarding in the Local Plan.
 - Step 5: Include Development Management Policies in the Local Plan.
 - Step 6: Include safeguarding in District-level Local Plans.
 - Step 7: Include mineral assessments in the local list of information requirements.
- 6.11 Of these, Step 1 is effectively covered by the same work that will be required the sand and gravel site selection procedure and the initial resource identification for brick clay, and would utilise the same ('best available') mineral resource information. This would comprise the BGS digital resource information for development plans together with relevant material (including borehole data) from the Industrial Mineral Assessment Unit (IMAU) reports and any other readily available information which is able to refine the BGS maps, following the advice set out in section 4.1 of the BGS guidance).
- 6.12 The starting point for Step 2 has already been agreed with HCC and the MSAs will cover only sand and gravel and brick clay resources due to the geology of Hertfordshire and the need for certain types of minerals. The physical extent of those resources, and of any corresponding 'buffer' zones around them, will be based on the detailed information identified in Step 1. In accordance with paragraphs 4.2.9 to 4.2.11 of the BGS guidance, the MSAs would cover the whole of the mapped resource areas and would NOT exclude areas which are already subject to other designations or those which are already sterilised by existing urban development. Rather, they would be defined purely by the physical boundaries of the resource itself (including areas concealed beneath overburden, where this is shallow enough to permit economic extraction of the mineral) together with a suggested 'buffer' of 100 metres.
- 6.13 The Step 3 consultation will form part of the public consultation scheduled for 2016. However, feedback from the Interested Parties Workshop (19th March 2015) has helped inform the site selection methodologies, which has also contributed usefully to the consultation required. In particular the consultation scheduled for 2016 will contribute to final decisions regarding the extent of economically viable resources; the width of buffer zones applied to MSAs; and the extent to which MCA boundaries might justifiably differ from those of the MSAs (e.g. to exclude areas of existing built development).
- 6.14 Steps 4 to 6, relating to the development of corresponding policies etc. would largely be beyond the scope of this study, although they have been informed by the Interested Parties Workshop and will also be informed by the wider consultation process.
- 6.15 Step 7, relating to the determination of planning applications within MSAs, is clearly beyond the scope of this site selection study, but the suggestions made in the BGS guidance with regard to information likely to be needed in support of applications may be worth highlighting in the information issued by the Council as part of the 'Call for Sites' consultation.

Appendix 1

Audit trail of changes to the Council’s previous site selection methodology (developed in 2009)

Table 1: Audit trail of changes to the Council’s previous site selection methodology (developed in 2009)

Previous methodology		Proposed methodology	Justification for changes
Sieve	Description		
Sieve 1	The previous methodology identified four rigid criteria for the identification of economically viable resources	The proposed methodology notes that lower thresholds of viability should apply to extensions to existing sites, but also that any site that is proposed by a mineral operator should pass Sieve 1, since the operator will already have determined that the resources in question are economically viable. The thresholds are also to be used flexibly.	Industry criticised the previous criteria as being inappropriate for Hertfordshire, and noted that different criteria should apply to extensions.
Sieve 3	n/a	Additional constraints/criteria have been included in Sieve 3 which were not included in stage 3a of the previous methodology (e.g. noise and vibration, and cumulative effects).	The additional criteria/constraints are topics proposed for consideration in the online National Planning Practice Guidance (see Paragraph 013 ¹⁰), and also ensure a more comprehensive range of constraints/criteria are evaluated.
Sieve 3	The previous methodology split Sieve 3 into two distinct elements: 3a which proposed to assess the surviving areas against more detailed and local constraints and issues; and 3b which proposed to assess the area passing through 3a against a detailed set of sustainability criteria, and undertake a comparative assessment of all surviving sites to identify those which appear most sustainable for inclusion in the draft plan.	The proposed methodology suggests that Sieve 3 only includes part 3a from the previous methodology.	Part 3b of Sieve 3 of the previous methodology is being carried out as part of the Sustainability Appraisal being undertaken for the emerging Minerals Local Plan, and is a separate process to the site selection study. However, findings from the Sustainability Appraisal will be considered as part of the proposed methodology for Sieve 3, as detailed in Chapter 3 of this report.

¹⁰ Available at: <http://planningguidance.planningportal.gov.uk/blog/guidance/minerals/assessing-environmental-impacts-from-minerals-extraction/>

Appendix 2

Comments received from the Interested Parties
Workshop held on 19th March 2015

Table 1: Notes of Site Selection Methodology (All Comments)

Comments
<p>Sand and Gravel Methodology</p> <p>Sieve 1 – Resource Assessment: Identifying where economically viable sand and gravel deposits are likely to be found.</p> <p>Criteria considered:</p> <ul style="list-style-type: none"> • Minimum resource (million tonnes) • Minimum mean thickness of sand and gravel • Maximum ratio between overburden/interburden and mineral • Maximum fines content
<p>Question: (Sieve 1) Do you consider the criteria for determining the economic viability for new sites suitable/site extension suitable?</p>
<ul style="list-style-type: none"> • It would be helpful for industry to inform us what is viable
<ul style="list-style-type: none"> • Borehole information would be useful in call for sites or prior to call for sites. This would ensure the source is economically viable.
<ul style="list-style-type: none"> • There seems to be a lot of uncertainty of what is economically viable.
<ul style="list-style-type: none"> • HCC and industry should only safeguard what is viable.
<ul style="list-style-type: none"> • In general, the criteria listed are thought to be OK for new sites and extensions.
<ul style="list-style-type: none"> • Brief questioning over the use of 1million tonnes but this was confirmed as a commonly used industry figure.
<ul style="list-style-type: none"> • Is the sieve too restrictive? There was a question about whether or not sieve 1 would enable the process to come up with enough sites for 22 years, or would we have to rely on areas of search?
<ul style="list-style-type: none"> • Although it is important to demonstrate the deliverability of a site, this criterion should not be added to sieve 1. • An extra criterion should be included related to the deliverability of a site. This could be a simple yes/no regarding whether or not the landowner has expressed willingness to work the resource (or maybe just rule out sites where the landowner has said they won't work the site). • Is it more important for a site to be "fundamentally sound" or "deliverable"? Process should take account of a landowner saying "no" but the process needs to state if this is important or not.
<ul style="list-style-type: none"> • Some good resources could be identified or put forward that aren't necessarily good sites (or vice versa) due to lack of available, good quality information.

- Could do with an indication threshold for “approximate”.i.e. 1 million tonnes plus/minus 10%.
- It was considered that the criteria is not entirely suitable although using the term ‘economically viable’ is useful as we need to find sites that are deliverable.
- The group questioned the use of 1 million tonnes for greenfield sites but confirmed this should be the absolute minimum due to the need to invest approximately £150,000 in equipment to start up a site.
- It was questioned who would be carrying out the consultation on the minimum criteria as this is required.
- Applying fines as a constraint was not thought to be a good idea and should be taken out.
- The fines content (15%) was considered to be too high. Setting at 10% was suggested.
- BGS data would be used for identifying areas of search.
- Average 4m thicknesses need to be flexible with different sites.
- There was disagreement with a minimum mean thickness of sand and gravel at 5m and it was suggested that 2m would be more applicable as a lot of deposits are glacial.
- 5m thickness and 1:1 ratio may need revisiting in light of industry input, not to stifle economically viable sites and need for future supply.
- The group questioned how to define the ratio between overburden/interburden and mineral. It was discussed that the 1:1 ratio has changed and 2:1 is now accepted. In some instances it can even be 4:1 although 2:1 was the most appropriate to use for planning purposes.
- The group suggested a 2 metre minimum horizon thickness in the overall ratio to be acceptable.
- Does help balance mineral sites size (more compact) with landscape impacts etc.
- Consensus was that variable criteria from these 4 bullet points would be needed for extension to sites. Extensions with existing plant and machinery could work less than 1 million tonnes and still be economically viable. Mineral operators maybe basing what they consider economically viable on other criteria and therefore smaller sites maybe more achievable.
- Extensions to sites must be considered under a separate criterion, but with more flexibility.
- Requires considering the use of mobile plant (changes in technology). Understanding that smaller sites are being recognised due to the use of mobile plant can be economically viable. Sites are getting smaller and harder to find.
- The market can accommodate smaller sites, which supports the economy and potentially are more sustainable.
- Smaller sites are worked for less time, giving rise to less harm. Smaller sites should be considered as acting as satellite sites
- This could be considered in sieve 2 –big sites and small sites.
- Where does 500,000t come from? This is quite high and could be lower at smaller output sites? This could equate to 45/50 Ha? This could lead to a lot more small extension; is this manageable/desirable?

- Although the market is generally dominated by the larger companies who will not consider less than 1m tonnes of material, smaller operators would consider 250,000-300,000 tonnes as a threshold.
- Is the estimated minimum resource threshold too high? You don't want to stifle innovation/industry proposals.
- Needs to include positive/negative locational criteria.

Question: (Sieve 1) Do you consider the criteria for determining the economic viability of site extensions suitable?

- Yes, half a million tonnes is an acceptable resource for an extension to a site.

Question: (Sieve 1) Is it acceptable for sites proposed by industry to be included, irrespective of other criteria, provided they are backed by evidence regarding deliverability?

- Short 'sieve' exercise prior to site selection to ensure the selection process is being used for sites that have some resource guaranteed. Stop so many sites leaving the process early on.
- Industry to put forward site as they can back the evidence.
- Operators would need to show that a specific site is viable and would provide information that is specific to a particular site. Wouldn't necessarily use the criteria outlined in sieve 1 when promoting a site.
- Sites should be allowed to have aggregate recycling facilities on them too, during the permitted lifetime of the quarry.
- Inconsistent ideas from the table.
- It is fine for sites to be included as long as supported by evidence and maybe the operators should include some justification as to why the site should go through without meeting the criteria.
- But we want consistency in the process, so industry sites should really meet the same criteria. If sites are put forward by industry that don't meet the criteria, are the criteria wrong in the first place?
- Either criteria are set lower or industry sites will get preferential treatment.
- The listed criteria could be used to highlight bad sites being put forward at an early stage (example of a farmer putting forward a couple of his fields in the hope they'll be included in the MLP and therefore become more valuable). There was consensus that most sites put forward would more than likely be good, but there will likely be some very sub-standard sites that could end up in sieve 3. By using the criteria, we could rule out the silly sites put forward at call-for-sites at this early stage?
- Yes. Sites should be considered if put forward by industry. There is a big surge in demand for minerals currently and it was discussed that it is in the interest of the industry to put sites forward. A conclusion of the group discussion was that it is ok to assume that sites put forward by industry are economically viable.
- The plan should accept industry suggestions as economically viable but with some questioning in confidence to confirm this

- Overprovision was not considered to be too much of a problem especially as the county is planning for 7 years of supply after the plan period, although evidence would still be required from them.
- Industry question: How do you intend to obtain site information? Particularly if only preliminary investigations have been carried out, the mineral industry is unlikely to provide high levels of commercial sensitive data, including drilling at this stage. Suggestion is that sieve 1 should be a 'strategic level' assuming sites put forward by industry are considered economically viable. Initially sieve 1 should be based on high level information to allow a comparison of basic information. Sieve 1 should be revisited following sieve 2 and 3, to allow for more detailed information to be requested from site promoters as evidence.
- Is a 2 pronged approach viable? (County Council and Industry)
- Is it fair using the same 4 criteria for economic viability, for industry proposed sites and HCC proposed - the criteria may not be fair across all mineral type operators?

General Comment (Sieve 1)

Process

This methodology is good at assessing resources but not at identifying workable sites. There could be an area of good resource but one that has little potential to be worked due to landowners' lack of willingness to work the site or a different issue such as transportation. The table thought it was pointless to spend the vast majority of the process looking at *resources* when there may be little potential to actually use locations as sites.

The group worried that the process relies on the specific interest of site owners. What if there are good resources which don't quite meet the HCC criteria but are not put forward at the call-for-sites so do not make it through Sieve 1 even though they may be better than those put forward by industry? It was re-iterated that:

- Geological data is fairly comprehensive so it is unlikely that good resources aren't known about, and
- the criteria are approximations/estimates (eg, approximately 1million tonnes) so a site with 950,000t wouldn't necessarily be ruled out.

It was discussed that applied criteria is essential and even the industrial mineral assessment reports (IMAU) applied assessment criteria. The issue raised was that the data is too patchy as boreholes were only taken at 1km intervals and there is less certainty about reserves in North Herts.

The group questioned whether what is considered to be economic now may not have been in the past. However the conclusion was that technologies and ways of working have not changed much over time although there is scope to change the ratio of overburden/interburden to mineral.

There was concern that a large landowner may satisfy all the mineral requirement in the county within their sites.

Safeguarded areas would include urban areas and consultation areas would not include urban areas.

Sieve 2 – Major Planning and Environmental Constraints: Assessing the areas passing through Sieve 1 against a series of major planning and environmental constraints, both absolute and then those designations subject to the highest level of protection.

Criteria considered (Stage 2a: absolute constraints):

Urban areas (this will include sites with planning permission for other development where the site is greater than 5ha).

Cultural heritage designations, including:

- Scheduled Ancient Monuments.
- Listed Buildings.
- Conservation Areas.
- Registered Historic Parks and Gardens

Criteria considered (Stage 2b: designations with the highest level of protection):

Areas of Outstanding Natural Beauty.

Ecological designations, including:

- Ramsar sites.
- Special Areas of Conservation.
- Special Protection Areas.
- Sites of Special Scientific Interest.
- National Nature Reserves.

Question: (Sieve 2) Are there other major planning or environmental constraints that should be included in Sieve 2?

- Ancient woodlands are an irreplaceable habitat, as are ancient grassland. Data sets are unreliable though so harder to evidence.
- Heritage constraints could be considered e.g. Panshanger Park.
- Heritage and others is a very strong constraint. It's about the setting of and enhancing its setting through restoration.
- Consensus around the table that heritage is NOT an absolute constraint. Engagement will identify no-go areas but many can be mitigated against. All the criteria in sieve 2 and 2a are high level but not necessarily absolute constraints.
- Heritage is not an absolute constraint as many can be mitigated against. If there are unique scheduled monuments these should be kept but are not absolute constraints. More work may be required by industry to work around this which adds to the cost of the extraction. Discussion by the group about planning permission on a registered historic park in the 1980s which was allowed on appeal.
- Lee Valley Park is not an absolute constraint but should be a consideration as it is the only regional park in the county. Designated Parks?
- Listed building could be mitigated with the use of buffer zones –these are not an absolute constraint.
- Local wildlife sites should be included-they do vary from site to site but are important. Make the sieve site specific? (SSSI's are a representative example). There was general consensus that local wildlife sites need more detail within the sieve. To be able to make these decisions, an ecologist

from the County Council should help back up the selection methodology.

- The consensus was that transport should be included e.g. the quality of access and the overall road network.
- There should be something about transport, but currently talks more about non-road transport.
- Road transport is currently mentioned in 'Pollution to the Environment' but this could be expanded.
- Consensus around the table that the only ABSOLUTE constraint is committed development in adopted plans.
- Consensus around the table that the only ABSOLUTE constraints are urban areas and sites with planning permission. Allocations were considered, although these may not ever come forward with proposals for development. There was a discussion around what an urban area is and conclusion that this would include all built development which can include Conservation Areas.
- Should we sieve out future development before sieve 1 just so we don't waste time looking at resources that can't be dug? Cut out the absolute constraints then look at remaining resources?
- Add Flood Risk level 3 to this list of high level constraints.
- Contaminated land should be excluded. This was discussed with reference to the bromate plume contaminating land in Welwyn Hatfield.
- Aerodromes are not an absolute constraint. Discussion was around the option of not wet working or restoring to attract birds.
- Overhead power lines and high pressure gas mains do not stop extraction but can be looked at in sieve 2.
- The group agreed with the main comments that Ancient Woodlands should move from sieve 3 to sieve 2.
- Sieve 2 needs to look at the purpose of the protected landscape areas such as AONB and Ancient Woodlands as these cannot be replaced or be trans-located. Look at buffer zones?
- 2a needs to include descriptions e.g. 'irreplaceable'. Should include designated sites, SAC, SPA, RAMSAR, SSSI/NNR and Ancient Woodlands.
- 'Scheduled Monuments' rather than Scheduled Ancient Monuments.
- National policy guidance talks about 'settings' which should be reflected in the sieving process – should buffer zones or distances be included for example 'setting of a listed building' rather than just being within a listed building or protected landscape.
- Should specify whether 'entirely within' vs 'adjacent'. What proportion of the site is actually workable?
- Should AONB be in sieve 2 or sieve 3?
- There are no absolute constraints. It should be done on a site by site basis.
- Greater consideration should be given to the degree of the constraint in respect of weighting.

Question: (Sieve 2) Do you agree with the proposed approach to Sieve 2 which includes two stages, and the constraints listed? And Do you agree with the sequential approached proposed as part of Stage 2B?

- Either scrap A and B or ensure there is thorough consistency between the two.

- It is very difficult to argue between why something is in 2A or 2B in examination etc.
- The 2a/2b not necessary. Absolute constraints should be removed in sieve 1.
- Both sieves should be put together – scrap 2A and 2B.
- The group discussed whether sieve 2a and 2b should be in a single category with the use of colour/text coding element similar to sieve 3. The group agreed that there should not be a distinction between absolute constraints and designation with the highest level of protection. It was mentioned whether a hierarchy/weighting could be achieved within sieve 2 without having absolute constraints. Site should be determined on their merits/‘positive’ outcomes - could extraction and restoration enhance the site (benefit even if a constraint?)
- Consistency is vital to be able to identify what you can and cannot mitigate.
- This could result in a lot of sites lost through the Local Plan process, but may result in a lot of speculative applications
- Should be very clear about buffer zones around these areas too, as it is not clear at the moment. Ecological designations have no buffers and shouldn’t at the moment
- One serious constraint may be mitigated against more easily than handful of smaller constraints so is it worth ruling out sites so early when they could only have one major issue?
- “Absolute” is drastic for high level issues. Don’t want to rule sites out prematurely (unless heritage becomes part of Sieve 1 maybe?). High level constraints should be looked at site-by-site rather than as absolute constraints.
- 2B constraints could go in Sieve 3 as an automatic Red. There was a lack of agreement on this idea because 2B constraints are more important than the sieve 3 ones. However, this goes back to the argument of “is one red (high) better than lots of ambers (medium)?”
- Apparently, national policy says these major constraints shouldn’t be used unless extraordinary circumstances, i.e. there aren’t enough sites. So some people on the table believe this process is correct to hold them back.
- Sequential process not needed as none of these are absolute constraints and committed development in local plans should be removed before sieve 1. Having said that, the table was happy for sites to be held back and used later if the full process doesn’t output enough sites. However, instead of holding sites back and returning to 2B, should we just go back to Sieve 1 and start again?
- Sequential approach - Yes. There was consensus that sites in stage 2b could be put to one side but could also be brought back into the consideration of sites later on if required. The group considered that there is an option to rely on cooperation with other authorities before bringing back areas that fall within 2b. This was based on the need to survey the reliance on imports from other authority areas for their minerals meeting the county’s needs.
- The group recognised that following the initial sieve 2, that the sieving exercise should be an iterate process between sieve 3 and sieve 2.
- Yes, the group agreed with the two stage approach but agreed that there should be some changes made to the stages.

- There needs to be some recognition of district allocations in their Local Plans and emerging plans.
 - The 2a heritage constraints from the English Heritage lists should be stage 2b constraints.
 - Stage 2b should also include
 - RIGS as local geological sites;
 - ancient woodland; and
 - contaminated land.
 - The group questioned whether the landscape character areas could have mineral working within it?
 - The group discussed the weighting of criteria and the benefits and drawbacks of doing this. It was agreed that there is a need to avoid double counting where criteria gets covered more than once when it has different designation such as a national and local designation.
 - Level of site coming forward may dictate how you assess. But need to take into consideration the context of the site, growth areas, positives and cost of restoration, how extraction would impact on the local area.
 - Group questioned that if sieve 2a and 2b were merged, whether national nature reserves, would be appropriate in this sieve, do they hold the same weight as SPA, SAC?
- General Comments (Sieve 2)**
- Urban areas need to be taken into consideration.
 - Anything located in a site could be a constraint
 - Specific species should be considered in a search area.
 - Case based studies could be useful?
 - Needs to be a qualitative and quantitative assessment!
 - There is a huge scale difference between local wildlife sites and European Sites of Interest etc.
 - Would be useful to gain information on specific sites before allowing it through to Sieve 3.
 - How does the process take account of an LPA's point of view that their most suitable areas for sustainable non-mineral development might be in the identified mineral reserves? Could the edges of urban areas be designated as a constraint to avoid all their good land being sterilised? Eg. Authorities largely made up of greenbelts have minimal useable locations as it is. If mineral sites are identified before these sites are allocated in a local plan, they lose their best/only sites.
 - The issue of phasing extraction prior to non-mineral development was mentioned as a way that LPA land is sterilised. In theory it is a good idea but in practice, because the timescales of extraction often match the length of a local plan, land is sterilised for the length of the plan. This would exclude rather than postpone the non-mineral development.

- When discussing how best to address the Local Plan allocations when looking for mineral sites, the issue of agreeing to use perhaps the mineral top layers and then allow the site to go for housing or other non-mineral development was mentioned.

- Consistency between wording for the AONB – ‘conserve and enhance’ rather than ‘preserve and protect’

Sieve 3 – Detailed Site Assessments: Assessing the areas passing through Sieves 1 and 2 against more detailed local constraints and issues to identify those most appropriate for inclusion in the emerging Minerals Local Plan (MLP).

Criteria considered:

Areas of high landscape value

Ancient Woodland

Aquifers

Groundwater vulnerability

Pollution to the environment (dust, air, water)

Sustainable Transport

Cumulative Effects

Local Nature Reserves

Key Wildlife Sites

BAP Priority Species or Habitats

Geodiversity

Ecological status of water bodies

Sensitive Land Use

Proximity of allocated residential or built development

Recreation

Restoration

Land Ownership

Green Belt

Flood risk

Question: (Sieve 3) Do you consider the Sieve 3 evaluation process suitable?

- Could work in principal but there needs to be much more consistency through all the sieves.

- Sieve 3 is a useful first indicator but more detail is needed to justify scoring. A scoring criteria that triggers further assessment could be useful,

especially for things like sustainable transport.
<ul style="list-style-type: none"> • Could be useful to combine sieve 2 and 3.
<ul style="list-style-type: none"> • Yes – suitable evaluation process
<ul style="list-style-type: none"> • But, is “positive” different to low/medium/high? Something could have a positive AND a low/medium/high impact.
<ul style="list-style-type: none"> • Include a “mixed impact” grade
<ul style="list-style-type: none"> • 5-point scales are frequently used in SA assessments so why not use that.
<ul style="list-style-type: none"> • Whilst the group agreed in principle with the sieve process, it disagreed with some of the groupings of criteria.
<ul style="list-style-type: none"> • Areas of high landscape value should include landscape character areas.
<ul style="list-style-type: none"> • Emerging proposals need to be included as a sieve 3 constraint if it is not a sieve 2b constraint.
<ul style="list-style-type: none"> • Archaeological potential should be in sieve 3.
<ul style="list-style-type: none"> • Ancient woodland should be a sieve 2b constraint.
<ul style="list-style-type: none"> • Sensitive land use should include contamination and also be a sieve 2b constraint.
<ul style="list-style-type: none"> • Group agreed that the colour/text coding is generally a good thing and that there will be a level of officer judgement involved, but noted that the addition of comments to explain the process/justification is something that must be included.
<ul style="list-style-type: none"> • Need to consider airport flight safety zones and bird strike/type of wetland/dryland restoration.
<ul style="list-style-type: none"> • Importance of aquifers and drinking water source protection zones; SPZ’s; on type of waste used for back-fill; EA constraints
<ul style="list-style-type: none"> • Access needs to be included in this sieve.
<ul style="list-style-type: none"> • Short connection to the strategic highway network.
<ul style="list-style-type: none"> • This sieve should perhaps be a strategic issues and site specific issues.
<ul style="list-style-type: none"> • Consider giving greater weight to sustainability.
<ul style="list-style-type: none"> • There should be a strategic cumulative impact and site specific impact.
<ul style="list-style-type: none"> • Group criteria to simplify the process i.e. Human, landscape etc.
<ul style="list-style-type: none"> • Include mineral sterilisation in this sieve.
<p>Question: (Sieve 3) Are there criteria that are included in Table 2.1 that should not be used at this strategic stage of site assessment? Are there criteria missing from Table 2.1 that should be considered at this stage?</p>
<ul style="list-style-type: none"> • Take out high, medium and low and just grade them all together.
<ul style="list-style-type: none"> • Green Belt –need to be very careful with mineral sites as they are a low level constraint in green belt.

<ul style="list-style-type: none"> • Restoration in the green belt can be a positive thing. Define the benefits of the green belt like enhancements. • Some said greenbelt shouldn't be included. Some said it should.
<ul style="list-style-type: none"> • Transport routes- these could be outside the site. Mitigation and protection should be considered in ALL aspects of extraction. • "Site access" should be included as well as just "transport"
<ul style="list-style-type: none"> • "Visual impact" should be included. It isn't the same as landscape. It might not be designated landscape but can still impact visuals. But there was agreement that you can't do a visual impact on all the sites. Maybe an obviously highly visible site could be assessed (for example, one on the valley bottom visible from all areas above it).
<ul style="list-style-type: none"> • The group considered that it needed further time to look at table 2.1 to make comment and therefore will provide this within the further 2 weeks for comments after the interested parties event.
<ul style="list-style-type: none"> • Ancient woodlands to move from sieve 3 to sieve 2.
<ul style="list-style-type: none"> • Landownership, site not put forward by the landowners should not penalise for not owning the land. Questioned whether this is a material consideration? It should be set out in proforma but as information only not as part of the assessment criteria. Operators would not put forward a site if they were not able to work it.
<ul style="list-style-type: none"> • National policy guidance talks about 'settings' which should be reflected in the sieving process – should buffer zones or distances be included for example 'setting of a listed building' rather being one. • Need to have chalk streams' in High Category.
<p>Question: (Sieve 3) Should the criteria be grouped to reflect the level of potential constraint that they pose? If so, are the grade proposed (high, medium, low) and criteria within them correct?</p>
<ul style="list-style-type: none"> • There should be a clear definition of how these are categorised. Many of these issues could be left to the planning application stage.
<ul style="list-style-type: none"> • It's the 'in-principle' acceptability of a site that should be sought at this stage.
<ul style="list-style-type: none"> • Should include a criteria for proximity to the road network.
<ul style="list-style-type: none"> • "Sensitive land-use" and "proximity to allocated residential or built" should be grouped together and amended from medium to high.
<ul style="list-style-type: none"> • Change "landownership" to "willing landowner". They must agree to a site's inclusion in the MLP. Talk to landowners about more than the amount of resource. Do they want to work the site (deliverability). Amend red (high) from "N/A" to "unwilling landowner"
<ul style="list-style-type: none"> • "commercial and economic issues" (excluded from methodology) needs clarifying. Does it mean operator details?
<ul style="list-style-type: none"> • "Recreation" medium to high.
<ul style="list-style-type: none"> • Consensus was that sieve 3 does not need to be divided into high, medium and low categories. Is a red (high) in high importance more important than 2 reds in medium? Suggestion is that all the criteria go together and then judge the sites following this.

<ul style="list-style-type: none"> • BMV agricultural land is recorded in the lowest ranking, however the consensus was that this needed to be higher and on par with ecology.
<ul style="list-style-type: none"> • Areas of high landscape value – is this a local designation?
<ul style="list-style-type: none"> • Proximity to housing needs more clarification – can any guidance be added in terms of distances or numbers, operators note that extraction next to one house could have a similar effect to 100 houses depending on noise and wider impacts etc. The strict control that have to be followed mean that, the impact on one house or housing development, either could shut a site down. This could make it challenging to quantify.
<ul style="list-style-type: none"> • Questioned whether green belt should be there as a criteria. It was explained mineral extraction is not inappropriate in the green belt provided openness is maintained.
<ul style="list-style-type: none"> • Sustainable transport – most minerals in Hertfordshire are transported by road and in terms of the time for development of a new rail link mineral sites, these are not quick. Rail is unlikely to be economically viable and therefore sustainable transport is more important in relation to using sites that link well with growth areas and having the source of the mineral close to where is it needed. This should be reflected in the criteria.
<ul style="list-style-type: none"> • Keep water in 'high'.
<ul style="list-style-type: none"> • Move 'dust and air' to medium
<ul style="list-style-type: none"> • Move 'sustainable transport' to medium.
<ul style="list-style-type: none"> • Move 'land ownership' up to high and 'restoration'
<p>Question: (Sieve 3) Should there be a whole list of constraints?</p>
<ul style="list-style-type: none"> • No harm in producing the list, as majority on the list will be a simple yes/no.
<ul style="list-style-type: none"> • Many on the list for sieve 3 should perhaps be seen as an opportunity rather than a constraint.
<p>Question: (Sieve 3) Should a site be picked purely on red (high/very high) and greens (low/positive) being highlighted? Should they be given equal weight?</p>
<ul style="list-style-type: none"> • There should be a balancing act when sieving sites. Most sites are different depending upon the restoration of the site.
<ul style="list-style-type: none"> • Perhaps there should be a another section on green infrastructure
<ul style="list-style-type: none"> • There could also be opportunities to implement the county council's policies e.g. healthy living etc., which currently does not show through. If it is left to the application stage, it is too late to promote these issues.
<ul style="list-style-type: none"> • Restoration should aim to reduce the flood risk if within flood zones 2 and 3, especially to neighbouring properties.
<ul style="list-style-type: none"> • Should be aware of large waterbodies within aviation safeguarding areas.
<ul style="list-style-type: none"> • Reference to key wildlife sites is not overly clear. This definition should be changed to local wildlife sites.
<p>General comments (Sieve 3):</p>
<ul style="list-style-type: none"> • Mitigation measures should be emphasised as a positive. Mitigation and enhancement are separate to constraints. By protecting and enhancing you

are overriding the justification. With scope for mitigation in the sieve process it could mean that you score everything twice, otherwise you could get artificial scoring.

- Cambridgeshire County Council were criticised for knocking sites out too early/ So approached the site selection buy having a site assessment for each site. They then had a judgement day and criteria to judge all the sites together. They were aware that economic viability should be first and foremost but all together criteria should be judged together in one sieve.
- Consider public benefits.
- Methodology of who to consult on different constraints and they can validate why these constraints are viable then you will have industry knowledge and facts to back up the constraints. Make judgements before consultation- then any stakeholders who are interested in a specific site can look at all the facts and figures to make judgement during the consultation period.
- Desk based studies and sites visits are equally as important.
- Aquifers should be a low level constraint.
- Anticipating when reserves could come forward and production capacity could be included on the proforma
- Discounted criteria – group did not agree that the ‘not included elements’ in paragraph 2.17 for major services and drainage should be discounted as the thoughts were that the information could be sought. Could this not be included on the proforma?
- Check if BAP is still most relevant term?
- Reword page 17 biodiversity to ‘habitat creation’.
- Add/clarify between surface water flooding and ground water flooding risk.

Brick Clay Methodology

Question: Do you agree with the methodology for Brick Clay?

- Constraint issues-just because it’s a limited resource doesn’t mean you can ignore constraints.
- By combining sieve 2 and 3 it would help when identifying sites for Brick Clay.
- Talk with existing operators would be useful.
- Difficult to come up with a 25 year plan.
- As it’s an industrial mineral a specialist brickworks it will be treated slightly differently.
- Treat the same as sand and gravel sieve process and include in call for sites then include within the MLP.
- Could use similar criteria as for sand and gravel and could be more of a high level assessment.
- Call for sites to be included in MLP for Brick Clay.

<ul style="list-style-type: none"> • Approach appears to be acceptable, as it is a specialist approach.
<ul style="list-style-type: none"> • There should be a policy relating to the safeguarding of rail depots, coated stone plants etc.
<ul style="list-style-type: none"> • Need to make a commentary about windfall sites and prior extraction.
<ul style="list-style-type: none"> • Fine
<ul style="list-style-type: none"> • The only relevant consultee is Dacorum Council
<ul style="list-style-type: none"> • Bovingdon airfield could be a good site
<ul style="list-style-type: none"> • Agreed that the approach should take forward what the operator puts forward as an economically viable resource to extract.
<ul style="list-style-type: none"> • Need to safeguard the whole resource for brick clay at Bovingdon.
<ul style="list-style-type: none"> • No major comments on the overall proposed methodology for brick clay. General agreement that safeguarding the whole resource was the way forward to protect the minerals. Recognised that this is a specialist resource which supports the only brick works in the county.
<ul style="list-style-type: none"> • A suggestion was made that an area of land with a reserve of 25 years near to the existing Bovingdon Brickworks should be identified and left as an area of search.
<p>Mineral Safeguarding Areas and Mineral Consultation Areas</p>
<p>Question: Do you agree with the proposed methodology for defining MSA/MCAs?</p>
<ul style="list-style-type: none"> • MSA – BGS data not necessarily reliable and so bore holes could be used more?
<ul style="list-style-type: none"> • Go out to industry informally prior to site selection to get details of what they think and what is economically viable (including imports and exports) before going through the site selection process.
<ul style="list-style-type: none"> • It was discussed that the MSA’s could go out to prior consultation before call for sites consultation? This would provide geological evidence to support consultation for call for sites?
<ul style="list-style-type: none"> • More ground work should be undertaken to identify actual geological data before going to consultation.
<ul style="list-style-type: none"> • Arable farmland must be contemplated due to different solid and geology on smaller sites.
<ul style="list-style-type: none"> • MCA’s should have extra buffer zones.
<ul style="list-style-type: none"> • Prioritisation
<ul style="list-style-type: none"> • Railheads and wharves – communication between HCC and Network Rail is key as active and inactive sites must be communicated.

<ul style="list-style-type: none"> • Inclusion of MSA and MCA areas and district/borough council local plans?
<ul style="list-style-type: none"> • The methodology should ensure that the county council is not consulted upon every planning application that falls within a minerals safeguarding area (MSA).
<ul style="list-style-type: none"> • Safeguarding should also include rail depots, coated stone plants. There should be a buffer identified around each safeguarded facility.
<ul style="list-style-type: none"> • Agree with the process in principle but have issue with the potential for large MSAs and MCAs to sterilise lots of land that will be the most suitable land for sustainable, non-mineral, LPA developments. These areas should be excluded from MSAs and MCAs. • Agree with the process in principle although issue raised related to MCAs and MSAs sterilising land by not taking full account of district council allocations for housing and other development in their emerging Local Plans to allow them to meet their needs. Agreement that Duty to Cooperate meetings and further discussions were vital between the county and all districts. Happy with the approach with MCAs being identified as smaller areas than MSAs. • Query who decides during consultation with the MPA, whether resource is viable and should be extracted? e.g. conflict of MSA and housing need. • MSA- district councils to be made aware what is viable development and what is not. (This could be an appendix and made part of the consultation so it is more obvious.
<ul style="list-style-type: none"> • Overall the group were happy with the approach to the methodology for MSA/MCAS. The importance of the consultation and communication between the two tier authorities was raised.
<ul style="list-style-type: none"> • The group were unsure as to why they were both separate. • It was highlighted that there is conflict between the two within the NPPF. There may be a potential for an SPD/ protocol for how they are triggered.
<ul style="list-style-type: none"> • Sterilisation clearly caused confusion for the group.
<ul style="list-style-type: none"> • Questioning concerning boundaries arose, how to firm this up, the group considered that they should be round the resource as defined by the BGS, which then acts as a trigger, unless identified more so by the developer.
<ul style="list-style-type: none"> • Consideration for windfall sites?
<ul style="list-style-type: none"> • Compromise that safeguard an area, but develop identified areas subject to the mineral being extracted.
<p>Question: Should MSAs be kept to identifying the resource?</p>

- General consensus was yes, as it will be a blanket approach where comments would be expected, if they fall within it. There should also be a buffer zone identified around each MSA, in order to prevent developments prejudicing the extraction of such sites.

General Comments MSA/MCAs:

- There should be criteria for the proposed developments that need to be consulted on.
- Don't include buffer zones. They become too complex because one size of buffer zone will not be universally appropriate. If they are to be used, buffer sizes would have to be assigned on a site-by-site basis through set criteria.
- Maybe put in buffers around land most suitable for sustainable non-mineral development.
- If the MSAs exclude a buffer then the MCAs need to include one
- MSA should be minimised to take into account LPA needs.
- Can we have criteria to target better areas for MSAs rather than whole resources?
- There was consensus around the table that there is a need to give equal weight to datasets and further information can be obtained from industry by Cuesta regarding where there are no economically viable resources as this is commercially sensitive. There was agreement that there is scope to update the BGS datasets.
- The BGS guidance on safeguarding should be used.
- Leicestershire had problems with safeguarding policy as it was not robust enough. This became an issue with nearby housing.
- Oxfordshire did not safeguard any minerals within AONB, which is questionable for the protection long term of the minerals.

Overall General Comments:

- The only true ABSOLUTE constraint is committed developments (allocations in LA Local Plans). This should be ruled out of the search before sieve 1.
- It should be made clear early in the process (rather than after sieve 3) if the individual locations under consideration are SITES or AREAS.
- Deliverability (i.e. would landowners be willing to work the land) should be identified earlier in the process (as a criteria as part of sieve 1)
- The only ABSOLUTE constraints are urban areas and areas with planning permissions to remove sites before the sieving process.

Table 2: Additional Delegate Comments

Additional Delegate Comments

The Company would welcome a Proforma for site promotion which will help assist consistence. Proforma to include as much detail as possible including schedule, sequence, restoration etc. Depending upon the site and location the Company may not have drilled the site and therefore may not be able to provide detailed geological data as referenced in sieve 1. It would be unreasonable to seek this information at sieve one as the site might to disregarded at sieve 2 or 3. If industry are promoting the site there should be an element of confidence in that site. It may be appropriate if it does meet all other stages and is considered to be suitable for future mineral working to come back to sieve one and request additional information.

Sieve 1 - With regards to sieve one I am unsure if the planning process is suitable to quantify exclude a site on minimum resource, thickness, ration or fines as these would be an operation. Commercial viability determination based upon other material considerations, existing plant infrastructure, fuel prices which may fluctuate during the plan period.

Sieve 2 should be one stage. The word absolute is considered inappropriate. Include ancient woodland in the criteria. It was considered a colour/text coding approach should also be undertaken at this stage for transparency and to promote positives not just constraints.

Sieve 3 again should be one group as who decides which is high, medium and low. I would consider BMV agriculture as important as ecology.

Sustainable transport should also include distance to market as a positive

It is not considered that Landownership is a material consideration.

Brick Clay resources should be protected

Q6. Do you agree with the proposed approach to Sieve 2 which includes two stages, and the constraints listed?

I remain concerned regarding the site selection process and the sieving at stage 2B, where parts of Landscape and Ecological designations will only be sieved out if they contain one of the features listed in 2A. Whilst the wording in 2.12 seems rather confused, there is a significant anomaly between these approaches. SSSIs (NNRs and higher status sites have to be SSSIs anyway) are of national importance. Whilst they are certainly more 'organic' in nature and can be managed to conserve and enhance any interest - which can also develop on, say, previously quarried sites, the point is they are notified for their existing interest and form part of a national representative series for that reason. Consequently they should be given the same recognition and approach as that provided for, say, Listed Buildings which are also a nationally importance resource, whatever Grade they may be. Only when the national interest of winning a particular mineral deposit is considered to outweigh the national interest of the existing ecology (or the only location for a particular deposit lies within a landscape area) should any such site be included; up to that point it is important that there is a presumption in favour of their conservation. Development would then be considered on a case by case basis as necessary. Otherwise there would seem little point in recognising an interest of national status if this afforded no genuine protection, an approach which would seriously undermine the purpose and function of designation.

Q7. Do you agree with the sequential approach proposed a part of Stage 2B?

No. For the above reasons.

Additional Delegate Comments

Q8. Do you consider the Sieve 3 evaluation process suitable?

Broadly yes, although there is some variable interpretation of evaluation. For example, loss of a significant part of an ancient woodland could not be considered as minor – and probably not moderate, depending on the nature of the site. Woodlands have been successfully defended at Public Inquiry in Herts for development with similar impacts, under the NPPF.

Q9. Are there criteria that are included in Table 2.1 that should not be used at this strategic stage of site assessment?

The term to be used for Wildlife Sites should be **Local Wildlife Sites**, rather than 'Key' Wildlife Sites. The latter implies some form of selection or grading of WS, which there isn't – sites either meet the agreed criteria or they do not. It is unlikely the term is meant to refer to key wildlife sites – i.e. certain sites with wildlife, as this is too broad a term and is better reflected by the recognised and evidence-based resource of non-statutory Wildlife Sites, which all Planning Authorities in Hertfordshire are made aware of.

Similarly, BAP could be removed from Priority Habitat and Species as technically the BAP process has essentially been superseded by the LNP, although provision of lists of Priority Habitats and Species is still recognised as a statutory requirement under the NERC Act 2006.

Q10. Are there criteria missing from Table 2.1 that should be considered at this stage?

Consideration should also be given to inclusion of Protected Species – which are different to Priority Species. These benefit from international or national legal protection and must be considered in any event if a site is to be brought forward, whether or not it is part of the sieving process criteria.

Q11. Should the criteria be grouped to reflect the level of potential constraint that they pose? If so, are the grades proposed (high, medium, low) and the criteria within them correct?

In my view, whilst the criteria could be listed according to constraint level, in themselves each of the criteria are different, potentially independent and consequently can only properly be judged on their own merits. Therefore an issue may be more or less important in itself depending on location or nature, but then modified when viewed in comparison with other considerations e.g. recreation. It would be better to list them according to broad topic areas if this were appropriate, in no order of constraint level, such as:

- Landscape
- Ecology / geology
- Hydrology
- Pollution
- Transport
- Land use
- Recreation
- Land ownership
- Cumulative effects

Additional Delegate Comments

High, medium and low seem reasonable approaches to determine levels of potential constraint, although some caution in use is required. Ancient woodland is considered to be a high level criterion. Local Nature Reserves, key wildlife sites and BAP habitats are considered to be a medium level – but any of these could also be ancient woodland.

The Grades proposed (high, medium and low) also seem reasonable, although positive enhancements, for example, will very much depend upon the original value of the land to begin with – any appropriate restoration works will effectively be a positive enhancement of a finished working site, but may have detrimentally modified the original landscape or ecology or not make the most of enhancements a landowner is not supportive of such use.

I note the Table indicates GIS information will be obtained from HCC. This also ought to include external specialist sources (such as Herts Environmental Records Centre, as this is now the externally hosted body which provides and updates HCC and other LPAs with GIS data on ecology / geology interests).

General comment – there needs to be greater consistency and improved definitions on whether the sieves and criteria apply to 'sites' or 'areas' or both.

General consensus that the 3 sieves should be amended. As stated at the event we suggest sieve 1 should include 2 stages:

- 1a) The 4 resource criteria as proposed, and
- 1b) Absolute Constraints, comprising Lack of willing Site Ownership; and Existing and Committed (Planned) Built Development.

Sieve 2 is Major Constraints/Designations with the highest level of protection:

- AONB;
- SAM;
- Ramsar Site;
- SAC;
- SPA;
- NNR;
- Ancient Woodland;
- FRA Zone 3.

Sieve 3 is detailed assessment criteria, including the following:

- LB;
- CA;
- Registered Park or Garden;
- SSSI;
- Flood Risk Zone 2; plus
- all areas in your draft list for sieve 3, except:
- Pollution, which cannot be assessed at the site allocation stage;
- and Green Belt.

Additional Delegate Comments

All sites should have to pass through Sieve 1 – promotion by an operator or landowner is not sufficient. Too many potential motives for an operator or owner to propose a site or area for inclusion, but are unrelated to economic viability of mineral content. If a site doesn't meet the criteria it should have no greater status than any other land that might be able to meet the criteria, but have not been assessed.

Potential mitigation should not be a consideration in Sieve 2 unless there is insufficient land identified after Sieve 3.

Also beware specifying a proportion of a site affected by a constraint, as this will result in some operators defining a larger area of land than they intend to later submit an application for.

Sieve 3 Evaluation – Needs care over the wording of the criteria, including consistency and to avoid ambiguity (eg, does 'outside' mean 'abutting'?).

Strongly disagree with current 4 grade definitions, unless dark green (positive) becomes 'site/area where only positive benefits or enhancements would result', otherwise this criterion is not mutually exclusive of the other 3 criteria.

On cumulative impact, a red (high) category is sites with multiple sensitive receptors, or one or more particularly sensitive receptors (eg the Bayfordbury Observatory!)

If Green Belt included, the red (high) criterion should be 'Permanent adverse impact on Green Belt purpose(s)'

BMV includes grade 3(a) not all grade 3, and red (high) category should be 'Permanent loss of BMV land'.

In terms of weighting, the following should be moved to the 'High' group:

- Sensitive Land Use; and
- Proximity to Residential Development

After Sieve 3, if insufficient mineral likely to be provided from the land identified, other unconstrained land with potential, but for which there is insufficient information, should be tested before reassessing land that failed the Sieve 2 test.

A number of my comments have been captured by the workshop sessions held on 19th March so I will largely confine these comments to issues not raised on the day. These specifically relate to the sieve three assessment and the accompanying table 2.1.

As stated at the workshop session what is missing from this stage is an assessment of positive aspects or opportunities associated with particular sites. I refer to this because I consider this exercise needs to incorporate a balancing exercise rather than a simple scoring of the adverse impacts.

Furthermore the majority of the criteria relate to environmental objectives, economic and social objectives need to be given due weight. This is compounded by the weighting system. I understand there is some reluctance to give much weight to emerging proposals for housing sites. There is

Additional Delegate Comments

the potential for mineral sites to 'sterilise' housing sites coming forward if as a consequence of a minerals allocation this would result in a LPA not being able to meet its objective Assessment of Housing Need as a consequence of a potential minerals allocation this should be considered to have a negative impact because of the social and economic consequences. Clearly if a LPA has other options then the social and economic impact would be less.

I am not adverse to a weighting system but I cannot see the logic as to why some are in the high category and others medium. If the high category is to be retained consideration should be given to including those criteria where allocation could potentially relate to irreversible damage to nationally important designations.

Where a distance threshold is to be used to assess impact there would appear to be quite a large gap between adjacent to and not near. What about sites which are near to but not adjacent?

With regards to the individual criteria I have the following comments.

1. Areas of high landscape value

The landscape character work has focused on the characteristics of the landscape rather than its value. Apart from the Chilterns AONB there are no national designations. The assessment should consider to what extent the landscape character of the area would be permanently damaged. Apart from with regards to the Chilterns. I am therefore not clear why this is in the high category.

2. Pollution

This is another criterion that may not fit the high classification

3. Cumulative effects

When looking at these effects should also consider the scale of the operation in relation to others not just their location. Also need to take account of social and economic cumulative effects as well as environmental ones.

4. Local Nature Reserves AND Wildlife Sites

Should impact on nature reserves be given more weight than wildlife sites?

5. Recreation

I would advise consulting with districts as to the location of recreations areas and any proposed new ones

6. Green Belt

Shouldn't inappropriate development in the Green Belt fall within the red (high) zone unless it would be reversible?

Appendix 3

Site Selection Findings Proforma

Site Information

Site Name: XXX		Site ID Number: XXX	
Insert Map		Insert Map/Aerial/Photos	
Site Operator:		Site Visit Date and Time:	
Site Area:		Attendees:	
Central Grid Ref.:		Planning History:	
District:			
XXX			
XXX			

Sieve 1

Constraint	Entirely or partly located within the constraint (Yes/No)	Justification
Urban areas	Yes or No	Include any relevant justification/information
Sites with planning permission for other development		
Previously worked areas		
Proceed to Sieve 2	Yes or No	
Justification	Include any relevant justification/information	

Sieve 2

Criterion	Yes/No	Justification
(For the Specific Sites) Has sufficient evidence been provided by the site proposer?	Yes or No	Include any relevant justification/information
(For the Preferred Areas and/or Areas of Search) Were any refinements to the resource area possible and /or necessary?		
Proceed to Sieve 3?	Yes or No	
Justification	Include any relevant justification/information	

Sieve 3

Criterion	Score	Justification
Ancient Woodland	Fill cell with relevant score colour/text	Provide justification for scoring
Aquifers		
BAP Priority Species or Habitats		
BMV land		

Criterion	Score	Justification
Cumulative effects		
Ecological status of water bodies		
Flood risk		
Geodiversity		
Green Belt		
Groundwater vulnerability		
Heritage designations		
International and national ecological designations		
Land ownership		
Landscape designations		
Local Nature Reserves and Local Wildlife Sites		
Proximity of allocated residential or built development		
Recreation		
Restoration		
Sensitive land uses		
Sustainable transport		
Sustainable transport and pollution to the environment (dust, air, water)		
Sustainability Appraisal		
Summary of SA Findings (incorporating HRA findings)		
Take site forward as a potential site option	Yes or No	
Justification	Include any relevant justification/information	

Appendix 4

Call for Sites Proforma

Call for Sites Proforma

Before completing this form please read the following:

- Sites may be included in future public consultation exercises and published so cannot be treated confidentially.
- Please complete the form in as much detail as possible. Please attach an Ordnance Survey map (minimum scale 1:25,000) clearly showing the precise boundaries of the site proposed for development (edged in red). Show any other adjoining land within the same ownership edged in blue. This will assist in the assessment of the site. You are also welcome to attach any relevant additional information (e.g. tree surveys, borehole information).
- Please complete a separate form for each site.
- Only submit sites that you have an interest in (as landowner, or through landowner's permission) and that you believe have genuine potential to start development over the next 15 years.
- The Call for Sites request is part of the Hertfordshire Minerals Local Plan plan-making process and is separate from the planning application process.

Table 1: Call for sites proforma

Site Location			
Site Name			
Site Address (including postcode, district and parish)			
Site OS Grid Reference	Northing		Easting
Contact Details			
Name			
Organisation (if relevant)			
Address			

Telephone	
Email	

Your Details		
You are...? (Tick all that apply)	Agent	
	Landowner	
	Operator/Developer	
	Other (please specify)	
If you are representing a client(s), please supply their name(s) and address(es)		

Site Details	
Site area (in hectares) for whole site	
Site area (in hectares) for area suitable for the proposed extraction	
What material is proposed for extraction?	
Has this site been nominated as part of a call for sites in the past? If yes, please provide details.	
Current use of site (Is the site greenfield or brownfield? Has the site got more than one use?)	
Are there any existing structures on the	

site?		
If there are existing structures or land uses, would these require demolition or relocation?		
Adjacent land uses (e.g. housing, open farmland)	To the north	
	To the east	
	To the south	
	To the west	
Any relevant planning history? (Please provide this on additional sheets.)		
What would the estimated workable mineral reserve be? (Specify whether cubic metres or tonnes)		
What is the anticipated annual output of the site? (tonnes per year)		
What is the suggested use after extraction/proposed restoration scheme?		

Site Constraints

Are there any limitations that may prevent or constrain the development on this site? Please provide details, including any measures that may be used to overcome these constraints, or where there may be a positive impact on the area as a result of development.

Access Issues (e.g. issues surrounding the existing access to the site, proposed haulage routes to local lorry route, access to railheads)

Topography or ground conditions (e.g. site slopes, varying site levels, tree cover)	
Environmental constraints/opportunities (e.g. potential positive or negative effects on local landscape, wildlife or geological designations, protected species, mature woodland, loss of locally used open space or access to open space, public rights of way or tree preservation orders.)	
Utilities and infrastructure provision (e.g. provision of services to development including electricity, water, gas, sewerage as necessary)	
Air quality (e.g. impact on Air Quality Management Areas)	
Aquifers and Groundwater (e.g. impact on Source Protection Zones, or aquifers)	
Planning policy constraints (e.g. based on adopted policy, designations, or protected areas including conservation areas, SSSIs, listed buildings)	
Neighbouring issues (e.g. is the site affected by power lines, railway lines, major highways)	
Other considerations (any other issues that may affect the suitability of the site)	

Site Availability and Viability

Please give details, including any measures required to overcome constraints.

Is the site currently being marketed?		
Is the site owned by a developer/operator?	Yes/No	Details
Is the site under option to a developer/operator?	Yes/No	Details
Are there any legal/ownership constraints that might prohibit or delay development of the site?	Yes/No	Details
Please indicate the likely timescale for the site being developed for the proposed use. When it is likely to start operating? (subject to planning permission being obtained) (Tick which applies)	Available within a year	
	Within the next 1 to 5 years	
	Within the next 6 to 10 years	
	Within the next 11 to 15 years	
	15+ years	
How many years do you think it would take to complete the proposed extraction of minerals?		
Are there any issues that may influence the economic viability or timing of the site being developed (including the need to mitigate any potentially significant environmental impacts)?		
Are there any issues that would restrict access to the site by consultants for undertaking assessments on the site?		

Additional Information

Please use this section to add any additional information that you feel will help HCC in their consideration of this site.