Hertfordshire Minerals and Waste Local Plan 2040

Draft Plan

Hertfordshire County Council

Hertfordshire

July 2022

Hertfordshire

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1. Introduction

What is this Document?

1.1. This Draft Minerals and Waste Local Plan (the Plan) is the first published version (under Regulation 18[1]) of the Minerals and Waste Local Plan for Hertfordshire. Once adopted, the Plan will become part of the overall Development Plan[2] for the county.

1.2. The county council has published this Draft Plan to seek comments from members of the public, statutory bodies, and other interested parties. All comments received will be taken into account before a Proposed Submission (Regulation 19) version of the Plan is prepared and published for further comment.

Background to the Draft Minerals and Waste Local Plan

1.3. Hertfordshire County Council is the Minerals and Waste Planning Authority for the county. The county council has a statutory responsibility to plan for future minerals supply, to ensure a network of waste management facilities is maintained to deal with wastes arising in the county, and determine planning applications for minerals and waste management development.

1.4. It does this by preparing Minerals and Waste Local Plans. The requirement to prepare Local Plans is set by the Planning and Compulsory Purchase Act (2004). Plans can either be prepared separately, or as a single document, such as this Plan. When the Plan is adopted by the council, it will replace all currently adopted minerals and waste policy documents, namely:

- Minerals Local Plan Review 2002-2016 (adopted March 2007)
- Mineral Consultation Areas in Hertfordshire Supplementary Planning Document (SPD) (adopted November 2007)
- Waste Core Strategy and Development Management Policies Development Plan Document (DPD) 2011-2026 (adopted November 2012)
- Waste Site Allocations DPD 2011-2026 (adopted July 2014)
- Employment Land Areas of Search SPD (adopted November 2015)

1.5. The Plan sets out the vision, objectives and overall spatial strategy for minerals and waste planning in Hertfordshire up to 2040. It seeks to ensure a steady and

[1] where this document refers to 'Regulations', it refers to the Town and Country Planning (Local Planning) (England) Regulations 2012 (as amended)
[2] the Development Plan comprises the Minerals and Waste Local Plan, Local Plans of the District and Borough Councils within Hertfordshire, and any Neighbourhood Plans

adequate supply of mineral to meet needs over the plan period, to protect known mineral resources, and to support and safeguard a network of waste management facilities to deal with the wastes arising over the plan period.

1.6. To deliver the vision, the Plan establishes a set of strategic objectives. These mirror the objectives in the Sustainability Appraisal (SA) which accompanies the Plan, and which tests all of the policies in the Plan, along with reasonable alternatives, against these objectives.

1.7. The Plan must accord with national policies which are set out in the National Planning Policy Framework, the National Planning Policy for Waste, and Planning Practice Guidance.

Previous consultations

1.8. Although this is first published version of the Minerals and Waste Local Plan, it is important to note that the emerging policies and approaches in the Plan have been subject to previous consultation.

1.9. The council had been reviewing the adopted policy documents through the preparation of a separate Minerals Local Plan and Waste Local Plan. The emerging Minerals Local Plan was most recently consulted on in 2019 under Regulation 19, and the emerging Waste Local Plan was most recently consulted on in 2021 under Regulation 18.

1.10. In December 2021 the council agreed to formally withdraw both emerging Plans and bring together the work done so far into a single Minerals and Waste Local Plan. Whilst the Plan is essentially a new document, it builds on the work done already on the previous emerging Plans.

1.11. In order to demonstrate how the policies in the Plan have evolved, each policy is accompanied by a separate Policy Evidence Report. These reports set the national policy context for that policy and the local context, including showing the previous version of the policy. The reports also detail all of the main issues that were raised at the previous consultations identified above, as well as the council's response to each of those issues.

1.12. It should be noted that, when the previous emerging Plans were formally withdrawn, the Regulations required the council to cease to make those documents available, including their associated evidence base. The policies in those Plans have been reproduced within the Policy Evidence Reports, and the relevant evidence base has

been updated and republished in support of this Plan and is available on the council's website.

1.13. The Policy Evidence Reports will be updated further following the consultation on this Draft Plan, again highlighting all of the main issues raised along with the council's response. Final Policy Evidence Reports will be published alongside the Proposed Submission (Regulation 19) version of the Plan.

Policies Map

1.14. To support the Plan, the council has prepared a Draft Policies Map, which shows, against an Ordnance Survey base, the relevant spatial policies in the Plan. The spatial policies shown on the Policies Map will completely replace all designations shown on the currently adopted Policies Maps.

1.15. The spatial designations shown on the Policies Map are as follows:

- Mineral Allocation Sites (MAS)
- Mineral Development Sites (MDS)
- Mineral Safeguarding Areas (MSAs)
- Transport Infrastructure Sites (TIS)
- Waste Management Sites (WMS)
- Water Recycling Sites (WRS)
- Site Consultation Areas (SCAs)

1.16. It should be noted that only one Policies Map exists for any particular area, and these Policies Maps are produced and maintained by the Local Planning Authorities (LPAs), i.e. the District and Borough Councils in Hertfordshire. Whilst this Plan will be accompanied by a draft Policies Map throughout its preparation, on adoption of the Plan, the relevant spatial policies will be incorporated into the adopted Policies Maps of the ten LPAs in Hertfordshire.

Strategic and Non-strategic Policies

1.17. The National Planning Policy Framework (NPPF) makes clear that a local plan can consist of either strategic or non-strategic policies, or a combination of the two. The NPPF draws the distinction between strategic and non-strategic policies. It states that the '*development plan must include strategic policies to address each local planning authority's priorities for the development and use of land in its area*'.

1.18. It goes further to state that strategic policies should '*set out an overall strategy for the pattern, scale and design quality of places, and make sufficient provision for […] waste management [and] the provision of minerals*', as well as the '*conservation*

and enhancement of the natural, built and historic environment, including landscapes and green infrastructure, and planning measures to address climate change mitigation and adaptation'.

1.19. The NPPF also states that strategic policies '*should not extend to detailed matters that are more appropriately dealt with through neighbourhood plans or other non-strategic policies.*'. It states that non-strategic policies '*should be used by local planning authorities and communities to set out more detailed policies for specific areas, neighbourhoods or types of development*'.

1.20. The Minerals and Waste Local Plan is concerned with strategic matters, including matters of a cross-boundary nature, covering both the District and Borough's within the county, as well as Minerals and Waste Planning Authorities outside of the county. Owing to this, and the fact that strategic policies are defined as those which relate to minerals and waste management development, the Plan therefore determines that all of the policies contained with it should be regarded as strategic.

The Process of Managing Development

1.21. Development management is the process which shapes the development and use of land. It involves the consideration of planning applications, the monitoring of development as it takes place and, potentially, enforcement action where breaches of planning permission have occurred. In Hertfordshire, where there are two tiers of local government, all decisions on minerals and waste planning applications are taken by the county council.

1.22. The document identifies sites for mineral extraction as well as mineral reserves and infrastructure (bulk mineral transport, handling and processing sites) that should be safeguarded for future use.

1.23. The document does not allocate sites for waste management development, rather it seeks to steer applications for new waste management facilities to the most sustainable locations, as well as safeguarding existing waste management sites for their continued and future use.

1.24. The Plan should be read in its entirety so that all the information included can be used collectively to ensure the provision of minerals supply and waste infrastructure is met for the projected growth of the county, whilst maintaining and enhancing the environment and natural surroundings.

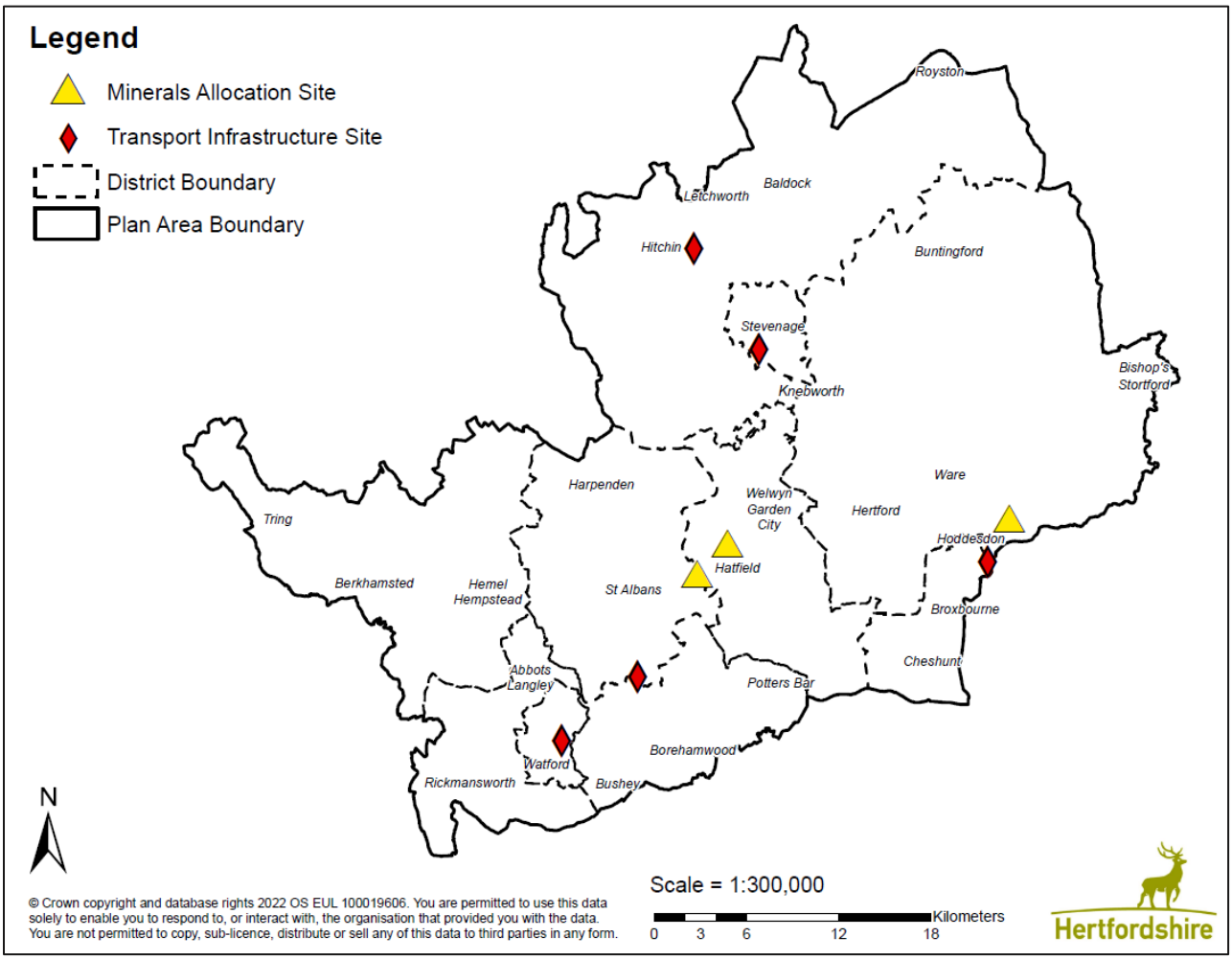

Figure 1: Hertfordshire Key Diagram

Preparation of the Plan

1.25. As shown in Table 1 below, the Draft Minerals and Waste Local Plan (Regulation 18) is just one stage in the process of preparing and consulting on the Plan, before it undergoes independent examination and is finally adopted.

Stage of Plan Production	Timeline
Sustainability Appraisal Scoping Report Consultation	February – March 2022
Draft Plan Consultation (Regulation 18)	*July -September 2022*
Proposed Submission Publication (Regulation 19)	March – April 2023
Submission (Regulation 22)	July 2023
Independent Examination	October 2023
Inspector's Report	December 2023

Adoption	February 2024

Table 1: Timetable for the Production of the Minerals Local Plan

Sustainability Appraisal

1.26. A Sustainability Appraisal (SA), including Strategic Environmental Assessment (SEA) has been carried out to inform the ongoing preparation of the Plan and to ensure sustainable development concerns are fully integrated and reasonable alternative policy options are considered.

1.27. The SA identifies any relevant plans, policies and programmes and establishes a baseline for the Plan, covering a range of aspects including not only minerals and waste, but also air quality, biodiversity, climate change, historic environment and a range of other topic areas.

1.28. The SA Scoping Report, which was consulted on in February 2022 with the relevant statutory bodies, is the first stage in preparing the SA, and establishes the framework for assessing the effects of the policies in the Plan, against a range of criteria aligned with the SA and Plan Objectives.

1.29. In addition, the Plan is founded on an extensive evidence base. Background evidence reports have been published alongside the Plan to provide further information about the formation of the Plan policies including its relation to government guidance, technical reports and prior engagement, all of which have helped shape the Plan.

The Plan's Legal Status

1.30. The National Planning Policy Framework (NPPF) provides guidance on the determination of applications for planning permission. With respect of Development Plan policies, the NPPF states that:

Local planning authorities may give weight to relevant policies in emerging plans according to:

a) the stage of preparation of the emerging plan (the more advanced its preparation, the greater the weight that may be given);

b) the extent to which there are unresolved objections to relevant policies (the less significant the unresolved objections, the greater the weight that may be given); and

c) the degree of consistency of the relevant policies in the emerging plan to this Framework (the closer the policies in the emerging plan to the policies in the Framework, the greater the weight that may be given)[3].

1.31. This version of the Plan has been published in accordance with Regulation 18, which is an early stage in plan preparation. As such, this Plan only carries very limited weight in decision making. As the Plan progresses through later stages of preparation, it will carry more weight.

Commenting on the Draft Minerals and Waste Local Plan

1.32. The county council would like as a wide a response as possible to this consultation. Potential stakeholders (interested parties) include the minerals and waste industry, landowners, individuals, statutory consultees, District and Borough councils, town and parish councils, neighbourhood forums, conservation and environmental groups and other community and interest groups.

1.33. The purpose of publishing a Regulation 18 planning document is for consultees to submit comments on the document regarding the vision, objectives, policies and any sites identified within it. As such, consultees should consider whether the draft Plan provides an appropriate strategy to meet the plan area's minerals and waste management needs to enable the delivery of sustainable development in line with national minerals and waste planning policy.

1.34. Responses can be submitted either through the county council's website or by sending completed response forms, available online, to us either by email or post. A full list of options for responding to this consultation is set out below:

Online:	www.hertfordshire.gov.uk/mwlp
Email:	mineralsandwaste@hertfordshire.gov.uk
Postal Address:	Minerals and Waste Policy Team Spatial Planning Unit (CHN 216) Hertfordshire County Council Pegs Lane Hertford SG13 8DN
Phone no. for queries:	01992 556227

1.35. The Plan is being published for consultation for a 10 week period starting on 22 July 2022 and closing at 23:59 on 30 September 2022. Please ensure that responses

[3] NPPF (July 2021) paragraph 48

reach us by the closing date. Please note that the information you provide in your consultation response will be made publicly available after the consultation period has closed. All personal data, including personal telephone numbers, email addresses, postal addresses and signatures will be removed.

1.36. In addition to consulting on the content of the Plan, the council welcomes comment on the evidence base documents supporting the Plan, including the Sustainability Appraisal and the Habitats Regulations Assessment. Feedback will assist in updating these documents as the Plan progresses.

Next Steps

1.37. Following the end of the consultation period, the county council will prepare a Proposed Submission version of the Minerals and Waste Local Plan. This will take account of all of the comments received on the Plan at this Regulation 18 stage, along with any further updated technical work that may be required. Once prepared, the Proposed Submission Plan will be published for a six week period for formal representations.

1.38. Following the Proposed Submission period for formal representations, the council will Submit the Plan, along with all representations and supporting evidence documents, to the Secretary of State, who will appoint an independent Inspector to examine the Plan and determine its soundness, and whether it has met the statutory legal requirements.

1.39. The Inspector may suggest modifications be made to the Plan, in which case a further period of consultation on those modifications will take place. The Inspector will then issue their final report. Provided the Plan is found sound, the council may then adopt the Plan, which will then replace the current adopted Plans and become part of the statutory Development Plan for Hertfordshire.

2. Vision and Objectives

Vision and Objectives

2.1. This Plan sets out the county council's spatial vision for the future of minerals and waste management in the county and the objectives through which it will be achieved.

Vision

2.2. The following vision has been developed through consultation with key partners and stakeholders.

Vision

Throughout the plan period to 2040, Hertfordshire will continue to provide a steady and adequate supply of minerals to meet identified needs and to support local economic growth. The supply of naturally occurring minerals will be conserved through the use of safeguarding, by promoting the use of secondary and recycled aggregates, and by encouraging the prior extraction of mineral before other forms of development.

Minerals development will adopt a high quality, restoration-led approach, with sites being restored at the earliest opportunity, conserving and enhancing the character and quality of Hertfordshire's landscapes and environments.

The existing network of waste management facilities will be safeguarded, and new facilities will be supported using a flexible approach to meet waste management needs, driving waste up the waste hierarchy, embracing new technologies that reduce carbon emissions, and aiming towards achieving net waste self-sufficiency.

Developments will be designed to mitigate the effects of and on climate change, with a focus on promoting waste reduction, reuse, and the recycling of materials, thereby minimising the need for disposal as part of a more circular approach to materials use.

Sustainable options for the transportation of minerals and waste will be safeguarded and encouraged. Development will seek to protect human health and amenity, protect and enhance wildlife habitats through biodiversity gain, preserve agricultural land, and conserve and enhance the natural, built and historic environments, whilst balancing minerals and waste management needs.

Objectives

2.3. In addition to meeting national objectives, the following Objectives have been developed specifically for Hertfordshire in order to meet the Vision and to ensure a sustainable future for minerals and waste development.

2.4. The Objectives have been developed through the Sustainability Appraisal (SA) Scoping Report and are the same as the Objectives used in the SA itself. By making sure that the Objectives in the Plan and the SA are the same, this ensures that the policies in the Plan, which have been assessed by the SA, are sustainable and therefore meet the Objectives set in the Plan.

2.5. Monitoring is a requirement of the plan process, to assess how effectively the policies in the Plan are being implemented over time. Monitoring indicators have been developed through the SA process and are contained within the SA report. Progress against these indicators will be reported on each year through the council's annual Authority Monitoring Report.

Objectives

1. Ensure a steady and adequate supply of minerals to meet demand and protect mineral resources and infrastructure

2. Encourage the appropriate location of and safeguard waste management facilities, including wastewater

3. Encourage the sustainable use of materials, including the use of secondary and recycled aggregates, and the prior extraction of mineral before other development takes place

4. Promote and encourage sustainable waste management facilities and practices

5. Ensure that mineral and waste management development addresses and minimises the impacts of and contributions towards climate change through appropriate mitigation and built-in resilience measures

6. Encourage the greater use of sustainable transport for the movement of minerals and waste, e.g. by road, rail and water

7. Protect and positively contribute towards human health and wellbeing

8. Protect and enhance the natural, built and historic environment

9. Protect against flooding and safeguard water quality and quantity

10. Recognise the importance of the minerals and waste sector in the local and wider economy as a generator of employment and its provision of infrastructure which supports businesses and communities

3. Sustainable Development

Background

3.1. At the heart of the NPPF is a presumption in favour of sustainable development. The policies and allocations contained in the Plan follow the approach of the presumption in favour of sustainable development and provide guidance to apply the presumption locally, in line with the Plan's vision.

3.2. There are three objectives to sustainable development: economic, social and environmental. The provision or lack of provision of minerals and waste management facilities has the ability to affect all three of these sustainability objectives and the county council will seek opportunities to achieve net gains across each of them through the implementation of the Plan.

3.3. The county council seeks to contribute to a strong, responsive and competitive economy, supporting vibrant and healthy communities, whilst protecting and enhancing the natural, built and historic environment. The provision of a suitable network of waste management facilities, which help to push waste up the hierarchy, and the provision of a steady and adequate supply of minerals are needed to meet sub-national and local needs; the policies in this Plan will help achieve this.

3.4. The county council will always work proactively with applicants to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.

Sustainable Hertfordshire Strategy

3.5. In July 2019 the Council declared a Climate Emergency. This was followed by the publication of the Sustainable Hertfordshire Strategy in 2020. The Strategy concentrates primarily on the Council's own functions, however it also recognises the wider scope to influence behaviours to help achieve a more sustainable Hertfordshire.

3.6. The Strategy defines two overarching ambitions, to be a 'leader in our own operations' and to 'enable and inspire a sustainable county'. The Strategy does this by identifying three levels of influence, Lead, Enable and Inspire. Through the various policies within the Minerals and Waste Local Plan, the Plan primarily helps with the second and third levels of influence, to Enable and Inspire.

3.7. To help achieve this headline ambition (to enable and inspire) the Strategy identifies five key ambitions and within each, a set of aims to help achieve those ambitions. The five key ambitions, along with the aims relevant to the Minerals and Waste Local Plan are shown below:

- **A net zero carbon county ahead 2050:**
  - Support policies to deliver the National Infrastructure Commission's target of 100% ready for electric vehicles by 2030
  - Support policies to promote zero carbon buildings, travel and zero carbon energy infrastructure in new build and retrofit
- **Ready for future climates:**
  - Climate resilience requirements in planning applications and if/how these are enforced
  - Determine the most critical transport infrastructure, and the adequacy of existing facilities
  - Review of water availability and resource management
- **Improve nature in the county by 20% by 2050:**
  - Develop a strong baseline for biodiversity in the county
  - Delivering and optimising the mandatory measurable Net Gain for Biodiversity in Development Planning Documents
  - Developing a joined-up system of places important for wild plants and animals, on land and in water – providing high quality accessible places rich in nature for wildlife
- **Clean air for all by 2030:**
  - Implementation of our 2019 air quality strategy which provides Hertfordshire's strategic direction.
  - Working with our district and borough councils, as well as other partners (such as the NHS, parish and town councils), to reduce pollution hotspots and exposure.
- **Triple the efficiency of material use in the county by 2050:**
  - Continue to provide high quality Household Waste Recycling Centres for residents
  - Develop a plan for delivering a more sustainable solution for dealing with the county's waste

3.8. In order to demonstrate which policies in the Plan help to deliver the key ambitions outlined above, the relevant policies in the Plan signpost the reader to the corresponding ambitions that they help to deliver. See example below:

Sustainable Hertfordshire Strategy: Ambition

- A net zero carbon county ahead 2050
- Ready for future climates
- Improve nature in the county by 20% by 2050
- Clean air for all by 2030
- Triple the efficiency of material use in the county by 2050

3.9. By embedding the Sustainable Hertfordshire Strategy into the Plan in this way, it not only demonstrates the sustainability of the Plan itself, but shows how the Plan fits in with the wider Council aims for achieving a Sustainable Hertfordshire.

4. Core Policies

Climate Change

4.1. Climate change presents one of the most pressing issues of recent times. Measures to tackle climate change nationally have been introduced through the Climate Change Act (2008). The sixth Carbon Budget[4] aims to cut emissions by 78% by 2035 (based on 1990 levels)[5].

4.2. Hertfordshire contributes to climate change through emissions; for example, a total of 5.5Mt of CO_2 was emitted in 2019. Of this, 48% was associated with transport and 31% with domestic emissions. Total CO_2 emissions in Hertfordshire have reduced year-on-year, from 7.9Mt in 2005[6]. Whilst all of the Districts and Boroughs in Hertfordshire are aiming to decrease emissions from the domestic, industrial and commercial sectors, anticipated growth across the county will have an impact.

4.3. In recognition of the above, Hertfordshire County Council unanimously voted (July 2019) to declare a climate emergency. The county council has published a Sustainable Hertfordshire Strategy, which sets out policies, strategies and implementation plans needed to embed sustainability across all the council's operations and services. This strategy builds on Hertfordshire's current environmental initiatives including the Air Quality Strategy, Energy Strategy and Pollinator Strategy.

4.4. Meeting the challenges of climate change is central to the principle of sustainable development and as such, climate change should be taken into account at all stages of planning to secure reductions in greenhouse gas emissions, minimise vulnerability and provide resilience to the impacts of climate change.

4.5. Two key aspects of climate change are most relevant to minerals and waste planning:

- Reducing carbon emissions to minimise future climate change;
- Preparing for the effects of climate change by increasing the resilience of development to any climatic changes.

[4] The Carbon Budget Order 2021
[5] https://www.gov.uk/government/news/uk-enshrines-new-target-in-law-to-slash-emissions-by-78-by-2035
[6] ttps://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2018

4.6. Measures to minimise the impacts of and on climate change will vary depending on the circumstances of each proposal, but there are a number of key ways that minerals and waste development can incorporate mitigation for climate change issues.

Location, Setting and Orientation:

4.7. Energy consumption can be minimised by taking account of the volume, shape and orientation of buildings as well as the landform and landscaping associated with a proposal. This might include positioning machinery where it would ease transport around the site to reduce the movement of energy-consuming vehicles, or orientating infrastructure to maximise the efficient integration of processing equipment or aspects of a micro-climate.

Renewable Energy (use and creation):

4.8. Minerals and waste development can help to reduce the reliance on centralised energy supplies and subsequent emission of key greenhouse gases. This can be achieved by the installation of renewable and low-carbon energy generation on-site, or dedicated Energy from Waste (EfW) facilities, where feasible and viable.

Minimising Greenhouse Gas Emissions:

4.9. The county council would expect minerals and waste development to be located and designed to promote energy efficiency wherever possible. Lorry movements to and from sites are a major contributor to greenhouse gas emissions, therefore sustainable transportation should be a major consideration for applicants (see Policy 24: Transport).

Efficiency of plant, machinery and buildings:

4.10. Proposals can also manage emissions through building design, site layout, extraction or waste management techniques and the use of fuel-efficient and well-maintained processing plants, machinery and equipment. As a means of demonstrating sufficient energy efficiency measures, applicants are encouraged to implement sustainability standards such as BREEAM into the design of operations and built development on site, with greenhouse gas emissions being addressed for the lifetime of the development.

On-Site Water Efficiency:

4.11. Minerals and waste developments can be designed in a number of ways to reduce the threat of water-scarcity and maximise the efficient use of water on-site. Measures include site design to allow the repeated re-use of water in mineral screening, wheel washing, dust suppression or the installation of grey-water recycling systems and on-site water storage.

Managing Flood Risk:

4.12. Minerals and waste development should be designed to reduce vulnerability to the potential impacts of climate change and care should be taken to ensure that risks can be managed through suitable adaptation measures. This could include the development of green infrastructure and the appropriate incorporation of Sustainable Drainage Systems (SuDS) to reduce water demand, aid flood alleviation and minimise flood impacts.

4.13. Proposals should include an assessment of flood risk and include mitigation measures sufficient to satisfy the requirements of Policy 21: Water Management, incorporating up-to-date climate change allowances for which guidance is published by the Environment Agency. Resilience measures could involve directing operations away from areas of the site with highest risk of flooding or designing the site or the extraction and restoration of the land to increase the capacity for flood attenuation.

Restoration and After-Use:

4.14. Proposals for minerals extraction should promote the benefits of restoration and after-use with particular emphasis encouraged for landscape improvements, creation of habitats for biodiversity, flood alleviation and water resource enhancement. A Restoration Strategy for the site should be submitted as part of an application in accordance with Policy 13: Restoration, Aftercare and After-use.

Secondary and Recycled Aggregates:

4.15. Applicants should consider the use and provision of secondary and recycled aggregates to reduce reliance on the extraction of primary resources and to increase the availability of alternative mineral products. Minimising the requirement for mineral extraction can reduce the greenhouse emissions associated with extraction operations as well as reducing the demand on other important resources such as water during operations. The use of secondary and recycled aggregates reduces the waste sent for final disposal and is in line with the Circular Economy. Proposals should refer to Policy 10: Secondary and Recycled Materials when proposing the use or processing of secondary and recycled aggregates.

Maintaining and Enhancing Ecosystem Services:

4.16. Ecosystem Services are defined as services provided by the natural environment that benefit people[7]. In the context of climate change, and with consideration of minerals and waste management development, such services can include those which help for example to provide flood protection, or other forms of climate

[7] An Introductory Guide to Valuing Ecosystem Services, Defra 2007

regulation. Proposals for minerals and waste management development should seek to maintain and enhance such services.

4.17. The measures presented above are not exclusionary and the county council will expect applicants to submit innovative proposals that combine different measures where appropriate. Applicants should submit a Climate Change Statement which explains how measures to minimise and mitigate against climate change have been considered and the reasoning for either including or omitting measures in the proposed development. The applicant should also detail how they intend to continue to review their performance with regards to climate change impacts throughout the duration of the development.

4.18. The extent to which it may reasonably be expected that such measures are incorporated to reduce the effects of climate change, will be considered by the county council on a case-by-case basis. Proposals will be assessed taking account of the ever-changing range of mitigation measures as they evolve throughout the duration of the Plan.

Sustainable Hertfordshire Strategy: Ambition

- A net zero carbon county ahead 2050
- Ready for future climates
- Improve nature in the county by 20% by 2050
- Clean air for all by 2030
- Triple the efficiency of material use in the county by 2050

Policy 1: Climate Change

Proposals for minerals and waste management development must demonstrate how they have incorporated mitigation measures to minimise future effects of climate change and how adaptation and resilience measures to potential climate change have been incorporated into the design.

Measures will vary depending on the particular circumstances of each proposal but should, on a proportionate basis, take account of the following as a minimum:

a) location, setting and orientation;
b) renewable energy (use and creation);
c) minimising greenhouse gas emissions;
d) efficiency of plant, machinery and buildings;

e) on-site water efficiency;
f) managing flood risk;
g) restoration and after-use (where appropriate);
h) the use and production of secondary and recycled aggregates; and
i) maintaining and enhancing ecosystem services.

Applicants should submit details and reasoning of any measures that have been considered and included within a Climate Change Statement, having regard to relevant legislation and guidance.

Minerals in Hertfordshire

4.19. Minerals are essential to help secure future economic and social development through the construction industry. This importance is recognised in the National Planning Policy Framework (July 2021) and in the UK Minerals Strategy (July 2018), which was prepared by the UK minerals and mineral products industry, facilitated by members of the CBI Minerals Group and the Mineral Products Association. The Strategy aims to ensure that UK demand for minerals and mineral products is supplied sustainably for the next 25 years. It explains that the country is approaching a critical period, particularly for aggregate supply, as permitted reserves nationwide are declining steadily and are not being replenished at an equivalent rate.

4.20. From a national perspective the UK Minerals Yearbook 2020[8] reported that in the UK in 2019, over 66Mt (million tonnes) of sand and gravel were produced, along with over 128Mt of crushed rock. This is a reflection of the need for aggregates in the country as well as in Hertfordshire.

4.21. A steady and adequate supply of minerals is therefore essential for the national economy and for Hertfordshire's economic growth, to enable new development to take place, as well as for the maintenance and improvement of the existing natural and built environment.

Minerals Worked in Hertfordshire

4.22. The geology of Hertfordshire (shown in Figure 2 below) comprises largely Chalk of the Cretaceous period, overlain in the south and east by London Clay and in the far

[8] United Kingdom Minerals Yearbook 2020, Decarbonisation and Resource Management Programme Report OR/21/014

north and northwest by small areas of Gault Clay. Throughout much of the county, superficial deposits overlay the solid geology. These include the Clay-with-flints to the west of Hertfordshire, boulder clay in the centre and east, and gravels in the river valleys and Vale of St Albans.

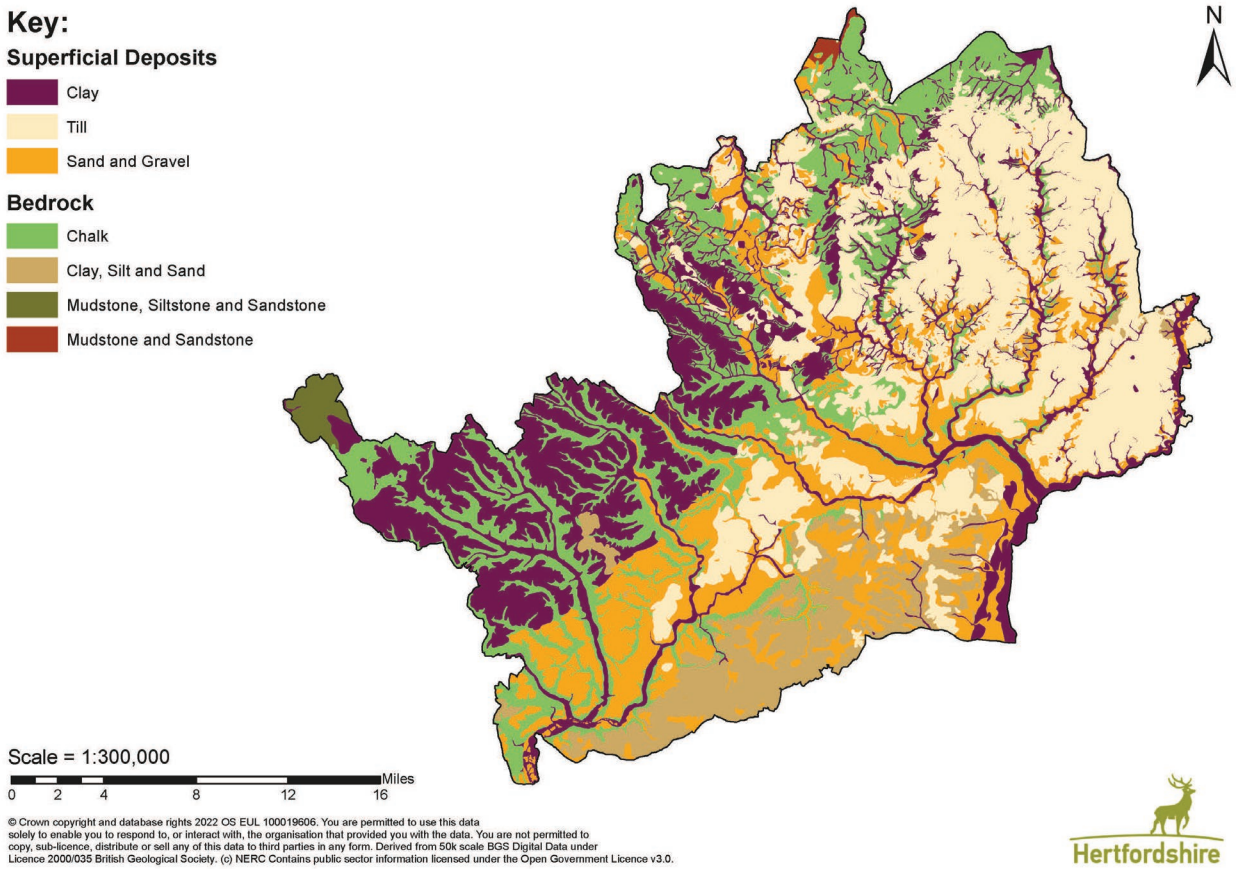

Figure 2: Geological Map of Hertfordshire

4.23. Superficial deposits of sand and gravel occur throughout the county and the main deposits are found within a belt which runs east to west, in an area in the south of Hertfordshire, between Bishop's Stortford in the east and Hemel Hempstead in the west.

4.24. Hertfordshire contains three major types of naturally occurring worked minerals: sand and gravel, chalk and brick clay.

4.25. Sand and gravel (which are generally worked together) are the major aggregate minerals worked in Hertfordshire. The sand and gravel from Hertfordshire is mostly used by the construction industry. Most is washed and screened to remove clay particles and to separate the various sized stones, and larger stones are usually crushed and screened again. Most sand extracted in Hertfordshire is sharp sand

and is suitable for making concrete when mixed with various selections of gravel sizes, cement and water.

4.26. The scale of working for chalk has historically been relatively small. Chalk has been quarried at a small number of sites to the north and west of the sand and gravel belt for use as an agricultural lime on farms. Currently there is only one chalk working in the county, at Bedwell, and this is used for agricultural purposes.

4.27. Historically, brick clay extraction occurred in the west of the county, most recently for use at Bovingdon Brickworks, which was Hertfordshire's last remaining specialist brickworks prior to its closure in 2017. Brick clay is no longer extracted in Hertfordshire, however the resource is protected should need arise in the future.

4.28. One other aggregate excavated in Hertfordshire is hoggin, which is a mixture of sand and gravel held together by clay. Hoggin is suitable for use without processing and is often sold 'as raised' from the ground for lower quality purposes. There is no requirement to ensure a supply of this material and it is often extracted alongside other extraction operations.

Minerals Supply

4.29. At present, primary aggregates are the main source of mineral. Those which are dug from the land are known as primary, land-won aggregates and include sand, gravel and crushed hard rock. Marine aggregates also provide an increasingly valuable source of primary aggregate, although only a relatively small amount of marine aggregate is consumed within Hertfordshire and is imported via Kent and London.

4.30. As minerals are a limited natural resource and can only be extracted where they are found, the Plan aims to reduce, as far as practicable, the quantity of primary aggregates used by encouraging the use of secondary and recycled materials (see Policy 10: Secondary and Recycled Materials). Owing to difficulties in recording the amount of these materials used in construction, the Plan looks to meet its mineral demand primarily through land-won material at designated extraction sites.

Imports and Exports

4.31. In 2020 a total of 1.12Mt of land-won sand and gravel was produced from quarries in Hertfordshire. This is compared with 1.15Mt in 2019, of which 74% was used within Hertfordshire, an increase from 57% in 2014[9].

[9] Local Aggregates Assessment 2020

4.32. Hertfordshire does not have any viable limestone resource, therefore crushed rock is imported into the county via the existing rail aggregate depots (safeguarded under Policy 4: Site Safeguarding and Consultation Areas and shown on the Policies Map). These imports amounted to 0.72Mt in 2020[10]. Reserves from outside of Hertfordshire will be relied upon for this source of mineral.

4.33. The NPPF requires Mineral Planning Authorities to maintain a stock of permitted brick clay reserves of at least 25 years. There are no remaining brickworks in Hertfordshire and so the Plan is not required to identify sites for future clay supply. The Plan does however safeguard brick clay resources for potential future use.

Meeting Sand and Gravel Needs

4.34. Sand and Gravel is the main mineral worked in Hertfordshire. As the Minerals Planning Authority (MPA) for the area, the Council is required to plan for a steady and adequate supply of sand and gravel to support sustainable economic growth.

4.35. The NPPF requires MPAs to maintain a landbank of at least seven years for sand and gravel. This is the amount is permitted reserves that will meet the county's needs for at least a seven-year period. The landbank is used principally as an indicator of the security of aggregate supply, and to indicate any additional provision that may be needed for new aggregate extraction and alternative supplies.

4.36. In order to maintain a steady and adequate supply to meet demand, Hertfordshire must plan for 1.31Mtpa (million tonnes per annum), this is known as the provision rate. This figure is set out in the Local Aggregate Assessment[11] and is based on the ten-year average sales figure (2011 to 2020) with a 10% uplift.

4.37. Many factors are taken into account when determining the provision rate for Hertfordshire for example:

- past sales data, including the 10 year and 3 year averages
- quantities and security of imports and exports
- current landbanks and permitted reserves
- existing allocated mineral extraction sites
- other supply options including secondary and recycled materials

[10] Hertfordshire Local Aggregate Assessment 2021
[11] Hertfordshire Local Aggregate Assessment 2021.

- housing delivery rates
- current and future major infrastructure projects

4.38. Based on the provision rate of 1.31Mtpa, the Council must plan to meet a need of 27.51Mt over the plan period (2020 to 2040). As of January 2020, total permitted reserves in the county stood at 8.95Mt[12]. This leaves a shortfall of 18.56Mt, which the Council will meet by allocating sites for future extraction. The allocations are listed in the policy below and amount to 20.32Mt, leaving a surplus of 1.76Mt.

4.39. It should be noted that the use of secondary and recycled materials will go some way to meeting Hertfordshire's requirement over the plan period. Despite difficulties in calculating the exact contribution this resource makes to Hertfordshire's aggregate needs, the Mineral Products Association estimate that nationally this accounts for 28% of aggregate supply[13]. By planning to meet needs from primary won material alone, whilst acknowledging the contribution that secondary and recycled materials will make, this provides a further buffer and flexibility to meet changing demand over time.

4.40. The sales and reserves of sand and gravel will continue to be monitored annually through the Local Aggregate Assessment, to ascertain if supply demands are being met. The policy does however include a mechanism whereby if the landbank falls below the required seven years, the MPA will support in principle applications for extraction in areas other than the defined allocations, in order to ensure a continuity of supply.

Sustainable Hertfordshire Strategy: Ambition

- Ready for future climates
- Improve nature in the county by 20% by 2050
- Triple the efficiency of material use in the county by 2050

Policy 2: Meeting Sand and Gravel Needs

The County Council will seek to maintain a steady and adequate supply of sand and gravel to meet demand over the plan period, and to maintain a 7-year landbank of permitted reserves in accordance with the latest Local Aggregate Assessment.

[12] Hertfordshire Local Aggregate Assessment 2021, p.3
[13] The Contribution of Recycled and Secondary Materials to Total Aggregates Supply in Great Britain - 2020 Estimates

Provision Rate (Mtpa)	Plan Period 2020 to 2040 (years)	Plan Period Requirement (Mt)	Reserves as at January 2020 (Mt)	Remaining Requirement from Allocations (Mt)
1.31	21	27.51	8.95	18.56

To meet the need identified above, provision will be met through, and planning permission will be granted in principle for, applications for sand and gravel extraction at the following Mineral Allocation Sites (MAS):

Site	Reserve (Mt)	Site Specific Requirements
MAS01: The Briggens Estate	8.80	i. proposals must be in accordance with the requirements set out in the Heritage Impact Assessment ii. access to the site must be from the B181 Roydon Road iii. the site entrance must be engineered to prevent site traffic travelling through Stanstead Abbotts iv. the restoration strategy must be agreed in consultation with Lea Valley Regional Park Authority and include provision of footpath / cycle connectivity linking Stanstead Abbotts with developments at Harlow Gilston Garden Town v. an appropriate buffer is to be established on the northern and western boundary in accordance with the Site Brief
MAS02: Hatfield Aerodrome	8.00	i. no mineral will be extracted from within the existing plume of bromate and bromide ii. mineral extraction must not change the existing hydrogeological flow regime nor interfere with the remediation of bromate iii. the site is to be restored as Ellenbrook Country Park
MAS03: Land Adjoining Coopers Green Lane	3.52	i. no mineral will be extracted from within the existing plume of bromate and bromide ii. mineral extraction must not change the existing hydrogeological flow regime nor interfere with the remediation of bromate iii. extracted mineral to be exported to the existing processing plant via conveyor

		iv. mineral extraction will not commence prior to the completion of extraction at Hatfield Quarry - Furze Field

Proposals for sand and gravel extraction within MAS must fulfil the Site-Specific Requirements above and must clearly demonstrate how they have addressed all of the Site Considerations set out in the corresponding Site Brief.

Proposals for sand and gravel extraction in other areas* will only be supported where they:

a) are required to maintain a shortfall in the council's landbank;
b) do not compromise the ability of allocated sites to meet that need;
c) conform to the overall spatial strategy for minerals for the area; and
d) maximise the recovery of the identified reserve.

Proposals for the extraction of specialist minerals will be acceptable in principle, where it is clearly demonstrated that existing permitted or allocated sites cannot meet that need.

*Proposals for borrow pits will be dealt with separately under Policy 8: Borrow Pits

Waste Management in Hertfordshire

4.41. The County Council, as the Waste Planning Authority (WPA) for the area, must ensure a sustainable network of waste management facilities to deal with the wastes which arise in the county, and provide relevant planning policy to safeguard, and where appropriate facilitate the expansion of this network.

Arisings and Imports

4.42. Each year an average of 2.2Mt (million tonnes) of waste is created in Hertfordshire[14] and this waste needs to be managed in line with national policies and objectives. These wastes include Local Authority Collected (LAC) waste, Construction, Demolition & Excavation (CD&E) waste, Commercial & Industrial (C&I) waste and Hazardous waste.

4.43. Hertfordshire is a 'two tier' authority area. This means that the ten District and Borough Councils (known as the Waste Collection Authorities) are responsible for collecting waste from households (LAC) as well as from some businesses (C&I).

[14] Averaged over a 3-year period from 2018-2020 (most recently available data)

The County Council is responsible for managing that waste, in its role as Waste Disposal Authority (WDA). In 2020 a total of 0.54Mt of LAC waste was received by the WDA, up from 0.51Mt in 2019.

4.44. In 2020 a total of 1.93Mt of CD&E waste arose in Hertfordshire, down from 2.26Mt in 2019. CD&E waste, often termed as inert waste owing to its high content of inert material (such as brick and concrete), can often be recycled and re-used in other construction, engineering and restoration projects.

4.45. Whilst the Waste Collection Authorities (WCAs) do collect some C&I waste, the majority of this waste is managed by the private sector. In 2020 a total of 0.24Mt of C&I was generated from within Hertfordshire, notably lower than the 0.33Mt having arisen in 2019. In 2020 a total of 0.04Mt of hazardous waste was generated in Hertfordshire, down from 0.05Mt in 2019. Figure 3 below shows each of these waste streams as a proportion of the total arisings.

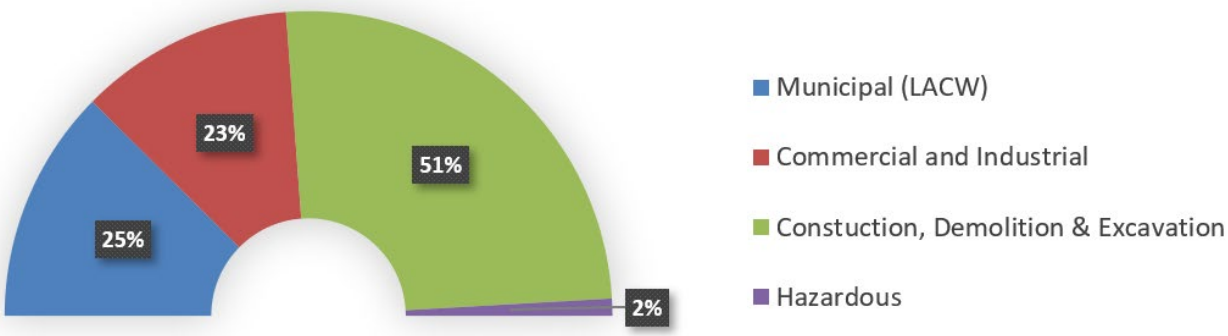

Figure 3: Waste Arisings in Hertfordshire (2020)

4.46. It is accepted that waste movements will take place across administrative boundaries, with wastes arising in one WPA area needing to be managed in another. Within the county therefore there should be flexibility for imports of waste for processing/treatment and for the export of wastes for management. There may also be opportunities for reducing overall waste miles through reciprocal arrangements with adjoining authorities.

4.47. National policy seeks to ensure that waste is managed as close to its source as practicable, however Planning Practice Guidance (PPG) makes specific reference to the management of London's waste. With Hertfordshire's close proximity to the Capital, and the Capital's inability to manage all of its own arisings, some of that waste is imported into Hertfordshire for processing. In 2020 a total of 1.2Mt of waste was imported from London, 67% of which was CD&E waste, making up by far the greatest portion.

4.48. It is expected that London (comprising the individual Boroughs and the Greater London Authority) will intensively treat all of its LAC waste and C&I waste and only send the residues for final disposal. In line with many sub-regional plans, the London Plan (March 2021) includes commitments to meet net self-sufficiency by 2026, maximise recycling and reduce residuals to be exported.

Capacity and Exports

4.49. The management of Hertfordshire's waste arisings can be split in to 10 broad waste management methods, falling under 3 waste hierarchy levels[15].

- **Preparation for re-use & recycling**
  - Materials recycling (LAC, C&I)
  - Composting (LAC, C&I)
  - Inert recycling (CD&E)
- **Other Recovery**
  - Treatment & energy recovery (LAC, C&I)
  - Soil treatment (CD&E)
  - Inert recovery (CD&E)
  - Hazardous recovery & treatment
- **Disposal**
  - Non-hazardous (LAC, C&I, CD&E)
  - Hazardous Incineration
  - Hazardous landfill

4.50. Hertfordshire is projected to have sufficient capacity over the plan period for the majority of the above waste management methods, with the exception of inert recovery (from 2033 onwards), non-hazardous disposal (in the early half of the plan period) and a small amount of composting (increasing towards the end of the plan period).

4.51. Although a portion of Hertfordshire's arisings are managed at non-hazardous & hazardous landfills and incineration plants without energy recovery, there are no operational facilities of these types within the county, and it is unlikely that new landfills or incinerators will be permitted.

4.52. The County Council recognises the importance of the existing waste management facilities in the county and the need to safeguard them for their continued use. While some facilities clearly handle more waste that others, taken as a whole the

[15] The Waste Hierarchy is shown in the National Planning Policy for Waste, Appendix A

entire network of facilities is critical to ensuring the sustainable management of waste arising in the county.

4.53. As such, each of the existing waste management sites in Hertfordshire are safeguarded against loss or reduced capacity (see Policy 4: Site Safeguarding and Consultation Areas) and are identified on the Policies Map as Waste Management Sites (WMS).

4.54. National policy aims to ensure that waste can be managed in more sustainable ways, and this means moving away from traditional waste disposal practices like landfill, towards alternative means of managing waste as a resource, for example through recycling or recovery (including energy recovery). The plan area has traditionally been reliant to some extent on landfill to deal with residual non-hazardous waste, although Hertfordshire's last non-hazardous landfill ceased accepting waste in 2020. The recycling and composting rate for household waste in 2020 was 52%, with local and national targets set to achieve a level of 65% by 2035.

4.55. Increasing the use of secondary and recycled waste materials in new developments can enable the diversion of the CD&E waste stream from landfill. As this waste can arise from and is used within new developments, new capacity for CD&E waste should be in appropriate locations to accept the waste from areas expected to experience growth.

4.56. Any future provision of waste sites should contribute towards meeting the county's identified waste gaps, add to the existing network, and be close to the primary route network.

4.57. It is recognised that waste treatment facilities will produce a certain amount of residual waste, some of which may be hazardous depending on the way certain wastes are treated. Hertfordshire has sufficient capacity to manage hazardous waste and is expected to have this throughout the duration of the Plan period.

4.58. Hertfordshire moves waste within the county and to other local authorities outside of the county. This is due to the limited type of facilities and landfill within the county. As such, Hertfordshire is encouraging flexibility in the approach to new waste technology that will allow the county to deal with the equivalent of its own waste arisings.

4.59. Such an approach also reflects the fact that, for certain specialist waste streams, including hazardous waste and Low Level Radioactive (LLR) waste requiring

management at specialist treatment facilities, wider geographical markets for waste management exist. Similar considerations apply to final re-processing capacity for many types of recyclate, which are often exported to regionally or nationally significant facilities receiving waste from a wide range of sources.

Net self-sufficiency

4.60. Net self-sufficiency is a concept adopted by many Waste Planning Authorities (WPAs) in the country, and can be defined as managing an amount of waste equivalent to or greater than the amount of waste arisings. The County Council, in agreement with other WPAs in the East of England region, seeks to achieve this, through policies in this Plan.

4.61. When looking at the total of all wastes arising in the county against the total waste management capacity from all waste management facilities, the county currently has a surplus capacity. It is important to note however that, whilst there may be over-capacity for some waste streams (e.g. materials recycling and inert recovery), there are shortfalls in other waste streams, notably non-hazardous disposal.

4.62. When planning for net self-sufficiency, it is appropriate therefore to plan for net self-sufficiency across each broad waste category, i.e. Inert, Hazardous and Non-hazardous. It is recognised however that there will always be movements of waste across administrative boundaries, and certain wastes will, for the duration of the plan period at least, continue to be managed outside of the plan area (notably some non-hazardous waste). Indeed, the council has contracts with waste management companies to manage all of the LAC waste outside of the county until 2039.

4.63. With this in mind therefore, the Plan aims to work *towards* achieving net self-sufficient with regards to waste management by the end of the plan period, by encouraging planning applications for appropriate waste management facilities in the right locations. The county council will seek to maximise recycling, recovery and processing of waste to minimise the amount of residual waste requiring final disposal.

Meeting Waste Management Needs

4.64. The Minerals and Waste Local Plan needs to be flexible enough to allow for future decisions on the approach to waste management and investment choices by the waste industry. There are a number of different technologies that could come forward as the UK waste industry seeks to meet the challenge of diversion from

landfill. The Plan does not prescribe which technologies should be used. As society moves away from waste disposal by landfill and shifts towards waste management practices higher up the waste hierarchy, waste will increasingly be managed and treated in buildings. As a result of more enclosed facilities and rigorous controls, waste management can be accommodated in a range of locations.

4.65. In delivering the waste strategy, the WPA will need to ensure that there is a balanced approach, providing enough flexibility that sufficient sites can come forward to meet the county's needs for a range of different types of waste management facility, without allowing for an over-provision of sites that would detract from the overall objectives of the proximity principle and net self-sufficiency.

4.66. The National Planning Policy for Waste (NPPW) states that '*Waste planning authorities should identify, in their Local Plans, sites and/or areas for new or enhanced waste management facilities in appropriate locations*'. Accounting for the fact that much residual non-hazardous waste will be managed outside of the county over the plan period, the remaining shortfalls in waste management capacity are relatively small. The approach in the Plan therefore is not to allocate specific sites for new waste management facilities, but rather to identify general areas where new facilities could come forward.

4.67. Given the similarity between LAC waste and C&I waste, new waste capacity for these waste streams should ideally be located in close proximity to areas of population, i.e. where these wastes will arise. These are identified as the main towns in the county and are listed in the policy below. These are the areas which are more likely to experience growth, and therefore this reduces the distance the waste must travel for treatment or disposal and thus reduces the environmental impact of the waste stream.

4.68. Owing to the nature of employment land, designated for B2/B8 uses, waste management facilities are potentially compatible in these areas. To enable such proposals to come forward in these areas, a criteria-based policy approach has been applied, rather than identifying specific employment areas for this purpose.

4.69. This method offers greater flexibility for changing circumstances throughout the plan period and strengthens the policy basis of the Plan, ensuring that all eventualities for waste development can be accommodated.

4.70. In line with the strategic objectives of this Plan, the policies aim to facilitate the provision of waste management facilities in Hertfordshire for LAC, C&I and CD&E waste, with the aim to eventually provide sufficient capacity to manage the net

quantity of waste that the county is projected to produce. Without eliminating residual waste or permitting new waste facilities to recover residual waste (including hazardous wastes requiring disposal), complete self-sufficiency however is unlikely to be achieved.

Sustainable Hertfordshire Strategy: Ambition

- A net zero carbon county ahead 2050
- Ready for future climates
- Clean air for all by 2030
- Triple the efficiency of material use in the county by 2050

Policy 3: Meeting Waste Management Needs

Development proposals which would increase waste management capacity will be supported in principle where they meet an identified need* and where they seek to move the management of waste up the waste hierarchy. The table below sets out the current need according to waste management type:

		2020	2025	2030	2035	2040
Preparing for re-use and recycling	Materials recycling (LAC, C&I)	0.271	0.219	0.137	0.050	0.027
	Composting (LAC, C&I)	-0.005	-0.050	-0.079	-0.110	-0.120
	Inert recycling (CD&E)	-0.045	0.026	0.009	0.008	0.028
Other Recovery	Treatment & energy recovery (LAC, C&I)	0.111	-0.010	-0.036	0.001	-0.021
	Soil treatment (CD&E)	0.008	0.006	0.006	0.006	0.008
	Inert recovery (CD&E)	0.547	0.488	0.277	-0.638	-0.582
	Hazardous recovery & treatment	0.039	0.038	0.036	0.034	0.031
Disposal	Non-hazardous (LAC, C&I, CD&E)	-0.500	-0.280	-0.109	-0.097	-0.079
	Hazardous Incineration	-0.001	-0.001	-0.001	-0.001	-0.001
	Hazardous landfill	-0.004	-0.008	-0.009	-0.009	-0.010

Figures are in million tonnes (Mt) and are not cumulative. Negative figures denote an identified need. This table is updated annually in the Authority Monitoring Report.

Proposals for new waste management development (subject to the separate headings below) will be supported in principle only within the following locations:

a) Waste Management Sites (WMS); or
b) land allocated for employment† in the Development Plan; or
c) existing employment land† within the development limits‡ of the following settlements (or new major settlements):

Abbots Langley	Bushey	Hoddesdon	Stevenage
Baldock	Cheshunt	Letchworth	Tring
Berkhamsted	Harpenden	Potters Bar	Ware
Bishop's Stortford	Hatfield	Rickmansworth	Watford
Borehamwood	Hemel Hempstead	Royston	Welwyn Garden City
Broxbourne	Hertford	St Albans	Knebworth
Buntingford	Hitchin		

Where it can be clearly demonstrated, through proportionate evidence, that the above locations are not available or suitable, then proposals may be acceptable outside but adjacent to the development limits of the above settlements. Such proposals must accord with other policies in this Plan, and preference should be given to derelict or previously developed land where available.

In all cases, development proposals must clearly demonstrate how they have addressed the locational criteria contained within Appendix 2: Waste Facilities Location and Design Guidance.

Certain types of waste management development may not be suitable in the locations identified above. The following list identifies additional requirements and/or restrictions for specific waste management methods:

Anaerobic Digestion:
Owing to the differing nature and scale of anaerobic digestion facilities, including their feedstocks and outputs, the locational suitability of such proposals will be determined on a case-by-case basis.

Composting:
Proposals for open air composting will not be supported in the locations identified above, unless if for a) the site is in a rural location. Other rural locations may be supported in principle.

Hazardous Waste Management:
Proposals for new hazardous waste management facilities, either treatment or disposal, will not be supported, unless it can be clearly demonstrated, through an assessment of need, that the facility is required to meet wider growth proposals, and in the case of treatment, will move waste up the waste hierarchy.

Continued…

Inert Landfill:
Proposals for the deposit of inert waste to land in areas other than MDS or MAS, will only be supported where it can be clearly demonstrated that:

the proposals will not prejudice the current or future restoration of any MDS or MAS; or the proposals are required for engineering works and would substitute for the use of primary aggregates.

Inert Recycling:
Proposals for the recycling of inert wastes within Mineral Development Sites (MDS) or Mineral Allocation Sites (MAS), and which are temporary in nature, will be supported in principle, where they relate to the restoration of the site.

Non-Hazardous Landfill:
Proposals for the deposit of non-hazardous waste to land will not be supported.

Water Recycling:
Any development proposals relating to new or existing Water Recycling Centres will be considered under Policy 22: Water Recycling Sites.

*Need could be that which is identified in the latest Authority Monitoring Report, or through an appropriate needs assessment submitted in support of the application.
†Employment land means land classified as B2 or B8 in The Town and Country Planning (Use Classes) Order 1987 (as amended).
‡Development limits form the edge of a settlement and are defined on the Policies Map for the area. Where they are not defined, they will constitute the edge of the built form of the settlement.

5. Development Policies

Site Safeguarding and Consultation Areas

5.1. Safeguarding minerals and waste management sites and associated infrastructure is of critical importance, both to ensure the continued supply of aggregate and related products to the construction sector, and for managing the different wastes that arise in the county. This includes the movements of minerals and waste products both within and outside of the county.

Minerals

5.2. Minerals are a finite resource and can only be worked where they are found. Securing planning permission for mineral extraction is a lengthy process and involves considerable investment on behalf of the operator. The awarding of planning permission for mineral extraction only takes place following extensive community consultation and consideration of all relevant planning factors. It is important therefore that such sites are protected from non-mineral development.

5.3. Mineral development however is not restricted to the winning and working of minerals. It also includes aggregate recycling and secondary processing facilities such as those for the manufacture of asphalt and concrete.

5.4. Concrete is produced at batching plants, some of which are static structures with the benefit of planning permission located at existing mineral sites, rail aggregate depots or standalone locations, and others are mobile plants for on-site concrete production which can be dismantled and moved from one site to another.

5.5. Asphalt or coated stone plants can also either be standalone facilities or co-located with other facilities, and produce materials for the construction and maintenance of roads, car parks, pavements, other footways and cycleways as well as playgrounds, runways and the roofing of buildings.

5.6. These facilities play an important role in the operation of the UK minerals industry and are vital materials for most construction projects. These sites can come under similar pressures from other forms of development and are not easy to replace, owing to environmental considerations and their need often to be located in close proximity to the primary route network. It is therefore important that these sites are also protected.

5.7. Sites with planning permission for mineral extraction, whether currently operational or not, along with sites involved in other mineral related activities as mentioned above, are identified in this Plan as **Mineral Development Sites (MDS)**. Proposals for development within these areas will generally not be permitted unless they are in accordance with the site's current use. Below is a list of the current MDS in the county:

- Birchall Lane/Cole Green, Welwyn Garden City;
- Burnside, Hatfield;
- Eleanor Cross Road, Waltham Cross;
- Harper Lane, St Albans;
- Orphanage Road, Watford;
- Skinner's Yard, Hertford; and
- Tyttenhanger, Colney Heath.

5.8. Similar to sites with planning permission for mineral extraction, sites for future mineral extraction, i.e. those which are allocated as such in this Plan, have gone through extensive consultation, as well as assessment of their suitability against alternative sites. These allocations are critical to meeting the demand for sand and gravel over the plan period and therefore must equally be protected from loss through non-mineral development. These sites are identified in the Plan and on the Policies Map as **Mineral Allocation Sites (MAS)** and are also listed in Policy 2: Meeting Sand and Gravel Needs. Development proposals in these areas must accord with the allocated use.

Waste

5.9. There are many different types of waste management facilities across Hertfordshire. Maintaining and increasing (where necessary) the capacity of this network of waste management facilities, is one of the key objectives for the Plan. A robust and diverse network of waste management facilities will help the county to work towards achieving net self-sufficiency, meet its capacity gap shortfalls and reduce the need for the transportation of waste outside of the county.

5.10. In order to achieve and maintain a sustainable distribution of waste management facilities and to meet national policy requirements, all waste management facilities in the county (including those which are permitted but not yet operational), are safeguarded so that they are not lost to, or suffer reduced capacity from, other forms of development. These sites are identified in the Plan as **Waste Management Sites (WMS)** and are shown on the Policies Map. Development

proposals which would result in the loss or reduced capacity of these sites will not be supported unless certain strict criteria are met.

5.11. In addition to the Waste Management Sites mentioned above, the county has a network of sites responsible for the treatment and management of wastewater. These sites are known as Water Recycling Centres, and are identified in the Plan and on the Policies Map as **Water Recycling Sites (WRS)**. Policy 22: Water Recycling Sites provides for the maintenance of existing and supports in principle the creation of new Water Recycling Centres.

Transportation of minerals, mineral products, and waste

5.12. As highlighted above, minerals and waste management sites also include those sites which help to facilitate the sustainable movement of minerals by rail and water. When moving minerals over long distances, rail heads and wharves can serve as important strategic mineral infrastructure for the supply of minerals in Hertfordshire. The county does not have any coastline and as a result does not have the potential for marine wharves, however there exists the potential for wharves on the rivers within the county such as the River Lea, where boats can dock and unload minerals[16]. At the time of writing this Plan, the county does not have any operating or disused wharves.

5.13. Railheads form part of a strategic network of transportation of sub-national and national importance for the movement of minerals. They are essential infrastructure within Hertfordshire for importing hard rock as the county does not contain deposits of these minerals.

5.14. They are also important for the import and export of sand and gravel as well as construction, demolition and excavation wastes, which can be used for beneficial restoration. This transportation is particularly important when insufficient land exists close to the waste's origin for suitable waste management facilities as is frequently the case in London. Facilities for the bulk transport of such materials are hard to re-locate due to the increasing demands for land and the associated impacts with their operation, adding to the importance of their safeguarding.

5.15. There are five railheads in the county, and these are identified in the Plan and on the Policies Map as **Transport Infrastructure Sites (TIS).** These sites are listed below and are safeguarded against loss or reduced capacity from other forms of development:

[16] Town and Country Planning Association Policy Advice note: Inland Waterways (2009)

- Harper Lane, St Albans;
- Langley Sidings, Stevenage;
- Orphanage Road, Watford;
- Rye House, Hoddesdon; and
- Walsworth Road, Hitchin.

Site Safeguarding Areas

5.16. In order that each of the aforementioned minerals and waste sites, including those associated with bulk transportation, are protected against loss or reduced capacity as a result of pressures from non-minerals and waste related development, the council has safeguarded these sites through the use of **Site Safeguarding Areas (SSAs).** The areas covering each of the above sites (MAS, MDS, TIS, WMS and WRS) are collectively known as SSAs.

5.17. Development within SSAs that are associated with MAS or MDS will only be permitted if they are in accordance with the sites current permitted use, including its restoration.

5.18. Development proposals for non-minerals and waste development within other SSAs (i.e. those relating to TIS, WMS or WRS) which would result in the reduced capacity or loss of the site, will only be permitted in certain circumstances subject to strict criteria. This is to ensure the continued use of these important sites for the management and transportation of minerals and waste materials.

5.19. As the Mineral and Waste Planning Authority for the area, the Council must be consulted on all District or Borough planning applications which fall within a Site Safeguarding Area.

Site Consultation Areas

5.20. Sites for mineral and waste management, including transportation, can not only come under threat from direct loss, i.e. through the redevelopment of the sites themselves, but also from the encroachment of other forms of development. Alternative forms of development can, when located in close proximity to minerals or waste management facilities, place considerable pressures on those facilities.

5.21. Certain forms of development such as housing can be particularly sensitive to the operation of minerals and waste management facilities, which can often give rise for example to noise, dust, and visual impacts. It is important to ensure that such

developments are protected from amenity issues arising from the existing operations.

5.22. Protection can incorporate the use of appropriate buffer areas within the proposal so that sensitive development does not encroach too close to the existing minerals or waste site. It can also incorporate appropriate design so that proposals take account of the potential impacts from the existing facility. This could include increased mitigation measures, such as reduced windows or increased noise bunding on the side of a development facing the existing infrastructure. It could also include designing separate access arrangements to keep proposed traffic away from HGV movements.

5.23. The design of protection measures is an opportunity for creative and multi-faceted mitigation to ensure appropriate protection from the potential wide range of adverse impacts associated with the established minerals or waste infrastructure. It should be noted that, where mitigation is required in order to make new development within the vicinity of existing minerals or waste infrastructure acceptable, the 'agent of change' principle[17] will apply, meaning that the applicant will be responsible for the costs of those mitigation measures.

5.24. In order to help ensure that incompatible development is not located too close to existing mineral and waste infrastructure, or that such proposals contain appropriate mitigation measures to both protect the existing infrastructure and the users of the new development, the Plan establishes **Site Consultation Areas (SCAs)**. These are buffers (typically 250m) surrounding existing and permitted minerals and waste infrastructure.

5.25. If a Local Planning Authority (LPA) within Hertfordshire receives a planning application which is located within one of these SCAs, they must consult the County Council. The applicant submitting the proposals must also complete a Consultation Area Assessment (CAA), and guidance on preparing a CAA can be found at Appendix 3: Safeguarding of Minerals and Waste Infrastructure and Resources.

5.26. This process allows for the County Council and District and Borough Councils to work together to protect the existing minerals and waste infrastructure as well as ensuring that new development is not at risk from unacceptable adverse impacts from the existing or planned minerals or waste operations.

[17] NPPF, paragraph 187

5.27. There are some types of development however that would not normally cause unacceptable impacts on minerals or waste infrastructure. In order to avoid an unnecessary number of consultations on planning applications that are unlikely to be objected to, the LPAs will not be required to consult the County Council on applications for minor householder developments or advertisements.

5.28. The County Council also encourages early engagement and involvement in the preparation of District and Borough Local Plans in addition to engagement at the pre-application stage to ensure that potential issues can be addressed at the earliest stage possible.

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- A net zero carbon county ahead 2050
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Policy 4: Site Safeguarding and Consultation Areas

The Council will safeguard existing and future minerals and waste management sites, including associated infrastructure*, through the use of Site Safeguarding Areas (SSAs) and Site Consultation Areas (SCAs).

Site Safeguarding Areas (SSAs)

SSAs are defined on the Policies Map and comprise Mineral Allocation Sites (MAS), Mineral Development Sites (MDS), Transport Infrastructure Sites (TIS), Waste Management Sites (WMS) and Water Recycling Sites (WRS).

The County Council must be consulted on all development proposals which fall within an SSA.

Development proposals within MAS and MDS will only be supported where they are in accordance with the site's permitted or allocated use, including the site's restoration.

Development proposals which would result in the loss of, or reduced capacity of a TIS, WMS or WRS will only be supported where it can be clearly demonstrated that:

a) suitable alternative capacity has been made available elsewhere prior to the loss or reduced capacity occurring; or
b) the loss of such capacity will not have a detrimental impact on the wider function which the TIS, WMS or WRS serves; or
c) the site is allocated for the proposed use in the Development Plan; or
d) the proposal would provide demonstrable, overriding benefits, in the public interest, which would outweigh the loss of, or reduced capacity of the site.

Site Consultation Areas (SCAs)

SCAs are defined on the Policies Map as a 250m buffer surrounding SSAs (400m for WRS). The County Council must be consulted on all development proposals within an SCA, through the submission of a Consultation Area Assessment†, except:

e) minor householder applications; or
f) advertisements.

The County Council will oppose any development proposals within an SCA unless it is clearly demonstrated that:

g) the proposed development will not prejudice the current or future use of the SSA which falls within the SCA; and
h) the users of the proposed development will not suffer any unacceptable adverse amenity or health issues resulting from the continued or future use of the development within the SSA.

In accordance with the agent of change principle, where development proposals within an SCA require mitigation measures in order to satisfy g) and/or h) above, the applicant will be required to provide such mitigation.

Where applications for new or extensions to existing MDS, TIS, WMS or WRS are approved, this policy will apply to those sites, regardless of them not being shown on the Policies Map. The list of SSAs will be updated annually in the Council's Authority Monitoring Report.

*This includes sites for the bulk transport, handling and processing of minerals and waste; the manufacture of concrete and concrete products; and the handling, processing and distribution of substitute, recycled and secondary aggregate material.
†Detailed guidance on preparing a Consultation Area Assessment can be found at Appendix 3

Mineral Safeguarding Areas

5.29. Much of Hertfordshire is underlain by deposits of sand and gravel, which is an essential aggregate mineral for the construction sector. The county also contains deposits of brick clay, and while there are no longer any brickworks in the county, this remains a valuable resource for future brick production.

5.30. Minerals are finite resources and can only be worked where they are found. Allowing new built development to take place on top of or adjacent to these deposits could sterilise them, making these valuable mineral resources inaccessible, often permanently.

5.31. The NPPF requires planning policies to safeguard these minerals against sterilisation, through the use of Mineral Safeguarding Areas (MSAs) and Mineral Consultation Areas (MCAs). MCAs act as a buffer surrounding the deposits and ensure that the MPA is consulted on proposals for non-mineral development in these areas.

5.32. MSAs are identified on the Policies Map and cover known deposits of sand and gravel and for brick clay. The MSAs are based on British Geological Survey (BGS) data at 1:50,000 scale with previously worked areas removed. The extent of the MSAs includes the addition of a 100m buffer surrounding the deposits, thereby constituting the relevant MCA around the resource. Any proposals for non-mineral development within MSAs will need to consult the MPA.

5.33. If any planning application for non-minerals development is submitted to a District or Borough Council and falls within an MSA, the MPA must be consulted, in order to have the opportunity to consider whether the development proposed would lead to unacceptable mineral sterilisation.

5.34. Some types of development however would not normally bring about the sterilisation of an underlying mineral deposit, for example development within urban areas (where the mineral deposits are already sterilised by the built-up nature of the area), or development involving only temporary uses (which by definition will not lead to the permanent or long-term sterilisation of mineral deposits).

5.35. In order therefore to avoid an unnecessary number of consultations on applications that are unlikely to be objected to on minerals grounds, some types of planning application will be exempt from the need to consult the MPA, and these are listed in the policy below.

5.36. The NPPF also requires planning policies to encourage the prior extraction of mineral before other development takes place, in order to avoid / reduce sterilisation. When the MPA is consulted on applications within an MSA, it may determine whether a Mineral Resource Assessment (MRA) should be carried out to establish the presence or otherwise of a viable resource. Based on the findings of the MRA, the MPA may require prior extraction of some or all of the mineral before other development takes place. Guidance on preparing an MRA can be found at Appendix 3: Safeguarding of Minerals and Waste Infrastructure and Resources.

5.37. Strategic allocations within District or Borough Local Plans offer the greatest opportunity to promote the prior extraction of minerals. This is due to the usually large scale of such allocations and of the timescales involved, making it more likely for mineral to be worked prior to development taking place, especially if incorporated into the masterplanning of the development. Prior extraction can be phased to coincide with the phasing of non-mineral development. The scale and phasing of the mineral operations will be dependent on the size of the site, the depth of mineral, the type and quality of the mineral, and the nature of the proposed development.

5.38. The MPA encourages early engagement and involvement in the preparation of District/Borough Local Plans in addition to engagement at the pre-application stage to ensure that potential issues of sterilisation can be addressed.

5.39. Notwithstanding the potential built development, in most circumstances, such deposits would usually be commercially viable as a minerals site. Extraction would likely be a separate activity to the non-minerals development and may include restoration of the land to make it suitable for the specified future non-mineral development. Mineral extraction proposals at these prior extraction sites, either for use on-site or off-site, would still have to accord with all other relevant policies in the Development Plan and would likely require a separate mineral planning application.

5.40. In cases where full prior extraction is not considered feasible, based on the findings of the MRA, there may still be the opportunity to use sand and gravel found on-site during construction to reduce the need to import material, this is known as opportunistic extraction.

5.41. The term opportunistic extraction refers to cases where preparation of the site for built development may result in the extraction of suitable mineral that could be processed and used on site as part of the development. This may include excavating the foundations and footings or landscaping works associated with the development resulting in minimal quantities that would not be commercially viable to

extract the full resource. In these cases, a separate minerals application is not usually required.

5.42. Some large-scale regeneration projects may also provide an opportunity for extraction of previously sterilised mineral. For example, this may occur in cases where the surface area is sufficient to extract the mineral or where the proposed depth of excavation of basements or underground car parking exposes mineral which can be extracted as part of the proposed development.

5.43. It should be noted that there is no presumption that land included within a MSA for the safeguarding of mineral resources will ever be worked for minerals. It is simply a method to protect the resource for the future and mineral extraction will be subject to assessment at the planning application stage and against other policies within this Plan.

5.44. The policy below will supersede the adopted Mineral Consultation Area Supplementary Planning Document (adopted November 2007).

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Policy 5: Mineral Safeguarding Areas

The Mineral Planning Authority (MPA) safeguards known mineral resources of sand and gravel and brick clay from unnecessary sterilisation by non-mineral development, through the use of Mineral Safeguarding Areas (MSAs), as identified on the Policies Map.

Any proposal for non-mineral development which falls within an MSA must be subject to consultation with the MPA except:

a) minor householder applications;
b) advertisements;
c) listed building consent;
d) works to trees or tree preservation orders;
e) applications within a settlement's development limits*; and

f) development within a site allocated in the Development Plan.

Following consultation with the MPA, the submission of a Mineral Resource Assessment (MRA), undertaken by a suitably qualified professional and including geological survey data, may be required to establish the existence or otherwise of a viable mineral resource†.

Where proposals for large scale regeneration projects fall within development limits (either in whole or in part), the MPA may request an MRA to assess the potential for prior extraction.

The MPA will object to proposals for non-mineral development within MSAs based on the findings of the MRA unless it is clearly demonstrated that:

g) prior extraction of mineral will take place and the mineral extracted will be put to sustainable use; or
h) mineral extraction is not environmentally acceptable; or
i) the mineral is not of current or future economic value; or
j) the need for the non-mineral development demonstrably outweighs the sterilisation of the mineral resource; or
k) the proposed development would not constrain present and/or potential future mineral development.

Where mineral cannot practicably be extracted in advance of the proposed development, full consideration must be given to the use of material on site through opportunistic extraction, in order to reduce the need for material to be imported.

* Development limits form the edge of a settlement and are defined on the Policies Map for the area. Where they are not defined, they will constitute the edge of the built form of the settlement.
†Guidance on preparing a Mineral Resource Assessment can be found at Appendix 3

Brick Clay

5.45. The working of brick clay and the production of bricks has historically taken place in the north west of the county, where isolated and localised pockets of brick clay are found. Brick clay production is very specialist in nature and the bricks are dependent on the blend of materials used in the production process.

5.46. Owing to the highly variable geology of clay resources, bricks produced in Hertfordshire were locally distinctive[18] and served sub-national and local markets as a material in the construction and restoration of traditional brick and flint building styles, complementing the local heritage. As of 2018, there is no remaining infrastructure for the production of bricks within the county and no remaining permitted reserves.

5.47. The NPPF does require MPAs to plan for a steady and adequate supply of industrial minerals, including by '*taking account of the need for provision of brick clay from a number of different sources to enable appropriate blends to be made*'[19]. MPAs should provide a stock of at least 25 years permitted reserves for brick clay to support existing kilns. Owing to the fact that there are no remaining brickworks in Hertfordshire, there is no national policy requirement to maintain a supply of permitted reserves.

5.48. Brick clay production does however take place in adjoining areas, and it is therefore possible that these brickworks may need to be supplied by extraction sites in Hertfordshire. In instances where the MPA receives an application for brick clay extraction to supply any out-of-county brickworks, the MPA will liaise with the neighbouring MPA to determine the specified brickworks' existing stock of permitted reserves as well as determining whether the proposed extraction operations are in accordance with the policies in the Development Plan for Hertfordshire.

5.49. The MPA protects known resources of brick clay, through the use of Mineral Safeguarding Areas (MSAs), which also include a 100m buffer around the known resource (see Policy 5: Mineral Safeguarding Areas). Together this ensures that proposals for non-mineral development on, or in the vicinity of known deposits of brick clay, will not result in unnecessary sterilisation of that resource.

Sustainable Hertfordshire Strategy: Ambition

- No relevant linkages

[18] British Geological Survey: Hertfordshire and NW London Boroughs – Mineral Resource Information in Support of National, Regional and Local Planning 2013
[19] NPPF (July 2021) paragraph 214

Policy 6: Brick Clay

Proposals for brick clay workings will be supported where it can be demonstrated that:

a) the level of permitted reserves for a specified brickworks is insufficient to maintain brick clay production for at least 25 years; and
b) the proposal directly contributes towards the required supply for brick clay at the specified brickworks.

Chalk

5.50. Chalk extraction in Hertfordshire has historically been undertaken on a small scale and is currently only worked at one site in the county. Chalk can be used as an industrial mineral in the production of cement, however in Hertfordshire it has predominantly been used as an agricultural lime on farmland.

5.51. Many of the chalk deposits in the county contain flints that can be extracted as a by-product of the chalk extraction process. Flints are common within chalk reserves throughout the wider Chiltern Hills area. Once separated from the chalk, the flints are processed and sold for use in the construction and maintenance of roads or buildings, often as part of heritage restoration of older buildings.

5.52. There are no national policy requirements to maintain a supply of permitted reserves because chalk previously extracted in Hertfordshire was not used as an industrial mineral. Owing to the low use and unlikely requirement for further chalk supply in the county, no additional sites are identified in this Plan for the extraction of chalk.

5.53. Support will be given to proposals for small-scale chalk extraction only where it can be demonstrated that there is additional need for the agricultural use of chalk. The need should be linked to the seasonal agricultural application of chalk to land and applicants should use trends in historical sales figures over a period of at least ten years to demonstrate the increased need for extraction.

Sustainable Hertfordshire Strategy: Ambition

- No relevant linkages

Policy 7: Chalk

Proposals for chalk extraction will be supported where it can be demonstrated that there is a need for additional chalk supply for agricultural use.

Borrow Pits

5.54. Borrow pits are areas of sand and gravel deposits which are used exclusively for specific named construction projects, such as new roads. Borrow pits would normally be located in close proximity to the project they serve and would be worked in conjunction with it. Borrow pits have certain advantages in that they can reduce the need to import aggregate over greater distances, and inert waste material from the construction project should be used to restore the borrow pit.

5.55. It is important to ensure that the short-term nature of borrow pits does not outweigh any potential environmental damage. Particular features that need to be considered with borrow pit proposals include biodiversity, landscape and archaeology. Applications will need to be considered against all other applicable policies within the Plan.

5.56. Proposals for borrow pits must also demonstrate that they are in an appropriate location and are the most suitable source of material for that specific named project. This includes ensuring that appropriate safeguards are in place for the working of the borrow pit and restoring it. Restoration should not be expected to generate any additional impacts on an area as material should not be brought in from outside of the associated construction project.

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Policy 8: Borrow Pits

Proposals for borrow pits will be supported where all of the following can be demonstrated:

a) the site's proximity to the construction project is more sustainable than importing aggregate;
b) the mineral extraction is being used solely for the intended construction scheme;
c) the borrow pit will not be retained longer than the life of the construction project it serves; and
d) the borrow pit will be restored expediently and at least within the same timescale as the completion of the construction project it relates to.

Restoration of borrow pits should be achieved without the need for imported material other than that generated from the associated construction project. If importation of additional material is proposed, it must be demonstrated that the use of additional material is the most sustainable option.

Incidental Mineral Extraction

5.57. The majority of mineral extraction takes place at permitted quarries with the principal aim of ensuring a steady and adequate supply to traditional markets. However, minerals can also be extracted as a secondary activity to other development outside of sites permitted and allocated by the Minerals Planning Authority (MPA).

5.58. Common examples of incidental extraction include the construction of agricultural or potable water reservoirs. Whilst these developments may be proposed to reduce vulnerability to the impacts of climate change, and other incidental extraction may occur for alternative valid reasons, the construction could involve the extraction of significant quantities of mineral. Where this is the case, or where extracted mineral is to be removed from site, the proposal should be determined by the MPA.

5.59. In these instances, it is important that a requirement can be demonstrated for the development that necessitates the extraction, and that the extraction will be limited to a quantity of mineral that is consistent with the scale of the development. The MPA would expect that the restoration of the land forms a central part of the development proposals.

5.60. Details of both the non-minerals and minerals aspects of the proposed works should be submitted within a working plan including technical details, phasing and proposed timescales for the development. The submission of these details will help to avoid any undue delays in completing the development and prevent land from being left in a partially developed state for an extended period of time.

5.61. Proposals would be looked upon favourably where they are in line with the presumption in favour of sustainable development and where they are consistent with the other policies within this Plan. This could include proposals where the extracted mineral is to be used on-site or close to the extraction site, to minimise the required transportation of mineral to an end-use by road, or where the mineral is to be used to enhance the character and quality of Hertfordshire's landscape and environments.

5.62. In cases where mineral is extracted for the purposes of creating a reservoir, for example for agricultural purposes, it may be necessary to reduce the surface area of the reservoir and increase its depth, in order to maximise the recovery of finite mineral and avoid unnecessary sterilisation.

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- Ready for future climates
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Policy 9: Incidental Mineral Extraction

Proposals for development involving the incidental extraction and off-site removal of mineral will only be permitted where it can be clearly demonstrated that:

a) there is a proven need for the non-mineral development;
b) the amount of mineral to be extracted is consistent with the purpose and scale of the development;
c) the extracted mineral will be put to sustainable use; and
d) the phasing and duration of development proposals ensure the worked land is restored as early as practicable and without the need for imported material.

Applicants must submit details of where the extracted mineral will be transported to for processing, and it's proposed after-use.

The county council will expect a working plan to be submitted, providing details of how and when the non-mineral development is to be undertaken and completed.

Where mineral is being extracted for the purposes of reservoir creation, it may be necessary to maximise the depth of the reservoir in order to reduce sterilisation of mineral.

Secondary and Recycled Materials

5.63. The growth promoted through the Hertfordshire District and Borough Local Plans means that there is and will be significant arisings of Construction, Demolition & Excavation (CD&E) waste in the county. Owing to Hertfordshire's location, a significant amount of CD&E waste is also imported into the county from London.

5.64. Much of the CD&E waste arising within and imported into Hertfordshire is sent to landfill (either in or outside of the county) but could be recycled and re-used, driving the materials up the Waste Hierarchy and reducing the need for disposal.

5.65. The Plan aims to reduce the proportion of CD&E waste produced in the county and the amount of CD&E waste that is sent to landfill. The purpose of Policy 10 is to maximise the re-use, recycling and recovery of CD&E waste to minimise its disposal wherever possible and to ensure that this is achieved through the most appropriate means. This includes through the following measures:

- Increasing the re-use and recycling of CD&E waste arising from non-minerals and non-waste development
- Directing CD&E waste that cannot be re-used or recycled on-site to the most appropriate locations, avoiding landfill wherever possible
- Encouraging the use of secondary and recycled aggregates within built development and reducing reliance on primary materials
- Supporting new facilities or expansions to existing facilities for the processing, distribution and where necessary the re-processing of aggregates
- Supporting proposals for the use of CD&E waste (e.g. proposals for landscaping works or derelict land requiring fill)

5.66. In line with the requirements of the NPPW[20], when considering the management of waste arising from non-waste development, the Hertfordshire District and Borough Councils should, to the extent appropriate to their responsibilities, ensure that waste arisings are handled in such a way that maximises re-use and recovery and minimises disposal. This can be achieved through the implementation of Circular

[20] Chapter 8 of the NPPW

Economy Statements. In considering major planning applications[21], the Hertfordshire District and Borough Councils should refer to Policy 11: Sustainable Design and Resource Efficiency and the template found at Appendix 4: Circular Economy Statements.

5.67. Where Inert waste arising from construction, demolition and excavation activities cannot be re-used or recycled on-site, it should as a first priority be directed to the restoration of mineral workings, engineering works, or to derelict land requiring fill as part of re-restoration to a beneficial after-use.

5.68. Reusing and recycling CD&E waste has a direct impact on the need for primary aggregate[22]. CD&E waste can be processed and used as a recycled aggregate which offers an alternative to primary materials.

5.69. Recycled aggregates currently offer the greatest potential as an alternative to primary aggregates in Hertfordshire. Secondary aggregates also play a part in reducing the need for primary aggregates. Secondary Aggregates are produced as by-products of other processes, such as boiler ashes, burned shale, burned clay or pulverised fuel ash. They can also be created as a by-product from mineral extraction processes, which can include china clay, coal and slate extraction.

5.70. New facilities for the processing, distribution and where necessary the re-processing of aggregates (including concrete batching) will be supported by the county council where the requirements of Policy 10 can be demonstrated.

5.71. Proposals for permanent facilities should be located where they will not have an unacceptable adverse impact on the environment or on quality of life and will be assessed taking account of the balance between the need for additional facilities and the need to protect the environment.

5.72. The processing of secondary and recycled aggregate is a compatible operation on an existing mineral site, including where restoration involves infilling and appropriate waste materials are already being brought to the site. Existing screening and mitigation against other environmental impacts makes this a potentially positive option. However, the secondary operation would only be

[21] *Major planning applications are those defined in Part 1(2) of The Town and Country Planning (Development Management Procedure) (England) Order 2015

[22] Aggregate material is defined as granular material used in construction and it can be natural or manufactured

permitted for the duration of the minerals operation and at a scale appropriate to the original use of the site.

5.73. All existing sites with planning permission and sites on which planning permission is subsequently granted for waste and mineral development are safeguarded (see Policy 4: Site Safeguarding and Consultation Areas).

5.74. Waste development proposals for the use Inert CD&E waste, such as proposals for landscaping improvements or derelict land requiring fill are also supported by Policy 10 subject to the required criteria being demonstrated.

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- Clean air for all by 2030
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Policy 10: Secondary and Recycled Materials

The county council will support the increased use of secondary and recycled materials in order to reduce reliance on land-won aggregates and maximise the amount of inert waste diverted from landfill.

Inert wastes arising from construction, demolition and excavation activities that cannot be re-used or recycled on-site should, as a first priority, be directed to the restoration of mineral workings (in accordance with an approved restoration scheme), to engineering works, or to derelict land requiring fill as part of re-restoration to a beneficial after-use (in accordance with an approved scheme).

Proposals for the use of inert waste must identify the source of the waste and as a minimum, proposals must clearly demonstrate that they:

a) will not undermine the availability of such waste for use in mineral restoration schemes; and
b) will use the appropriate amount of material necessary.

The county council will support the expansion of existing and the provision of new facilities to increase the capacity for processing, distribution and where necessary the

re-processing of aggregates (including concrete batching). Such proposals must demonstrate that:

c) the siting, scale and design of the development is appropriate to the location and the character of the surrounding natural and built environment;
d) any landscaping and screening of the site is designed to effectively mitigate the visual impact of the proposal;
e) the proposed development would not adversely impact upon the natural, built or historic environments, amenity or human health;
f) the transportation of aggregates will not have a significant adverse impact on highways safety and the effective operation of the highway network; and
g) there would not be an unacceptable adverse cumulative impact on the local area.

In addition to the above, proposals for temporary recycling facilities within an existing quarry must demonstrate that:

h) the size and throughput of the recycled and secondary aggregate operation is of an appropriate scale to existing operations; and
i) the nature and duration of the development does not prejudice or unduly delay the restoration of the site.

Sustainable Design and Resource Efficiency

5.75. With Hertfordshire facing significant housing and employment growth, it is important that the design and construction of new development in the county is as sustainable and resource efficient as possible.

5.76. The design, construction and demolition of built development offers the opportunity to sustainably use and manage waste as a resource. In considering construction materials, built development can incorporate the use of secondary and recycled aggregates as opposed to relying on primary materials.

5.77. Construction and demolition wastes that arise on-site can also be reused and recycled on-site, to further minimise the need for primary materials and reduce the need to transport materials to and from site.

5.78. Waste generated through built development arises on two principal accounts:

- Waste generated during the development process including construction, refurbishment and demolition of buildings; and
- waste generated through the occupation of buildings.

5.79. Re-using and recycling waste within built development is in keeping with the principles of a circular economy and removes waste materials from the linear process of make, use and dispose.

5.80. Waste arising from the demolition and construction of built development can be managed effectively through the implementation of a Circular Economy Statement. All major planning applications should be supported by a Circular Economy Statement using the template found at Appendix 4.

5.81. In considering design and location, proposals for waste management development should refer to the detailed guidance at Appendix 2: Waste Facilities Location and Design Guidance. All other development proposals involving the management of wastes must clearly demonstrate good and innovative design, including layout principles that allow for effective sorting, recycling and composting of waste following occupation, as well as allowing for collection of waste from the site.

5.82. To further assist in the implementation of Policy 11, guidance is contained in 'Building Futures: a Hertfordshire guide to promoting sustainability in development'[23], prepared by all eleven local authorities in the Hertfordshire. The purpose of ‘Building Futures’ is to provide practical, user-friendly guidance for planning officers and developers on how to make development in Hertfordshire as sustainable as possible. It is an evolving web-based guidance document, which will be updated to address emerging policy requirements, legislative changes and new examples of good practice.

5.83. Policy 11 should be applied to proposals for waste management (and where appropriate, minerals) development and all development proposals that result in waste materials, such as the construction of housing or other forms of built development. As such, the Hertfordshire District and Borough Councils will have regard to Policy 11 when considering planning applications for which they are the Local Planning Authority. In addition, the county council will comment on major planning applications that fail to adequately address the policy requirements.

[23] https://www.hertfordshire.gov.uk/microsites/building-futures/building-futures.aspx

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- A net zero carbon county ahead 2050
- Ready for future climates
- Improve nature in the county by 20% by 2050
- Clean air for all by 2030
- Triple the efficiency of material use in the county by 2050

Policy 11: Sustainable Design and Resource Efficiency

All proposals for new waste management development, and where appropriate, minerals development, must be of a high-quality design and contribute to resource efficiency.

As a minimum, all such proposals must demonstrate how they have given clear consideration to the following: Scale, Built Form, Layout and Access, Appearance, Landscape and Biodiversity, Materials, Energy and Climate Change, Water Management, Noise, and Odour. Detailed guidance on each of these aspects of design can be found at Appendix 2: Waste Facilities Location and Design Guidance.

All development proposals involving the management of wastes must clearly demonstrate how the development ensures the most efficient use of resources through:

a) construction and demolition methods that minimise waste generation and facilitate the re-use/recycling of materials and buildings, as far as practicable on site;
b) design principles and construction methods that minimise the use of primary aggregates and encourage the use of high quality building materials made from local recycled and secondary resources; and
c) good and innovative design with layout principles that allow effective sorting, recycling, composting and collection of waste within the site.

All major* planning applications must be accompanied by a Circular Economy Statement which includes details of the management of waste through all stages of development†. The Statement should be proportionate to the nature of the proposals and should use the template found at Appendix 4: Circular Economy Statements.

All Circular Economy Statements submitted in support of District or Borough planning applications must be submitted to the Waste Planning Authority (WPA) for consideration prior to approval.

*Major planning applications are those defined in Part 1(2) of The Town and Country Planning (Development Management Procedure) (England) Order 2015
†Some planning applications which fall into the category of 'major development' may be exempt from preparing a Circular Economy Statement, for example changes to operating hours. These will be determined on a case-by-case basis by the WPA

Landfill Excavation

5.84. Landfill excavation is the process of removing previously deposited waste materials from the ground. This could be to remedy environmental concerns associated with an existing landfill, to retrieve valuable materials, to prepare the land for future development, or a combination of these factors.

5.85. More than 750 historic landfill sites are recorded in Hertfordshire by the Environment Agency. These sites are in varying conditions and contain a range of materials, including inert, non-inert and/or hazardous wastes.

5.86. As the landfilling of waste is at the bottom of the waste hierarchy, and is the least desirable option for dealing with waste, reclaiming previously landfilled material and moving it further up the waste hierarchy can help to extract more value and move towards a more circular economy.

5.87. In addition to the positive benefits of extracting waste materials from the ground however, landfill excavation can raise numerous concerns such as:

- causing environmental disturbance;
- having a negative impact on the water environment;
- releasing hazardous waste and/or polluting substances (leachate, landfill gas and odours) which may pose environmental and human health risks; and
- presenting negative amenity impacts on the surrounding users of land and buildings.

5.88. In line with Policy 12: Landfill Excavation therefore, proposals for the excavation of material from historic landfill sites will need to address the potential extent of these impacts, demonstrate the need for the development, and also demonstrate that the works will not impact negatively upon human or environmental health.

Sustainable Hertfordshire Strategy: Ambition

- Ready for future climates
- Triple the efficiency of material use in the county by 2050

Policy 12: Landfill Excavation

Development proposals for the excavation and re-restoration of historic landfill sites will only be permitted where it can be clearly demonstrated that:

a) the lack of intervention poses unacceptable adverse risks to the natural, built or historic environment and/or human health; or
b) excavation is required to enable a beneficial after-use (including built development) to take place on the site; or
c) the material to be excavated is identified as a viable resource and its removal and processing would result in significant improvements to the environment.

Landfill excavation for any purpose must ensure that:

d) excavated waste will be moved up the waste hierarchy (unless in order to meet a), this would pose similar risks);
e) landfill gas utilisation has been maximised;
f) effective leachate monitoring and where necessary, treatment, continues; and
g) any significant ecological interest which may have developed on a previously restored site will be addressed through mitigation or compensation, as appropriate.

Proposals will be required to submit a feasibility assessment to establish the following: ground investigations, contamination, final destination of excavated waste, and the ongoing management of existing infrastructure associated with the landfill.

Restoration, Aftercare and After-use

5.89. National policy is clear that local planning policies should ensure that worked land is reclaimed at the earliest opportunity, and that high quality restoration and aftercare of mineral sites takes place.

5.90. This includes the consideration of agriculture (safeguarding best and most versatile agricultural land), geodiversity, biodiversity, native woodland, the historic environment, recreation and aviation safety (see Policy 27: Aerodrome Safeguarding Areas).

5.91. A fundamental principle of mineral extraction is that it is a temporary use of the land, although it is recognised that the operational duration of mineral extraction and subsequent restoration of the land can take many years. The reclaiming of land to its original or improved condition following mineral working comprises several elements:

- **Restoration** – steps required to bring the site to the required landform and landscape for the proposed after-use. This could involve infilling the site with inert materials, soil placement and the creation of surface features.
- **Aftercare** – steps undertaken to ensure land is brought to the required standard for its planned after-use. This may include planting, cultivating, fertilising, watering, drainage or otherwise treating the land.
- **After-use** – refers to the ultimate end use after mineral working has occurred and restoration is complete, for example for agriculture, forestry, amenity (including nature conservation), residential or other development.

5.92. National guidance suggests a range of potential after-uses which include but are not limited to the creation of new habitats and biodiversity; use for agriculture; forestry; recreational activities; waste management, including waste storage; and the built environment, such as residential, industrial and retail where appropriate.

5.93. It should also be noted that, regardless of the proposed after-use of a mineral site, The Environment Act 2021 places a requirement on developers of land to ensure that development results in a biodiversity gain. Mineral operations are well placed to help achieve this requirement and that, through appropriate restoration, significant gains in biodiversity can be achieved (see Policy 15: Biodiversity and Geodiversity).

5.94. It is common practice to work extraction sites in phases and to restore each phase in turn shortly after extraction has been completed. Progressive working and restoration can lessen the overall impact of mineral working on the environment and minimise the loss of land in agricultural production. The phasing and direction of working can be particularly relevant in minimising the impact on residential and local amenity.

5.95. The phased restoration of land can also facilitate and complement other forms of development, for example housing led schemes, which can be ‘built-out’ in similar phases following the restored phases of the mineral workings.

5.96. The county council therefore encourages a phased restoration approach for timely working and to help reclaim the land at the earliest opportunity, minimising disturbance to the local area. Sites should be restored to a high quality incorporating the highest environmental standards, commensurate with the proposed after-use.

5.97. Proposals for mineral extraction should be accompanied by a Restoration Strategy and Aftercare Management Strategy which should be undertaken on a site-specific basis. These should explain how the proposed site is to be restored and the type of after-use proposed. It should also set out how a site would be maintained and monitored throughout the restoration and aftercare period.

5.98. As a minimum, a strategy should state what levels the land will be restored to with clear justifications. The final level of a site will be dependent on a combination of factors, including the initial overburden, any quarry waste, the amount of material imported onto the site in order to fill the void left by extraction, the depth of working and the proposed after-use.

5.99. The beneficial after-use of a mineral site can offer the potential to provide long-term benefits to a community as a whole. Benefits of after-use can balance the short-term adverse effects of mineral development and should be a key consideration of proposals and the required schemes for restoration.

5.100. All after-use proposals must be specified at the planning application stage, and if they involve a change of use from the existing use, further planning permission may be required and should accord with the policies in the Development Plan.

5.101. The county council will make use of planning obligations and conditions, where appropriate, to secure the appropriate restoration and aftercare of sites. Planning conditions must be drafted in such a way that, even if the interest of the applicant applying for permission is subsequently disposed of, the requirements for restoration and aftercare can still be fulfilled, whether by a new operator or in the case of default, by the land-owner. The county council will monitor and, where necessary, use enforcement powers to ensure that restoration and aftercare are implemented in line with approved schemes.

Sustainable Hertfordshire Strategy: Ambition

- Ready for future climates
- Improve nature in the county by 20% by 2050
- Triple the efficiency of material use in the county by 2050

Policy 13: Restoration, Aftercare and After-use

Proposals for mineral extraction and associated development, and waste development proposals where temporary in nature, must be restoration-led and where possible, should improve and enhance the area.

Proposals will be required to submit, as a minimum, a suitable outline scheme of restoration for the site at the application stage. Such proposals will be supported where it can be clearly demonstrated within the restoration strategy that:

a) the restoration will take place at the earliest opportunity and to a high environmental standard;
b) a phased approach is taken, where appropriate;
c) all plant and machinery will be removed in a timely manner; and
d) where land is returned to agricultural use, it must be returned to at least the equivalent grade prior to extraction.

Proposals involving inert material in the restoration of a site will be supported where it can be demonstrated that:

e) the use of inert material does not have unacceptable adverse impacts upon the environment, local amenity and transport movements;
f) the restoration with inert material is to the highest possible environmental standard;
g) the use of inert material is necessary as part of the restoration of the site; and
h) the amount of material is appropriate and can be sourced to undertake the restoration in a timely manner.

All aftercare and after-use proposals will be supported where they have demonstrated consideration of and, where appropriate, inclusion of measures to:

i) respect and enhance the local character of the area;

j) be compatible with the landscape character of the area
k) not result in any unacceptable harm to local landscape character, quality or the setting of heritage assets;
l) support the local economy;
m) provide improved and increased public access to the countryside and create public open space for recreation;
n) deliver biodiversity gain and support and enhance existing places of nature conservation for habitats and species;
o) maximise opportunities for sites of geological interest; and
p) integrate sustainable forms of transport such as walking and cycling with public transport.

All proposals involving aftercare will be required to submit an Aftercare Management Strategy for the site in accordance with the proposed after-use.

Green Belt

5.102. The National Planning Policy Framework (NPPF) states that the fundamental aim of Green Belt Policy is to prevent urban sprawl by keeping land permanently open, and that the essential characteristics of the Green Belt are its openness and permanence. With over half of Hertfordshire designated as Metropolitan Green Belt, the need to protect the Green Belt is an important local consideration. The NPPF considers the Green Belt to serve five purposes:

- 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.

5.103. Within national planning policy there is a general presumption against inappropriate development which by definition is harmful to the Green Belt. In this context, waste management facilities are generally considered as inappropriate development in the Green Belt. Any proposal for the development of waste management facilities within the Green Belt is required to demonstrate very special circumstances that outweigh the harm to the Green Belt.

5.104. Taking account of the temporary nature of the winning and working of minerals, the NPPF deems mineral extraction to be 'not inappropriate' within the Green Belt, provided it preserves its openness and does not conflict with the purposes of including land within it. Minerals working can therefore be accommodated within the Green Belt provided that associated development, including any buildings and processing machinery, are designed and positioned appropriately to prevent conflict with the purposes of the Green Belt.

5.105. Proposals for the winning and working of minerals within the Green Belt will need to be assessed on a site-specific and technology-specific basis and all development should be tied to the life of the extraction, with plant and machinery removed expediently following the working of the site (including its restoration).

5.106. Proposals for waste management development will similarly need to be assessed on a site-specific and technology-specific basis and will need to be designed and positioned in order to reduce conflict with the objectives of the Green Belt, for example the re-use of existing buildings may minimise the impact on openness.

5.107. In addition to the need to protect the Green Belt, there is also an opportunity to enhance its beneficial use following restoration of a site where appropriate. Proposals for mineral extraction should be restoration-led and can be used to enhance Hertfordshire's Green Belt. The county council will plan positively to enhance the beneficial use of the Green Belt through opportunities that provide access, outdoor sport, recreation, retain and enhance landscapes, visual amenity and biodiversity, and repair damaged and derelict land.

5.108. Owing to the shortfall of waste management capacity for some waste streams in Hertfordshire, and the extent of Green Belt within the county, it is expected that some waste development may need to be considered in the Green Belt. The Plan does not allocate specific sites for waste management, rather it seeks to direct proposals for new waste management development to the most appropriate locations, such as existing waste sites and areas closer to the sources of waste. These locations are generally away from Green Belt areas and should therefore help to uphold the protection of Hertfordshire's Green Belt.

Sustainable Hertfordshire Strategy: Ambition

- Ready for future climates
- Improve nature in the county by 20% by 2050
- Clean air for all by 2030

Policy 14: Green Belt

Proposals for the winning and working of minerals within the Green Belt, including restoration, will be acceptable in principle, provided that, throughout the lifetime of the development, they preserve its openness and do not conflict with the purposes of including land within it.

Restoration proposals will be particularly supported where they enhance the beneficial use of the Green Belt, improve access to it, and improve the character and amenity value of the landscape including improvements to biodiversity.

Proposals for minerals related development* or for new or extensions to existing waste management facilities within the Green Belt, will be required to demonstrate very special circumstances sufficient to clearly outweigh the harm to the Green Belt, together with any other harm identified.

In considering waste management proposals within the Green Belt, the following criteria will be taken into account as material considerations:

a) the allocation status of the site in the Development Plan;
b) the availability of alternative suitable non-Green Belt sites;
c) the availability of previously developed land within the Green Belt;
d) the location of the proposal in relation to the source of the waste (proximity principle)
e) the specific site characteristics and design;
f) the wider economic and environmental benefits of sustainable waste management, including the need for a range of facilities;
g) the duration, level of activity and mitigation measures proposed; and
h) any specific locational advantages of the proposed site.

*minerals related development refers to activities other than those associated directly with extraction and restoration, such as the 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.

Biodiversity and Geodiversity

5.109. Hertfordshire benefits from a range distinctive landscapes and habitats, from the chalk scarp grasslands and chalk streams of the Chilterns to the hornbeam woodlands and remnant heaths of the London clay and gravels.

5.110. As identified by Natural England, there are four main National Character Areas (NCAs) in the county: the Chilterns, Northern Thames Basin, South Suffolk and North Essex Claylands, and East Anglian Chalk. There are also small sections of the Bedfordshire Claylands and Thames Valley in the northwest and southwest of the county.

5.111. National policy is clear that the planning system should contribute to and enhance the natural and local environment by:

- protecting and enhancing valued landscapes, geological conservation interests and soils;
- recognising the wider benefits of ecosystem services; and
- minimising impacts on biodiversity and provide gains in biodiversity, where possible including establishing coherent ecological networks that are more resilient to current and future pressures.

5.112. Hertfordshire and the areas surrounding it have statutory and non-statutory designated biodiversity sites that could be affected by minerals and waste development in Hertfordshire. These sites fall into the following classifications:

International

- Ramsar Sites

European

- Special Protection Areas (SPA)
- Special Areas of Conservation (SAC)

National

- Sites of Special Scientific Interest (SSSI), Statutory and non-statutory
- National Nature Reserves

Local

- Locally designated sites
- Local Wildlife Sites
- Statutory Local Nature Reserves

5.113. Within and around Hertfordshire there are several European and Internationally designates sites: the Chilterns Beechwoods Special Area of Conservation (SAC), Wormley Hoddesdon Park Woods SAC (and National Nature Reserve), and the Lee Valley Special Protection Area (SPA) and Ramsar site.

5.114. The county also contains many Nationally designated sites, such as the 43 Sites of Special Scientific Interest (SSSIs) which provide statutory protection and management to nationally important ecological and geological sites.

5.115. On a local level there are 44 Local Nature Reserves (LNRs) and 1,812 non-statutory Local Wildlife Sites and Regionally Important Geological / Geomorphological Sites, recognised for their significant contribution to the biodiversity within Hertfordshire. There are also 36 Nature Reserves that are mainly managed by Herts & Middlesex Wildlife Trust

5.116. When determining minerals and waste planning applications, the county council will have regard to the distinction between this hierarchy of designated sites and to the priority habitats and species for Hertfordshire as identified through Natural England's Section 41 list requiring special consideration[24]. The highest level of protection will be afforded to European and Internationally designated biodiversity sites (and the habitats and species they depend upon), which are protected by the Habitats Regulations[25].

5.117. Proposals for new or extensions to existing minerals or waste development must be accompanied by an Ecological Survey and assessment of the impacts on designated sites, habitats, species and connections to existing ecological networks that may be affected. The type of impacts that could arise include habitat loss, damage or fragmentation; noise, vibration or light; changes in public access; air pollution; changes in water quality or flow; and vermin.

5.118. Where possible, minerals and waste operations should be sited on land with the least environmental or amenity value. Any proposals should demonstrate how the development will mitigate any potential impacts in accordance with the mitigation hierarchy.

5.119. The county council as the Minerals and Waste Planning Authority (MWPA) will require proposals to demonstrate the delivery of a measurable gain in biodiversity, in accordance with the latest metric published by Department for Environment, Food & Rural affairs.

[24] Section 41 of the Natural Environment and Rural Communities Act 2006
[25] The Conservation of Habitats and Species Regulations 2017

Sustainable Hertfordshire Strategy: Ambition

- Improve nature in the county by 20% by 2050

Policy 15: Biodiversity and Geodiversity

Sites which benefit from designation at an International and European Level, including Ramsar sites, SPAs and SACs*, will be afforded the highest level of protection. Development proposals that are likely to have an adverse effect on the integrity of such sites will not be permitted unless exceptional circumstances can be clearly demonstrated. Such circumstances will only exist if:

a) there is an overriding need in the public interest;
b) no alternative locations are available for the development; and
c) appropriate offsetting is provided.

Development proposals which are on, are adjacent to, or which may otherwise have negative impact upon sites which have been designated at a National Level, including Site of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs), will only be supported where it is clearly demonstrated that the benefits of the proposals outweigh any harms.

Development proposals affecting sites of Local Importance, including Local Wildlife Sites, Local Nature Reserves and Local Geological Sites, and their contribution to the wider ecological and geodiversity network, will only be supported where the benefits outweigh the harm, whilst maintaining the overall network.

All proposals for minerals and waste management development must clearly demonstrate that throughout the lifetime of the development (including restoration where applicable):

d) the impact on biodiversity through loss of or damage to habitats and/or species is minimised;
e) there is a measurable gain in biodiversity consistent with Government guidance†;
f) how enhanced biodiversity and geodiversity can contribute to wider ecological networks and local green/blue infrastructure through the introduction of appropriate measures;

g) any loss of trees is, as a minimum, offset by replacement trees on-site or at a suitable nearby location, and opportunities for establishing additional trees have been sought;
h) there is no loss or deterioration of irreplaceable habitats including ancient woodland, veteran trees and ancient hedgerows; and
i) the requirements of protected species (including European Protected Species) can be fully and satisfactorily demonstrated to be met at all stages of development, which will include appropriate habitat compensation and enhancement.

All proposals for new, and extensions to existing minerals and waste management development, must submit an ecological survey of the site, prepared by a suitably qualified professional, prior to development taking place, and where appropriate, a scheme for monitoring biodiversity during and after the development (including throughout the duration of any aftercare or long-term management programme).

*including proposed Ramsar sites, potential SPAs and possible SACs.
†the gain must be on-site where practicable and must include a calculation using the latest published Biodiversity Metric.

Landscape and Green Infrastructure

5.120. Hertfordshire comprises a rich variety of landscapes, each with its own distinct character and 'sense of place.' The county's varied landscape is reflected by the fact that it lies within six National Character Areas and is home to nine landscape character types.

5.121. Hertfordshire contains one nationally designated landscape, the Chilterns Area of Outstanding Natural Beauty (AONB). The Chilterns AONB has been protected since 1965 and is located north of Hemel Hempstead and west of Watford. Approximately 14% of the Chilterns AONB falls within the county.

5.122. Hertfordshire also contains over 230 distinct local landscape character areas, nine county parks, 46 Registered Parks and Gardens and approximately 5,940 hectares of ancient woodland.

5.123. The natural and cultural features that shape these landscapes are described within a suite of documents and online resources including:

- National Character Area Profiles (NCAs), Natural England[26]
- East of England Landscape Typology, Landscape East[27]
- Hertfordshire Local Landscape Character Assessments[28]
- Hertfordshire Historic Environment Record[29]

5.124. Proposals for minerals and waste development should demonstrate how they will protect and enhance valued landscapes and recognise the intrinsic character and beauty of the countryside. Proposals should refer to the relevant Local Landscape Character Assessment(s) and the other resources outlined above. The Local Landscape Character Assessments help to:

- identify what environmental and cultural features are present in a locality;
- monitor change in the environment;
- understand a location's sensitivity to development and change; and
- inform the conditions for any development and change.

5.125. Depending on the nature and scale of the development, proposals may need to be supported by a full Landscape and Visual Impact Assessment (LVIA) or a Landscape and Visual Appraisal (for non-EIA development). An LVIA should follow the guidelines for LVIA produced by Landscape Institute and Institute of Environmental Management & Assessment.

5.126. Many of Hertfordshire's landscapes are located within designated biodiversity sites such as Sites of Special Scientific Interest (SSSI) or Local Nature Reserves (LNR's). Proposals should refer to Policy 15: Biodiversity and Geodiversity to see how such sites must be considered. Information on designated biodiversity sites in Hertfordshire is available via Natural England's website[30].

5.127. Landscape can play an important part of the setting of heritage assets. Proposals must also refer to Policy 18: Historic Environment in considering whether the landscape (and or assets within the landscape) may be of heritage value.

5.128. Hertfordshire has a rich Green Infrastructure resource (which some of the above contribute to) which can be defined as 'the network of natural and semi-natural

[26] https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles
[27] http://landscape-east.org.uk/east-england-landscape-typology
[28] https://www.hertfordshire.gov.uk/services/recycling-waste-and-environment/landscape/landscape-character-assessment.aspx
[29] https://historicengland.org.uk/advice/technical-advice/information-management/hers/
[30] https://designatedsites.naturalengland.org.uk/

features, green spaces, rivers and lakes that intersperse and connect villages, towns and cities[31]'.

5.129. When appropriately planned, Green Infrastructure can alleviate pressures on designated landscapes and can deliver multiple environmental, social and economic benefits such as surface water management, recreation and health, and biodiversity enhancement. The term Green Infrastructure can be used interchangeably with Blue-Green infrastructure.

5.130. The Hertfordshire Strategic Green Infrastructure Plan provides the framework for Green Infrastructure planning and design in Hertfordshire and outlines a series of potential projects to take forward the Green Infrastructure network. Opportunities for the enhancement and creation of Green Infrastructure at a more local level are identified in the Hertfordshire District and Borough Green Infrastructure plans.

5.131. Proposals for mineral and waste development should refer to the Hertfordshire Green Infrastructure Plans and should seek to deliver opportunities for protecting, conserving and enhancing multifunctional green infrastructure assets and networks.

5.132. It is acknowledged that mineral extraction is likely to cause temporary negative effects. These negative effects should be balanced against the long-term benefits that mineral developments can provide, including improved leisure-use, vital for health and well-being.

5.133. Landscape mitigation and enhancement measures should be considered as an integral part of any scheme for mineral working and restoration. In designing final restoration schemes reference should be made to Policy 13: Restoration, Aftercare and After-use

5.134. In circumstances where mitigation measures are needed, the mitigation hierarchy should be applied to ensure that in the first instance any negative effects are avoided, where they cannot be avoided they should be reduced, and where they cannot be avoided or reduced they should be compensated for.

Sustainable Hertfordshire Strategy: Ambition

- Ready for future climates
- Improve nature in the county by 20% by 2050

[31] Landscape Institute Position Statement, Green Infrastructure, March 2013

Policy 16: Landscape and Green Infrastructure

Development proposals should conserve and enhance landscape character, quality, visual amenity and green infrastructure networks. Proposals will be supported where it can be demonstrated that throughout the lifetime of the development (including restoration where appropriate):

a) there are no unacceptable landscape and visual effects;
b) any unavoidable landscape and visual effects have been minimised through appropriate mitigation;
c) valued landscapes are protected and enhanced;
d) continued improvements will be made which provide long term benefits to the wider ecological networks and green infrastructure; and
e) the landscape is conserved and enhanced and the highest practicable environmental standards are achieved.

Development proposals should, where appropriate, assess the landscape character, quality and visual effects of the development through a full Landscape and Visual Impact Assessment or Landscape Visual Appraisal, with reference to current Landscape Character Assessments, green infrastructure strategies and management plans for the area.

Any major* development proposals within or adjacent to the Chilterns Area of Outstanding Natural Beauty (AONB), or which are likely to have an adverse impact on it, will not be permitted unless in exceptional circumstances, and where it is clearly demonstrated that there is an overriding public interest.

* Major planning applications are those defined in Part 1(2) of The Town and Country Planning (Development Management Procedure) (England) Order 2015

Soils and Agricultural Land

5.135. Minerals and waste management development can have the potential to impact on soils. Soils must be adequately protected and maintained throughout the life of the development, particularly if a site comprises land that qualifies as best and most versatile agricultural land.

5.136. National Policy is clear that in circumstances where significant development of agricultural land is considered to be necessary, poorer quality land should be used

in preference to that classed as best and most versatile, provided this is consistent with other sustainability criteria.

5.137. It is recognised that mineral development will often need to temporarily remove soils in order to access the underlying mineral. This policy therefore aims to protect soils and agricultural land within the county.

5.138. Soils are an important and valuable restoration material and their proper handling and conservation is essential. Mismanagement of the soil resource is likely to seriously prejudice the standard of mineral restoration.

5.139. Proposals involving the removal of soils will require a comprehensive assessment of existing soils, undertaken by an appropriate qualified professional, including a detailed soil survey to identify soil types, profiles and depths. A soil management and handling strategy will also be required to demonstrate how a proposal will undertake any soil operations including stripping, movement, storage and replacement.

5.140. Where different soils are recorded, separate stripping, storage and replacement may be required to plan for reinstatement of the original soil profiles or an appropriate alternative soil profile in line with the restoration scheme.

5.141. Any proposal should take into account of the economic and other benefits of best and most versatile agricultural land and demonstrate any improvements that can be made to improve the quality of the soils.

Sustainable Hertfordshire Strategy: Ambition

- Ready for future climates

Policy 17: Soils and Agricultural Land

Proposals for minerals or waste development which involve the removal of soils, must be accompanied by a detailed assessment of existing soils together with a Soils Management and Handling Strategy. Such assessments must be carried out by a suitably qualified professional and where possible, should demonstrate any improvements that can be made to the soils.

Proposals for minerals or waste development must not result in the permanent loss of best and most versatile agricultural land, unless it can be clearly demonstrated that:

a) there is an overriding need for the development; and
b) sufficient land is unavailable in a lower grade.

Where land is returned to agricultural use, it must be returned to at least the equivalent grade of that prior to development.

Historic Environment

5.142. With a rich history and culture, Hertfordshire's environment contains an interesting variety of archaeology, buildings and structures, areas of historic landscape, conservation areas and historic parks and gardens. These include:

- Scheduled Monuments;
- Listed buildings and their setting;
- Conservation areas; and
- Registered Parks and Gardens.

5.143. Within the county there are Mesolithic and Bronze Age sites, nationally important late Iron Age and Roman remains, as well as medieval moated sites, historic parks and timber farm buildings. There are numerous historic towns and villages, including pioneering 20th century settlements such as garden cities and new towns, historic market towns and World War Two remains.

5.144. There are around 180 Scheduled Monuments throughout the county with certain concentrations around historic towns in the north, such as St Albans, and along communication routes, such as the Lee Valley. There are a significant number of Listed Buildings with concentrations in the county's historic towns such as Hertford and St Albans.

5.145. The county is home to 110 Grade I, 477 Grade II* and 7,491 Grade II listed buildings. There are 46 Registered Parks and Gardens of special historic interest in Hertfordshire, as listed by Historic England and these include 2 Grade I, 10 Grade II* and 34 Grade II parks and gardens.

5.146. As well as designated heritage assets, there are many non-designated heritage assets and archaeology sites in Hertfordshire which provide a significant contribution towards the distinctive character of the county and local areas within which they are situated. An example could be archaeological remains from the early medieval or Saxon period which are extremely rare in the county.

5.147. The Hertfordshire Historic Environment Record includes details of both designated and non-designated heritage assets in the county and information that helps predict the likelihood of currently unrecorded assets being discovered during development. Records of Locally Listed Buildings in Hertfordshire[32] can also be used to identify additional buildings which may have heritage value and make a positive contribution to local character and sense of place.

5.148. The NPPF requires a level of protection for the continued conservation, enhancement, enjoyment and understanding of the historic environment. Potential impacts associated with minerals and waste activity may include noise, vibration, dust, light pollution or heavy traffic. Conversely, they may also offer opportunities to improve access to historic sites, enhance the setting of historic features and lead to significant archaeological discoveries and enable historical research due to the size and scale of certain developments. This is particularly true for mineral developments involving extraction and subsequent restoration.

5.149. Policy 18: Historic Environment aims to conserve and, where appropriate, enhance the physical structure, setting and features of historic interest and puts provisions in place for their protection as well as the recording, interpretation and publication of findings where the potential impact on a feature necessitates its removal from site. It is acknowledged that mineral extraction is likely to cause temporary negative impacts. These negative impacts should be balanced against the long-term benefits that mineral developments can provide, including the reversal of previous impacts on heritage assets. As a baseline, minerals and waste development proposals should seek to conserve existing heritage assets and, where appropriate, enhance them, including their setting.

5.150. Applicants should review the relevant and most up-to-date historic, environment and heritage asset records and submit a desk-based assessment and, where necessary, a field evaluation (which may include intrusive investigations) as part of an application for minerals or waste development. The applicant should use appropriate expertise and seek correspondence with the county council early in the planning application process to determine the level of detail required for an

[32] Available to view on the Hertfordshire District and Borough Council websites

assessment and if there is a requirement for subsequent mitigation prior to, and throughout, the duration of the development.

5.151. Proposals should take into account the significance of any designated heritage assets affected and the contributions made by their setting. Regard should also be given to the importance of non-designated assets including locally listed buildings and unidentified heritage assets such as sites of historic and/or archaeological interest, along with the potential for previously unrecorded archaeological remains[33] and the impacts on historic landscape character.

5.152. Where the restoration of proposed mineral development allows the opportunity to improve a heritage asset or the setting of an asset, details of how this will be achieved should be incorporated into the Restoration Strategy as required by Policy 13: Restoration, Aftercare and After-use.

Sustainable Hertfordshire Strategy: Ambition

- No relevant linkages

Policy 18: Historic Environment

Development proposals will be supported where it can be demonstrated that they will protect, conserve and, where appropriate, enhance the historic environment.

Development proposals which affect a heritage asset (both designated and non-designated) and/or its setting must be accompanied by a Heritage Statement, which as a minimum should include:

a) a description of the significance of any heritage asset affected by the proposal;
b) details of any contribution made by its setting;
c) the integrity and distinctiveness of the asset; and
d) the level of impact on the character and value of the asset.

[33] See Historic England Advice Note 13: Mineral Extraction and Archaeology (2020) for further information on identifying and dealing with different types of archaeology at mineral extraction sites

The Heritage Statement should be informed by an appropriate desk-based assessment and, where necessary, a field evaluation, which will be linked to a Landscape and Visual Impact Assessment or Landscape and Visual Appraisal.

Any assessment should be proportionate to the significance of the asset and should use relevant historic, archaeological and environmental sources, the Historic Environment Record and appropriate expertise, to inform any mitigation measures required. Developers must make the results of any assessments publicly accessible to promote the understanding of the heritage asset.

Development proposals, particularly those relating to mineral extraction, may be required to carry out archaeological investigations to determine the presence or otherwise of buried remains.

Protection and Enhancement of Amenity

5.153. Amenity is defined as a combination of the positive elements that contribute to the overall character or enjoyment of an area. Hertfordshire residents benefit from high levels of employment, access to services and recreation, and a range of high quality built and natural environments. Within the built and natural environments, there are a number of features such as gardens, country paths, water bodies and an extensive Public Rights of Way network. These benefits and features all contribute to the county's amenity, which is an important consideration in planning.

5.154. The process of extracting, managing, processing and transporting minerals/aggregates or waste materials and the impacts that these can have on the amenity of the local area need to be fully considered and addressed at an early stage in the planning process, to minimise any adverse impacts to the amenity of the local area.

5.155. Noise arising from minerals and waste development should be fully appraised in a Noise Impact Assessment which should include in its analysis, evidence of any potential rise which may cause significant adverse effects as a result of the development and details of ensuring a good standard of amenity.

5.156. Dust may also be a consequence of minerals and waste development. It is an important consideration set out within the NPPF and the PPG establishes the five key stages of a Dust Assessment Study. Where dust emissions are likely to arise from mineral development, mineral operators are expected to prepare a Dust

Assessment Study. Additional measures to control fine particulates (PM10) to address any impacts of dust might be necessary if, within a site, the actual source of emission (e.g. haul roads) is in close proximity to any residential property or other sensitive use[34]. Waste developments, whilst less likely to give rise to dust emissions, should also be accompanied by a Dust Assessment Study where emissions are likely to arise.

5.157. Air quality can be affected by dust, increased traffic, odours and other sources. Early analysis of potential air quality impacts arising from minerals and waste development should be provided in the form of an Air Quality Assessment compliant with Environment Agency guidelines as part of the proposal[35]. This will establish any need for mitigation measures to protect human health and the integrity of any internationally designated Natura 2000 sites (that is, Special Areas of Conservation, Special Protection Areas) and Ramsar sites.

5.158. In considering air quality and its contribution towards the amenity of the local areas, proposals for minerals and waste management development may also need to consider any Air Quality Management Areas (AQMA's) within the vicinity of the proposal. This may require the routing of vehicles away from such areas.

5.159. Artificial lighting on mineral and waste sites can result in light pollution in the surrounding area. The most appropriate level of directional lighting will be required on sites to minimise as far as possible any light emitted into surrounding areas which could impact upon local wildlife habitats or nearby residential development.

5.160. A Health Impact Assessment may be an appropriate tool to assess the full range of potential impacts on human health as a result of the proposed development and should be undertaken in line with the requirements of Policy 20: Health and Wellbeing.

Sustainable Hertfordshire Strategy: Ambition

- Clean air for all by 2030

[34] PPG Paragraph: 030 Reference ID: 27-030-20140306
[35] Applicants should avoid duplicating aspects of air quality assessments already undertaken through measure such as Environmental Impact Assessment. PPG Paragraph: 007 Reference ID: 32-007-20191101

Policy 19: Protection and Enhancement of Amenity

Proposals for minerals and waste management development will only be permitted where it can be clearly demonstrated, though an assessment, that consideration has been given to the amenity of the users of neighbouring land and/or property*. Such an assessment must consider potential impacts relating to:

a) the protection from light pollution;
b) air quality (including from dust, odours and other sources);
c) privacy;
d) noise and vibration;
e) increases in litter;
f) increases in vermin; and
g) factors affecting human health and/or safety.

Where the assessment identifies the potential for any negative impact relating to the above factors, it must clearly be demonstrated where appropriate mitigation measures have been incorporated to remove the impact, or ameliorate it to acceptable levels. The assessment should also show, where appropriate, how enhancements have been made to amenity.

Where development proposals involve the operational movement of vehicles beyond the immediate environs of the site, amenity impacts covering a wider area will, where appropriate, also need to be considered.

*This includes the future users of land and/or property relating to development proposals that are permitted and/or allocated in the Development Plan, but which may not yet be completed/occupied.

Health and Wellbeing

5.161. The state of the natural world has a direct impact on people's health and wellbeing. Both minerals and waste developments can have the potential to provide enhanced access to the natural environment and provide opportunities to improve the health and wellbeing of residents.

5.162. The geology of Hertfordshire means that historic mineral extraction sites are part of the county's landscape with some noteworthy extraction sites now offering access to high quality natural environments, such as the Lee Valley Regional Park and the Amwell Nature Reserve. Research suggests that when people have good access to

green space (perceived or actual) they are 24% more likely to be physically active[36]. The potential cost savings to the health service from improved access to green space are significant. For example, outdoor exercise delivers an estimated £2.2bn of health benefits to adults in England each year[37].

5.163. There is a clear link between human health issues and the need to manage waste effectively, if waste isn't managed properly there is the potential for pollution and other environmental hazards, which might lead to an adverse impact on human health. Waste can also be used to create and improve landscapes which offer an improved access to nature and recreation.

5.164. Health and wellbeing must be a key consideration in the preparation of minerals and waste planning applications and planning decisions. The NPPF states that planning policies and decisions should aim to achieve healthy, inclusive and safe spaces which enable and support healthy lifestyles, especially where this would address identified local health and well-being needs, for example through the provision of safe and accessible green infrastructure[38].

5.165. Positive health and wellbeing outcomes from minerals and waste development might include:

- Opportunities for environmental improvements such as new or increased habitat;
- Improved public access;
- Enhanced green infrastructure;
- New and/or improved local amenity and recreational facilities;
- Increased opportunities for walking and cycling and other physical activity;
- Increased opportunities for informal sport and recreation;
- Improved environmental and wildlife education opportunities; or
- Improved community facilities and accessibility to natural services.

5.166. The benefits for health and wellbeing from an improved natural environment include:

- Improvements to physical health (through increased physical activity); and

[36] An estimate of the economic and health value and cost effectiveness of the expanded WHI scheme 2009, Natural England Technical Information Note TIN055, 2009
[37] White, M., Elliott, L., Taylor, T., Wheeler, B., Spencer, A., & Bone, A. et al. (2016). Recreational physical activity in natural environments and implications for health: A population based cross-sectional study in England. *Preventive Medicine*, *91*, 383-388. Retrieved from: https://www.sciencedirect.com/science/article/pii/S0091743516302298
[38] NPPF Paragraph 92

- Improvements to psychological and social wellbeing in a number of ways, including:
  - Reductions in stress and anxiety;
  - Increased positive mood, self-esteem and resilience; and
  - Improvements in social functioning and in social inclusion.

5.167. In line with Environmental Impact Assessment (EIA) requirements, it is important to explore the potential health impacts and benefits of/from minerals and waste development. Undertaking a Health Impact Assessment (HIA) is an appropriate mechanism for assessing these health impacts and benefits.

5.168. In October 2019, Hertfordshire County Council produced a Position Statement on Health Impact Assessments. In accordance with this, the county council will seek a HIA from minerals and waste development proposals[39]. Guidance on HIA methodology is available from the county council's Public Health professionals. It is also recommended that applicants refer to the Hertfordshire County Council Health and Wellbeing Planning Guidance May 2017[40].

Sustainable Hertfordshire Strategy: Ambition

- Improve nature in the county by 20% by 2050
- Clean air for all by 2030

Policy 20: Health and Wellbeing

Proposals for minerals and waste management development will be supported where it can be clearly demonstrated:

a) that the potential health impacts have been assessed;
b) that mitigation measures have been incorporated where necessary;
c) how the proposals could, where appropriate, offer enhanced access to the natural environment; and

[39] Hertfordshire County Council (2019). Position Statement: Health Impact Assessments: https://www.hertfordshire.gov.uk/services/health-in-herts/healthy-places/the-role-of-public-health-in-planning.aspx
[40] https://www.hertfordshire.gov.uk/services/health-in-herts/healthy-places/the-role-of-public-health-in-planning.aspx#howwework

d) how the development (including restoration where appropriate) contributes to positive health and wellbeing outcomes.

Where development proposals meet the thresholds defined in the Council's approved Position Statement on Health Impact Assessment (HIA), or where they are required to prepare an Environmental Impact Assessment, a HIA must be submitted in accordance with that approved Position Statement.

Water Management

5.169. Hertfordshire overlaps two main river catchments, the Colne in the west and Upper Lee in the east, with several other catchments at the extremities, such as the Thames Valley in the far west of the county.

5.170. The River Lee and its tributaries, which rise in Hertfordshire and flow south to the Thames, have a significant flood plain area, especially to the south, with areas such as Bishop's Stortford, Ware and Hertford being situated on or immediately adjacent to the floodplain. There are a number of settlements along the flood plain on the Broxbourne-Epping Forest border, including Broxbourne and Cheshunt, and there are additional floodplains along other rivers in the county.

5.171. The county lies within two Environment Agency river basin districts, the Anglian and the Thames, and the Agency has long-term strategies for both[41]. The Anglian region is the driest region in England and Wales and exhibits large areas where no further water is available during summer and some areas where damage is already occurring. In general winter surface water is available across the region. The Thames region also suffers from demand pressures, with summer surface water now fully committed and with licensing for further consumption highly constrained. Whilst winter surface water resources in the Lee catchment are generally available, parts do suffer from periods of unsustainable abstraction in terms of winter surface water availability.

5.172. The Environment Agency flood maps, based on indicative natural flood plains, indicate that areas of Hertfordshire are at risk of flooding. These represent land which lies beneath the fluvial 1:100 year return period water level.

[41] Anglian river basin district River Basin Management Plan 2015 & Thames river basin district River Basin Management Plan 2015

5.173. Climate change and rising demand are all likely to affect water quantity and quality, and so more efficient use of water is vital to cope with these changes. The Environment Agency has guidance on the inclusion of Climate Change Allowances in Flood Risk Assessments for proposed development.

5.174. Minerals and waste developments have the potential to impact water resources at a specific site or as part of the wider area. National policy states that development should be steered towards areas of lower flood risk but considers that where it cannot be avoided, development can be an appropriate land use in areas of higher flood risk (such as sand and gravel working).

5.175. In these instances, infrastructure and operations on site should be directed away from areas of higher flood risk and the county council would support proposals that provide beneficial impacts related to flooding. This may involve increasing the capacity of the floodplain and/or the free flow of floodwater through the development's design.

5.176. Proposals must address the likely effects of the proposed development on surface water and groundwater in terms of changes to flow, water table, water temperature and quality.

5.177. The Water Framework Directive (WFD) dictates that mineral developments must not cause any unacceptable adverse impact on local water bodies. As roughly 70% of Hertfordshire is covered by Source Protection Zones[42], which provide much of the county's drinking water and maintain the flow in many of our rivers, this is of particular local importance.

5.178. In accordance with national policy, proposals for developments on sites of 1 hectare or more in Flood Zone 1, or within Flood Zones 2, or 3 must be accompanied by a site-specific Flood Risk Assessment and must contain mitigation measures with regards to either the Thames or the Anglian River Basin Management Plans, should the proposal affect a relevant water body.

5.179. Assessments should incorporate climate change allowances to help minimise vulnerability and provide resilience to flooding in the future. The level of climate change allowances to be included in a site-specific flood risk assessment is set by the Environment Agency. Guidance can be found on the Environment Agency website to determine what allowances should be used as part of an assessment.

[42] Environment Agency Groundwater Protection Zones Map 2016

These are based on the river basin, flood zone and duration of development amongst other categories.

5.180. Consultation should be undertaken with the Environment Agency at an early stage in the planning application process to determine any additional concerns that need addressing as part of the proposal and the level of detail required. Following submission of a planning application, the Environment Agency will then advise the county council whether the applicant's proposed mitigation measures are sufficient for planning permission to be granted.

5.181. The county council, as Lead Local Flood Authority (LLFA) for Hertfordshire will determine whether the application requires a Sustainable Drainage System (SuDS) to be incorporated into the design of the development. If a SuDS scheme is considered necessary, the county council will be required to approve the submitted SuDS before development can commence on site.

5.182. Depending on the nature of the development, measures will be expected as part of the proposal to mitigate against any potential impacts arising. Water management should be a key focus for restoration plans, specifically to ensure that restored land does not cause greater runoff levels than expected. Water management must also be a key focus in considering site layout and building design to ensure they do not cause greater runoff levels than expected from the area.

Sustainable Hertfordshire Strategy: Ambition

- Ready for future climates
- Improve nature in the county by 20% by 2050

Policy 21: Water Management

Development proposals (including restoration and after-use) must take account of any potential impact on water supply, water quantity, water quality and flood risk. Proposals will be supported where it can be demonstrated that:

a) there are no unacceptable adverse impacts to water quality, nature conservation and the amenity value of water resources;
b) including reclamation of the site, they reduce flood risk, taking account of climate change allowances;

c) proposals do not cause adverse impacts on the flow and quality of surface waters and groundwater on the site and elsewhere;
d) development or operations on the site are directed away from areas of high risk of flooding;
e) developments meet the national and local principles/standards for Sustainable Drainage Systems (SuDS) design to manage surface water run-off; and
f) proposals conserve and enhance the water environment.

Where development is proposed in areas known to be at risk of flooding, either now or in the future, a sequential test and if necessary, an exception test, will need to be applied, taking account of climate change allowances. For all proposals in Flood Zones 2 or 3, or in Flood Zone 1 in accordance with national policy, a site-specific Flood Risk Assessment will be required.

Water Recycling Sites

5.183. Water Recycling Centres (WRCs) are facilities which are responsible for the management and treatment of sewage and wastewater. Hertfordshire contains a network of WRCs and these, along with their associated infrastructure, are shown on the Policies Map as Water Recycling Sites (WRS).

5.184. These sites are important for ensuring that wastewater and sewage is appropriately treated, prior to being discharged into a receiving watercourse, to ensure that there are no adverse impacts upon the environment or to human health.

5.185. It is also important to ensure that development proposals relating to new or existing WRCs will not adversely impact on the environment or on the users of neighbouring land, including for example through increases to the risk of flooding or adverse amenity impacts.

5.186. This policy should be read in conjunction with Policy 4: Site Safeguarding and Consultation Areas, which seeks to protect WRS from loss or reduced capacity as a result of other forms of development.

Sustainable Hertfordshire Strategy: Ambition

- A net zero carbon county ahead 2050
- Ready for future climates

Policy 22: Water Recycling Sites

Water Recycling Sites (WRS) are identified on the Policies Map as areas where existing Water Recycling Centres (WRCs) are located.

The Council will support in principle proposals for new, and improvements or extensions to existing WRCs, along with associated infrastructure (including renewable energy), in order to meet growth needs identified in the Development Plan or for operational efficiency.

Proposals for WRC development will only be supported where it can be clearly demonstrated that:

a) there will be no increase in the risk of flooding to land or property;
b) an appropriate watercourse is available and suitable to accept the discharge of treated water; and
c) an assessment has been carried out of the likely impact the development may have on the amenity of users of any nearby land or property, including, where appropriate, any mitigation measures.

Proposals for new or extensions to existing WRCs must avoid land within Flood Zone 3, unless it can be clearly demonstrated through the application of sequential and exception tests (as appropriate), along with an assessment of the benefits of the location weighed against the risks.

Transport Infrastructure Sites

5.187. Minerals and mineral products need to be transported from their source to relevant markets, not only within Hertfordshire but further afield. Mineral also needs to be imported into Hertfordshire, such as crushed rock, which cannot be sourced locally.

5.188. Similarly, waste products, such as recycled aggregate and residual wastes that cannot be managed locally, need to be transported to onward destinations for further processing, use and re-use.

5.189. It is important to ensure that this bulk transportation of material takes place sustainably, such as via rail, conveyor or water, diverting away from road transport where possible. At present there are no wharves within Hertfordshire, although potential does exist such as on the River Lea.

5.190. Planning applications for the winning and working of minerals will be encouraged where practicable to transport materials by conveyor, not only to processing areas within the wider extraction site but also to market where feasible, including the importation of inert material for restoration.

5.191. The main method for the bulk transportation of minerals and waste products is via the county's existing railheads. There are currently five operational railheads in Hertfordshire, identified on the Policies Map as Transport Infrastructure Sites (TIS), and these are listed below:

- Harper Lane, St Albans;
- Langley Sidings, Stevenage;
- Orphanage Road, Watford;
- Rye House, Hoddesdon; and
- Walsworth Road, Hitchin.

5.192. Owing to the importance of this critical infrastructure, these sites are safeguarded from loss or reduced capacity from other forms of development (see Policy 4: Site Safeguarding and Consultation Areas). The County Council will encourage their increased use in order to reduce the need to transport materials by road. The council will also support proposals for new or extensions to existing TIS.

Sustainable Hertfordshire Strategy: Ambition

- A net zero carbon county ahead 2050
- Ready for future climates
- Clean air for all by 2030

Policy 23: Transport Infrastructure Sites

Transport Infrastructure Sites (TIS) are identified on the Policies Map as existing sites which are essential for the sustainable transportation of minerals and waste.

Proposals for new and extensions or improvements to existing TIS, including conveyors, railheads and wharves, will be supported in principle, where they would facilitate sustainable growth proposals identified in the Development Plan, and/or would reduce the amount of material being transported by road.

Transport

5.193. With several main road and rail arteries, Hertfordshire is a well-connected county, with a north-south focus serving London, the Midlands and the North. The M1, A1, M25, A414 and A10 are some of the busier routes by road. The West Coast and East Coast Main Lines are two of the key rail routes through the county along with the Midland Mainline and West Anglia Mainline.

5.194. It is also important to consider east-west connectivity issues, which have been identified by the Hertfordshire Local Enterprise Partnership (LEP), who consider this a strategic theme for the county. The LEP state that better east-west connectivity could generate benefits from planned new development and neighbouring areas.

5.195. Hertfordshire has high levels of car ownership, with high levels of cross-boundary commuting and complicated movement patterns due to the high number of medium-sized towns. This along with the east-west connectivity issues, contributes to road traffic growth which can cause significant problems in relation to congestion, safety, health, quality of life, emissions and air quality.

5.196. These issues can be linked to traffic flows where Hertfordshire's motorway, trunk and principal A road network, carry traffic flows which are over double the national average. In 2017, an average of 38.37 million km was travelled by vehicles on roads in Hertfordshire per day. This is a 2.3% increase on the figure of 37.51 million km per day from 2016. Levels of multiple car ownership in Hertfordshire are also higher than both national and regional averages[43].

5.197. With no dominant centre in Hertfordshire to act as a central point for transport, and many medium sized towns separated by only a few miles, Hertfordshire has a dense population which contributes to capacity problems on the county's road network. This polycentric characteristic results in complicated movement patterns and complex transport interactions between these settlements on which residents rely for access to goods and services.

5.198. The backdrop to these towns is a largely rural environment dotted by villages and hamlets, with notable attractive physical features. A challenge is supporting growth and increased travel without reducing the quality of the environment, and where possible enhancing the features that attract people to the county.

[43] Hertfordshire's Traffic and Transport Data Report 2018

5.199. Mineral and waste management operations within the county need to acknowledge the existing highway situation and, in accordance with national policy, seek to minimise travel by road and actively promote alternatives to road transport. While there is a dense public rights of way network throughout the county, it is recognised that more sustainable modes may not always be feasible.

5.200. Mineral extraction especially can generate heavy lorry traffic in and around the site which can have a significant adverse impact on the highway and rights of way networks in some locations of the county. Mineral resources are not widespread across the county and are predominantly restricted to the sand and gravel belt where they naturally occur. Waste operations are also non-uniformly distributed across the county. As a result, mineral and waste related traffic is higher in some areas than others.

5.201. In addition to this, the use of extracted mineral and the disposal of Hertfordshire's waste is not restricted to the county, with markets being supplied outside of the county, generating minerals and waste related traffic on the wider highway network. For example, in 2019, 11% of Hertfordshire's primary aggregate sales went to the East of England and 15% to other destinations[44].

5.202. Movement of minerals is two-fold. Firstly, there is the movement within the quarry, from the extraction site to the processing plant; and secondly the transport from the site to market. Whilst the first stage of moving minerals can be kept off public roads, through using haul routes or conveyor belts, movement to market often involves heavy goods vehicles on the public highway.

5.203. Any potential impact on the highway and rights of way networks during the full lifecycle of the development needs to be assessed as part of any mineral or waste planning application, owing to heavy commercial vehicles contributing to noise, dust and congestion on the roads. The county council may seek to use planning controls to manage lorry movements associated with mineral and waste operations such as access improvements, restrictions on single lengths of roads, rights of way or bridges or area wide bans to direct heavy lorry traffic to the most suitable routes.

5.204. All development that generates significant amounts of transport movement should be supported by a Transport Assessment, which should detail the cumulative impacts of the development from transport and vehicle movements, and where appropriate, the Transport Assessment should set out measures to minimise movements by road based HGVs.

[44] Local Aggregate Assessment (2021)

5.205. Minerals and waste related traffic is more suited to the strategic road network and the primary route network, as defined by the Local Highway Authority. The Local Transport Plan[45] states that the county council will promote a road hierarchy and encourage heavy commercial vehicles to use the strategic road network and primary route network. This will help keep traffic away from local roads and reduce impacts on rights of way, residential or other amenities.

5.206. Given the above it is important to consider other forms of transport for the movement of minerals and waste products. Within Hertfordshire there are five rail terminals which are used for this purpose. Depending on the location of the facility and the capacity of the road network between the facility and the railhead, development proposals should actively seek opportunities to use this infrastructure.

5.207. The following policy sets the overarching position in terms of transport and seeks to encourage the use of alternative means of transport for minerals and waste traffic to that of the road network.

Sustainable Hertfordshire Strategy: Ambition

- A net zero carbon county ahead 2050
- Ready for future climates
- Improve nature in the county by 20% by 2050
- Clean air for all by 2030

Policy 24: Transport

Development proposals should seek to minimise transport movements and distances travelled by road, through the use of sustainable methods such as rail and water. Where transportation by road is necessary, proposals should, where practicable, be well located in relation to the primary route network and must clearly demonstrate:

a) why transportation by road is justified;
b) how movements on the highway will be minimised; and
c) the merits of the site's location in relation to the primary route network.

Such proposals must also clearly demonstrate that the provision of vehicle movements within the site, access to and from the site, and the conditions of the local highway

[45] Hertfordshire's Local Transport Plan

network are such that, the traffic effects likely to be generated would not have an unacceptable adverse effect on:

d) highway safety including Public Rights of Way;
e) the effective operation of the highway network;
f) amenity;
g) human health; and
h) the natural, built and historic environment.

Proposals for new or replacement rail and/or water terminals to transport mineral and/or waste will be particularly supported, subject to the suitability of the local road network for secondary collection and distribution.

Proposals which generate significant transport movements must be supported by a Transport Assessment which details as a minimum:

i) the potential cumulative effects arising from transport movements and how the impacts will be mitigated;
j) the scale of the proposed development and its potential for additional trip generation;
k) how access to the highway network is suitable and how impacts in road safety, congestion and any current restrictions have been assessed;
l) the existing intensity of transport use and the availability of public transport;
m) the proximity to nearby environmental designations or sensitive areas;
n) the impact on other plans/strategies including the Local Transport Plan and its supporting documents*;
o) an assessment of the opportunities for providing electric vehicle charging infrastructure, including where appropriate the use of electric Heavy Commercial Vehicles or other low emission technologies; and
p) any other specific transport related impacts that the proposal may generate.

Where required, proposals may need to include one or more of the following:

q) highway and/or rights of way improvements;
r) traffic management measures;
s) other mitigation measures that may be needed to minimise the effect of increased traffic associated with the development.

Routing agreements and/or planning obligations will be sought, where appropriate, to mitigate unacceptable adverse impacts of development, where this cannot be dealt with through planning conditions.

*these include, but are not limited to, Growth and Transport Plans, the Rights of Way Improvement Plan, and the Road Safety Strategy.

Public Rights of Way

5.208. Minerals and waste development is often located in the countryside, which means there is the potential for impacts on existing Rights of Way and access to open space. There should be no loss to the Public Rights of Way Network as a result of minerals or waste operations.

5.209. If proposals were to impact on access to existing Rights of Way, it is expected that operators would provide alternative routes, either on a temporary basis with reinstatement on completion of the development (including restoration), or as a permanent diversion. Where possible, the provision of alternative routes should link to Hertfordshire's Rights of Way Improvement Plan[46] which identifies required changes and improvements to the local Rights of Way network.

5.210. In order to facilitate active travel, there is a need for a well-managed network of Rights of Way which can be improved for enhanced public access by creating new Green Infrastructure routes.

5.211. This policy seeks to ensure that minerals and waste operations are carried out sensitively in respect of maintaining and enhancing public Rights of Way, including during restoration. Existing Rights of Way would only be temporarily altered if access to the route cannot be safely kept open during the mineral or waste operation.

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- A net zero carbon county ahead 2050
- Improve nature in the county by 20% by 2050

[46] https://www.hertfordshire.gov.uk/services/recycling-waste-and-environment/countryside-access/rights-of-way

Policy 25: Public Rights of Way

Development proposals should ensure that public rights of way, including rights of way infrastructure which forms part of active travel opportunities, are protected and not adversely affected. Where this is not possible, proposals must ensure that alternative provision is made of an equivalent quality, safety and convenience (including any temporary provisions).

The use of rights of way to obtain vehicular access to a site will not be permitted unless it can be clearly demonstrated that the safety of rights of way users can be adequately protected.

All proposals (including restoration) should, where possible, improve and enhance access, including to the countryside, by means of active travel, through the rights of way network and/or open space. Such improvements should clearly link to the Rights of Way Improvement Plan, Active Travel Plan and Green Infrastructure Plan.

Cumulative Impacts

5.212. Minerals and waste management development can have significant impacts upon the environment and on local communities. This can be magnified by sites being located in close proximity to each other, by simultaneous or successive development in close proximity, by individual sites which cause numerous significant effects, or for example by the extended working of mineral sites resulting in many years of activity in one location.

5.213. The multiple impacts that may arise from minerals and waste developments can accumulate to present overall negative effects on the surrounding areas.

5.214. National policy is clear that plans should take account of the cumulative effects of minerals and waste management development and should ensure that permitted operations do not have unacceptable adverse impacts on, amongst other things, the following considerations:

Natural Environment:

- Appearance, quality and character of the landscape;
- Biodiversity;
- Geological interest;
- Flood risk and flood alleviation;

- Quality of the water courses, groundwater and surface water;
- Best and most versatile agricultural land; and
- Land stability.

Built Environment:
- Delivery of strategic non-mineral and waste Local Plan allocations; and
- HGV movements.

Historic Environment:
- Heritage assets, including those with an archaeological interest; and
- Social, cultural, economic and environmental benefits of conservation.

Human Health and General Amenity:
- Unavoidable noise, dust, odour and particle emissions; and
- Public Rights of Way.

Transport Networks:
- Primary Route Networks and Local Roads;
- Safety and congestion;
- Additional trip generation;
- Access to and effective operation of the Transport Network; and
- Non-motorised networks (including Public Rights of Way).

Aviation Safety:
- Risk of bird strike within Aerodrome Safeguarding Areas.

5.215. The list is not exhaustive, and proposals will be appraised with regards to the cumulative effect of a proposal on a site-by-site basis, taking into account any sensitive receptors in close proximity to the proposal and the management and reclamation of other sites locally.

Sustainable Hertfordshire Strategy: Ambition

- Improve nature in the county by 20% by 2050
- Clean air for all by 2030

Policy 26: Cumulative Impacts

Development proposals will be permitted where it can be demonstrated that the cumulative impact would not result in unacceptable adverse effects on the environment of an area, or on the amenity or health of a local community.

Proposals must adequately take account of potential cumulative effects and demonstrate how appropriate mitigation has been incorporated into the scheme design. Particular regard should be had to the following matters:

a) natural, built and historic environment;
b) human health and general amenity;
c) transport networks; and
d) aviation safety.

Effects may arise in relation to the collective impacts of different effects of an individual proposal or in relation to a number of developments occurring either concurrently or successively.

Aerodrome Safeguarding

5.216. Minerals and waste management development has the potential to impact on aviation safety. Certain forms of development can result in an increase in bird strike, for example mineral restoration schemes which may include bodies of water that attract birds.

5.217. Other forms of development can also have an impact on aircraft safety, such as the use of certain exterior cladding materials which may interfere with radar technology, or buildings housing incinerators which may have chimneys of a certain height.

5.218. The Town and Country Planning (safeguarded aerodromes, technical sites and military explosives storage areas) Direction 2002 requires Local Plans to include policies which recognise that certain airports and technical sites are safeguarded through aerodrome safeguarding areas, and these are shown on the adopted Policies Map for the area.

5.219. The operators of certain aerodromes or technical sites may need to be consulted on certain development proposals which fall within their respective aerodrome safeguarding areas, to ensure that aviation safety is not compromised.

5.220. It should be noted that aerodrome safeguarding areas are issued and certified by the Civil Aviation Authority or Secretary of State for Defence, and are therefore not proposed by, nor are they the responsibility of, Local Planning Authorities, including the county council.

Sustainable Hertfordshire Strategy: Ambition

- No relevant linkages

Policy 27: Aerodrome Safeguarding Areas

Aerodrome Safeguarding Areas are officially safeguarded areas that have been established around designated airports and technical sites and are shown on the Policies Map for the area.

Proposals for Minerals and Waste Management development which fall within Aerodrome Safeguarding Areas will only be permitted if they can clearly demonstrate that they pose no unacceptable risk to aviation safety. Where this cannot be demonstrated, or where the risks are uncertain, development will likely be refused.

Where a risk of bird strike has been identified, the Council may require the implementation of an approved Bird Management Plan.

6. List of Acronyms

AONB – Area of Outstanding Natural Beauty
BGS – British Geological Survey
BREEAM - Building Research Establishment Environmental Assessment Method
CAA – Consultation Area Assessment
CD&E – Construction, Demolition and Excavation
DPD – Development Plan Document
EIA – Environmental Impact Assessment
HGV – Heavy Goods Vehicle
HIA – Health Impact Assessment
LAC – Local Authority Collected
LEP – Local Enterprise Partnership
LLFA – Lead Local Flood Authority
LLR – Low Level Radioactive
LNR – Local Nature Reserve
LPA – Local Planning Authority
LVIA – Landscape and Visual Impact Assessment
MAS – Mineral Allocation Site
MCA – Mineral Consultation Area
MDS – Mineral Development Site
MPA – Minerals Planning Authority
MRA – Mineral Resource Assessment
MSA – Mineral Safeguarding Area
MWPA – Minerals and Waste Planning Authority
NHS – National Health Trust
NNR – National Nature Reserve
NPPF – National Planning Policy Framework
NPPW – National Planning Policy for Waste
PPG – Planning Practice Guidance
SA – Sustainability Appraisal
SAC – Special Area of Conservation
SCA – Site Consultation Area
SEA – Strategic Environmental Assessment
SPA – Special Protection Area
SPD – Supplementary Planning Document
SSA – Site Safeguarding Area
SSSI – Site of Special Scientific Interest
TIS – Transport Infrastructure Site
WDA – Waste Disposal Authority

WFD – Water Framework Directive
WMS – Waste Management Site
WPA – Waste Planning Authority
WRC – Water Recycling Centre
WRS – Water Recycling Site

7. Appendices

Appendix 1: Site Briefs

Appendix 2: Waste Facilities Location and Design Guidance

Appendix 3: Safeguarding Minerals and Waste Infrastructure and Resources

Appendix 4: Circular Economy Statements

Hertfordshire Minerals and Waste Local Plan 2040

Appendix 1: Site Briefs

Hertfordshire County Council

Hertfordshire

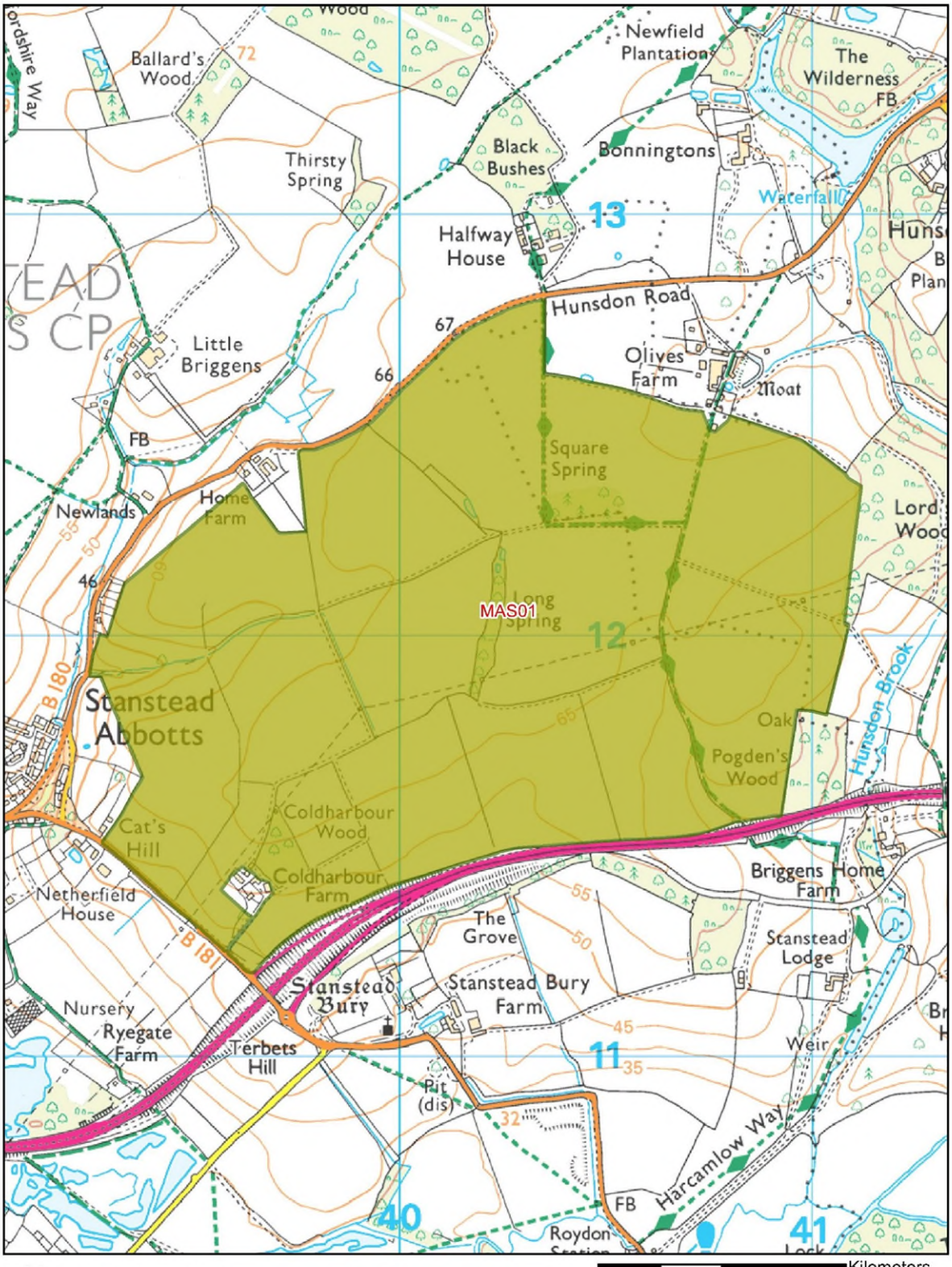
July 2022

Hertfordshire

MAS01: The Briggens Estate

Site Address	Land to the East of Stanstead Abbotts
Location	Located to the east of Stanstead Abbotts, between the A414 and B180 Easting: 540509, Northing: 212096
District	East Herts District
Size	175 ha
Planning Status	The site has no relevant minerals planning history. The site is located less than 500m to the west of a site included in the East Herts District Plan within Policy GA1. The policy aims to supply 10,000 dwellings as a new garden village, with 7,000 of the homes likely to be developed after the end of the plan period of the East Herts District Plan.
Current use of site	Agricultural
Material	Sand and Gravel
Potential workable reserves	8.8Mt
Anticipated annual output	500,000 tonnes
Timings	The site is expected to be worked in the latter half of the plan period. Extraction expected to take 18 years.

Site Map:



N

MAS 01

Scale: 1:12,000

Kilometers

0 0.15 0.3 0.6

Hertfordshire

Site Considerations:

Natural Environment
The site sits within the Green Belt. Developments associated with the mineral extraction should be designed and positioned appropriately to prevent conflict with the purposes of the Green Belt.

The site sits in the Impact Risk Zones for the Lee Valley Special Protection Area (SPA), Rye Meads SSSI, Hunsdon Mead SSSI and Amwell Quarry. Proposals, including operation and final restoration, would need to address the potential impacts on these sites and the potential use of the site and its surroundings by SPA birds. Proposals should reference early engagement with the Lea Valley Regional Park Authority, RSPB, River and Canal Trust and other relevant organisations.

Any proposals will need to seek advice from the Environment Agency and in particular, take into account the need to protect Stanstead Abbots Drain and Hunsdon Brook.

Timings
Depending on the timing of delivery, the proximity of the proposed residential developments at Harlow Gilston Garden Town (HGGT) will need to be carefully considered and any cumulative impacts appraised and mitigated.

The site is to be worked in a phased manner from east to west. Advance planting should take place to provide an appropriate buffer along the northern and western boundary of the site. Work on the implementation of this buffer must commence no later than commencement of the first phase of extraction, and the buffer should be established and be functional prior to extraction taking place on the western half of the site.

Transport and Access
Access to and from the site must be via the B181 (Roydon Road). The entrance to the site must be engineered so that traffic on Roydon Road cannot turn left into the site nor turn right out of the site, in order to prevent site traffic from travelling through Stanstead Abbotts.

The access strategy to the site will need to fully consider traffic movements between the A414 and the access to the site on the B181. Proposals will need to fully consider the interaction between site related traffic and other highway users, particularly people walking, cycling or riding a horse. Any proposals should include solutions which mitigate impacts on those users, in line with County Council's Local Transport Plan Policies.

Considerations should include, but not be limited to, the following:

- Any junctions proposed on the B181 must be designed to ensure that there are no residual safety concerns, designed to the appropriate standards and must be deliverable

- Consideration of and, if necessary, associated alterations to the existing bus stops on the B181
- Consideration should be given to vulnerable road users wishing to use the B181 and the impact of large numbers of HGVs using the route, with suitable alternative provision being made as appropriate
- Potential re-opening of the west facing slip roads on the A414 with a suitable connection between the slip roads and the B181. This would require operational management of the slips to prevent non-site traffic, and suitable operational arrangements of the underpass under the A414 including consideration/mitigation of any impacts on bridleway Stansted Abbots 019.

Historic Environment

Information from the Hertfordshire Historic Environment Record shows that there may be significant archaeological interest in the northern area of the site. The area is also surrounded by a significant quantity of designated and non-designated heritage assets. As such, a Heritage Impact Assessment[1] has been produced for The Briggens Estate with which any proposal at the site must be in accordance.

Any proposal at the site must identify heritage assets whose significance and setting may be affected as part of any application for extraction, including archaeological assets and hydrogeological features. The proposal must demonstrate how designated and non-designated heritage assets will be conserved and enhanced and meet the requirements of Policy 18: Historic Environment.

Where preservation in situ of archaeological remains within areas of open space is proposed, any landscaping schemes will be designed to ensure there is no damage to the identified archaeological assets. Additionally, any proposal at the site will be required to produce a Cultural Heritage Management Plan that will inform an appropriate scheme of working and restoration.

Restoration

Any restoration proposals following mineral extraction phases should complement the delivery of Harlow Gilston Garden Town with the provision of open space. This open space should be delivered in accordance with the principles of a Country Park.

Any impact on the Rights of Way network needs to be suitably mitigated and the agreed restoration scheme must include provision of improved connectivity, particularly east-west, both during and after mineral extraction. All proposals will need to be safety audited and approved the Highway Authority.

1.1.

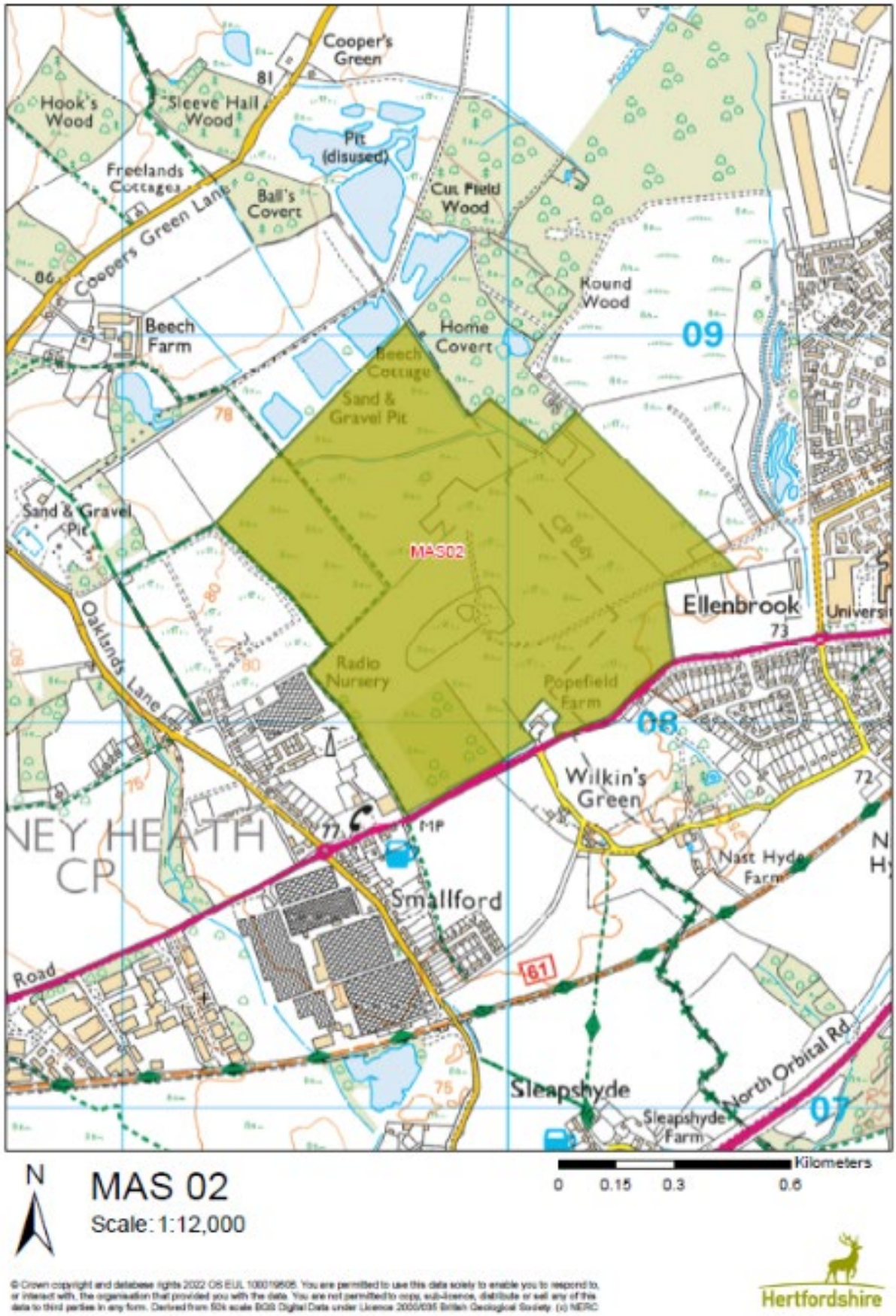
[1] Heritage Collection (2020). Heritage Impact Assessment: The Briggens Estate, Stansted Abbots, Hertfordshire – Preferred Area of Mineral Extraction.

A restoration strategy for the site must be agreed in consultation with the Lea Valley Regional Park Authority. The strategy will be required to take into account historic landscape characterisation of the site and its wider setting.

MAS02: Hatfield Aerodrome

Site Address	Land at former Hatfield Aerodrome, Hatfield Road, Hatfield
Location	Located to the west of Hatfield and to the east of St Albans, adjacent to Ellenbrook and the A1057 Easting: 519951, Northing: 208269
District	St Albans City & District and Welwyn Hatfield Borough
Size	86.6 ha
Planning Status	The area surrounding the site currently houses several operations associated with a history of mineral extraction in the area. The site is part of an allocated Preferred Area in the adopted Minerals Local Plan. Planning permission was granted in December 2000 for a mixed-use development. The legal agreement forming part of the planning permission provided for the creation of a country park on the land to the west of Ellenbrook. A planning application for mineral extraction, aggregate processing plant, concrete processing plant and ancillary facilities was refused in September 2020 and later dismissed at appeal in January 2022. A revised planning application for mineral extraction was submitted to the council on 3 September 2021. This application was not considered at the appeal relating to the previous refusal.
Current use of site	Former airfield returned to green field
Material	Sand and Gravel
Potential workable reserves	8 million tonnes
Anticipated annual output	250,000 tonnes
Timings	Starting in years 1-5 of the Plan period Extraction expected to take 30 years

Site Map:



Site Considerations:

Natural Environment
The site sits within the Green Belt. Developments associated with the mineral extraction should be designed and positioned appropriately to prevent conflict with the purposes of the Green Belt.

Hydrology and Flood Risk
A small part of the site, at the southeast edge, is situated within Flood Risk Zone 2. Due to the potential for extraction in proximity to Flood Risk Zone 2, proposed mineral extraction should seek opportunities to reduce the overall level of flood risk in the area through the layout and form of the development and the appropriate application of sustainable drainage systems. It should be noted that the extraction site is located entirely within Flood Zone 1 and is at low risk of flooding.

The site lies over an area contaminated with a plume of Bromate which is found in the lower horizon of the sand and gravel resource. Proposals will require an extensive plan of groundwater level and quality monitoring before, during and after the working to protect the water supply. The Bromate plume will need to be assessed and shown that it will not be spread either vertically or laterally as a result of proposed works. This is of particular importance for proposals which extend below the water table or into the lower mineral horizon.

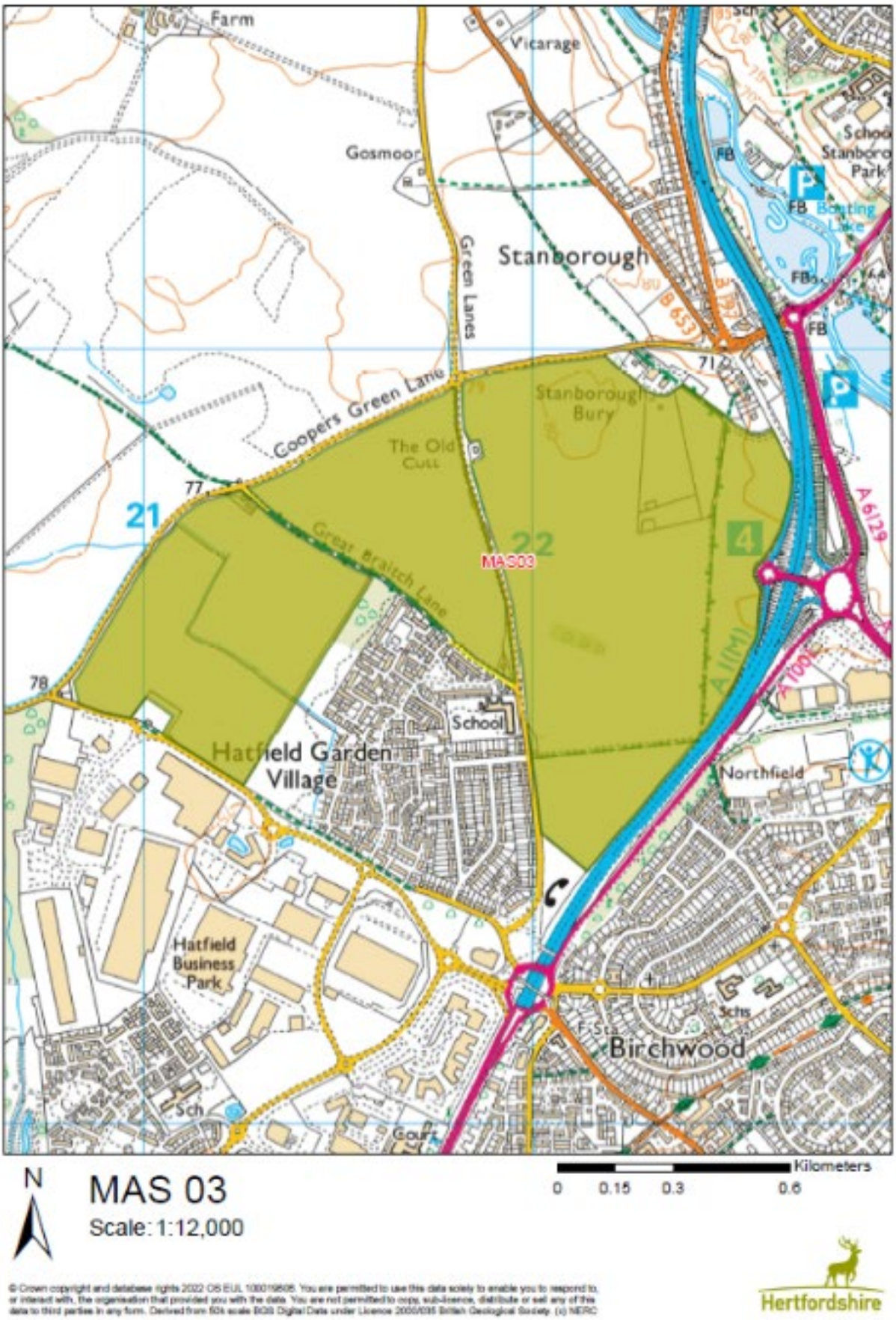
The Environment Agency states that no mineral is to be extracted from within the existing plume of bromate and bromide groundwater pollution. Any activities close to the plume must not change the existing hydrogeological flow regime. Any activities close to the plume must not interfere with the remediation of the bromate and bromide pollution.

Restoration
There is an outstanding S106 agreement for the creation of a country park on land to the west of Ellenbrook. The agreement was guided by the Hatfield Aerodrome Supplementary Planning Guidance document adopted by Welwyn Hatfield Borough Council in November 1999. Proposals for working and restoration should detail steps, within a restoration strategy, to restore the site to serve as Ellenbrook Country Park. Restoration and aftercare of the site should be consistent with any existing legal agreement and the Hatfield Aerodrome Supplementary Planning Guidance (or subsequent revisions of the Local Plan).

MAS03: Land adjoining Coopers Green Lane

Site Address	Oaklands Lane, Smallford, St Albans
Location	Located to the north of Hatfield, adjacent to the A1(M) and Coopers Green Lane Easting: 521685, Northing: 210574
District	Welwyn Hatfield Borough
Size	125 ha
Planning Status	A planning application for sand and gravel extraction at the site was approved by the council in October 2020. A decision notice has yet to be issued and therefore the site remains as an allocation in the Plan. The site is proposed as an extension to Hatfield Quarry which has been operational since the 1960s with various extensions for sand and gravel extraction. Currently, extraction occurs at the Symondshyde Farm site and material is transported to the existing processing plant at Hatfield Quarry by conveyor belt. The site is included in the Submission version of the Welwyn Hatfield Local Plan within Policy SP22. The policy aims to supply 1,650 new homes and other associated developments including a neighbourhood centre, education facilities and suitable access arrangements as part of allocation Hat 1: North West of Hatfield.
Current use of site	Agricultural
Material	Sand and Gravel
Potential workable reserves	3.52 million tonnes
Anticipated annual output	400,000-600,000 tonnes
Timings	Starting in years 1-5 of the Plan period Extraction expected to take 9 - 14 years

Site Map:



Site Considerations:

Natural Environment
The site sits within the Green Belt. Developments associated with the mineral extraction should be designed and positioned appropriately to prevent conflict with the purposes of the Green Belt.

Timings
The site is located nearby MAS02 and the permitted extraction site at Hatfield Quarry: Furze Field. The timing of extraction must be such to address the potential cumulative impacts of the multiple extraction sites. A proposal at the site should take into account the potential cumulative impacts of the developments and demonstrate how adverse impacts will be mitigated. Therefore, extraction at MAS03 is expected to follow extraction at Hatfield Quarry: Furze Field.

A Masterplan for the site will form the basis of a Supplementary Planning Document to be developed by Welwyn Hatfield Borough Council which will provide further guidance on site-specific matters related to the provision of non-mineral development. The extraction of minerals should be complementary to the residential allocation. Phasing of extraction should not affect the timely provision of housing within the Welwyn Hatfield Local Plan.

A potential workable reserve has been identified which takes into account the provision of open space and Green Infrastructure. There may be opportunities to work a greater amount of mineral dependant on the phasing and overall master-planning of the area.

Transport and Access
Extraction will occur as an extension to Hatfield Quarry. Material will be transported to the existing processing plant by conveyor belt rather than by vehicular transport. The existing vehicular access to Hatfield Quarry will continue to be used.

Due to the long-term use of the existing access to Hatfield Quarry on Oaklands Lane and the associated use of the A1057, applications should address the potential cumulative impact of HGV movements that may occur as a result of further long-term mineral transportation.

Hydrology
The site lies over an area contaminated with a plume of Bromate which is found in the lower horizon of the sand and gravel resource. Proposals will require an extensive plan of groundwater level and quality monitoring before, during and after the working to protect the water supply. The Bromate plume will need to be assessed and shown that it will not be spread either vertically or laterally as a result of proposed works. This is of particular importance for proposals which extend below the water table or into the lower mineral horizon.

The Environment Agency states that no mineral is to be extracted from within the existing plume of bromate and bromide groundwater pollution. Any activities close to the plume must not change the existing hydrogeological flow regime. Any activities close to the plume must not interfere with the remediation of the bromate and bromide pollution.

Hertfordshire Minerals and Waste Local Plan 2040

Appendix 2: Waste Facilities Location and Design Guidance

Hertfordshire County Council

Hertfordshire

July 2022

Hertfordshire

For information about this document please contact:

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Hertfordshire County Council
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SG13 8DN

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Contents

1. Introduction

1.1. Hertfordshire County Council has produced this guidance document covering recommendations to be given consideration on the design of new waste management facilities. This guide has been written in accordance with the adopted Minerals and Waste Local Plan.

1.2. The purpose of this document is to provide planning guidance into the aspects of design of waste management facilities and the expectations of National and Local Planning Policy and should be used by applicants wishing to develop such facilities.

1.3. The guidance outlines the key design principles for waste management facilities and lists a number of general key planning issues and detailed assessments that may be required at the planning application stage relating to the location and design of waste management facilities.

1.4. Good design is a key aspect of sustainable development and helps to create better places in which to live and work.

1.5. The guidance within this document can be applied to all waste development proposals within Hertfordshire. It is based on the premise that good quality sustainable design is beneficial to developers, residents and the community as a whole.

1.6. In general, well-designed places will be[1]:

- based on a sound understanding of the features of the site and the surrounding context, using baseline studies as a starting point for design;
- integrated into their surroundings so they relate well to them;
- influenced by and influence their context positively; and
- responsive to local history, culture and heritage.

[1] As defined in the National Design Guide (January 2021)

2. Scope of Guidance

2.1. This document has been produced with the following aims:

- to respond to the climate change agenda;
- to set expectations for high quality place making;
- to outline sustainable design and construction expectations;
- to supplement national and local planning policy and guidance; and
- to outline design standards in waste management

2.2. The guidance provided is intended for proposals for new waste management facilities in relation to design and location criteria and can be considered alongside relevant policies within the adopted Minerals and Waste Local Plan. The guide touches on 'high level' design issues associated with waste management facilitates and focuses on the non-functional aspects. The technical or process related design components are not within the scope of this guidance.

2.3. Further matters not covered within this guidance are: development costs, detailed technical specifications of buildings, matters relating to building regulations/construction, and associated requirements relating to health and safety.

2.4. This document additionally provides guidance on how new waste developments can adapt to the changing climate; through provision of trees, maximising biodiversity creation, considering layouts of buildings to improve energy efficiency, and promoting more modern and resourceful forms of construction.

2.5. Where appropriate, specific design aspects of facilities are highlighted but no particular types of waste management facilities or technologies are promoted or endorsed within this document.

Hertfordshire Design Review Service

2.6. The Hertfordshire Design Review Service[2], which is part of the 'Building Futures' sustainable development initiative, a partnership of Hertfordshire local authorities, led by Hertfordshire County Council, provides an independent and impartial process for evaluating the design quality and sustainability of development proposals in Hertfordshire.

2.7. This service is available for all types of developments (residential, commercial and industrial) and aims to help local planning authorities, project teams and their clients avoid the cost of poor design, and realise the full potential of proposals, creating high quality sustainable places to live, work, and enjoy.

2.8. The service offers advice across a variety of development types, scales and contexts, from single dwellings in the countryside to large-scale mixed-use urban extensions, and provides expertise in relation to architecture, landscape architecture and urban design, spatial planning and masterplanning, transport, sustainable building, the natural and historic built environment, and other sustainable development matters.

2.9. New waste development proposals are encouraged to submit for design review, as early as possible in the planning and design process, to ensure that positive action can be taken in response to the panel's advice and recommendations.

2.10. The Sustainable Design Toolkit is also freely available to help those who prepare and assess development proposals in Hertfordshire. It helps to better understand the principles of sustainable design and construction and to consider how best these principles can be applied to specific schemes and sites.

[2] https://www.hertfordshire.gov.uk/microsites/building-futures/design-review-panel/hertfordshire-design-review-service.aspx (December 2021).

3. Locational Criteria

3.1. It is recognised that as society moves away from waste disposal by landfill and shifts towards waste management practices higher up the waste hierarchy, waste will increasingly be managed and treated in buildings. As a result of more enclosed facilities and rigorous controls, waste management can be accommodated in wider a range of locations.

3.2. Careful site selection, siting and innovative and high-quality sustainable design will be expected for all waste proposals. The type and size of a proposed facility will dictate its best location and in turn it should make an appropriate design response to the site and its context. Small to medium-sized facilities may possibly be located near more sensitive land uses, whereas large scale facilities will need to be buffered to minimise the physical effects on other land uses, including through vehicular movement.

3.3. Certain sensitive land uses (e.g. ancient woodland) will always require a minimum buffer distance to any development irrespective of its size.

3.4. This section outlines some of the locational criteria that should be considered when carefully identifying an appropriate site for development proposals of waste management facilities.

Water Quality and Flood Risk

3.5. **Policy 21: Water Management** of the Minerals and Waste Local Plan requires proposals to take account of the potential impact on water supply, water quality and flood risk proposals in order to conserve and enhance the water environment.

3.6. The NPPW states that:

> *'Considerations will include the proximity of vulnerable surface and groundwater or aquifers. For landfill or land-raising, geological conditions and the behaviour of surface water and groundwater should be assessed both for the site under consideration and the surrounding area. The suitability of locations subject to flooding, with consequent issues relating to the management of potential risk posed to water quality from waste contamination, will also need particular care.'*

NPPW (2014) – Appendix B

3.7. Potential effects on surface and ground water resources are a material planning consideration. Planning conditions will be imposed to ensure that there is no possibility of run-off, spillage or leachate pollution of surface or ground waters. Waste management facilities proposed in areas that are regularly or potentially subject to flooding are unlikely to be acceptable without demonstration of effective mitigation measures. In areas where flooding is possible, the potential pollution of surface or ground water will be taken into account.

Land Instability

3.8. Land stability must be considered when identifying locations to help ensure that development does not occur in unstable locations or without appropriate precautions. Opportunities to bring unstable land, wherever possible, back into productive use should also be given ample consideration.

3.9. In regard to land instability, the NPPW states that:

> *'Locations, and/or the environs of locations, that are liable to be affected by land instability, will not normally be suitable for waste management facilities.'*
>
> ***NPPW (2014) – Appendix B***

3.10. Development proposals on sites where subsidence, landslides and ground compression and swelling is known or suspected should generally be avoided, however if land stability could be an issue, developers should seek appropriate technical and environmental expert advice to assess the likely consequences.

3.11. The stability of proposed waste sites should be investigated and facilities designed accordingly. Any new landform resulting from landfilling or land raising should be stable and should be designed to fit in with the scale and nature of the surrounding topology.

3.12. A preliminary assessment of ground instability should be carried out at the earliest possible stage before a detailed planning application is prepared. Applicants should ensure that any necessary investigations are undertaken to

ascertain that their sites are and will remain stable or can be made so as part of the development of the site.

Landscape and Visual Effects

3.13. Hertfordshire comprises a rich variety of landscapes and settlements, each with its own distinct character and 'sense of place'.

3.14. **Policy 16: Landscape and Green Infrastructure** of the Minerals and Waste Local Plan aims to conserve and enhance landscape character, quality, visual amenity and green infrastructure networks.

3.15. Waste development proposals should seek to demonstrate how they conserve and enhance local character. A suite of landscape and townscape character assessments identify, describe and evaluate the strength of character and quality of character areas across the County, and provide a strategy and guidelines for managing positive change.

3.16. An assessment of landscape and visual effects should be provided for all applications to demonstrate how any adverse effects will be effectively mitigated, for example screening measures may be required. 'Landscape and Visual Impact Assessment' or landscape and/or visual appraisals should be carried out in line with industry good practice 'Guidelines for Landscape and Visual Impact Assessment Third edition,' (Landscape Institute and Institute of Environmental Management and Assessment).

3.17. In terms of landscape considerations, the NPPW states that:

> *'Considerations will include (i) the potential for design-led solutions to produce acceptable development which respects landscape character; (ii) the need to protect landscapes or designated areas of national importance (National Parks, the Broads, Areas of Outstanding Natural Beauty and Heritage Coasts) (iii) localised height restrictions.'*
>
> ***NPPW (2014) – Appendix B***

3.18. The area around a proposed development can provide great opportunities for providing an appropriate setting as well as enhancing biodiversity. It is likely that the approach taken to soft and hard landscape issues will differ depending on the character of the site and its wider context.

Natural Environment

3.19. The county of Hertfordshire enjoys a high quality natural environment, a large expanse of Green Belt and many important habitats protected under legislation and local policy, which include the Chilterns Area of Outstanding Natural Beauty; three sites of international importance; 43 Sites of Special Scientific Interest (SSSIs); 36 Nature Reserves; and 44 Local Nature Reserves. In addition, there are nearly 2,000 non-statutory Local Wildlife Sites and Regionally Important Geological /Geomorphological Sites recognised for their significant contribution to the biodiversity within Hertfordshire.

3.20. **Policy 15: Biodiversity and Geodiversity** of the Minerals and Waste Local Plan seeks to prevent development proposals that are likely to have a detrimental impact on sites which benefit from designation at an International and European Level, including Ramsar sites, SPAs and SACs.

3.21. In regard to Biodiversity, waste developments should consider Hertfordshire's Local Nature Partnership (LNP) Guiding Principles for planning for biodiversity and the natural environment when identifying appropriate locations for waste developments. The guiding principles are to:

- Recognise the value of the natural environment and the range of benefits and services it provides;
- Protect and enhance existing biodiversity assets;
- Seek opportunities to improve habitat connectivity;
- Integrate biodiversity opportunities within new development;
- Make decisions informed by the best available ecological information and data;
- Secure the long-term management of existing and new habitats/sites.

3.22. When identifying locations for proposed waste developments, applicants should consider how biodiversity gains can be realised[3]. Where any ecological interest is known or suspected to be significant on or adjacent to proposed development sites, an ecological/geological/soil survey should be undertaken to ensure the site can be demonstrated as acceptable for the proposed waste development.

[3] The biodiversity gain requirement is identified in the Town and Country Planning Act 1990 as amended by the Environment Act 2021

3.23. Facilities should not have an adverse impact on areas or sites designated for protection. These sites are listed in the NPPW as follows:

> *'Considerations will include any adverse effect on a site of international importance for nature conservation (Special Protection Areas, Special Areas of Conservation and RAMSAR Sites), a site with a nationally recognised designation (Sites of Special Scientific Interest, National Nature Reserves), Nature Improvement Areas and ecological networks and protected species.'*
>
> ***NPPW (2014) – Appendix B***

Historic Environment

3.24. Hertfordshire's environment contains an variety of designated heritage assets including listed buildings and structures, scheduled monuments, conservation areas and registered parks and gardens as well as a range of non-designated heritage assets. Like any other development proposal, waste developments must conserve and enhance the significance of heritage assets (including any contribution made to that significance by their setting).

3.25. **Policy 18: Historic Environment** of the Minerals and Waste Local Plan aims to conserve and enhance the significance of heritage assets (physical structure and features of historic interest as well as the contribution made to significance by their setting) and puts provisions in place for their protection as well as the recording, interpretation and publication of findings where the potential impact on a feature necessitates its removal from site.

3.26. In relation to the Historic Environment, the NPPW state the following:

> *'Considerations will include the potential effects on the significance of heritage assets, whether designated or not, including any contribution made by their setting.'*
>
> ***NPPW (2014) – Appendix B***

3.27. Locations for proposed waste developments should ensure they can sit sensitively in the wider historic environment in a way that would be sympathetic to local character/ local history. Siting should not be harmful to the character, appearance, and setting of the historic environment and

specific heritage assets. Consideration should also be given to the potential effect on sites of archaeological importance.

Traffic and Access

3.28. Waste management can generate heavy lorry traffic in and around a waste facility which can have a significant adverse impact on the highways network in some locations of the county. Consideration must be given to the traffic likely to be generated by the proposal when identifying suitable locations.

3.29. In considering possible transport issues related to new waste developments, applicants must adhere to the policies of Hertfordshire's Local Transport Plan (LTP).

3.30. Sites should ideally be well located in terms of the primary road network, or in close proximity to alternative modes of transport[4]. Sites close to navigable waterways should consider the potential for utilising these as a potentially more sustainable and environmentally friendly option to use waterborne freight in the construction cycle, in the delivery of supplies and the removal of waste wherever practical, economic and environmentally desirable.

3.31. Locations where the existing road network is incapable of supporting the additional vehicle movements likely to be generated, or if the cumulative traffic impact on local communities is unacceptable and cannot be mitigated, should be avoided.

3.32. Furthermore, sites need to be well-located in terms of the origins of the waste, such as to households and businesses, as well as to other related facilities in terms of the onward destination of materials including for processing, further treatment, or disposal.

3.33. **Policy 24: Transport** of the Minerals and Waste Local Plan seeks to require waste development proposals to be located in relation to the strategic road network as defined in the LTP unless it can be demonstrated that it can meet an identified local need.

3.34. Consideration should also be given to transport of waste by rail or water when these options are practical to support the aspirations of the LTP.

---

[4] Refer to Policies 1, 5 and 16 of the LTP

3.35. The NPPW also gives reference to this in the following:

> *'Considerations will include the suitability of the road network and the extent to which access would require reliance on local roads, the rail network and transport links to ports.'*
>
> ***NPPW (2014) – Appendix B***

3.36. Site access can be a complex issue and can relate to several different aspects including sight lines and turning circles. Access to a good road network is important and facilities should be located to avoid HGV's having to travel through residential areas. Where appropriate, a Transport Assessment should be prepared and set out measures to minimise movements by road based HGVs.

3.37. Pre-application advice discussions provide an important opportunity to discuss possible concerns before any planning application is submitted for new or existing expansion of sites.

3.38. Opportunities for siting that maximises use of sustainable forms of transport (public transport, cycling and walking) for staff are encouraged. This needs to be delivered through action and articulated in a 'Travel Plan' document that is regularly reviewed.

3.39. There are also economic and operational benefits arising from co-location with other waste processing facilities, as well as transport benefits from a location close to the waste source. These benefits arise when haulage distances can be reduced, and there are operational benefits of locating waste reception and reprocessing close together.

3.40. Construction Management Plans (CMPs) should be required for all proposals to ensure that developments provide for safe delivery, collection, construction and management, including minimising the risk of collision with cyclists and pedestrians and set appropriate obligations to ensure compliance. Minimum safety requirements may be secured by legal agreements.

Air Quality

3.41. There are currently 31 Air Quality Management Areas (AQMAs) across Hertfordshire, 10 of which are located on major roads and fall under the

responsibility of Highways England. The remaining AQMAs are managed by the District and Borough Authorities and monitor mainly nitrogen dioxide (NO2), with some also monitoring particulate matter (PM10).

3.42. **Policy 19: Protection and Enhancement of Amenity** of the Minerals and Waste Local Plan requires development proposals to assess the impacts to the amenity of the users of neighbouring land and/or property, which includes air quality (including from dust, odours and other sources), and set out appropriate mitigation measures.

3.43. Waste management facilities located within AQMAs are unlikely to be deemed acceptable. The NPPW states the following in relation to air quality concerns:

> *'Considerations will include the proximity of sensitive receptors, including ecological as well as human receptors, and the extent to which adverse emissions can be controlled through the use of appropriate and well-maintained and managed equipment and vehicles.'*
>
> ***NPPW (2014) – Appendix B***

3.44. Atmospheric emissions have the potential to cause public concern and air quality issues can be a material planning consideration. Transport related emissions will contribute to any air quality issues associated with waste management activities. As such, waste developments should be well located in terms of the primary road network and located close to the waste source where appropriate in order to reduce transport related emissions.

3.45. Dust has the potential to represent a nuisance. Applicants must consider measures to suppress dust emissions from operations with susceptible receptors.

Odours

3.46. Waste facilities can produce unpleasant odours which will need to be given full consideration at the planning application stage. Applicants must ensure that odour suppression techniques are used for highly vulnerable operations.

3.47. In regard to odours from waste facilities, the NPPW states the following:

'Considerations will include the proximity of sensitive receptors and the extent to which adverse odours can be controlled through the use of appropriate and well-maintained and managed equipment.'

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3.48. Waste facilities that are not entirely enclosed (e.g. waste transfer stations and composting facilities) are the most vulnerable to odour issues as the temperature increases. Waste facilities which are vulnerable to odour issues should not be located close to sensitive land uses (e.g., schools and residential developments) unless an adequate buffer is provided.

3.49. Waste facilities which are highly likely to suffer from odour issues may be more appropriately located in rural rather than urban locations.

Vermin

3.50. Waste management sites can attract both birds and vermin. Vermin can present a potential health hazard. Congregating birds can be a nuisance to residential communities living near facilities, but can also cause a significant hazard to aviation safety. All applications for waste developments with areas where waste is temporarily stored outdoors should avoid locations near to sensitive receptors.

3.51. Applications involving landfill, sewage disposal and restoration schemes with major tree planting or nature reserves which would be attractive to birds falling within 13 kilometres of Civil Airports and Ministry of Defence Airfields will need to be accompanied by details of appropriate bird control measures to reduce the risk of bird strike to aircraft.

3.52. In relation to the risk from birds and vermin, the NPPW states that:

'Considerations will include the proximity of sensitive receptors. Some waste management facilities, especially landfills which accept putrescible waste, can attract vermin and birds. The numbers, and movements of some species of birds, may be influenced by the distribution of landfill sites. Where birds congregate in large numbers, they may be a major nuisance to people living nearby. They can also provide a hazard to aircraft at locations close to aerodromes or low flying areas. As part of the aerodrome safeguarding procedure (ODPM Circular 1/20035) local planning

authorities are required to consult aerodrome operators on proposed developments likely to attract birds. Consultation arrangements apply within safeguarded areas (which should be shown on the policies map in the Local Plan).
The primary aim is to guard against new or increased hazards caused by development. The most important types of development in this respect include facilities intended for the handling, compaction, treatment or disposal of household or commercial wastes.'

NPPW (2014) – Appendix B

3.53. All developers are advised to include measures in their schemes to deal with pests. Locating the proposals inside buildings allows a high degree of control against vermin, including rodents and birds. Such matters are regulated by the Environment Agency who should be approached for advice in design.

Noise, Light and Vibration

3.54. The Minerals and Waste Local Plan seeks to protect sensitive receptors from amenity impacts, such as light, noise, and air pollution (e.g. dust) which may be caused as a result of a waste development.

3.55. When identifying suitable locations for proposed waste management facilities the environmental impacts of the site need to be considered alongside the possibilities to minimise as far as possible the effects of noise and light pollution. New waste facilities should seek to be located to complement rather than conflict with neighbouring uses in terms of noise and light.

3.56. Equipment, vehicles and operations used in waste management are likely to generate noise and cause vibration. Regular maintenance of plant and equipment will reduce vibration and noise and optimise energy efficiency.

3.57. Consideration will be given to the impact of waste proposals on residential development and other noise sensitive receptors. Planning conditions are likely to be imposed to limit the amount of noise and restrict the times of operation.

3.58. The NPPW states the following in this regard:

'Considerations will include the proximity of sensitive receptors. The operation of large waste management facilities in particular can produce noise affecting both the inside and outside of buildings, including noise and vibration from goods vehicle traffic movements to and from a site. Intermittent and sustained operating noise may be a problem if not properly managed particularly if night-time working is involved. Potential light pollution aspects will also need to be considered.'

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3.59. Sites should allow for adequate positioning so that noise generating activities and areas, for example building services and areas with a lot of vehicular activity, can face away from sensitive properties and opening windows.

3.60. The potential impact caused by noise can be reduced by the careful selection of materials and the sensible location of certain elements of machinery.

3.61. Internal and external lighting will likely be required to ensure security and safety at waste management facilities, specifically around key pedestrian routes, car parks and access roads. Light pollution is a significant environmental concern and so developments should seek to minimise external lighting and seek innovative solutions.

3.62. Lighting which creates unacceptable light spill can be a source of annoyance to people, harmful to wildlife and undermine enjoyment of the countryside or the night sky, especially in areas with intrinsically dark landscapes.

3.63. Lamps which avoid light spill and have full horizontal cut off lamps-shades will be acceptable. Lights should also only be lit when required, and only direct light where needed[5].

Litter

3.64. Landfill sites, waste transfer stations and civic amenity sites can potentially cause problems in terms of litter. Operating plans and procedures should be used to reduce the impact of this issue.

[5] Further guidance on lighting can be found from The Institute of Lighting Professionals https://theilp.org.uk/ and the Campaign for Dark Skies (CfDS).

3.65. The NPPW recognises that:

> *'Litter can be a concern at some waste management facilities.'*
>
> ***NPPW (2014) – Appendix B***

3.66. Modern household waste recycling centres can be located within buildings to minimise potential noise and litter problems. This may be appropriate in an urban or village location, or within an urban edge/ major new development location as RCs should be easily accessible for members of the public.

3.67. For waste facilities which are likely to generate litter, methods of alleviation can include using net barriers and fences, or natural vegetation barriers to contain the litter, and provide wind breaks. Litter picking regimes can also be used.

3.68. When identifying locations for new waste facilities which accept separated household waste including paper and plastics or where double handling of waste takes places, consideration should be given to avoiding the potential result in the release of litter through perimeter fencing/landscaped areas which may be used to trap litter before it leaves the site.

Potential Land Use Conflict

3.69. Conflicts surrounding public perception and waste management facilities originate in part from the fact that waste facilities were traditionally constructed with pure function in mind and were regarded as low quality developments with limited regard for their integration within the local setting.

3.70. Waste management facilities which are proposed to be located within urban areas can result in conflict between waste activities and incompatible sensitive uses such as housing, schools and hospitals.

3.71. The NPPW places responsibility on new waste facility proposals to consider the suitability of the identified site:

> *'Likely proposed development in the vicinity of the location under consideration should be taken into account in considering site suitability and the envisaged waste management facility.'*

3.72. Some waste facilities are acceptable within residential or mixed use areas, including new development areas, providing transport and amenity impacts such as noise and litter are controlled and design issues carefully considered. This can also contribute to efficient waste management by having facilities located close to the origin of waste.

3.73. In general, safeguards are in place to minimise conflict with neighbouring land uses. However, there is a generic risk of conflict due to operational failure, for example with regards to odour for anaerobic digestion plants.

4. Design Criteria

4.1. National policy and guidance establish the overall principles and incentives for achieving well-design places, making it clear that it is fundamental to the planning and development process and key to sustainable development. Chapter 12 of the NPPF sets out broad aspirations for innovative and sustainable design whilst the National Design Guide outlines key components of good design with much deeper context.

4.2. A well-designed place is unlikely to be achieved by focusing only on the appearance, materials and detailing of buildings. The specific components which contribute to good design are:

- the layout (or masterplan);
- the form and scale of buildings;
- their appearance;
- landscape;
- materials; and
- their detailing.

4.3. The National Design Guide sets out ten characteristics of good design:

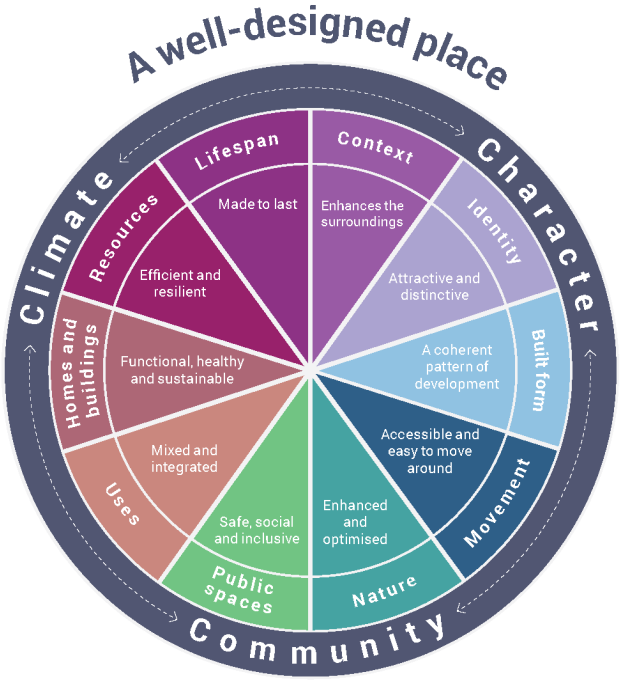

Figure 1 – Ten characteristics of well-designed places, National Design Guide

4.4. These ten characteristics should be considered in all new developments, whether or not for waste facilities. Considering these together will help contribute towards the themes for good design set out in the National Planning Policy Framework.

4.5. New waste facilities should not only be as attractive and/or unobtrusive as possible but should also exemplify a deeper understanding of sustainable design issues in the round. How a proposed waste facility considers space is crucial to creating a quality design solution for the site and placement in the wider area.

4.6. It should be noted that some of the established industrial areas within Hertfordshire do not have a particularly good standard of existing design or a defined style, however this context does not mean that new waste facilities will not be expected to raise the bar in terms of standards in reflection of Local and Central Government policy aspirations.

4.7. In attaining sustainable design and construction, one of the most important issues is to establish adaptable long-term facilities, that can function over a long period of time. Furthermore, the development of waste facilities should be seen as a potential opportunity to reduce carbon emissions and adapt to and mitigate the effects of climate change.

4.8. For a wider and more comprehensive list of sustainable design considerations, applicants should refer to Hertfordshire's Building Futures Sustainable Design Toolkit[6].

Local Policy

4.9. **Policy 1: Climate Change** of the Minerals and Waste Local Plan requires development proposals to demonstrate how they have incorporated multifunctional mitigation measures to minimise future effects of climate change and how adaptation and resilience measures to potential climate change have been incorporated into the design.

4.10. Details and reasoning of any measures that have been considered would need to be included within a Climate Change Statement.

[6] https://www.hertfordshire.gov.uk/microsites/building-futures/building-futures.aspx

4.11. Additionally, **Policy 11: Sustainable Design and Resource Efficiency** expects development proposals be of a high-quality design and contribute to resource efficiency, and at a minimum, demonstrate how the principles in this guidance document have been considered.

Scale

4.12. likelihood of significant effects from new waste management facilities will generally depend upon the scale of the development and the nature of the potential impact in terms of discharges, emissions or odour. Waste collection and disposal strategies will have important implications for the size, distribution and management options of new facilities that must be considered.

4.13. Scale can be defined as the height, width and length of each building proposed within a development in relation to its surroundings. The size and massing of individual buildings and spaces should be considered in relation to their surroundings and the overall scale.

4.14. Scale can affect how a space is perceived and experienced. How the dimensions of different components of a building relate will define its proportions.

4.15. For new waste facilities, the scale and size of sites/buildings will be influenced by the volume of wastes requiring processing and the type of process. Additionally, suitable access by HGVs will also influence the scale of a site.

4.16. In most rural locations the design of the facilities should reflect the scale and design of agricultural buildings where appropriate whilst in urban locations facilities should complement the existing or planned scale and built form of the surrounding area. However, there may be instances where more innovative designs will be appropriate in either setting, for example where a proposed development involves mixed uses alongside waste management.

4.17. One common determining factor for most waste facilities is that the internal space and vehicular door openings need to accommodate the height of a raised tipper lorry. Innovative designs of buildings and technologies should be developed in order to circumvent this requirement and reduce the overall bulk of waste facilities in order to fit in with the local setting.

Built Form

4.18. Built form can be defined as the three-dimensional pattern or arrangement of developments, streets, buildings and open spaces. When these elements complement each other, well-designed places will develop which contribute to the character and sense of place of a locality. Buildings and spaces can take many forms, depending upon their:

- size and shape in plan;
- height;
- bulk - their volume; and
- massing - how the bulk is shaped into a form.

4.19. In the case of spaces, their form is influenced by the buildings around them. The form of a building or a space has a relationship with the uses and activities it accommodates, and also with the form of the wider place where it is sited.

4.20. Proposals for new waste developments must be carefully sited and designed based on an understanding of the existing situation and patterns of built form. Local precedents for routes and spaces and the built form around them will need to inform the layout, form and scale.

4.21. In approaching built form, consideration should be given to the scale and massing within the setting. Visual interest could be provided by varying heights and sizes of different parts of a building as well as incorporating green and brown roofs. The overall size of the building footprint, and associated built works, should be minimised to avoid potential adverse impacts on landscape.

4.22. Built form needs to be considered within local context and setting. Rural locations for new waste facilities may need to reflect the built form of agricultural buildings. Whilst this may mean that simple portal frame buildings, with metal or timber cladding would be appropriate, more imaginative schemes should be considered that incorporate a high degree of sustainability.

4.23. Developments within an urban or urban edge setting can provide more imaginative and innovative approaches towards built form and design. Buildings for waste facilities tend to be large in scale and are likely to comprise metal frame struts with cladding. Innovative design through the use of alternative sustainable materials should be considered where appropriate.

Similarly, roofs can divert from the typical simple portal frames and adopt curved or monopitch roofs or a combination of styles.

Layout & Access

4.24. For access to new waste development to be in compliance with Policy 5 of Hertfordshire's LTP they will need to ensure safety, be suitable for all people, built to an adequate standard and adhere to the County Council's Highway Design Standards.

4.25. A layout (or masterplan) is used to shows how routes and blocks of development are arranged and relate to one another to create streets, open spaces and buildings. It defines:

- the structure or settlement pattern;
- the grain, or the pattern of development blocks and plots; and
- the broad distribution of different uses, and their densities or building heights.

4.26. Good layout is essential to ensuring adequate access to and on-site. Access arrangements will need to be designed to minimise impact on the environment and nearby surrounding uses, including residential property.

4.27. When designing the layout of sites all spaces within the site need to have a distinctive purpose. Focus should not principally be placed on the siting of buildings, resulting in layouts with 'left-over' spaces which do not add value to the whole.

4.28. External spaces should be designed positively with clear functional and non-functional demarcations. Building shapes should be linked with hard and soft landscaping in order to provide cohesion with the overall site layout. Good and innovative design will incorporate layout principles that allow effective sorting, recycling, composting and collection of waste within the site.

4.29. For all waste developments access to a good transport network is essential. For RCs access sites will need to be safely and easily accessible by sustainable forms of transport, although it is noted that it is not always possible or practicable to provide a waste facility which is well served by sustainable forms of transport. Access, circulation and parking should be integral to the design for new RCs.

4.30. Access roads should be hard surfaced to avoid both access and local roads becoming dirty, dusty or contaminated and to also facilitate the use of mechanised cleaning machines.

4.31. Considerations for layout can include locating operational areas where noise and visual impact will be minimised, for example, behind buildings or appropriate landscape areas.

4.32. In some instances there will be the need to make highway improvements as part of a waste development to ensure safety of access to and from the site and free flowing movement of traffic on the highway for all users.

Appearance

4.33. The appearance of a site can broadly be defined as the aspects of a building or space of a development which determine the visual impression it makes, including the external built form of the development, its architecture, materials, decoration, lighting, colour and texture. In the case of a space, its landscape also influences its appearance.

4.34. Any design process should start with a detailed analysis of the site and its setting in order to inform the development of appropriate design concepts and ultimately the final appearance. Appearances can be enhanced by adding interest through shapes, detailing and patterns.

4.35. Detailing of individual components of a building can either be decorative or functional features and will affect the appearance of a facility and how it is experienced. Details should be considered as an important part of the building and not as an add-on. Corners, roof lines and how a building meets the ground should be well thought-out as they have a significant effect on the overall impression of the building.

4.36. Consideration should also be given to items such as doors, windows, porches, lighting, flues and ventilation, gutters, pipes and other rain water details, ironmongery and decorative features.

4.37. External elements of the appearance such as cladding could be profiled metal or metal panels and any ventilation or extractor grills and service pipes should be sensitively incorporated into the design of the facades. Office facilities could be either stand-alone or incorporated within the main building of the facility.

4.38. Climate change considerations are likely to stimulate design considerations such as the use of robust external finishes on the facade which can reflect or reduce the absorption of solar energy (e.g. white render and light paint colours). Green roofs or walls may also be used to reduce the cooling load of a building and should be sympathetic to the overall appearance.

4.39. In rural settings simple, attractive well-designed buildings featuring quality detailing can be used to adhere to the rural context without relying on unnatural earth bunds to completely screen the site.

Landscape & Biodiversity

4.40. Landscape design can be defined as the treatment of land (other than buildings) for the purpose of enhancing and/or protecting the amenities of a site, the local area and natural environment. Landscape considerations broadly includes landform and drainage, hard landscape (e.g. surfacing), boundary treatments, street furniture, lighting and soft landscape (e.g. planting).

4.41. Landscaping should be incorporated into early design stages and not be an afterthought for undefined areas with no specific use. Ecological surveys should be undertaken to inform the design, phasing and construction management of the development. Surveys will identify the ecological characteristics and what mitigation and enhancement solutions will be required to maintain or improve the ecological value of the site and surrounding area.

4.42. The implementation of a landscape strategy for a site is integral to creating a well-designed place. The strategy should include a landscape survey and analysis to identify existing landscape features and views within the site and the wider context that should be protected, conserved and enhanced. A hard and soft landscape scheme will also be required with an accompanying management plan.

4.43. The local landscape character (both natural and built environment) must be taken into consideration for all landscape proposals and boundary treatments with existing features being made use of where appropriate. Proposals should also protect existing habitats and features of value to enable the development to fit seamlessly within the local surroundings whilst reinforcing essential characteristics of the locality.

4.44. Landscape and boundary treatment can be used effectively to screen low level activity within a facility reducing the visibility. It can also be used to enhance biodiversity value. Rural settings can offer great opportunity for beneficial landscaping proposals and certain waste facilities will only be appropriate in rural locations (e.g. windrow composting).

4.45. Landscape mitigation measures can be used to screen external storage areas, gatehouses and weighbridges in order to avoid creating industrial appearances within rural settings.

4.46. Small sites within urban or urban-edge locations used for single use waste facilities (e.g. RCs, transfer depots etc.) may not be sufficient to provide effective landscape mitigation, and therefore may not be acceptable in planning terms. However small, mixed composition, vertically complex and well sited soft landscaping schemes can create valuable habitat and biodiversity gains.

4.47. For medium to large sites sufficient space should be allowed for quality landscape treatments and planting between roads and buildings.

4.48. Where required, secure boundary treatments should be visually sympathetic as well as practical and fit within the overall design. All gates should match the adjacent fencing and be appropriately colour coated.

4.49. Land mounds, whilst discouraged, may, in very exceptional cases, be suitable for boundary treatment where it has been carefully considered in order to reduce low level visual and noise impacts of operations. Mounds should allow for low level planting and establish adequate space with gentle slopes. Where mounds are proposed, there should be no adverse impacts on local land drainage and flood defences as a result.

Materials

4.50. The materials used for a building or landscape play an important role in achieving sustainable development which functions well and lasts over time. Materials will influence how a development relates to its surroundings and the overall experience. The materials which will be appropriate in construction will be influenced by the scale, form and appearance planned for a building. The chosen materials should fit harmoniously with the surroundings and be practical, durable, affordable and attractive.

4.51. Sustainable developments should strive to adhere to the responsible use of natural resources and appropriate management of the building stock that will contribute in the long-term to the saving of scarce resources; reducing energy consumption; and improving environmental quality.

4.52. Sustainable development is essential to good design and no new development can be considered well designed if it does not contribute to environmental, social and economic sustainability. Waste facilities are typically built for long-term use and adaptability will be crucial to their sustained use.

4.53. When new facilities are being proposed they will need to consider how the reduction of materials needed for construction can be achieved through the design of the structure and use of recycled materials where possible.

4.54. The chosen materials do not have to match each other exactly, but should make effective use of colour, texture, grain and reflectivity in order to provide a harmonious appearance. Existing options for building and open space materials are numerous with new products constantly in development. Innovative and sustainable construction materials and techniques should be considered to help achieve well designed places.

4.55. Modern methods of construction are becoming more common, whether in the form of mass production for modular construction, or offsite bespoke construction and should be used where appropriate to improve resource efficiency. Offsite manufactured components, such as Structurally Insulated Panels, or modular construction can reduce construction time and waste but should be considered alongside other environmental impacts, such as road miles, if they are not manufactured locally.

4.56. Wherever possible, materials used should be designed for longevity, adaptability, disassembly and comprise of elements which can be re-used and recycled. Materials should be utilised from local supply options in order to minimise ‘road miles’ and reflect local character and heritage. Opportunities to use standard sizes and accurate estimates of materials to minimise off-cuts and waste should be followed.

4.57. PVC is an inherently unsustainable material and therefore the use of PVC should be minimised. Construction materials should be low maintenance and durable. Consideration should also be given to eventual decommissions of

facilities, and re-use of materials. For example, steel could be bolted together rather than welded.

4.58. The choice of construction materials will also have important implications in terms of noise, odour and visual impacts which should be considered early on.

Energy & Climate Change

4.59. Well-designed places and buildings conserve natural resources including land, water, energy and materials. Their design responds to the impacts of climate change through mitigation and adaptation. New developments should use land efficiently to help adaptation by increasing the ability for CO_2 absorption, sustaining natural ecosystems, minimising flood risk and the potential impact of flooding, and reducing overheating and air pollution.

4.60. This can be achieved by establishing a layout, form and mix of uses that reduces resource requirement, including for land, energy and water. Waste facilities should be fit for purpose and adaptable over time, reducing the need for redevelopment, and use materials and technologies which help minimise environmental impacts.

4.61. There are a variety of techniques and renewable energy infrastructures which waste facilities can adopt to improve energy efficiency and maximise the contributions of natural resources such as sun, ground and wind, and include passive measures for light, temperature, ventilation and heat. This will have the benefits of reducing demand for non-sustainable energy sources and minimising running costs.

4.62. All new waste developments will be expected to ensure satisfactory provision for electric vehicle charging and use low or zero emission vehicles under the site operator, as well as, where practicable, use fuels from renewable sources.

4.63. Sustainable adaptations which can be utilised by new waste developments to mitigate the effects of climate change include: Solar Thermal Panels, Solar Photovoltaic Panels, Ground Source Heat Pumps, Air Source Heat Pumps, Biomass Boilers and Combined Heat and Power (CHP). Passive solar gain and natural lighting can also be balanced with appropriate solar shading and cooling to avoid overheating during the summer.

4.64. Solar thermal panels can be either freestanding or integrated, attached to roofs and walls, where appropriate in order to provide renewable heat whilst Solar photovoltaic panels can be employed to reduce reliance on non-sustainable energy sources. Panels can also be designed to match the appearance of roof materials.

4.65. Ground source heat pumps and air source heat pumps could be incorporated in various ways to provide further sustainable heating through the capture of thermal energy for space heating and hot water. An example of how this could be incorporated would be through a ground source heat pump located under car parking.

4.66. Biomass boilers can be used appropriately alongside Refuse Derived Fuel (RDF) and Solid Recovered Fuel (SRF), integrating with waste facilities which recover these fuel sources. Biomass boilers are considered to be carbon neutral. Provision of storage space and suitable access would need to be considered carefully if the technology is to be appropriate and sustainable. The appliance will need to meet the requirements of any designated smoke control zone.

4.67. Combined Heat and Power (CHP) makes use of natural gas or biomass to provide heating, hot water or electricity. Integrating CHP within waste facilities will require significant space and fuel storage if using biomass. Heat generated during periods of low demand would need to be exported to other users to avoid 'dumping' it into the external environment and contributing to external overheating.

4.68. Green roofs are a further adaptation which can be used to provide biodiversity habitat, reduce the visual impact of a building and reduce the cooling load of a building by affecting heat retention. Green roofs should be used to add architectural interest and be sympathetic to the overall appearance and local setting.

4.69. For more comprehensive advice and guidance on solutions to reducing energy demand and improving resilience to climate change, please refer to the Building Futures Sustainable Design Toolkit[7].

[7] https://www.hertfordshire.gov.uk/microsites/building-futures/a-sustainable-design-toolkit/sustainable-design-toolkit.aspx

Water Management

4.70. Well-designed places will need to incorporate sustainable drainage systems wherever possible to manage surface water, flood risk and significant changes in rainfall. ‘Green’ sustainable drainage systems and natural flood resilience will need to be incorporated in urban locations where possible and buildings should integrate flood resistance and resilience measures along with water conservation and rainfall harnessing for re-use on-site where necessary.

4.71. All waste developments will be required to include measures to ensure water quality and efficiency is maximised where possible. Waste developments which require large areas of hard surfacing (yards, storage areas, vehicle parking, etc.) can improve and enhance water management through the use of permeable hard surfacing and soft landscaping (e.g. grass strips, gravel or permeable tarmac). Permeable surfaces can provide natural drainage and deter soil erosion whilst also providing additional amenity and aesthetic value to the development.

4.72. Rainwater harvesting can also be utilised to manage water flow to drains as well as offsetting mains water demand. Minimising water resources through the potential use of grey water recycling systems for flushing and other uses, such as wheel cleaning facilities, should be adopted where possible.

4.73. Green roofs can also play a role in water management by assisting the attenuation of run-off, whilst also benefiting biodiversity, reducing urban heat island effects, and adding architectural interest to commercial and industrial buildings.

4.74. Extensive roof areas and guttering will provide opportunities for green roofs and rainwater harvesting to supply free water for flushing, washing and irrigation.

4.75. Resilience measures against climate change could involve directing operations away from areas of the site with highest risk of flooding or designing the site to increase the capacity of the floodplain.

4.76. Where a Sustainable Drainage System (SuDS) has been determined to be incorporated into the design of the development this will need to meet the National and Local principles and the requirements of the Lead Local Flood Authority (LLFA).

Noise

4.77. Operations from waste facilities will likely carry potential noise impacts which will need to be reduced and mitigated against. This can generally be achieved through the design of buildings with acoustic features such as sound proofing. Building orientation, location of operational areas and acoustic fencing are further measures which should be considered within the design of any proposed development.

4.78. Technology such as silencers should be considered in order to minimise noise from plant and machinery. Thicker, heavier doors and double or triple-glazed windows can also be used to provide greater noise insulation.

4.79. Positioning buildings or rooms which are less sensitive to noise can be used as a way to act as screens or baffles between noise sources and quiet areas. Additionally, noise generating activities and areas should be positioned away from sensitive properties and opening windows. This may be effective in areas which are likely to have high vehicular activity.

4.80. Landscaping, through the use of soil bunds, and planting can also be utilised to effectively buffer and screen waste developments from noise sensitive land uses close by. However, unnatural earth bunds and blocks of trees must not be used to completely screen the site.

4.81. Additional advice and guidance of solutions can be found in the Building Futures Sustainable Design Toolkit.[8]

Odour

4.82. Given that temperatures are predicted to continue rising as a result of climate change, proposals for new waste facilities will need to consider measures to prevent odour issues developing in relation to unenclosed waste causing odour issues due to temperature increases. Those waste facilities which are most vulnerable to odour issues includes: waste transfer stations, RCs and composting facilities.

[8] https://www.hertfordshire.gov.uk/microsites/building-futures/a-sustainable-design-toolkit/sustainable-design-toolkit.aspx

4.83. Design solutions such as enclosing waste storage areas or alternative environmental abatement techniques will need to be considered in order to provide resilience to climate change.

4.84. Further solutions can include maintaining a negative pressure environment within receptor halls to help prevent the emission of untreated air thereby minimising nuisance odour emissions. Odour issues could be overcome through the incorporation of odour suppression, air extraction systems or biofilters to mitigate impacts. All proposals for waste developments should include measures to conserve air quality with dust and odour being managed to an acceptable level.

Hertfordshire Minerals and Waste Local Plan 2040

Appendix 3: Safeguarding of Minerals and Waste Infrastructure and Resources

Hertfordshire County Council

Hertfordshire

July 2022

Hertfordshire

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Contents

1. Introduction

1.1. The purpose of this document is to provide guidance for applicants in the consideration of minerals and waste infrastructure and mineral resources as part of the planning application process. Policy 4: Site Safeguarding and Consultation Areas and Policy 5: Minerals Safeguarding Areas within the Minerals and Waste Local Plan create a requirement for the consideration of these assets and their protection from incompatible development.

National Policy

1.2. There are several areas of national policy which seek to protect mineral resources and minerals and waste related development. Paragraph 210 of the National Planning Policy Framework (NPPF) states that *'planning policies should […] safeguard existing, planned and potential sites for: the 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 […] '*. These sites are crucial to the transportation and processing of resources and related products and therefore, the network of these sites must be safeguarded from incompatible development.

1.3. There is also a requirement in the NPPF that states *'Planning policies should […] safeguard mineral resources by defining Mineral Safeguarding Areas and Mineral Consultation Areas […]'.* Given that mineral resources are finite and can only be worked where they are found, there is a need to protect them from sterilisation to secure their long-term conservation.

1.4. In relation to waste management development, the National Planning Policy for Waste (NPPW) states that *'Waste planning authorities should prepare Local Plans which identify sufficient opportunities to meet the identified needs of their area for the management of waste streams. In preparing Local Plans, waste planning authorities should […] provide a suitable network of facilities to deliver sustainable waste management'*. Therefore, the Plan must aim to safeguard the network of existing waste management facilities. Water recycling sites form a part of this network and are a crucial part of the county's infrastructure, therefore these should also be safeguarded.

1.5. The NPPF recognises that new developments located within the vicinity of existing facilities have the potential to negatively impact on such sites and should be integrated without prejudicing the existing facility's operations by way of resulting in

unreasonable restrictions being placed upon it. This is referred to as the 'agent of change' principle. Paragraph 187 of the NPPF states:

'Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities […]. Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.'

Local Plan Policy

1.6. The Minerals and Waste Local Plan seeks to meet the above national policy requirements through protecting minerals and waste infrastructure and mineral resources primarily through 2 policies: Policy 4: Site Safeguarding and Consultation Areas and Policy 5: Minerals Safeguarding Areas. Policies 4 and 5 can be seen below:

Policy 4: Site Safeguarding and Consultation Areas

The Council will safeguard existing and future minerals and waste management sites, including associated infrastructure*, through the use of Site Safeguarding Areas (SSAs) and Site Consultation Areas (SCAs).

Site Safeguarding Areas (SSAs)

SSAs are defined on the Policies Map and comprise Mineral Allocation Sites (MAS), Mineral Development Sites (MDS), Transport Infrastructure Sites (TIS), Waste Management Sites (WMS) and Water Recycling Sites (WRS).

The County Council must be consulted on all development proposals which fall within an SSA.

Development proposals within MAS and MDS will only be supported where they are in accordance with the site's permitted or allocated use, including the site's restoration.

Development proposals which would result in the loss of, or reduced capacity of a TIS, WMS or WRS will only be supported where it can be clearly demonstrated that:

a) suitable alternative capacity has been made available elsewhere prior to the loss or reduced capacity occurring; or
b) the loss of such capacity will not have a detrimental impact on the wider function which the TIS, WMS or WRS serves; or
c) the site is allocated for the proposed use in the Development Plan; or
d) the proposal would provide demonstrable, overriding benefits, in the public interest, which would outweigh the loss of, or reduced capacity of the site.

Site Consultation Areas (SCAs)

SCAs are defined on the Policies Map as a 250m buffer surrounding SSAs (400m for WRS). The County Council must be consulted on all development proposals within an SCA, through the submission of a Consultation Area Assessment†, except:

e) minor householder applications; or
f) advertisements.

The County Council will oppose any development proposals within an SCA unless it is clearly demonstrated that:

g) the proposed development will not prejudice the current or future use of the SSA which falls within the SCA; and
h) the users of the proposed development will not suffer any unacceptable adverse amenity or health issues resulting from the continued or future use of the development within the SSA.

In accordance with the agent of change principle, where development proposals within an SCA require mitigation measures in order to satisfy g) and/or h) above, the applicant will be required to provide such mitigation.

Where applications for new or extensions to existing MDS, TIS, WMS or WRS are approved, this policy will apply to those sites, regardless of them not being shown on the Policies Map. The list of SSAs will be updated annually in the Council's Authority Monitoring Report.

*This includes sites for the bulk transport, handling and processing of minerals and waste; the manufacture of concrete and concrete products; and the handling, processing and distribution of substitute, recycled and secondary aggregate material.
†Detailed guidance on preparing a Consultation Area Assessment can be found at Appendix 3

Policy 5: Mineral Safeguarding Areas

The Mineral Planning Authority (MPA) safeguards known mineral resources of sand and gravel and brick clay from unnecessary sterilisation by non-mineral development, through the use of Mineral Safeguarding Areas (MSAs), as identified on the Policies Map.

Any proposal for non-mineral development which falls within an MSA must be subject to consultation with the MPA except:

a) minor householder applications;
b) advertisements;
c) listed building consent;
d) works to trees or tree preservation orders;
e) applications within a settlement's development limits*; and
f) development within a site allocated in the Development Plan.

Following consultation with the MPA, the submission of a Mineral Resource Assessment (MRA), undertaken by a suitably qualified professional and including geological survey data, may be required to establish the existence or otherwise of a viable mineral resource†.

Where proposals for large scale regeneration projects fall within development limits (either in whole or in part), the MPA may request an MRA to assess the potential for prior extraction.

The MPA will object to proposals for non-mineral development within MSAs based on the findings of the MRA unless it is clearly demonstrated that:

g) prior extraction of mineral will take place and the mineral extracted will be put to sustainable use; or
h) mineral extraction is not environmentally acceptable; or
i) the mineral is not of current or future economic value; or
j) the need for the non-mineral development demonstrably outweighs the sterilisation of the mineral resource; or
k) the proposed development would not constrain present and/or potential future mineral development.

Where mineral cannot practicably be extracted in advance of the proposed development, full consideration must be given to the use of material on site through opportunistic extraction, in order to reduce the need for material to be imported.

* Development limits form the edge of a settlement and are defined on the Policies Map for the area. Where they are not defined, they will constitute the edge of the built form of the settlement.
†Guidance on preparing a Mineral Resource Assessment can be found at Appendix 3

1.7. The following sections of this document expand on the content and requirements of Policies 4 and 5. Section 2: Safeguarding Minerals and Waste Infrastructure relates to Policy 4 and expands on the purpose of Site Safeguarding Areas (SSAs), Site Consultation Areas (SCAs) and provides guidance on Consultation Area Assessments (CAA). Section 3: Safeguarding Mineral Resources relates to Policy 5 and explains the purpose of Minerals Safeguarding Areas (MSAs) and what should be included within a Mineral Resource Assessment (MRA).

2. Safeguarding Minerals and Waste Infrastructure

2.1. The requirements for safeguarding minerals and waste infrastructure are set out within Policy 4: Site Safeguarding and Consultation Areas. This section focuses on the requirements of Policy 4 and provides guidance for applicants in preparing Consultation Area Assessments (CAAs).

Site Safeguarding Areas (SSAs)

2.2. In order to protect minerals and waste infrastructure against loss or reduced capacity as a result of pressures from non-minerals and waste related development, the Minerals and Waste Planning Authority (MWPA) has safeguarded these sites through the use of Site Safeguarding Areas (SSAs).

2.3. SSAs protect minerals and waste infrastructure from incompatible development within the site boundary only and are shown on the Policies Map. SSAs are comprised of the following types of sites:

- **Mineral Allocation Sites (MAS)** (i.e. the three mineral allocations of MAS01: The Briggens Estate, MAS02: Hatfield Aerodrome and MAS03: Land Adjoining Coopers Green Lane)
- **Mineral Development Sites (MDS)** (existing mineral workings and associated development, e.g. concrete batching plants or aggregate recycling facilities)
- **Transport Infrastructure Sites (TIS)** (railheads)
- **Waste Management Sites (WMS)** (waste management facilities)
- **Water Recycling Sites (WRS)** (water recycling centres)

2.4. The MWPA must be consulted on all District and Borough planning applications which fall within an SSA.

Site Consultation Areas (SCAs)

2.5. Whilst SSAs safeguard the sites themselves, it is equally important to also safeguard sites from incompatible development within the vicinity. Incompatible nearby development could jeopardise operations within the SSA by way of resulting in restrictions being placed on the facility or even jeopardise the continued use of the facility.

2.6. Paragraph 187 of the NPPF sets out the ‘agent of change’ principle. This places a requirement on applicants to ensure that their proposal will not result in unreasonable restrictions being placed on existing businesses and facilities within the area. This includes existing minerals and waste infrastructure.

2.7. SCA’s are 250m buffers (400m for WRS) that surround SSAs and are identified on the Policies Map. Any proposals for development (excluding the exempt development as stated within Policy 4) that fall within an SCA must be subject to consultation with the MWPA by way of submission of a CAA.

2.8. Consultation with the MWPA will help to ensure that new development will not prejudice the current or future use of minerals and waste infrastructure (SSAs). It is also important to ensure that new development will not suffer any adverse amenity issues as a result of being in close proximity to minerals or waste infrastructure. The nature of minerals and waste operations means that they can give rise to noise, dust and other impacts which certain forms of development such as housing can be particularly sensitive to.

Consultation Area Assessments (CAAs)

2.9. As explained above, any proposals for development (excluding the exempt development as stated within Policy 4) that fall within an SCA must consult the MWPA by way of submission of a CAA.

2.10. CAAs are a tool to enable the MWPA (and the Local Planning Authority) to assess whether a development proposal within an SCA is likely to have an adverse effect on the operation of existing minerals or waste infrastructure (SSA) and at the same time allow for potential amenity issues for future users of the proposed development (which may arise as a result of being located within the vicinity of a SSA) to be considered and addressed at an early stage.

2.11. CAAs should provide an assessment of how the development proposal may be impacted by the SSA and subsequently what adaptation or mitigation measures will be required to reduce or eliminate the potential impacts and allow the two developments to co-exist.

2.12. Potential amenity issues identified through the CAA could result in changes needing to be made to the design of the proposed development (e.g. implementation of screening measures to assist in noise deflection). Therefore, the CAA must be submitted to the MWPA at the earliest available opportunity. In cases where a site is being considered for allocation within a District or Borough Local Plan and it is

found that the site is located within a SCA, the requirement to undertake a CAA could be included within the site-specific/relevant policy.

2.13. Where the MWPA considers that an SSA will likely be adversely affected (either wholly or partially) and it cannot be demonstrated that the proposed development will not prejudice the current or future use of the SSA, or the users of the proposed development will not suffer any unacceptable adverse amenity or health issues, the MWPA will oppose the development.

Producing a Consultation Area Assessment

2.14. The content of CAA's will differ depending upon the type of SSA (see paragraph 2.3) the development proposal is located within the vicinity of. The potential amenity issues to consider will depend upon the type of operations within the SSA and whether the facility is open or enclosed. It will also be important to consider the operating hours of the facility within the SSA when preparing the CAA.

2.15. CAAs are required to include the following information:

- Application details for the proposed development, including:
    - -Site Location Plan
    - -nature of the development (e.g. housing, retail or employment and whether or not it is a permanent development (if not, please provide end dates))
    - -Scale of development (including floor space, number of units/dwellings/blocks and building heights)
    - -construction timescales

  Note – if the planning application for the proposed development has already been submitted to the Local Planning Authority, a planning reference number must also be provided

- Details of the SSA potentially affected, including the name of the facility and a map showing the proximity to the proposed development to the SSA. Applicants must also check for any undetermined planning applications or approved planning permissions on the SSA (which have not yet been implemented). These may have the potential to alter the operations within the SSA and subsequently alter the potential amenity issues and details to be considered within the CAA

- An assessment of the potential amenity issues which could arise for occupants of the proposed development because of its proximity to the SSA. Considerations may include but are not limited to:
    - -air quality from odour, fumes, dust, smoke or other sources
    - -visual impacts
    - -light pollution
    - -noise
    - -highways safety concerns and consideration of shared access routes

  Note - If potential amenity issues are identified, mitigation and adaptation measures must be identified within the CAA. Examples of such measures are provided below in paragraphs 2.19 to 2.23. If no potential amenity issues can be identified, then a short description of how potential amenity issues have been considered should be included and the CAA can conclude that there are no amenity issues, and no mitigation or adaptation is considered necessary

2.16. Where development proposals fall within an SCA of an MAS (see paragraph 2.4), applicants are advised to refer to Appendix 1: Site Briefs of the Plan for further information about the MAS.

2.17. In instances where the MAS is not yet under development, the applicant should acknowledge that the MAS forms part of the Development Plan and that MASs are critical to meeting the demand for sand and gravel over the plan period and therefore must be protected from loss. As stated in the requirements listed under paragraph 2.16, applicants must check for any undetermined planning applications or approved planning permissions on the SSA. Whilst the MAS may not be under development, there is the potential for applications or permission to exist on the site which must be properly considered in preparing the CAA.

2.18. Following submission of the CAA, the MWPA will provide comments to the applicant via the relevant District or Borough Council Case Officer which identify whether all appropriate details have been provided and considered, whether the adaptation and mitigation measures identified are sufficient and where any further action is required.

Potential Mitigation Measures

2.19. The methods to mitigate the potential adverse effects will be specific to the type of development being proposed, the type of SSA in question and the location of the development. The applicant has a responsibility to undertake the CAA and implement any measures deemed necessary by the assessment, by Local Planning

Authority and by the MWPA at no cost or constraint to the existing facility within the SSA (in line with the 'agent of change' principle).

2.20. Below are just a few examples of mitigation techniques that can be used to reduce the potential amenity issues and other concerns identified through the CAA:

Screening

2.21. Screening can be a useful technique to mitigate a range of adverse impacts. Natural screening such as tree planting or earth bunds can be implemented as part of landscaping schemes or fabricated screening in the form of walls and acoustic dampening panels can be designed into the proposal. Screening can mitigate visual and acoustic effects between the developments.

Site Layout

2.22. Sites can be designed in such a way that the most sensitive part of the proposal is situated at the furthest point from the SSA. This could mean parking or storage areas closest to the SSA whilst occupied buildings are designed to be further away, creating a natural buffer between the receptor and the source.

Access

2.23. Traffic and transport can have effects on air quality, congestion, noise and road safety. Creating dedicated access to the new proposal that avoids links with the existing SSA access will reduce some of these potential effects.

3. Safeguarding Mineral Resources

3.1. The requirements for safeguarding mineral resources are set out within Policy 5: Mineral Safeguarding Areas. This section focuses on the requirements of Policy 5 and provides guidance for applicants in preparing Mineral Resource Assessments (MRA)s.

Mineral Safeguarding Areas

3.2. Mineral resources are finite and can only be worked where they are found. Areas of known mineral resources must be protected as built non-mineral development effectively prevents the extraction of the underlying resource. This is known as sterilisation. The NPPF states that *'it is essential that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy and goods that the country needs. Since minerals are a finite natural resource, and can only be worked where they are found, best use needs to be made of them to secure their long-term conservation.'*

3.3. To avoid the unnecessary sterilisation of mineral resources, Policy 5 establishes Mineral Safeguarding Areas (MSAs). MSAs cover areas of known mineral resources. The extent of the MSAs includes the addition of a 100m buffer surrounding the deposits, thereby incorporating an extended consultation area around the resource.

3.4. If planning applications for non-minerals development submitted to the District/Borough councils fall within an MSA (unless within the excluded development list in Policy 5), the MWPA must be consulted to have the opportunity to consider whether the development proposed would lead to unacceptable sterilisation of mineral resources. The NPPF is clear that local planning authorities should not normally permit other development proposals in MSAs if it might constrain potential future use for mineral working.

Mineral Resource Assessment (MRA)

3.5. It is recommended that applicants and District/Borough councils engage in discussions with the MWPA early in the planning process, including during plan-making and pre-application discussions. Ideally, engagement should take place prior to submission of a planning application, to allow sufficient time to determine the need for an MRA and prevent unnecessary delay. In cases where a site is being considered for allocation within a District or Borough Local Plan, the MWPA should

be engaged so that requirement to undertake an MRA can be included within the site-specific policy (if applicable).

3.6. The need to undertake an MRA is established through consultation with the MWPA. Where it is determined that a proposal should be supported by an MRA, it should be carried out by a suitably qualified professional in order to establish the existence or otherwise of a viable mineral resource.

3.7. The purpose of the MRA is to address two main issues:

- to identify whether the mineral resource is viable for mineral extraction, and
- if the mineral resource is viable, for the applicant to demonstrate whether the prior extraction of minerals would be practically and environmentally acceptable, prior to non-mineral development taking place, in order to prevent sterilisation.

3.8. An MRA may not be required in every case. Where an MRA is not required, or it is found through the MRA that the mineral cannot be viably extracted in advance of the proposed development, the MWPA still requires that the applicant undertake opportunistic extraction of any mineral deposits uncovered within the development site.

3.9. The term opportunistic extraction refers to cases where preparation of the site for built development may result in the extraction of suitable mineral that could be processed and used on site as part of the development. This may include excavating the foundations and footings or landscaping works associated with the development.

3.10. Below is a template structure for an MRA that should be a baseline for all applicants conducting one of these assessments. The MRA should be in the format of a report and submitted to the MWPA at the first available opportunity. In each case, the assessment should meet the purpose of identifying the presence and economic viability of a mineral resource through desk based and intrusive site investigation.

Background Details

- Site Location Plan (red line boundary in relation to the MSA)
- Site history, including previous land uses and planning history
- Description of the proposed development (layout, scale, phasing, timescale etc)

**Note – if the planning application for non-mineral development has already been submitted to the Local Planning Authority, a planning reference number must also be provided*

Desk based study of available geological information

- Type of mineral present
- Existing mineral data (e.g. previous mineral investigations in the area)
- Details of any previous extraction at the site

Market evaluation

- Local demand for the resource. This could include an evaluation of nearby major construction/infrastructure projects that would require a supply of the mineral
- Contributions of the resource to minerals supply within the county[1]
- Interested operators

Intrusive site investigation and analysis

- Borehole and trial pit plan
- Results of the investigation
- Extent of mineral
- Depth of mineral
- Overburden depth
- Quality of the mineral (e.g. silt content) and processing needs
- Estimated tonnage of the resource with the potential to be sterilised
- Estimated market value of the resource with the potential to be sterilised

Opportunities for prior extraction

- Proximity to any existing minerals infrastructure (processing facilities, rail depots, bulk handling facilities)
- Previous consideration of the site for mineral extraction
- Wider context and value for extraction (nearby infrastructure projects, market supply benefits etc.)
- Proximity to industrial transport links (sustainable haulage modes, Primary Road Network)

1.

[1] Applicants may wish to refer to Hertfordshire's Local Aggregate Assessment to find details relating to the county's sand and gravel reserves and landbank. This information will help to inform a picture of the minerals supply in the county

- Potential benefits through restoration of the area (open space, enhancement of the natural environment)

Reasons against prior extraction

- Site location (sensitive receptors, SSAs, infrastructure, site accessibility etc.)
- Natural and historic environment considerations (biodiversity, landscape, hydrology and heritage implications)
- Effect on the viability of the proposed non-minerals development (excessive delays, landscape and landform changes etc.)

Conclusions

- The MRA should confirm whether there is any intention to recover the mineral resource. If a decision is taken to sterilise the mineral resource, adequate justification for this decision must be provided

Hertfordshire Minerals and Waste Local Plan 2040

Appendix 4: Circular Economy Statements

Hertfordshire County Council

Hertfordshire

July 2022

Hertfordshire

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Contents:

1. Introduction

1.1. The purpose of this appendix is to provide a framework for the production of Circular Economy Statements as part of the planning application process as stated in Policy 11: Sustainable Design and Resource Efficiency of the Minerals and Waste Local Plan.

1.2. A Circular Economy Statement will replace the current requirement for a Site Waste Management Plan (SWMP) and will incorporate the methods used in producing a SWMP.

What is Circular Economy?

1.3. Circular Economy is a concept aimed at keeping resources in use at the highest possible standard for the maximum amount of time possible. Reuse, recycling and recovery of resources and their potential is promoted to avoid the need for both disposal and the procurement of new primary resources.

1.4. This is different from the traditional linear economy in which resources are used until the end of their lifecycle and then disposed of ('make, use, dispose' model). At present this style of economy creates large quantities of waste and an increased need for the extraction of primary materials.

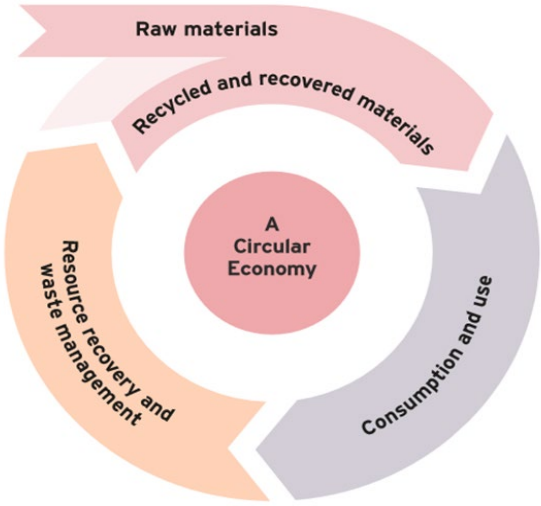

Figure 2: The Circular Economy (Our Waste, Our Resources: A Strategy for England. 2018).

1.5. Hertfordshire is undergoing significant housing and employment growth which must be led by sustainable design and construction. In order to manage the potentially significant waste arisings and material needs from this and other development, and to reduce the pressures faced by the county to do this in a sustainable way, it is important that the principles of the Circular Economy are followed.

1.6. There are three main principles of the Circular Economy[1]:

1. **Eliminate waste and pollution** – using secondary and recycled materials and reducing the amount of waste sent for final disposal.
2. **Circulate products and materials (at their highest value)** – optimising reuse and recycling methods and avoiding the need to extract primary material.
3. **Regenerate nature** – reducing the impacts that the management of materials and waste has on the environment by reducing the quantities needing management.

1.7. The reduction of waste can be carried out in any sector of industry and by individual consumers. In the context of growth, the Circular Economy aims to increase to use of secondary and recycled materials within developments, both to reduce the quantity of primary material needing to be extracted or processed and to divert these secondary materials from becoming waste. The processes of extracting primary materials and the disposal of waste also have the potential to create pollution, whether it be immediate from HGV movements or long term from landfilled waste or hazardous substances. Reducing the need to carry out these processes will in turn reduce the potential for this pollution to arise.

1.8. It is important within a Circular Economy to create a system where materials can be circulated; the materials will be reprocessed using different, innovative methods in order to render them suitable for reuse, without a decline in value of the material. This is known as a 'Cradle to Cradle' system which re-thinks traditional design principles in order to optimise and prolong material life cycles further; for production and consumption, by re-thinking waste as a resource, which can be put back into either, the biological (biodegrading) cycle or technical (remanufacturing) cycle[2].

1.9. By reducing the quantity of materials needing management as waste, and reducing the need for the extraction of primary resources, pressures placed on the natural environment can be alleviated.

National Policy Context

1.10. The NPPF has an overarching environmental objective (paragraph 8) aiming to achieve sustainable development: *'to protect and enhance our natural, built and*

[1] Ellen Macarthur Foundation. What is a Circular Economy? https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview
[2] EPEA, Cradle to Cradle. https://epea.com/en/about-us/cradle-to-cradle

historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.'

1.11. The NPPF paragraph 152 states that the planning system should support the transition to a low carbon future by helping to *'encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.'*

1.12. The second principle of a Circular Economy is represented within the NPPF in paragraph 210 which states that *'planning policies should […] so far as practicable, take account of the contribution that substitute or secondary and recycled materials and minerals waste would make to the supply of materials, before considering extraction of primary materials, whilst aiming to source minerals supplies indigenously […] '.*

1.13. A component of the Circular Economy is the Waste Hierarchy, which aims to push materials towards reuse and recycling and create an economy where final disposal is a last resort. The Waste Hierarchy is seen within appendix A of the National Planning Policy for Waste (2014):

Figure 1: The Waste Hierarchy

1.14. This concept is also seen within the Our Waste, Our Resources: A Strategy for England 2018 (the Government's Resources and Waste Strategy). The document *'sets out how we will preserve our stock of material resources by minimising waste, promoting resource efficiency and moving towards a circular economy. At the same time we will minimise the damage caused to our natural environment by reducing and managing waste safely and carefully […]'*. This strategy not only focuses on the systems and actions within the construction and waste industry, but also on the

actions that individuals and small/medium businesses can take to contribute to the implementation of a Circular Economy.

Local Policy Context

1.15. The Draft Minerals and Waste Local Plan is committed to promoting the sustainable design of new developments and resource efficiency across the county. The Plan aims to manage the county's waste arisings within the county where possible and work towards achieving net self-sufficiency.

1.16. Waste net self-sufficiency is the principle of planning to manage an amount of waste equivalent to or greater than that which arises. The Plan aims to work towards this by maintaining a network of waste management facilities, and encouraging new facilities in the right locations, so that there will be sufficient capacity to manage the wastes produced. Any Circular Economy Statement must demonstrate how the principle of net self-sufficiency has been applied to the development itself, in order to ensure that waste arisings are managed as close as practicable to the source.

1.17. However, there is little capacity to dispose of these wastes in methods such as landfill, which is also the least preferred option for waste management. Therefore, the move towards a Circular Economy will reduce the pressures faced by the waste management industry.

1.18. Residual waste requiring disposal (i.e. the waste that is not reused or recycled and is instead disposed of) is set to reduce over time as recycling rates improve and the county council works towards achieving new targets for recycling and composting of Local Authority Collected (LAC) waste, Commercial and Industrial (C&I) Waste, Construction and Demolition (C&D) Waste and Excavation (E) Waste. The county council aims to achieve the following rates of recycling and composting:

- LAC – 65% by 2035
- C&I – 60% by 2035 (95% total recovery by 2040)
- CD&E – 95% by 2030

1.19. These targets are in line with the Government's Resources and Waste Strategy which sets a target recycling rate of 65% Municipal Solid Waste.

1.20. The Sustainable Hertfordshire Strategy 2020 sets out ambitious aims to tackle waste generation and to increase resource efficiency. In particular, the county

council aims to meet these national targets, set out in the Our Waste, Our Resources: A Strategy for England, through its own policies and strategies as well as inspiring others to act.

1.21. The draft Minerals and Waste Local Plan Policy 11: Sustainable Design and Resource Efficiency requires the production of a Circular Economy Statement for all major planning applications.

Policy 11: Sustainable Design and Resource Efficiency

All proposals for new waste management development, and where appropriate, minerals development, must be of a high-quality design and contribute to resource efficiency.

As a minimum, all such proposals must demonstrate how they have given clear consideration to the following: Scale, Built Form, Layout and Access, Appearance, Landscape and Biodiversity, Materials, Energy and Climate Change, Water Management, Noise, and Odour. Detailed guidance on each of these aspects of design can be found at Appendix 2: Waste Facilities Location and Design Guidance.

All development proposals involving the management of wastes must clearly demonstrate how the development ensures the most efficient use of resources through:

a) construction and demolition methods that minimise waste generation and facilitate the re-use/recycling of materials and buildings, as far as practicable on site;
b) design principles and construction methods that minimise the use of primary aggregates and encourage the use of high quality building materials made from local recycled and secondary resources; and
c) good and innovative design with layout principles that allow effective sorting, recycling, composting and collection of waste within the site.

All major* planning applications must be accompanied by a Circular Economy Statement which includes details of the management of waste through all stages of development†. The Statement should be proportionate to the nature of the proposals and should use the template found at Appendix 4: Circular Economy Statements.

All Circular Economy Statements submitted in support of District or Borough planning applications must be submitted to the Waste Planning Authority (WPA) for consideration prior to approval.

*Major planning applications are those defined in Part 1(2) of The Town and Country Planning (Development Management Procedure) (England) Order 2015
†Some planning applications which fall into the category of 'major development' may be exempt from preparing a Circular Economy Statement, for example changes to operating hours. These will be determined on a case-by-case basis by the WPA

1.22. The county council, as the Minerals and Waste Planning Authority, will apply these principles when determining planning applications for minerals and waste development. However, given that most planning applications in the county are determined by the District and Borough Councils, it is vital that a consistent approach is taken across the county. As such, Districts and Boroughs will also need to have regard to Policy 11 when considering planning applications for which they are the Local Planning Authority.

Waste Facilities Location and Design Guidance

1.23. Appendix 2: Waste Facilities Location and Design Guidance of the Minerals and Waste Local Plan provides planning guidance into the aspects of the design of waste management facilities and the expectations of National Planning Policy and should be used by applicants wishing to develop such facilities.

1.24. The guidance outlines the key design principles for waste management facilities and lists a number of general key planning issues and detailed assessments that may be required at the planning application stage relating to the location and design of waste management facilities. Good design is a key aspect of sustainable development and helps to create better places in which to live and work.

1.25. All planning applications requiring a Circular Economy Statement must take into account and demonstrate how this guidance has been used within the design and implementation of their proposals.

2. Circular Economy Statements

2.1. Policy 11: Sustainable Design and Resource Efficiency states that a comprehensive Circular Economy Statement must be produced alongside major planning applications. Major planning applications are those as defined in Part 1(2) of The Town and Country Planning (Development Management Procedure) (England) Order 2015 which states:

'"major development" means development involving any one or more of the following —

(a) the winning and working of minerals or the use of land for mineral-working deposits;

(a) waste development;

(b) the provision of dwellinghouses where —

(i) the number of dwellinghouses to be provided is 10 or more; or

(ii) the development is to be carried out on a site having an area of 0.5 hectares or more and it is not known whether the development falls within sub-paragraph (c)(i);

(c) the provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more; or

(d) development carried out on a site having an area of 1 hectare or more;'

2.2. The county council however encourage all developments that have the potential to generate waste to produce a Circular Economy Statement. It is considered that a Circular Economy forms part of 'Best Practice' for a development proposal of any scale in order to effectively manage materials and reduce waste generation.

Recording of Materials

2.3. Policy 11: Sustainable Design and Resource Efficiency states that the Circular Economy Statement must include details of the management of waste through all stages of the development.

2.4. This includes the reuse of materials on site, recycling on/off site and the disposal of waste by other means. This will form part of the Circular Economy Statement and is specifically focused on materials being used within the project and how they are managed both on and off-site.

2.5. This requirement of Policy 11 aims to both reduce the amount of waste produced on site and encourage the reuse of materials wherever possible. This part of the Statement should contain information including types of waste removed from the site and where that waste is being taken to.

2.6. Details regarding this part of the Statement and a template to record waste arisings and movements will be set out as early as possible within the first draft of the Circular Economy Statement so that decisions can be made relating to the management of waste arisings during demolition and construction, and building materials made from recycled and secondary sources can be used within the development.

2.7. This will help in terms of estimating what types of containers/skips are required for the stages of the project and when segregation would be best implemented for various waste streams. It will also help in determining the costs of removing waste for a project. The total volumes of waste during enabling works (including demolition) and construction works should also be summarised.

2.8. The policy states that a Circular Economy Statement should be proportionate to the nature of the proposal. The Circular Economy Statement and in particular this part of the document is recommended to include the maximum amount of detail possible to effectively manage materials and reduce waste arisings.

When to produce a Circular Economy Statement

2.9. A Circular Economy Statement that accompanies a development proposal should be set out as early as possible in the application process. The statement should follow the progress of the development and be updated throughout its lifetime in order to reflect actual events.

2.10. Where a major planning application (as defined within the policy) is not accompanied by a Circular Economy, at any stage of the application process, the county council will request that the production of a Circular Economy Statement be required under a planning condition, in order to ensure that the policy criteria is met.

Outline Application – Draft Statement

2.11. For major developments a Draft Circular Economy Statement should be set out at the outline planning application stage. A Draft Circular Economy Statement at an early stage will help to set clear aims and objectives for waste management and

outline areas in which the proposal will be able to make the best use of available materials. This document should set out the proposal's strategic approach to the implementation of a Circular Economy.

Full Application – Full Statement

2.12. Following this, at the full planning application stage, the county council would expect to see a Full Circular Economy Statement containing targets, waste contractor information and expected waste arisings.

2.13. The design of the proposed development and how this contributes to the Circular Economy should be considered at this point. Procurement of materials, design specifications and material re-use details will likely be known at this stage and therefore can be considered within this statement.

Approval/Completion – Final Statement

2.14. A Circular Economy Statement is a living document which must be continuously updated and filled out during the implementation of a planning permission. The quantities of waste produced, managed on or off-site and re-used must be recorded and the approaches to material management updated to reflect progress of the project.

2.15. A Final Circular Economy Statement at the end of the construction phase of the development should be submitted to the county council for review and the owner of the statement should review the document in order to confirm that the targets for materials management have been achieved. The Statement, upon completion, should detail progress against the targets and commitments defined in the Full Circular Economy Statement submitted at the full application stage.

2.16. The Final Statement will set out the outcomes achieved and lessons learned from the process, stating where targets have been met and not reached and the reasons for this. This may then be used as guidance for future projects as an indicator of what went well and processes that can be improved upon

3. Producing a Circular Economy Statement

3.1. There are a number of key elements that every Circular Economy Statement must include. However, it is important to note that the Statement and objectives contained within will vary between developments depending on area, locational factors, the need for demolition and/or mineral extraction and the dimensions of a structure.

3.2. MWLP Policy 11: Sustainable Design and Resource Efficiency states that the Circular Economy Statement must be proportionate to the nature of the proposals.

3.3. This guidance aims to outline what a basic Circular Economy Statement should include. The applicant, in consultation with the Local Planning Authority and Minerals and Waste Planning Authority, must produce a Circular Economy Statement, adding additional information where relevant which relates to the specifics of the proposal and allows the aims and objectives to be realistically applied.

3.4. Below is an outline structure of the contents of a Circular Economy Statement. As a minimum, a Circular Economy statement should include the following:

Introduction	
Basic details of the application:	
Application reference:	
Location:	• *Easting, Northing/postcode*
Applicant/contractor:	
Document Version:	
Method of Working:	
• *The method should describe the process of implementing Circular Economy principles and designing the Circular Economy statement up until the point at which that statement is submitted.* • *This should detail any stakeholder workshops held and the outcomes of these* • *The applicant should demonstrate how this has influenced the actions taken/to be taken in the implementation of the project and its design.* • *Evidence of these processes and workshops are presented in the appendices.*	

Circular Economy Aspirations:	
• *This section should contain a review of the Circular Economy and its principles in relation to the development* • *A description of how the development proposal uses the techniques and principles found within Appendix 2 - Waste Facilities Location and Design Guidance of the Minerals and Waste Local Plan* • *Specifics of the project should be interlinked with this so that the applicant can present their interpretation of the Circular Economy and how this will contribute to a wider strategic goal of sustainable development* • *This section may include case studies from similar or nearby relevant developments as well as a comment of the uniqueness of the challenges within the application in question*	
Aims, Objectives and Strategic Framework:	
Aims and Objectives:	• *Wider strategic goals for the project (aims)* • *Objectives that contribute to meeting these goals*
Strategic approach(es):	• *How do the principles of a Circular Economy align with the development and any strategic approaches to its implementation within the development*
Description of data required to monitor and implement the aims and objectives (draft stage only):	
Circular economy commitments:	
Key commitments:	
• *Declaration that the client and contractor will comply with the requirements of Duty of care that materials will be handled efficiently and waste managed appropriately (Section 34 of Environmental Protection Act 1990 and Environmental Protection (Duty of Care) Regs 1991)* • *Minimising the quantities of materials used* • *Minimising the quantities of other resources used (energy, water, land)* • *Specifying materials to be sourced from sustainable and responsible suppliers*	

- *Managing waste with a view to contribute to the net self-sufficiency of the County*
- *Designing for reusability / recoverability / longevity / adaptability / flexibility*
- *Designing out construction, demolition, excavation, industrial and municipal waste arising*
- *Optimising management of demolition, excavation, construction waste across all stages of the development*
- *Municipal and industrial waste (how the design will support operational waste management)*

Reporting forms for numerical targets and commitments:	

Plans for implementation of the commitments:

- *Explain how short- and medium-term targets or commitments will be implemented, monitored and reported.*
- *The section will demonstrate that the applicant has stated realistic and achievable targets/commitments.*
- *Actual performance against these targets should be submitted at completion of the project.*
- *Specific plans for short and medium-term targets*
- *Specific plans for longer-term targets*
- *For longer-term targets, applicants should provide a description of the methods that will be used to ensure they are met, and a programme of key milestones (e.g., monitoring at various stages of the development)*

End-of-life strategy:

- *A description of the strategy for how the design and construction will reduce material demands and enable disassembly and reuse at the end of their planned use within the project.*
- *Building information should be stored to facilitate end of life strategy, disassembly, future reuse, waste avoidance and waste reduction.*
- *A description of the content and format of the strategy and how this will be communicated to future building users.*

• *Key challenges are outlined that may prevent the strategy from being implemented, and how these have been addressed to the greatest extent that is feasible at this stage.*	
Reporting Outcomes and Achievements	
Waste Management:	
Description of the types of waste expected to arise on site:	• *recorded using 6-digit European Waste Catalogue codes*
Estimation of the quantity of each type of waste listed above:	
Waste management actions for each of the types of waste (i.e. will it be re-used, recycled, recovered or disposed of):	

Recording of waste arisings and material management:	*The tables must record the following:*
	• *record the types and quantities of waste produced;*
	• *record the types and quantities of waste that have been:*
	  • *re-used (and whether this was on or off site);*
	  • *recycled (and whether this was on or off site);*
	  • *sent for another form of recovery (and whether this was on or off site);*
	  • *sent to landfill; or*
	  • *otherwise disposed of.*
	• *the identity of the person removing the waste;*
	• *the types of waste removed; and*
	• *the registration number of the waste carrier;*
	• *a copy of, or reference to, the written description of the waste required by section 34 of the Environmental Protection Act 1990;*

	• *the site that the waste is being taken to and whether the operator of that site holds a permit under the Environmental Permitting (England and Wales) Regulations 2007 or is registered under those Regulations as a waste operation exempt from the need for such a permit.*
Tables for the recording of actual figures against those that are estimated before the construction phase:	
Reasons for any deviations from the waste management actions, including explanations for differences in waste arisings compared to those set out in the initial estimations:	
Target and Commitment Outcomes:	
• *This update to the Circular Economy Statement should be filled out post-planning/completion and will set out the targets and actual outcomes achieved.* • *The content of this section will be specific to the agreed targets and commitments* • *As a minimum, applicants must produce a Post-completion Report setting out the predicted and actual performance against all numerical targets, and provide updated versions of tables and reporting forms* • *Applicants should clearly indicate where any variation has occurred and why (i.e., if a target has been exceeded or has not been met)* • *They should also provide evidence and supporting documentation as appendices*	
Lessons learned and evaluations:	
Post-planning/completion Updates	
Changes made between Circular Economy Statement Submissions	• *Should the statement be re-submitted at a later stage of the application process or at completion of the project, this section should detail the*

	changes made to the statement and how this has impacted the delivery of the Circular Economy principles.
Appendices	
Possible appendix reports may include:	• *Records and reporting forms* • *Demolition plans and material quantities* • *Municipal/Operational Waste Management Plan* • *Mineral Extraction records* • *Other supporting material depending on project characteristics*

3.5. The Circular Economy Statement must be made available to all personnel within the project including sub-contractors and waste carriers. The project personnel should be made aware of the aims and objectives of the Statement such that they can contribute to its fulfilment.

3.6. The above template is also available in a word document format for use as part of a development proposal. The document can be downloaded from www.hertfordshire.gov.uk/mwlp.

ENGLISH
If you require help to translate this information, please contact us with your name, language and telephone number.

ARABIC
إذا كنت بحاجة إلى المساعدة لترجمة هذه المعلومات، فيرجى الاتصال بنا مع إدراج الاسم واللغة ورقم الهاتف.

BENGALI
এই তথ্যাদি অনুবাদে আপনার সাহায্য প্রয়োজন হলে, অনুগ্রহ করে আপনার নাম, ভাষা এবং ফোন নম্বর সহ আমাদের সঙ্গে যোগাযোগ করুন।

CANTONESE
如果您想要將本資訊翻譯爲您的語言，請繫幷將您的姓名、語言和電話號碼告訴我們。

HINDI
यदि आपको इस जानकारी का अनुवाद करने में मदद की आवश्यकता है, तो कृपया अपने नाम, भाषा और फोन नंबर समेत हम से संपर्क करें।

ITALIAN
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Jeżeli są Państwo zainteresowani otrzymaniem niniejszych informacji w tłumaczeniu na język obcy, prosimy skontaktować się z nami, podając swoje imię i nazwisko, wybrany język oraz numer telefonu.

PORTUGUESE
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PUNJABI
ਜੇਕਰ ਇਸ ਜਾਣਕਾਰੀ ਦਾ ਤਰਜਮਾ ਕਰਨ ਲਈ ਤੁਹਾਨੂੰ ਮਦਦ ਦੀ ਲੋੜ ਹੈ, ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਆਪਣੇ ਨਾਂ, ਭਾਸ਼ਾ ਅਤੇ ਟੈਲੀਫ਼ੋਨ ਨੰਬਰ ਨਾਲ ਸਾਨੂੰ ਸੰਪਰਕ ਕਰੋ।

TAMIL
இந்தத் தகவலை மொழிபெயர்ப்பதற்கு உங்களுக்கு உதவித் தேவைப்பட்டால், தயவு செய்து உங்கள் பெயர் மற்றும் தொலைபேசி எண்ணுடன் எங்களைத் தொடர்பு கொள்ளவும்.

TURKISH
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URDU
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