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Hertfordshire Minerals Local Plan

Sustainability Appraisal including Strategic Environmental Assessment

Non-Technical Summary

Prepared by LUC
December 2018

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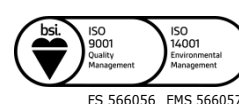
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Introduction

- 1.1 This Non-Technical Summary of the Sustainability Appraisal (SA) / Strategic Environmental Assessment (SEA) Report has been prepared and published for consultation alongside the Hertfordshire Proposed Submission Minerals Local Plan (MLP).
- 1.2 Plans and strategies such as the Hertfordshire MLP are subject to SA/SEA at each stage of their development to assess their likely effects on social, economic and environmental issues. There have been two iterations of the Hertfordshire MLP published for consultation in line with requirements of the SEA Directive and Regulations:
 - A Draft version published in late 2017.
 - A Proposed Submission version published in early 2019.
- 1.3 Each iteration of the plan has been accompanied by an SA Report.

Hertfordshire Minerals Local Plan

- 1.4 The MLP sets out the level of mineral resources required in the county, how and where minerals development will be delivered, and how it will be ensured that mineral resources are not sterilised by other development. The purpose of this summary is to provide an accessible account of the SA process and to set out how far the MLP will enable environmental, economic and social development in Hertfordshire.
- 1.5 The MLP contains a strategic vision and set of eight strategic objectives for the extraction and management of minerals over the next 15 years. Twenty five policies have been defined to deliver the vision and strategic objectives. The policies cover a range of issues including:
 - Sustainable Development
 - Strategic Aggregate
 - Industrial Minerals
 - Safeguarding Minerals
 - Non-conventional Aggregate Extraction
 - Protecting Hertfordshire
 - Environment
 - Highways and Transport
- 1.6 The MLP should be read alongside relevant European, national, regional and local policies, and is guided by international, national and local policy. Once published, it will sit alongside the Hertfordshire Waste Local Plan and the Local Plans of the County's Districts and Boroughs.

Sustainability Appraisal and Strategic Environmental Assessment

- 1.7 The purpose of Sustainability Appraisal is to promote sustainable development by integrating sustainability considerations into the preparation and adoption of plans.
- 1.8 Sustainability Appraisal (SA) is a statutory requirement of the Planning and Compulsory Purchase Act 2004. It is designed to ensure that the Development Plan Document (DPD) preparation process maximises the contribution that a plan makes to sustainable development and minimises any potential adverse impacts. The SA process appraises the likely social, environmental and economic effects of the strategies and policies within a DPD (in this case the MLP) from the outset of its development.

- 1.9 Strategic Environmental Assessment (SEA) is also a statutory assessment process, required under the SEA Directive¹, transposed in the UK by the SEA Regulations (Statutory Instrument 2004, No 1633). The SEA Regulations require the formal assessment of plans and programmes which are likely to have significant effects on the environment, and set the framework for future consent of projects requiring Environmental Impact Assessment (EIA)². The purpose of SEA, as defined in Article 1 of the SEA Directive is *'to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans...with a view to promoting sustainable development'*.
- 1.10 SEA and SA are separate processes but have similar aims and objectives. Simply put, SEA focuses only on the likely environmental effects of a plan whilst SA includes a wider range of considerations, extending to social and economic impacts. The Government's Sustainability Appraisal guidance³ outlines how it is possible to satisfy both requirements by undertaking a joint SA/SEA process, and to present an SA report that incorporates the requirements of the SEA Regulations.
- 1.11 A brief overview of the key stages of SA / SEA and how these relate to the MLP is set out below.

Stage A: Scoping

- 1.12 The SA process began with the Scoping Report for the MLP, which was prepared by LUC in 2015.
- 1.13 The Scoping stage of SA involves collating information about the social, economic and environmental baseline for the plan area and the key sustainability issues facing it, as well as information about the policy context for the preparation of the plan. A review of relevant plans, policies and programmes is set out in Appendix 2 of the main SA Report. Detailed baseline information is set out in Appendix 3 of the main SA Report.
- 1.14 The Scoping Report also sets out the SA Framework (sustainability objectives) against which potential effects will be assessed.
- 1.15 The SA Scoping Report for the MLP was published alongside a set of initial consultation documents in August 2015 for an eight week consultation period with the statutory consultees (Natural England, the Environment Agency and Historic England). The comments received during the consultation were then reviewed and addressed as appropriate throughout the remainder of the SA process. Table A1.1 in Appendix 1 of the main SA Report list the comments that were received during the Scoping consultation and describes how each one has been addressed.

Stage B: Developing and Refining Options and Assessing Effects

- 1.16 Developing options for a plan is an iterative process undertaken by the local planning authority usually involving a number of consultations with public and stakeholders. Consultation responses and the SA can help to identify where there may be other 'reasonable alternatives' to the options being considered for a plan (e.g. additional sites that may be suitable for development). The SA can also help decision makers by identifying the potential positive and negative sustainability effects of each option.
- 1.17 It also needs to be recognised that the SEA and SA findings are not the only factors taken into account when determining a preferred option to take forward in a plan. There will often be an equal number of positive or negative effects identified for each option, such that it is not possible to 'rank' them based on sustainability performance in order to select a preferred option. Factors such as public opinion, other Council targets and conformity with other plans, programmes and strategies will also be taken into account by plan-makers when selecting preferred options for their plan.

¹ SEA Directive 2001/42/EC

² Under EU Directives 85/337/EEC and 97/11/EC concerning EIA.

³ DCLG (2014) Planning Practice Guidance. Available at: <http://planningguidance.planningportal.gov.uk/blog/guidance/strategic-environmental-assessment-and-sustainability-appraisal/strategic-environmental-assessment-and-sustainability-appraisal-and-how-does-it-relate-to-strategic-environmental-assessment/>

Alternatives considered in the preparation of the MLP to date

SA of MLP Initial Consultation Document (January 2016)

- 1.18 The MLP Initial Consultation document contained various policy options and was accompanied by a set of relevant topic papers on county's chalk and clay resource, sand and gravel apportionment, secondary and recycled aggregates, a site selection and extension methodology and sterilisation, railhead and wharf infrastructure and windfall sites.
- 1.19 This appraisal work (carried out in 2015) has informed the preparation of the proposed vision, strategic objectives and strategic and development management policies published in the Consultation Draft MLP (2017). The reasoning behind the selection and rejection of these appraised options can be found in Chapter 5 of the main SA Report.

SA of the Consultation Draft MLP (2017)

- 1.20 Chapter 6 and Appendix 5 of the main SA Report contain the appraisal work of the Consultation Draft MLP.
- 1.21 The site options considered for allocation in the Consultation Draft MLP comprised the following:
- Sand and Gravel Sites (18 options).
 - Brick Clay Sites (two options).
 - Preferred Areas 1 and 2 defined within the adopted Minerals Local Plan 2002-2016.
- 1.22 The reasoning for the selection or non-selection of each site option is presented in **Table 8.5** in **Chapter 8** of the main SA Report.

SA of the Proposed Submission MLP (2018)

- 1.23 Following consultation on the Draft MLP in 2017, three new Sand and Gravel site options were submitted for consideration:
- MLPCS0021
 - MLPCS0022
 - MLPCS0023
- 1.24 In addition, site option MLPCS0001 was resubmitted for consideration following clarifications to the original proposal. The revised proposal was reappraised as a separate site option MLPCS0001RS. Again, the reasoning for the selection or non-selection of each site option is presented in **Table 8.5** in **Chapter 8** of the main SA Report.
- 1.25 Chapter 7 and Appendix 6 of the main SA Report contain the appraisal work of the Proposed Submission MLP.

Stage C: Preparing the Sustainability Appraisal report

- 1.26 This SA Report describes the process undertaken to date in carrying out the SA of the MLP. It sets out the findings of the appraisal, highlighting any likely significant effects (both positive and negative, and taking into account the likely secondary, cumulative, synergistic, short, medium and long-term and permanent and temporary effects), making recommendations for improvements and clarifications that may help to mitigate negative effects and maximise the benefits of the plan, and outlining proposed monitoring measures.
- 1.27 Each site/policy option and subsequent proposed site allocation/draft policy was assessed against each SA objective, and a judgement was made with regards to the likely effect that they would have on that objective. These judgements were recorded as a colour coded symbol, as shown below in **Figure 2.1**. The sustainability effects are presented in Chapters 5, 6 and 7 and Appendices 5, 6 and 7 of the main SA Report along with a brief justification of the judgement made.

Figure 2.1 Key to symbols and colour coding used in the SA of the Draft MLP⁴

++	The policy is likely to have a significant positive impact on the SA objective(s).
+	The policy is likely to have a minor positive impact on the SA objective(s).
0	The policy is likely to have a negligible or no impact on the SA objective(s).
+/-	The policy is likely to have a mixture of positive and negative impacts on the SA objective(s).
-	The policy is likely to have a minor negative impact on the SA objective(s).
--	The policy is likely to have a significant negative impact on the SA objective(s).
?	It is uncertain what effect the policy will have on the SA objective(s).

Stage D: Consultation on the MLP and this SA Report

- 1.28 The first iteration of this SA Report was published on the Council’s website for consultation alongside the Consultation Draft MLP for a ten week period from December 2017 to February 2018. This new version of the SA Report will be published on the Council’s website for consultation alongside the Proposed Submission MLP in early 2019.

Stage E: Monitoring Implementation of the Plan

- 1.29 Stage E will follow adoption of the MLP. The Sustainability Report includes a description of measures envisaged concerning monitoring. This is discussed in Chapter 8 on the main SA Report.

Policy Context

- 1.30 The Hertfordshire Minerals Local Plan is not being prepared in isolation and is greatly influenced by other plans and programmes and by broader sustainability objectives. The Plan needs to be consistent with international and national guidance and strategic planning policies, and should contribute to the goals of a wide range of other programmes and plans. It must also conform to environmental protection legislation and the sustainability objectives established at the international, national and local levels.
- 1.31 There are a large number of plans and programmes that are potentially relevant to the preparation of the Hertfordshire MLP. The full review of plans, policies and programmes can be seen in Appendix 2 of the main SA Report.
- 1.32 The most significant development in terms of the policy context for the MLP was the 2012 publication of the National Planning Policy Framework (NPPF) and the publication of revised NPPF and associated Planning Guidance in 2018. The MLP must be consistent with the requirements of the NPPF, which sets out information about the purposes of local plan-making. The NPPF emphasises that the purpose of the planning system is to contribute to the achievement of sustainable development, which should be delivered through the preparation and implementation of plans and the application of the policies in the Framework.
- 1.33 However, with respect to Areas of Outstanding Natural Beauty (AONB) (the Chilterns AONB is partially within Hertfordshire) the NPPF acknowledges that specific designated landscapes may indicate development should be restricted. Para 172 of the NPPF states that *‘great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight’*.

⁴ Not all effects were considered appropriate for all SA objectives.

- 1.34 The main the principles for minerals planning set out in the NPPF⁵ include:
- The maintenance of landbanks for crushed rock and sand and gravel.
 - Designation of Mineral Safeguarding Areas.
 - Safeguarding existing, planned and potential sites for bulk transport, handling and processing of minerals; the manufacture of concrete and concrete products; and the handling, processing and distribution of substitute, recycled and secondary aggregate material.
 - Providing for restoration and aftercare at the earliest opportunity and to high environmental standards.
 - Setting out criteria against which planning applications will be assessed to ensure that planned operations do not have unacceptable adverse impacts on the natural and historic environment or human health, taking into account the cumulative effects.
- 1.35 Following the decision to leave the European Union, the European Union (Withdrawal) Bill 2017-19 (commonly known as the 'Great Repeal Bill') was introduced to UK Parliament. This Bill will eventually repeal the 1972 European Communities Act, ending the precedence of European law over laws passed in the UK Parliament, meaning that UK laws will not need to comply with relevant EU Directives. The Bill proposes to copy all existing European legislation into UK law to ensure a smooth transition. Therefore, at least for the short term, the legal requirements of UK plan-making will retain their current form.

Hertfordshire Waste Local Plan

- 1.36 Hertfordshire County Council is currently undertaking a review of the Waste Local Plan including:
- Waste Core Strategy and Development Management Policies Document (adopted 5th November 2012) which sets out the Waste Management Strategy.
 - Waste Site Allocations Document (adopted on 15th July 2014) which sets out the existing waste sites and those sites with potential for future waste facilities.
 - An Employment Land Areas of Search Supplementary Planning Document (adopted 10th November 2015).
- 1.37 The new Hertfordshire Waste Local Plan will be a single, all-encompassing document which sets out a clear vision, objectives and spatial strategy for waste, in accordance with the National Planning Policy Framework (NPPF), ensuring that it provides sufficient opportunities to meet the identified needs of the area for waste management.

Baseline Information

- 1.38 Baseline information provides the context for assessing the sustainability of proposals in the MLP and it provides the basis for identifying trends, predicting the likely effects of the plan and monitoring its outcomes. Appendix 3 of the main SA Report provides an extensive discussion on the relevant baseline information for Hertfordshire and in particular the role of minerals development.
- 1.39 In summary, Hertfordshire is a landlocked County situated in the east of England which shares boundaries with Bedfordshire to the north, Cambridgeshire to the north-east, Essex to the east, Buckinghamshire to the west and Greater London to the south. The county area covers 164,300 hectares. Hertfordshire is defined by a varied landscape mosaic of chalk hills and plateaus sloping down from the chalk escarpment, in the northern part of the county. The landscape is cut by chalk river valleys, which form part of the Thames catchment. The tributaries of the Thames valley define its western edge with Buckinghamshire and the more open landscapes of Essex and Cambridgeshire comprise most of its eastern boundary. The valley of the River Lea creates a strongly defined south eastern boundary. The Chiltern Hills to the west and north-west of the

⁵ See section 17 of the NPPF, available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

county are designated as an Area of Outstanding Natural Beauty. The proximity of London and the pressures for development during the 20th century have resulted in the growth of suburban development in the southern part of Hertfordshire. This in turn led to the designation of a large proportion of the county as Green Belt comprising 84,640 hectares or 51.5%.

- 1.40 Hertfordshire is well connected nationally and internationally with four national motorways (M1, A1(M), M11, and M25) and four major rail lines (West Coast Main Line, the Midland Main Line, the East Coast Main Line, and the West Anglia Line).
- 1.41 The main mineral resources in Hertfordshire are sand and gravel with smaller deposits of chalk and brick clay.
- 1.42 Hertfordshire County has a rich biodiversity offering including four sites of international importance for nature conservation: the Lee Valley Special Protection Area (SPA) and Ramsar site, Chilterns Beechwoods Special Area of Conservation (SAC), and Wormley-Hoddesdonpark Woods SAC. Broxbourne Wood (which forms part of Wormley-Hoddesdonpark Woods SAC) is Hertfordshire’s only National Nature Reserve (NNR). There are also 42 Local Nature Reserves (LNRs) and 43 nationally designated Sites of Special Scientific Interest (SSSIs).
- 1.43 There are 8,069 Listed Buildings in Hertfordshire (109 Grade I, 7,485 Grade II, and 475 Grade II*), 179 Scheduled Monuments, 46 Registered Parks and Gardens, and one Registered Battlefield (Battle of Barnet 1471). There are 199 Conservation Areas in Hertfordshire, including country house estates and the historic centres of towns and villages.
- 1.44 With no dominant city, Hertfordshire is instead characterised by a network of urban areas and its density of 7.16 people per hectare makes it one of Britain’s most densely populated counties. The latest mid-year population figures for mid-2017 showed that there were 1,180,900 people living in the County, with an almost even split between females (51%) and males (49%) . This is an increase of 15,600 people compared to 2015. This was in part due to natural change, i.e. more births than deaths.
- 1.45 The population of Hertfordshire performs either better than or at least as good as the averages for the East of England and nationally against all health indicators, with the exception of diabetes diagnoses, dementia diagnoses and the number of excess winter deaths.
- 1.46 Hertfordshire’s close proximity to London, strong communication links, highly skilled workforce and good quality of life have attracted a wide range of businesses to the county. The railway corridors and road networks in each radial corridor are the focal points to providing economic corridors between London, Hertfordshire and the North. These will help to boost the county’s economic activity and mineral provision is essential to this growth. Hertfordshire’s employment rate is 78.6% which is greater than the rates for the East of England (77.6%) and UK (74.9%) for the 3 months up to May 2017 .

Key Sustainability Issues

- 1.47 Key sustainability issues facing Hertfordshire were identified during the Scoping stage of the SA and were presented in the Scoping Report and have been regularly reviewed through the plan-making process. **Table 1** presents these key issues and describes the likely evolution of each key sustainability issue if the MLP were not to be adopted.

Table 1: Key sustainability issues for Hertfordshire and the likely evolution of the environment in the absence of the MLP

No.	Key Sustainability Issues	The likely evolution of the environment in the absence of the MLP
1	Changes in landscape character Hertfordshire has a rich variety of character, both urban and rural, as well as an AONB providing a high quality	In the absence of an MLP, there is the potential that new minerals development could be located in sensitive areas leading to negative impacts on valued landscapes.

No.	Key Sustainability Issues	The likely evolution of the environment in the absence of the MLP
	<p>environment for those who live and work in the County. There is the potential for minerals development to contribute to detrimental changes in landscape character in the County and plans should endeavour to minimise impacts as much as possible.</p>	
2	<p>Potential for damage to the historic environment</p> <p>In Hertfordshire, there are 198 Conservation Areas, 8,056 Listed Buildings, 45 Registered Parks and Gardens, 176 Scheduled Monuments.</p>	<p>Despite the high level of protection afforded to nationally designated cultural heritage sites within the NPPF, in the absence of the MLP and appropriate policies there may be adverse effects to Hertfordshire’s cultural heritage (including architecture and archaeology) as a result of less stringent mitigation or poorly planned minerals development.</p>
3	<p>Preventing further declines in condition status of Hertfordshire’s biodiversity</p> <p>Latest figures on the condition of SSSIs suggests 46.0%, are described as being in “unfavourable but recovering condition”.</p> <p>In 2011/12, positive conservation management was being implemented in 23.5% of Local Wildlife Sites.</p> <p>Between 2005 and 2013 of the 35 butterfly species measured, 14 have decreased in numbers and 21 have increased in numbers or remained static. Based on distribution, 18 have increased their range and 8 have decreased, with the others unchanged.</p> <p>As for aquatic ecology, in 2013, the majority of the water bodies (41.5%) were classified as having poor ecological status including the River Quin and the Lee from Luton Hoo Lakes to Hertford. 4.9% of Hertfordshire’s water bodies were classified as bad; these include the Stort Navigation through Bishops Stortford. This will be having a negative impact upon species and plants within and surrounding these habitats.</p>	<p>The provision of minerals for society’s needs may cause adverse effects to the natural environment. However, MLPs contain policies which aim to protect and enhance the environment. Despite the high level of protection afforded to internationally and nationally designated nature conservation sites within the NPPF, without the MLP it is more likely that environmental designations in the County could be adversely affected by poorly planned minerals development or with less stringent mitigation measures applied. The opportunity to protect and enhance the environment and achieve net biodiversity gains (e.g. through restoration) could be limited.</p>
4	<p>Uneven unemployment levels</p> <p>Hertfordshire enjoys a high employment rate compared to the rest of the region and is above the national average with 79.2%, slightly above the East of England rate of 77.1%, according to figures for the 12 months to Jun-16. However, there continues to be pockets of unemployment across the county, particularly in Stevenage and Broxbourne where there have been increases in the claimant count</p>	<p>The MLP provides an opportunity to increase employment opportunities in those communities where the employment level is increasing. In the absence of the MLP, unemployment may increase further, particularly in Stevenage and Broxbourne.</p>

No.	Key Sustainability Issues	The likely evolution of the environment in the absence of the MLP
	for those in receipt of Job Seekers Allowance.	
5	<p>Climate change: warmer, drier and high risk of damage from flooding.</p> <p>Annual mean temperatures from Hertfordshire and Central England Temperature (CET) records show a long term warming trend.</p> <p>Hertfordshire experiences lower than average rainfall and it is likely that climate change will exacerbate this.</p> <p>The main sources of flood risk include surface water, groundwater, rivers and other watercourses. 12,896 dwellings fall in Flood Zone 2 and 3. Significant levels of fluvial flood risk are seen in the south and south eastern parts of the County.</p>	<p>Despite policies in the NPPF, in the absence of the MLP and specific policies aimed at combating climate change and reducing the impacts, it is likely that contributions to climate change from minerals development in Hertfordshire will not be appropriately controlled and mitigated.</p>
6	<p>Air quality</p> <p>With the exception of Stevenage Borough Council and Welwyn Hatfield District Council, all District Authorities have Air Quality Management Zones (AQMAs). Watford and Hertsmere have the largest number, with a total of 30, while North Hertfordshire has just one. In total, there are 51 Air Quality Management Zones across Hertfordshire.</p>	<p>In the absence of the MLP and policies aimed at reducing emissions from transport of minerals, air quality in Hertfordshire is more likely to be adversely affected as a result of less stringent mitigation or poorly planned minerals development.</p>
7	<p>Poor health in some areas</p> <p>Life expectancy in Hertfordshire is improving, but varies between men and women and between smaller areas according to levels of multiple deprivations.</p> <p>In 2012, North Herts and Hertsmere had significantly higher rates of hospital admissions due to self-harm than the Hertfordshire average. Although East Herts and St Albans have the lowest levels of hospital, admissions both LAs have still seen a gradual rise over these three years.</p>	<p>The environment can have an important role in determining individuals' and communities' physical and mental health. The minerals sector provides employment and can have an effect on access to sports and leisure facilities, both of which are beneficial to physical and mental health. In the absence of the MLP, there may be negative impacts on human health in some areas of Hertfordshire as a result of less stringent mitigation or poorly planned minerals development.</p>
8	<p>Increases in greenhouse gas emissions</p> <p>In 2012-13, Hertfordshire County produced 147,087 tonnes of greenhouse gas emissions (tonnes CO₂ e) but per capita CO₂ emissions have reduced by 14.9% since 2005.</p>	<p>Despite policies in the NPPF, in the absence of the MLP and specific policies aimed at combating greenhouse gas emissions, it is likely that greenhouse gas emissions from minerals development in Hertfordshire will not be appropriately controlled and mitigated and could therefore result in reversing the trend in the reduction in emissions.</p>
9	<p>Declining access to outdoor green space and Hertfordshire's extensive network of Public Rights of way</p>	<p>The provision of minerals for society's needs may cause adverse effects to the natural environment. However, MLPs contain policies</p>

No.	Key Sustainability Issues	The likely evolution of the environment in the absence of the MLP
	<p>(PRoW)</p> <p>According to Hertfordshire Strategic Green Infrastructure Plan 2011, there are deficiencies in Access to Natural Greenspace (ANG) in East Herts, North Herts, Hertsmere and Welwyn Hatfield, Watford and Stevenage. Stevenage and North Herts perform below the average at both County and sub-regional levels.</p> <p>The County has an extensive PRoW, with over 5200 paths totalling more than 3000km.</p>	<p>which aim to protect and enhance the environment. Without the MLP, it is more likely that ANG in the areas with the highest levels of deficiencies could continue to decline as a result of poorly planned minerals development or with less stringent mitigation measures applied. Access to, and the breakup of connections between PRoW, could also result in adverse effects.</p> <p>The opportunity to protect and enhance the environment and achieve net biodiversity gains (e.g. through restoration) could be limited.</p>
10	<p>Water quality</p> <p>The water quality within the County is not yet meeting 'good' ecological status in regards to the EU Water Framework Directive. Only 9.8% of water bodies within the County have good ecological status.</p>	<p>In the absence of the MLP and policies aimed at the protection of the water environment, water bodies and hydrological regimes in Hertfordshire are more likely to be adversely affected as a result of less stringent mitigation or poorly planned minerals development.</p>
11	<p>Traffic growth</p> <p>If the County continues to attract more people through inward migration, traffic growth will continue to affect the transport network and may exceed planned capacity in some places. Increased traffic could have a detrimental effect on quality of life within the County.</p>	<p>In the absence of the MLP and policies aimed at reducing emissions from transport of minerals, traffic growth in Hertfordshire may continue in certain areas and along particular routes. However, other non-minerals related road traffic is likely to contribute more to overall traffic growth in the County.</p>
12	<p>Development pressure</p> <p>Hertfordshire's proximity to London means that there is pressure for development of housing. Local authorities are responsible for determining housing numbers and distribution; however with over 50% of the County being designated Green belt it is likely that there will be more limited land for all types of development.</p>	<p>Development pressure in Hertfordshire, particularly for housing is likely to lead to limited availability of land for other uses. In the absence of an MLP there is the potential that the County could not be able to provide a sufficient supply of minerals to meet the society's needs.</p>

Sustainability Appraisal Framework and Assumptions

- 1.48 The SA objectives presented in **Table 2** have been developed through consultation with Hertfordshire County Council (HCC) Minerals and Waste Planning Policy officers and feedback from an Interested Parties Event held on the 19th March 2015. The SA objectives have been updated where necessary taking into account the feedback and using LUC's professional judgement and experience of using SA objectives to appraise sustainability effects of plans. The objectives reflect the review of relevant plans and programmes and baseline situation/key issues.

Table 2: Sustainability Appraisal Framework for the MLP

HEADLINE SA OBJECTIVES	Sub-objectives
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HEADLINE SA OBJECTIVES	Sub-objectives	
Environmental		
1. To protect, conserve and enhance natural habitats, species and geological features including those identified in s41 of the NERC Act 2006, consistent with the UK Post-2010 Biodiversity Framework, Biodiversity 2020 and the Local nature Partnership aims.	1.1	To protect against the loss of priority habitats, biodiversity and species
	1.2	To provide opportunities for enhancing biodiversity and achieve net gains in biodiversity, where possible as part of the development and restoration of a site.
	1.3	To protect against the deposition of air and other pollutants on designated nature conservation sites
	1.4	To protect and enhance sites of geological conservation interest.
2. To conserve and enhance the quality of the historic environment including landscape history, human history, archaeological history	2.1	To conserve and enhance the County's cultural heritage, including both designated and non-designated heritage assets and their setting.
	2.2	To conserve below ground archaeological assets
	2.3	Seek to ensure the supply of locally distinctive building materials for historic building methods
3. To conserve and enhance Hertfordshire's landscape assets such as landscapes of natural beauty and greenspaces.	3.1	To conserve and enhance the character and quality of Hertfordshire's landscapes
4. To protect water resources , water quality and the function of the water environment from pollution and over abstraction	4.1	To protect the quality of ground and surface water
	4.2	To protect the quantity of ground and surface water from over abstraction
5. To minimise the effects of climate change and reduce emissions of greenhouse gases	5.1	To reduce operational emissions through improved/enhanced technologies and sustainable transport.
	5.2	To promote energy efficiency, i.e. by encouraging the use of energy efficient buildings and plant, and the use of appropriate renewable or lower carbon energy sources on site
6. To avoid the risk of flooding , by directing development away from areas at highest risk and promote opportunities for implementing alleviation / mitigation during site restoration.	6.1	To protect against the risk of flooding
	6.2	To provide opportunities for flood alleviation / mitigation during the restoration of the site
7. To protect and ensure the sustainable use of mineral resources	7.1	To encourage the use of recycled and secondary aggregates

HEADLINE SA OBJECTIVES	Sub-objectives	
Economic		
8. To maximise the potential economic benefits of mineral extraction for the economy in Hertfordshire	8.1	To provide opportunities for local people to access employment and skills both during and after extraction
	8.2	To ensure an steady and adequate supply of minerals to meet Hertfordshire's needs
	8.3	To ensure that mineral sterilisation is minimised
	8.4	Protect the County's best and most versatile agricultural land by seeking to use areas of poorer quality agricultural land in preference to that of a higher quality
Social		
9. To protect and improve health and amenity for individuals and communities within Hertfordshire	9.1	To protect the health and amenity of local residents and communities from the impacts of minerals workings and associated transport
	9.2	To protect against the loss of Public Rights of Way, access, recreation areas and open space
	9.3	To provide opportunities to improve health and amenity through delivery of green infrastructure, enhanced public rights of way and improved access to recreation as part of the development and restoration of a site
	9.4	To ensure that mineral sites do not compromise the operation and safety of commercial/civil or military aerodromes

Assumptions taken into account during the SA

- 1.49 SA inevitably relies on an element of subjective judgement. In predicting and assessing the likely sustainability effects of the MLP, the SA team's analysis of the characteristics of Hertfordshire and the sustainability issues it faces has been drawn upon as well as the professional experience of the SA team of having undertaken numerous SAs of minerals local plans and site allocations.
- 1.50 To support the appraisal of mineral site options a series of decision-making criteria for each SA headline objective was developed (this can be seen in Appendix 4 of the main SA Report) with the purpose of providing a consistent approach to the prediction and assessment of effects. The decision-making criteria relates specifically to the assessment of the potential sites being considered at this stage for allocation in the MLP, and set out assumptions and justifications for the level of significance of the potential effects that mineral sites developed at those sites may have. These assumptions were developed so that, where possible, quantitative data could be used to appraise the sites.
- 1.51 It should be noted that the proposed distances from specific assets (e.g. biodiversity and recreational) used within relevant SA Objectives to predict the magnitude of potential effects of allocating the sites are for a guide only and will not mean that mineral sites within a certain

distance would definitely have an effect in every instance. The potential effects depend significantly on the type and design of mineral sites eventually developed on the site, which will need to be assessed at the planning application stage.

Sustainability Appraisal Findings

Initial Consultation Document SA Findings

- 1.52 Chapter 5 of the main SA Report describes the findings of the SA of the options that HCC identified and considered in preparing the MLP, and were subject to consultation via the Initial Consultation Document in 2015. The options that were appraised (or reasonable alternatives as they are referred to in the SEA Regulations) comprised the following:
- Draft Vision (two options).
 - Draft Objectives (nine objectives).
 - Quantity of Sand and Gravel (three options).
 - Mineral Sterilisation (five options).
 - Windfall Sites (two options).
 - MSAs and MCAs Site Selection.
 - Brick Clay (three options).
 - Chalk (four options).
 - Secondary and Recycled Aggregates (seven options).
 - Draft Development Management Policies (13 policies).
- 1.53 The options within the Initial Consultation Document were assessed by LUC and the results of the SA were set out in a separate SA Report in January 2016. These SA findings were considered by the Council throughout the preparation of the Consultation Draft MLP.

Hertfordshire Draft MLP SA Findings

- 1.54 Chapter 6 of the main SA Report describes the findings of the SA of the vision, strategic objectives and policies in the Hertfordshire Draft MLP in 2017. The SA matrices prepared for the appraisal of the proposed strategic policies and development management policies within the Consultation Draft MLP are presented in Appendix 5 in the main SA Report. **Tables 3, 4 and 5** present the effects identified.

Table 3: Summary of SA scores for the Draft Vision and Strategic Objectives

Vision and Objectives	Vision	1. Economic growth	2. Safeguarding mineral resources	3. Secondary and recycled aggregates	4. Conserve sand, gravel and clay	5. Sustainable transport of minerals	6. Health and amenity	7. Climate change	8. Natural and historic environment	9. Public access and biodiversity
SA Objectives										
Environmental										
1.1 Biodiversity (protection)	+?	0	0	0	0	-/+	+	?	0	-/++
1.2 Biodiversity (enhancement)	++	0	0	0	0	0	+	?	++	++
1.3 Biodiversity (deposition of air and other pollutants)	+?	0	0	0	0	-?/++	+	?	0	0
1.4 Geology	+?	0	0	0	+	0	+	?	+?	0
2.1 Historic environment (above ground)	++	0	0	0	0	-/+	+	?	++	0
2.2 Historic environment (below ground)	++	0	0	0	0	0	+	?	++	0
2.3 Historic environment (locally distinctive building materials)	+	++	0	0	0	0	0	0	0	0
3.1 Landscape	++	0	0	0	0	-/+	+	0	++	+
4.1 Water quality	+?	0	0	0	0	0	+	?	+?	0
4.2 Water quantity (from over abstraction)	+?	0	0	0	0	0	+	?	+?	0
5.1 Sustainable transport and emissions	+?	0	++	0	0	++	+	?	0	0

Vision and Objectives										
SA Objectives	Vision	1. Economic growth	2. Safeguarding mineral resources	3. Secondary and recycled aggregates	4. Conserve sand, gravel and clay	5. Sustainable transport of minerals	6. Health and amenity	7. Climate change	8. Natural and historic environment	9. Public access and biodiversity
5.2 Climate change (energy efficiency and renewables)	+?	0	0	0	0	0	0	++?	0	0
6.1 Flooding (risk)	+?	0	0	0	0	0	+	?	+?	0
6.2 Flooding (prevention)	+?	0	0	0	0	0	+	?	+?	0
7.1 Recycling (recycled and secondary aggregates)	0	0	++	++	0	0	0	0	0	0
Economic										
8.1 Local economy (employment)	++	++	+?	0	+?	0	0	0	0	0
8.2 Local Economy (supply of minerals)	++	++	++	+	++	0	+	0	0	0
8.3 Local Economy (mineral sterilisation)	++	0	++	0	+	0	0	0	0	0
8.4 Best and most versatile agricultural land	++	0	0	0	0	0	0	?	0	0
Social										
9.1 Health, well-being and amenity of residents	+	+?	+?	0	+	-/+	++	?	+?	+
9.2 Recreation (loss)	+	0	0	0	0	+	+	0	0	0
9.3 Recreation (provision)	++	0	0	0	0	0	+	0	+?	++
9.4 Aerodrome safety	0	0	0	0	0	0	0	0	0	0

Table 4: Summary of SA findings for Draft MLP Strategic Policies

SA objective	Draft MLP Strategic Policies											
	1: Sustainable Development	2: Climate Change	3: Aggregate Supply	4: Within Specific Sites or Preferred areas	5: Secondary & Recycled Aggregates	6: Brick Clay	7: Chalk	8: Mineral Safeguarding	9: Rail Heads & Wharves	10: Concrete Batching etc.	11: Borrow Pits	12: Incidental Extraction
Environmental Objectives												
1.1: Biodiversity (protection)	+	0	-?	--?	+?	-?	-?	+/-?	+	+	-?	-?
1.2: Biodiversity (enhancement)	+	+++?	+	+	0	+	+	0	0	0	+	+
1.3: Biodiversity (deposition of air and other pollutants)	+	+	-?	--?	+	-?	-?	+/-?	+	+	+	-?
1.4: Geology	+	0	-/+?	0	+	-?	-/+?	+	0	0	-/+?	-/+?
2.1: Historic environment (above ground)	+	0	-?	--?	+	-?	-?	+/-?	+	+	-?	-?
2.2: Historic environment (below ground)	+	0	-?	?	+	-?	-?	+/-?	+	+	-?	-?
2.3: Historic environment (locally distinctive building materials)	0	0	0	0	+	++	0	+	0	0	0	?
3.1: Landscape	+	+++?	-/+?	-	+	-/+?	-/+?	+/-?	+	+	-/+?	-/+?
4.1: Water quality	+	+++?	-?	--?	+	-?	-?	+/-?	+	+	-?	-?
4.2: Water quantity (from over abstraction)	+	+++?	?	?	+	?	?	+/-?	+	+	?	?
5.1: Sustainable transport and emissions	+	+++?	+?/-	+	+/-	+?/-	+?/-	+/-?	+++?	0	+++/-	+/-?
5.2: Climate change (energy efficiency and renewables)	+	+++?	+	+?/-	+	+	+	0	0	0	0	+
6.1: Flooding (risk)	+	+++?	0	0?	+	0?	0?	0	0	0	0?	0?
6.2: Flooding (prevention)	+	+++?	+	0	0	+	+	+	0	0	+	+
7.1: Recycling (recycled and secondary aggregates)	0	+++?	-	-?	++	-	-	-	0	0	-	-
Economic Objectives												
8.1: Local economy (employment)	+	0	+	+	+	+	+	+?/-	+	+	+	+
8.2: Local Economy (supply of minerals)	+	0	++	++	+	++	0	+	0	+	+	+
8.3: Local Economy (mineral sterilisation)	0	0	+	+	0	+	+	+++?	0	0	+	+
8.4: Best and most versatile agricultural land	+	0	-?	--	-?	-?	-?	+/-?	0	0	-?	-?
Social Objectives												
9.1: Health, well-being and amenity of residents	+	+	-/+	-?	+	-/+	-/+	+/-?	+	+	-?	-?
9.2: Recreation (loss)	+	0	-?	--?	-?	-?	-?	+/-?	+	+	-?	-?
9.3: Recreation (provision)	+	+	+	+	0	+	+	0	0	0	+	+
9.4: Aerodrome safety	+	0	-?	-?	0	-?	-?	0	0	0	-?	-?

Table 5: Summary of SA findings for the Draft Development Management policies

SA objective	Development Management Policies												
	13: Green Belt	14: Cumulative Impact	15: Water Management	16: Historic Environment	17: Landscape and Green Infrastructure	18: Biodiversity	19: Protection and Enhancement of Environment and Amenity	20: Strategic Transport	21: Operational Transport	22: Public Rights of Way	23: Soils and Agricultural Land	24: Restoration	25: Aftercare and After-use
Environmental Objectives													
1.1: Biodiversity (protection)	+?	?	+	0	+	++	++	+?	+?	+?	+?	0	+
1.2: Biodiversity (enhancement)	+?	0	+	0	++	++	+?	0	+?	+?	+?	+	+
1.3: Biodiversity (deposition of air and other pollutants)	0	?	0	0	0	+++?	++	+++?	+?	0	0	0	0
1.4: Geology	0	+	0	0	+	++	+?	0	0	0	+?	?	+
2.1: Historic environment (above ground)	+	+	0	++	+	+?	++	+?	+?	0	0	?	+
2.2: Historic environment (below ground)	0	+	0	++	0	0	+?	0	0	0	0	?	?
2.3: Historic environment (locally distinctive building materials)	0	0	0	+?	0	0	0	0	0	0	0	0	0
3.1: Landscape	++	+	+	++	++	+?	++	+?	+?	+	+	+?	+
4.1: Water quality	0	+	++	0	0	+?	+?	0	0	0	0	?	?
4.2: Water quantity (from over abstraction)	0	+	++	0	0	0	+?	0	0	0	0	?	0
5.1: Sustainable transport and emissions	0	+	0	0	0	0	+?	+++?	0	0	0	0	+
5.2: Climate change (energy efficiency and renewables)	0	0	0	0	0	0	0	0	0	0	0	0	0
6.1: Flooding (risk)	0	?	++	0	0	0	+?	0	0	0	0	+?	?
6.2: Flooding (prevention)	0	?	++	0	0	0	+?	0	0	0	0	+?	?
7.1: Recycling (recycled and secondary aggregates)	0	0	0	0	0	0	0	0	0	0	0	0	0
Economic Objectives													
8.1: Local economy (employment)	0	0	0	0	0	0	0	0	0	0	+	+?	+
8.2: Local Economy (supply of minerals)	+	0	0	0	0	0	0	0	0	0	0	0	0
8.3: Local Economy (mineral sterilisation)	0	0	0	0	0	0	0	0	0	0	0	0	0
8.4: Best and most versatile agricultural land	0	+	0	0	0	0	+?	0	0	0	++	+	?
Social Objectives													
9.1: Health, well-being and amenity of residents	+	+	++	0	+	+	++	+?	+?	+	0	+?	+?
9.2: Recreation (loss)	+	+	0	0	+	+	+?	0	0	++	0	+?	+?
9.3: Recreation (provision)	+?	0	0	0	++	+?	+?	0	0	++	0	+?	+?
9.4: Aerodrome safety	0	+	0	0	0	+?	0	0	0	0	0	?	?

Hertfordshire Proposed Submission MLP SA Findings

- 1.55 Chapter 7 of the main SA Report describes the findings of the SA of the vision, strategic objectives and policies in the Hertfordshire Proposed Submission MLP in 2018. The SA matrices prepared for the appraisal of the proposed strategic policies and development management policies within the Proposed Submission MLP are presented in Appendix 6 in the main SA Report. **Tables 6, 7 and 8** present the effects identified.

Table 6: Summary of SA scores for the Vision and Strategic Objectives

Vision and Objectives	Vision	1. Economic growth	2. Conserve sand, gravel and clay	3. Sustainable use of minerals	4. Sustainable transport of minerals	5. Health and amenity	6. Climate change	7. Natural and historic environment	8. Restoration
Environmental									
1.1 Biodiversity (protection)	+?	0	0	0	-/+	+	?	0	-/+
1.2 Biodiversity (enhancement)	++	0	0	0	0	+	?	++	++
1.3 Biodiversity (deposition of air and other pollutants)	+?	0	0	0	++	+	?	0	0
1.4 Geology	+?	0	+	0	0	+	?	+?	0
2.1 Historic environment (above ground)	++	0	0	0	-/+	+	?	++	0
2.2 Historic environment (below ground)	++	0	0	0	0	+	?	++	0
2.3 Historic environment (locally distinctive building materials)	+	++	0	0	0	0	0	0	0
3.1 Landscape	++	0	0	0	-/+	+	0	++	+
4.1 Water quality	+?	0	0	0	0	+	?	+?	0
4.2 Water quantity (from over abstraction)	+?	0	0	0	0	+	?	+?	0
5.1 Sustainable transport and emissions	+?	0	0	++	++	+	?	0	0

SA Objectives	Vision and Objectives								
	Vision	1. Economic growth	2. Conserve sand, gravel and clay	3. Sustainable use of minerals	4. Sustainable transport of minerals	5. Health and amenity	6. Climate change	7. Natural and historic environment	8. Restoration
5.2 Climate change (energy efficiency and renewables)	+?	0	0	0	0	0	++?	0	0
6.1 Flooding (risk)	+?	0	0	0	0	+	?	+?	0
6.2 Flooding (prevention)	+?	0	0	0	0	+	?	+?	0
7.1 Recycling (recycled and secondary aggregates)	0	0	0	++	0	0	0	0	0
Economic									
8.1 Local economy (employment)	++	++	+?	+?	0	0	0	0	0
8.2 Local Economy (supply of minerals)	++	++	++	++	0	+	0	0	0
8.3 Local Economy (mineral sterilisation)	++	0	+	++	0	0	0	0	0
8.4 Best and most versatile agricultural land	++	0	0	0	0	0	?	++	0
Social									
9.1 Health, well-being and amenity of residents	+	+?	+	+?	-/+	++	?	+?	++
9.2 Recreation (loss)	+	0	0	0	+	+	0	0	0
9.3 Recreation (provision)	++	0	0	0	0	+	0	+?	++
9.4 Aerodrome safety	0	0	0	0	0	0	0	0	0

Table 7: Summary of SA findings for MLP Strategic Policies

SA objective	MLP Strategic Policies										
	1: Sustainable Development	2: Climate Change	3: Aggregate Supply	4: Within Specific Sites or Preferred areas	5: Secondary & Recycled Aggregates	6: Brick Clay	7: Chalk	8: Mineral Safeguarding	9: Safeguarding Transport, Bulk Handling and Processing Sites	10: Borrow Pits	11: Incidental Extraction
Environmental Objectives											
1.1: Biodiversity (protection)	+	0	-?	--?	+?	-?	-?	+/-?	+	-?	-?
1.2: Biodiversity (enhancement)	+	++?	+?	+?	0	+?	+?	0	0	+?	+?
1.3: Biodiversity (deposition of air and other pollutants)	+	+?	-?	--?	+?	-?	-?	+/-?	+	+?	-?
1.4: Geology	+	0	-/+?	0	+?	-?	-/+?	+	0	-/+?	-/+?
2.1: Historic environment (above ground)	+	0	-?	--?	+?	-?	-?	+/-?	+	-?	-?
2.2: Historic environment (below ground)	+	0	-?	--?	+?	-?	-?	+/-?	+	-?	-?
2.3: Historic environment (locally distinctive building materials)	0	0	0	0	+?	++	0	+	0	0	?
3.1: Landscape	+	++?	-/+?	-	+	-/+?	-/+?	+/-?	+	-/+?	-/+?
4.1: Water quality	+	++?	-?	--?	+?	-?	-?	+/-?	+	-?	-?
4.2: Water quantity (from over abstraction)	+	++?	?	?	+?	?	?	+/-?	+	?	?
5.1: Sustainable transport and emissions	+	++?	+?/-	+?	+/-	+?/-	+?/-	+/-?	++?	++/-	+/-?
5.2: Climate change (energy efficiency and renewables)	+	++?	+?	+?/-	+?	+	+	0	0	0	+
6.1: Flooding (risk)	+	++?	0	0?	+	0?	0?	0	0	0?	0?
6.2: Flooding (prevention)	+	++?	+?	0	0	+	+	+	0	+	+
7.1: Recycling (recycled and secondary aggregates)	0	++?	-	-?	++	-	-	-	0	-	-
Economic Objectives											
8.1: Local economy (employment)	+	0	+	+	+	+	+	+?/-	+	+	+
8.2: Local Economy (supply of minerals)	+	0	++	++	+	++	0	+	+	+	+
8.3: Local Economy (mineral sterilisation)	0	0	+	+	0	+	+	++?	0	+	+
8.4: Best and most versatile agricultural land	+	0	-?	--	-?	-?	-?	+/-?	0	-?	-?
Social Objectives											
9.1: Health, well-being and amenity of residents	+	+?	-/+	-?	+?	-/+	-/+	+/-?	+	-?	-?
9.2: Recreation (loss)	+	0	-?	--?	-?	-?	-?	+/-?	+	-?	-?
9.3: Recreation (provision)	+	+?	+?	+?	0	+	+	0	0	+	+
9.4: Aerodrome safety	+	0	-?	-?	0	-?	-?	0	0	-?	-?

Table 8: Summary of SA findings for the Development Management policies

SA objective	Development Management Policies													
	12: Green Belt	13: Cumulative Impact	14: Water Management	15: Historic Environment	16: Landscape and Green Infrastructure	17: Biodiversity	18: Protection and Enhancement of Amenity	19: Health and Well Being	20: Strategic Transport	21: Operational Transport	22: Public Rights of Way	23: Soils and Agricultural Land	24: Restoration	25: Aftercare and After-use
Environmental Objectives														
1.1: Biodiversity (protection)	+?	+	+	0	+	++	++	0	+?	+?	+?	+?	0	+
1.2: Biodiversity (enhancement)	+?	0	+	0	++	++	+?	+?	0	+?	+?	+?	+	+
1.3: Biodiversity (deposition of air and other pollutants)	0	+	0	0	0	+++?	++	+	+++?	+?	0	0	0	0
1.4: Geology	0	+	0	0	+	++	+?	0	0	0	0	+?	+	+
2.1: Historic environment (above ground)	+	+	0	++	+	+?	++	0	+?	+?	0	0	?	?
2.2: Historic environment (below ground)	0	+	0	++	0	0	+?	0	0	0	0	0	?	?
2.3: Historic environment (locally distinctive building materials)	0	0	0	+?	0	0	0	0	0	0	0	0	0	0
3.1: Landscape	++	+	+	++	++	+?	++	+	+?	+?	+	+	+?	+
4.1: Water quality	0	+	++	0	0	+?	+?	+?	0	0	0	0	+	+
4.2: Water quantity (from over abstraction)	0	+	++	0	0	0	+?	0	0	0	0	0	+	0
5.1: Sustainable transport and emissions	0	+	0	0	0	0	+?	0	+++?	0	0	0	0	+
5.2: Climate change (energy efficiency and renewables)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.1: Flooding (risk)	0	+	++	0	0	0	+?	0	0	0	0	0	+	+
6.2: Flooding (prevention)	0	+	++	0	0	0	+?	0	0	0	0	0	+	+
7.1: Recycling (recycled and secondary aggregates)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Economic Objectives														
8.1: Local economy (employment)	0	0	0	0	0	0	0	0	0	0	0	+	+?	+
8.2: Local Economy (supply of minerals)	+	0	0	0	0	0	0	0	0	0	0	0	0	0
8.3: Local Economy (mineral sterilisation)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.4: Best and most versatile agricultural land	0	+	0	0	0	0	+?	0	0	0	0	++	+	+?
Social Objectives														
9.1: Health, well-being and amenity of residents	+	+	++	0	+	+	++	+++?	+?	+?	+	0	+?	+?
9.2: Recreation (loss)	+	+	0	0	+	+	+?	+++?	0	0	+++?	0	+?	+?
9.3: Recreation (provision)	+?	0	0	0	++	+?	+?	+++?	0	0	+++?	0	+?	+?
9.4: Aerodrome safety	0	+	0	0	0	+?	0	+	0	0	0	0	+	+

Mineral Site SA Findings

- 1.56 HCC received 19 submissions from landowners, agents or minerals operators during the 2016 Call for Sites exercise (proposing 18 sand and gravel sites and one brick clay site) and an additional brick clay site was subsequently submitted, resulting in 20 site options in total. In addition, HCC previously defined three preferred areas in the adopted MLP within which it had been considered that there was potential for defining further sand and gravel extraction sites if required. Following consultation on the Draft MLP in 2017, three new Sand and Gravel site options were submitted for consideration:
- MLPCS021
 - MLPCS022
 - MLPCS023
- 1.57 In addition, site option MLPCS0001 was resubmitted for consideration following clarifications to the original proposal. The revised proposal was reappraised as a separate site option MLPCS0001RS.
- 1.58 **Table 9** summarises the scores from the full SA matrices for each potential mineral site included in Appendix 7 on the main SA Report.

Table 9: Summary of SA findings for the potential mineral site options

SA Objective	Site ID																							
	MLPCS001 / MLPCS001RS	MLPCS002	MLPCS003	MLPCS004	MLPCS006	MLPCS007	MLPCS008	MLPCS009	MLPCS010	MLPCS011	MLPCS012	MLPCS013	MLPCS014	MLPCS015	MLPCS016	MLPCS017	MLPCS018	MLPCS019	MLPCS020	Preferred Area 1	Preferred Area 2	MLPCS021	MLPCS022	MLPCS023
Environmental objectives																								
1.1: Biodiversity (protection)	--?	-?	--?	--?	--?	--	--?	--?	--?	--?	--?	--?	--?	--	--?	--?	--?	--?	--	--?	--	--	--	--
1.2: Biodiversity (enhancement)	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?
1.3: Biodiversity (deposition of air and other pollutants)	--?	--?	--?	--?	--?	--?	0?	--?	--?	0?	0?	0?	0?	--?	0?	0?	--?	0?	--?	--?	--?	--?	--?	--?
1.4: Geology	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.1: Historic environment (above ground)	--?	--?	-?	-?	--?	--?	-?	--?	--?	--?	-?	-?	-?	--?	0?	0?	--?	--?	-?	--?	-?	--?	--?	-?
2.2: Historic environment (below ground)	--?	-?	-?	-?	-?	?	-?	--?	--?	?	?	?	?	--?	--?	?	?	?	?	-?	--?	-?	?	-?
2.3: Historic environment (locally distinctive building materials)	0	0	0	0	0	0	0	0	0	0	0	+	0	0	0	0	0	0	+	0	0	0	0	0
3.1: Landscape	--	-	-	-	0	--	-	-	-	-	-	-	-	--	-	-	-	-	--	0	-	-	--	-
4.1: Water quality	0?	-?	--?	0?	--?	--?	--?	--?	-?	-?	0?	0?	0?	-?	--?	--?	0?	--?	-?	--?	--?	0?	-?	--?
4.2: Water quantity (from over abstraction)	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?
5.1: Sustainable transport and emissions	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?
5.2: Climate change (energy efficiency and renewables)	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-	+?/-
6.1: Flooding (risk)	0?	0?	0?	0?	0?	0?	0?	0?	0?	0?	0?	0?	0?	0?	0?	0?	0?	0?	0?	0?	0?	0?	0?	0?
6.2: Flooding (prevention)	0	0	0	0	+?	+?	0	0	0	+++	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.1: Recycling (recycled and secondary aggregates)	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?
Economic objectives																								
8.1: Local economy (employment)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
8.2: Local Economy (supply of minerals)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
8.3: Local Economy (mineral sterilisation)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
8.4: Best and most versatile agricultural land	--	-	-	-	--	-	-	--	--	-	-	-	-	-	-	-	-	-	--	-	-	-	-	-
Social objectives																								
9.1: Health, well-being and amenity of residents	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?	-?
9.2: Recreation (loss)	--?	--?	--?	-?	--?	--?	-?	--?	--?	-?	0?	-?	-?	--?	--?	0?	--?	--?	--?	--?	--?	-?	-?	--?
9.3: Recreation (provision)	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?	+?
9.4: Aerodrome safety	0	0	0	0	-?	0	-?	-?	0	0	0	0	0	0	0	0	0	0	0	-?	0	0	0	0

Site selection assessment and grouped options

- 1.59 In 2017, in conjunction with the SA process Hertfordshire County Council subjected the site options and preferred areas to a separate site selection assessment to help inform the identification of preferred sites for allocation in the Draft MLP. The site selection methodology assessed the viability and deliverability of each option as well as the presence of primary and secondary constraints. The results of this site selection study were used alongside other evidence bases collected by the Council to define four 'grouped options' made up of multiple site and preferred area options. Each grouped option represents a combination of sites and preferred areas that would meet the County's mineral requirements if allocated in the new MLP. The Council's reasoning behind the definition of the four grouped options for appraisal is outlined below:
- Option 1 draws on the overall recommendations within the Site Selection Report to identify the following site options: MLPCS004⁶, MLPCS012, MLPCS017, MLPCS008, MLPCS006, MLPCS009, MLPCS018 and preferred areas 1 and 2. Overall, these options are considered to be the most appropriate for allocation in the Minerals Local Plan. This option assumes that sites MLPCS017 and MLPCS018 would need to have economic viability issues addressed.
 - Option 2 draws on the overall recommendations within the Site Selection Report on the most appropriate sites and preferred areas for allocation, but only includes the best performing site options that scored 'green' in the 'Sieve 2' Resource Assessment. This consists of the following site options: MLPCS012, MLPCS008, MLPCS006, MLPCS009 and preferred areas 1 and 2. Sites options MLPCS017 and MLPCS018 with economic viability and land ownership constraints have not been included in this option.
 - Option 3 is based on option 2 and consists of the following sites: MLPCS008, MLPCS006, MLPCS009, MLPCS003 and Preferred Area 2. Option 3 differs from Option 2 in a number of ways. MLPCS012 has been removed due to uncertainty with a current enforcement case on Bunkers Hill Quarry which could affect the deliverability of the site. Preferred Area 1 has been removed in Option 3 due to uncertainty on deliverability associated with the bromate plume that covers a significant proportion of the area. The removal of these site options required the inclusion of an additional site. In the Site Selection Report, site MLPCS002 represents the next highest ranked site option to score 'green' in the 'Sieve 2' Resource Assessment; however, MLPCS002 has not been included in option 3 due to significant highway concerns raised. Site MLPCS003 has been included in Option 3 as the next highest ranked site option to score 'green' in the 'Sieve 2' Resource Assessment.
 - Option 4 is based on option 3 and consists of the following sites: MLPCS008, MLPCS006, MLPCS009 and a new preferred area at site option MLPCS010 (Briggens Estate – Olives Farm). Option 4 differs from Option 3 in a number of ways. Site MLPCS003 has been removed due to the determination of a planning application on the site being considered not acceptable in planning terms. A subsequent resubmission of the planning application has also been refused. Preferred Area 2 has also been removed from this option to provide an alternative scenario from the preferred areas (1, 2 and 3) in the adopted Minerals Local Plan. Site option MLPCS010 (Briggens Estate – Olives Farm) has been included as an alternative preferred area.⁷
- 1.60 The site selection assessment was updated in 2018 to assess the new site options (MLPCS021, MLPCS022, MLPCS023 and MLPCS001RS) and updated in response to consultation comments received during consultation on the Draft MLP and its associated evidence base. Although there were some minor changes to the ranking of the sites options ranked in order of appropriateness in the Site Selection Report, these changes did not affect the justification set out above for the selection of the four group options tested in the SA Report which accompanied the Draft MLP in 2017. Therefore, the justification for the selection of the four grouped options set out in the Site

⁶ Site MLPCS004 was granted permission on appeal in January 2017 and therefore in further options has been included as permitted reserves.

⁷ Site option MLPCS010 (Briggens Estate – Olives Farm) has been included as a Preferred Area rather than a site due to its scorings in the Detailed Site Assessment (Sieve 3) of the Site Selection Report and supplementary highways assessment.

Selection Report and the 'Sites to be identified in the Draft Minerals Local Plan' remains unchanged for the Proposed Submission MLP in 2018.

- 1.61 **Table 10** summarises the scores from the detailed SA matrices for each grouped option in Appendix 7 of the main SA Report. Environmental effects of grouped options

Table 10: Summary of SA findings for the four grouped options

SA Objective	Site ID			
	Option 1	Option 2	Option 3	Option 4 (Policy 4: Working of Specific Sites)
Working of specific Sites)Environmental objectives				
1.1: Biodiversity (protection)	--?	--	--	--?
1.2: Biodiversity (enhancement)	+?	+?	+?	+?
1.3: Biodiversity (deposition of air and other pollutants)	--?	--?	--?	--?
1.4: Geology	0	0	0	0
2.1: Historic environment (above ground)	--?	--?	--?	--?
2.2: Historic environment (below ground)	--?	--?	--?	--?
2.3: Historic environment (locally distinctive building materials)	0	0	0	0
3.1: Landscape	-	-	-	-
4.1: Water quality	--?	--?	--?	--?
4.2: Water quantity (from over abstraction)	?	?	?	?
5.1: Sustainable transport and emissions	+?	+?	+?	+?
5.2: Climate change (energy efficiency and renewables)	+?/-	+?/-	+?/-	+?/-
6.1: Flooding (risk)	0?	0?	0?	0?
6.2: Flooding (prevention)	0	0	0	0
7.1: Recycling (recycled and secondary aggregates)	-?	-?	-?	-?
Economic objectives				
8.1: Local economy (employment)	+	+	+	+
8.2: Local Economy (supply of minerals)	++	++	++	++
8.3: Local Economy (mineral sterilisation)	+	+	+	+
8.4: Best and most versatile agricultural land	--	--	--	--
Social objectives				
9.1: Health, well-being and amenity of residents	-?	-?	-?	-?
9.2: Recreation (loss)	--?	--?	--?	--?

SA Objective	Site ID			
9.3: Recreation (provision)	+	+	+	+
9.4: Aerodrome safety	-	-	-	-

- 1.62 Following the appraisal of the four grouped options, grouped option 4 was selected for allocation in Policy 4: Working of Specific Sites in the plan. Policy 4 comprises three identified sites and one preferred area:
- MLPCS006: Hatfield Aerodrome
 - MLPCS008: Hatfield Quarry – Furze Field
 - MLPCS009: Hatfield Quarry – Land Adjoining Coopers Green Lane
 - Preferred area at site option MLPCS010: Briggens Estate – Olives Farm
- 1.63 Together the selected allocations could contribute 25.25 million tonnes of sand and gravel over the Plan Period.
- 1.64 The Council’s reasons for the allocation of the above sites both individually and as grouped option 4 in the plan and reasons for not selecting the reasonable alternatives is set out in Table 8.5 in the main SA Report.

Overall Effects of the Proposed Submission Minerals Local Plan

- 1.65 **Tables 6, 7 and 8** above present a summary of the scores for all the policies set out in the Proposed Submission MLP. This enabled an assessment to be made of the likely significant effects of the Proposed Submission MLP as a whole, i.e. an assessment of the secondary, cumulative and synergistic effects as required by the SEA Regulations. In addition, consideration has been given to the cumulative effects of the Proposed Submission MLP in-combination with other significant plans, policies and programmes planned within the County.
- 1.66 Policy 13: Cumulative Impact prohibits unacceptable adverse cumulative impacts on the environment and the health and amenity of the local community as a result of in-combination effects generated by individual proposals and effects generated by multiple proposals developments, including non-mineral development, occurring concurrently or successively.

Duration of effects

- 1.67 The Proposed Submission MLP sets out how the future mineral industry in Herefordshire should develop and operate over the Plan period. Effects may be experienced in the short-term (defined for this SA as over the next five years), medium-term (defined as over the next 10 years), or long-term effects (defined as over the whole plan period). Given the generic nature of the policies in the Proposed Submission MLP, it is difficult to be precise about when, where and in what form the effects will arise, and how one effect might relate to another. However, it is possible to draw some broad conclusions about the nature and interrelationship of the effects that the SA has identified:
- 1.68 Most of the effects will be long-term, in that the Proposed Submission MLP aims to provide minerals facilities that will last over time. There will be some temporary and short or medium term effects during site preparation, construction or operation of facilities (see below).
- 1.69 The effects which have been identified in the appraisal of the Proposed Submission MLP, both positive and negative, are likely to increase over time, as the policies in the plan are implemented, and more mineral developments are delivered in Herefordshire, although some operations may be completed as new sites are developed so some effects may balance out.

Short-term effects of the Proposed Submission MLP

- 1.70 The impacts of the Proposed Submission MLP in the short-term are mostly related to the initial impacts of commencing minerals extraction. These will include the removal of vegetation, soil,

and provision of infrastructure required. Such works could have negative impacts on biodiversity, health and wellbeing, amenity of local communities (possible disruption to rights of way, traffic flows, noise generation, vibration, dust etc.), soil quality, and the landscape. However, these impacts are temporary in nature and some may be minimised through good design, adherence to the policies in the Proposed Submission MLP or reversed through restoration measures in the medium to long-term.

Medium-term effects of the Proposed Submission MLP

- 1.71 Medium-term positive impacts relate to the employment and economic benefits of the minerals sites. Negative impacts in the medium-term include the implications of operational minerals extraction sites on health and wellbeing, and the amenity of local communities (e.g. noise, dust, odour, increased traffic etc.), and on landscape quality. However, these impacts should be avoided or mitigated through good practices by the minerals operators, and adherence to the policies in the Proposed Submission MLP when planning proposals are assessed and determined by Hertfordshire County Council.

Long-term effects of the Proposed Submission MLP

- 1.72 Long-term, permanent benefits that would result from the Proposed Submission MLP include the provision of sufficient mineral development to meet Hertfordshire's needs, potential flood alleviation, habitat creation and biodiversity enhancement, recreation enhancement opportunities through the restoration of former mineral sites, or the incorporation and preservation of important geological features within mineral sites. Long-term, permanent negative impacts of the Proposed Submission MLP are potentially: loss of habitats, areas of Best & Most Versatile Agricultural Land; climate change implications of the energy required to operate facilities and vehicle movements to and from mineral and waste sites; and, the disturbance and/or removal of archaeological remains. However, there may also be some long-term, permanent positive impacts for biodiversity and landscape through the creation of new habitats, and enhancement of landscape through well designed and implemented restoration of former mineral sites; and long term, permanent positive impacts for the historic environment as sites may benefit our understanding of the local archaeology which is found during minerals operations, and aggregates and building stone, for example, could also make a positive contribution towards local vernacular. Further long-term positive impacts may also include reduced consumption of resources and improvements, in terms of air quality and greenhouse gases, through general increases in aggregate recycling rates and the co-location mineral extraction and strategic development.

Secondary, cumulative and synergistic effects

- 1.73 Secondary (or indirect) effects are effects that are not a direct result of a policy or site allocation, but occur away from the original effect or as a result of a complex pathway. Cumulative effects occur where two or more insignificant impacts combine to form a significant impact. Synergistic effects occur as the result of interactions between individual effects producing a total effect greater than the sum of each of the individual effects. Secondary, cumulative or synergistic effects may be either positive or negative.
- 1.74 The secondary, cumulative and synergistic effects of the policies and site allocations in the Proposed Submission MLP are summarised in the following paragraphs by SA objective.
- 1.75 Overall, the Proposed Submission MLP is likely to result in:
- Mixed significant positive/minor negative effects on SA objective 1.1: Biodiversity (protection).
 - Significant positive effects on SA objective 1.2: Biodiversity (enhancement)
 - Mixed minor positive/minor negative effects on SA objective 1.3: Biodiversity (deposition of air and other pollutants)
 - Minor positive effects on SA objective 1.4: Geology
 - Mixed significant positive/minor negative effects on SA objective 2.1: Historic environment (above ground)

- Mixed minor positive/minor negative effects on SA objective 2.2: Historic environment (below ground)
- Minor positive effects on SA objective 2.3: Historic environment (locally distinctive building materials)
- Mixed significant positive/ minor negative effects on SA objective 3.1: Landscape
- Mixed minor positive/minor negative effects on SA objective 4.1: Water quality
- Minor positive effects on SA objective 4.2: Water quantity (from over abstraction)
- Minor positive effects on SA objective 5.1: Sustainable transport and emissions
- Mixed minor positive/minor negative effects on SA objective 5.2: Climate change (energy efficiency and renewables)
- Significant positive effects on SA objective 6.1: Flooding (risk)
- Significant positive effect on SA objective 6.2: Flooding (prevention)
- Mixed minor positive/minor negative effects on SA objective 7.1: Recycling (recycled and secondary aggregates)
- Minor positive effects on SA objective 8.1: Local economy (employment)
- Significant positive effect on SA objective 8.2: Local Economy (supply of minerals)
- Significant positive effects on SA objective 8.3: Local Economy (mineral sterilisation)
- Mixed significant negative/minor positive effects on SA objective 8.4: Best and most versatile agricultural land
- Mixed minor positive/minor negative effects on SA objective 9.1: Health, well-being and amenity of residents
- Mixed minor positive/minor negative effects on SA objective 9.2: Recreation (loss)
- Significant positive effects on SA objective 9.3: Recreation (provision)
- Negligible effects on SA objective 9.4: Aerodrome safety

1.76 In addition, consideration has been given to the cumulative effects of the Proposed Submission MLP in-combination with other significant plans, policies and programmes planned within the County. The County of Hertfordshire is made-up of 10 Districts and Boroughs each of which plan for their respective housing and employment needs through their own Local Plans.

1.77 **Table 11** draws on the latest Local Plans of the 10 local planning authorities to summarise planned housing and employment growth within the County over the next 10 to 15 years.

Table 11: Planned growth in Hertfordshire’s Boroughs and Districts

Borough / District	Plan Period	Housing Growth	Employment Growth
Broxbourne	2016-2031	8,096 Homes	Roughly 6,500 Jobs
Dacorum	2006-2031	10,750 Homes	10,000 Jobs
East Hertfordshire	2011-2033	18,913 Homes	10,800 Jobs
Hertsmere	2012-2027	3,990 Homes	3,600 Jobs
North Hertfordshire	2011-2031	15,950 Homes	Roughly 25ha
St Albans	2020-2036	14, 608 Homes	Roughly 55ha; 10,000 Jobs
Stevenage	2011-2031	7,600 Homes	Roughly 14.5ha
Three Rivers	2017-2032	Up to 9,255 Homes	Roughly 9ha
Watford	2006-2031	6,500 Homes	7,000 Jobs
Welwyn Hatfield	2013-2032	12,000 Homes	16-18,000 Jobs

1.78 Relative to the scale of waste, housing and employment growth across the County, the planned mineral operations within the Proposed Submission MLP are not likely to significantly affect the

significance or distribution of environmental, social and economic effects across the County as a whole.

- 1.79 Furthermore, the geographical spread of minerals, waste and transport operations within Hertfordshire and the neighbouring counties of Bedfordshire, Buckinghamshire, Cambridgeshire, Essex and the northern and western Boroughs of Greater London are considered to be disparate enough not to generate perceptibly significant environmental, social and economic effects in the south east.

Recommendations

- 1.80 The SA process has run concurrently alongside the preparation of the Proposed Submission MLP appraising reasonable policy options from the preparation of the Initial Consultation Document, Draft MLP and Proposed Submission MLP. This process has highlighted the potential for policy options to generate significant effects and in addition, where appropriate, has made recommendations on how policies could be improved, i.e. enhance positive effects and mitigate negative effects. The significant effects and recommendations highlighted in **bold** in the main SA Report have helped to work up the policies within the Plan to accord with the Plan and SA objectives and shape the planning issues to consider for specific sites and preferred area. The recommendations as specified in SA Report accompanying the Proposed Submission MLP will be considered further alongside other consultation responses in preparation for the submission and subsequent examination of the Hertfordshire Minerals Local Plan.

Mitigation

- 1.81 For many of the potential negative effects identified for specific policies in the Proposed Submission MLP, mitigation will be provided through the implementation of other policies in the Proposed Submission MLP as explored in the cumulative effects section above.
- 1.82 Considering the Proposed Submission MLP as a whole, the only SA objective against which significant residual adverse effects are likely is SA Objective 8.4: Protect the County's best and most versatile agricultural land. This is due to Strategic Policy 4 (Working of Specific Sites) which allocates three sites and one preferred area for sand and gravel extraction on Grade 2 and 3 agricultural land which is considered to be some of the Country's the best and most versatile agricultural land. However, the vast majority (over 90%) of Hertfordshire's undeveloped/greenfield land is designated as Grade 2 and Grade 3 agricultural land offering little prospect of lower quality agricultural land being found to have mineral of sufficient quality and quantity to be considered as reasonable and sustainable alternatives. Furthermore, a proportion of the agricultural land lost during extraction will be restored as part of the restoration of each site.

Monitoring

- 1.83 **Table 12** sets out a number of suggested indicators for monitoring the potential effects of implementing the MLP. In order to make best use of existing monitoring arrangements, a number of indicators have been drawn from the MLP itself. A number of the indicators proposed are included as suggestions from the SA team where no relevant indicator has already been included in the MLP; therefore the indicators included may change as the monitoring framework is finalised.

Table 12: Framework for monitoring significant sustainability effects arising from implementation of the Proposed Submission MLP

Headline SA Objectives	Suggested indicators (those taken from the Proposed Submission MLP shown in <i>italics</i>)
Environmental SA Objectives	
1. To protect, conserve and enhance natural habitats, species and geological features including those requiring conservation action under the UK Biodiversity Action Plan (UK BAP) and Biodiversity 2020.	<ul style="list-style-type: none"> • Number and % of mineral applications refused on biodiversity and geodiversity grounds. • Number and % of mineral applications with associated mitigation measures provided. • <i>Used and unused MLP policies against determined planning applications.</i>
2. To conserve and enhance the quality of the historic environment including landscape history, human history, archaeological history.	<ul style="list-style-type: none"> • Number and % of mineral applications refused on historic grounds. • Number and % of all permitted minerals applications that included conditions related to archaeology. • Number and % of Listed Buildings and Scheduled Ancient Monuments on Buildings at Risk Register (Historic England). • <i>Used and unused MLP policies against determined planning applications.</i>
3. To conserve and enhance Hertfordshire's landscape assets such as landscapes of natural beauty and greenspaces.	<ul style="list-style-type: none"> • Number and % of mineral applications refused in AONB. • Number and % of applications for minerals facilities permitted per annum within protected landscapes. • Number of applications refused on landscape sensitivity/character grounds per annum. • <i>Used and unused MLP policies against determined planning applications.</i>
4. To protect water resources , water quality and the function of the water environment from pollution and over abstraction.	<ul style="list-style-type: none"> • The number and % of minerals applications refused on water quality/safeguarding grounds. • The number and % of minerals approvals that included conditions concerning water pollution control. • <i>Used and unused MLP policies against determined planning applications.</i>
5. To minimise the effects of climate change and reduce emissions of greenhouse gases.	<ul style="list-style-type: none"> • The number and % of applications refused on transport grounds. • The number and % of minerals permissions that included non-road based transport. • The number and % of applications permitted that include low carbon energy initiatives/sources. • The number and % of minerals approvals that included conditions concerning air pollution control. • The number and % of minerals permissions that included one or more of the following highway conditions: restricted vehicle numbers; restricted tonnages; restricted routeings; and highway mitigation measures – the need for wheel washing, lorry sheeting etc. • <i>Used and unused MLP policies against determined planning applications.</i>
6. To avoid the risk of flooding , by directing development away from areas at highest risk and promote opportunities for implementing alleviation / mitigation during site restoration.	<ul style="list-style-type: none"> • The number and % of applications refused on flooding grounds. • The number and % of approvals that included conditions to mitigate flood risk. • The number and % of applications refused/permitted in flood risk zones 2b and 3. • <i>Used and unused MLP policies against determined planning applications.</i>
7. To protect and ensure the sustainable	<ul style="list-style-type: none"> • The number and % of approvals on existing mineral sites or preferred areas identified within the

Headline SA Objectives	Suggested indicators (those taken from the Proposed Submission MLP shown in <i>italics</i>)
use of mineral resources.	Minerals Plan. <ul style="list-style-type: none"> • <i>Location of approved extraction sites.</i> • <i>Amount of permitted sand and gravel reserves.</i> • <i>Number of planning applications responded to which fall with the identified Minerals Safeguarding Areas.</i> • Number and % of approvals per annum where the use of recycled and secondary aggregate has been considered as part of the proposal. • The number and % of approvals for non-minerals development permitted upon preferred areas. • The number and % of approvals for non-minerals development permitted within Mineral Safeguarding Areas, which required a minerals consultation. • Rates of recycling of inert waste (capacity, tonnes per annum, and % of total arisings). • <i>Number of planning applications determined using Policies 8, 9, 10 and 11. Number of planning applications responded to which fall within the Mineral Infrastructure Consultation Areas.</i>
Economic SA objectives	
To maximise the potential economic benefits of mineral extraction for the economy in Hertfordshire.	<ul style="list-style-type: none"> • Total annual production of primary aggregates in the county (tonnes per annum). • Permitted reserves of minerals by aggregate type. • The number and % of minerals consumed locally, exported and imported per year by aggregate type. • Number of new minerals developments permitted per annum. 'New' in this context only relates to brand new facilities and does not include extended, expanded or revised minerals operations. • Employment in the Minerals sector in Hertfordshire. • The number and % of applications refused (on all grounds).
Social SA Objectives	
To protect and improve health and amenity for individuals and communities within Hertfordshire.	<ul style="list-style-type: none"> • The number and % of approvals that were for operational 'improvements' to existing sites to mitigate adverse effects on public health and/or enhance local amenity. • The number and % of applications refused where concerns over public health acted as part of the reason for refusal. • The number and % of approvals that included conditions concerning noise, hours of operations, traffic and lighting. • The number and % of applications refused on cumulative impact grounds. • The number and % of applications refused on more general health and amenity grounds. • <i>Used and unused MLP policies against determined planning applications.</i>

Conclusions

- 1.84 The policies and site allocations in the MLP have been subject to a detailed appraisal against the SA objectives which were developed at the scoping stage of the SA process.
- 1.85 The vision for the MLP is assessed as performing positively against most SA objectives, as this promotes a sustainable future for minerals extraction in Hertfordshire, which would contribute to environmental, economic and social prosperity. The objectives of the MLP are generally expected to have either positive or negligible sustainability effects, with the exception of MLP objective 6, climate change, for which effects are largely uncertain due to the high level wording of the objective.
- 1.86 The policies of the MLP are generally expected to result in a wide range of positive effects on the SA objectives, although significant negative and a number of minor negative effects have also been identified. In particular, a number of significant positive effects have been identified in relation to Strategic Policy 2: Climate Change, as this policy encourages minerals extraction proposals to maximise benefits from restoration, particularly in terms of environmental benefits. This policy contributes to ensuring that MLP objective 6 (climate change) is implemented in a sustainable way. Strategic Policy 1: Sustainable Development and Policy 5: Secondary and recycled aggregates performed positively against most SA objectives, whereas other policies had more mixed effects. Strategic Policy 3: Aggregate Supply, Policy 4: Working of Specific Sites, 6: Brick Clay and 8: Mineral Safeguarding are all expected to have significant positive effects on the local economy through the contribution they make to the safeguarding of a sustainable supply of minerals.
- 1.87 Only one Strategic Policy (Policy 4: Working of Specific Sites) is considered to have the potential for significant negative effects. Strategic Policy 4 is the only policy within the Proposed Submission MLP that allocates new sites for mineral extraction, specifically three sites and one preferred area for sand and gravel extraction. These sites have been identified for minerals development through a comprehensive site selection study undertaken by LUC and Cuesta Consulting Ltd. on behalf of Hertfordshire County Council. Through this study and the SA process the Council has sought to minimise the potential sustainability effects of minerals development in Hertfordshire.
- 1.88 The SA objectives against which significant negative effects are recorded are:
- 1.1: Biodiversity Protection – due to proximity to ecological designations;
 - 1.3: Biodiversity & Air Pollution – due proximity of strategic highway network to ecological designations vulnerable to poor air quality;
 - 2.1: Built Historic Environment – due to proximity to historic designations;
 - 2.2: Archaeology – due to proximity to areas of archaeological interest;
 - 4.1: Water Quality – due to the presence of water bodies in the site allocations;
 - 8.4: Agricultural Land – due to the new sites and preferred area being located on greenfield land designated as Grade 2 and 3 agricultural land; and,
 - 9.2: Recreation Loss – due to the presence of Public Rights of Way within or in close proximity to new sites.
- 1.89 There is one major area of uncertainty regarding the effects of Strategic Policy 4. The effects on water quantity are unlikely to be known until the planning application stage, when details of water requirements for abstraction sites will be clarified.
- 1.90 However, Policy 4 states that proposals for mineral extraction within the three specific sites and the preferred area will be considered against the policies within the rest of the Proposed Submission MLP. The other policies in the Proposed Submission MLP mitigate all but one of the significant negative effects recorded against Policy 4 in relation to SA Objective 8.4 – Agricultural Land.

- 1.91 The significant negative effect recorded against SA Objective 8.4 cannot be reasonably mitigated due to the fact that the vast majority (over 90%) of Hertfordshire's undeveloped / greenfield land is designated as Grade 2 and Grade 3 agricultural land. Consequently, there is little prospect of lower quality agricultural land being found to have mineral of sufficient quality and quantity to be considered as reasonable and sustainable alternatives. It should also be noted that it is highly likely that a significant proportion of the agricultural land lost during extraction will be restored as part of the restoration of each site.
- 1.92 The development management policies of the MLP are generally assessed as having neutral or positive sustainability effects. In particular, almost all policies are likely to have positive effects with regards to SA objectives 1.1, 1.2, 3.1 and 9.1. Uncertain effects were recorded against objectives 2.1 and 2.2 (historic environment) for Policy 24: Restoration and 27: Aftercare and Afteruse, as these are largely dependent on how these are implemented, which cannot be known until the planning application stage. None of the development management policies are expected to result in significant negative effects.
- 1.93 In addition to the SA, work undertaken for the Habitats Regulations Assessment (HRA) is important for determining potential for significant effects. The HRA accompanying the Proposed Submission MLP considered the effects of the proposed MLP policies (including site allocations) on European biodiversity sites in and around Hertfordshire, alone and in combination with neighbouring authorities' Plans. It was possible to rule out recreation impacts in the initial screening, as the type of development proposed by the MLP will not result in significant increase in recreation. Effects on European sites caused by physical loss of habitat (on-site and off-site), noise, vibration and light pollution and changes to water quantity and quality were discounted in the Appropriate Assessment due to the mitigation set out in the policies within the MLP. Effects on European Sites caused by air pollution were also discounted in the Appropriate Assessment following consideration of the habitats within close proximity to the affected roads, mitigating factors and policies and the publication of a Memorandum of Understanding (MoU) related to 'Managing the impacts of growth within the West Essex/East Hertfordshire Housing Market Area on Epping Forest Special Area of Conservation.'

Next Steps

- 1.94 This non-technical summary of the SA Report will be available for consultation alongside the main SA Report and the Proposed Submission Minerals Local Plan.
- 1.95 After the public consultation, consultation comments on the Proposed Submission MLP will be reviewed before submission of the Proposed Submission MLP to the Secretary of State for Examination. Necessary changes to the Proposed Submission MLP will be organised in a schedule of Minor and Main Modifications for consideration in an Independent Examiner. In addition, the Independent Examiner may be invited to make recommendations on any further Minor or Main Modifications if required.

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