

Essex County Council (ECC) Minerals Local Plan (MLP) as amended (2021) Regulation 18



Sustainability Appraisal (SA) Environmental Report

February 2021





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Glossary

Term (abbreviation)	Definition
Aftercare	The steps to be taken following restoration to bring land to the required standard for its intended use once mineral working or landfill has taken place, and its subsequent maintenance.
Aggregates	Sand, gravel, crushed rock and other bulk materials used by the construction industry.
Aggregate Working Party	Established in the 1970's to identify and consider problems in the supply of aggregates. They provide technical advice in relation to the supply of, and demand for, aggregates (including sand, gravel and crushed rock) to the Secretary of State, local government and mineral planning authorities.
Annual Monitoring Report	A yearly report submitted to the government by the Local Planning Authority/ Minerals Planning Authority assessing progress with, and the effectiveness of, the Local Development Framework.
Apportionment	This is the 'amount of minerals needed'. The splitting of national supply guidelines for minerals demand between Minerals Planning Authorities or sub regions.
Appropriate Assessment (AA)	The process and documentation associated with the statutory requirement under the EU Appropriate Assessment Habitats and Species Directive.
Best and Most Versatile Agricultural Land	Land identified by the Department for Environment, Food and Rural Affairs (Defra) as falling within classification grades 1, 2 or 3a, based on the physical characteristics of the land and the limits these impose upon its agricultural uses.
Blue Infrastructure	Blue landscape elements are linked to water. Examples include pools, ponds and pond systems, artificial buffer basins, Sustainable Drainage Systems and water courses.
Borrow Pit	A temporary mineral working to supply material for a specific construction project.

Term (abbreviation)	Definition
Construction, Demolition and Excavation (CD&E) Wastes	Controlled (predominantly inert) waste arising from the construction, repair, maintenance and demolition of buildings and structures and the excavation of minerals. It mostly includes brick, concrete, hardcore, subsoil and topsoil, but can include timber, metal, plastics and occasionally special hazardous waste materials.
Development Management (DM)	The process whereby a Local Planning Authority manages development by considering the merits of a planning application and determines the application, having regard to the Development Plan and all other material considerations.
Development Plan	A document setting out the local planning authority's policies and proposals for the development and use of land and buildings in the authority's area. This includes adopted Local Plans, neighbourhood plans and the London Plan, and is defined in section 38 of the Planning and Compulsory Purchase Act 2004. (Regional strategies remain part of the development plan until they are abolished by Order using powers taken in the Localism Act.
East of England Aggregates Working Party	The Aggregates Working Party that Essex County Council is a member of through being the Minerals Planning Authority for the county.
Environment Agency (EA)	A body that aims to prevent or minimise the effects of pollution on the environment and issues permits to monitor and control activities that handle or produce waste. It also provides up-to-date information on waste management and deals with other matters such as water issues, including flood protection advice.
Historic England (HE)	Advisors with responsibility for all aspects of protecting and promoting the historic environment. Historic England is responsible for advising the government on the listing of historic assets.
Environmental Impact Assessment (EIA) and Environmental Statement (ES)	Applicants for certain types of development, usually more significant schemes, are required to submit an environmental statement accompanying a planning application. This evaluates the likely environmental impacts of the development, together with an assessment of how the severity of the impacts could be mitigated.

Term (abbreviation)	Definition
Examination in Public (EiP)	A term given to the public examination of Development Plan Documents
Flood Risk Assessment (FRA) / Strategic Flood Risk Assessment (SFRA)	An assessment of the flooding risk in a particular area so that development needs and mitigation measures can be carefully considered. A SFRA is undertaken at the Plan level.
Green Infrastructure (GI)	Green infrastructure includes parks, open spaces, playing fields, woodlands and also street trees, allotments, private gardens, green roofs and walls, sustainable drainage systems (SuDS) and soils. It can include rivers, streams, canals and other water bodies, sometimes called 'blue infrastructure'.
Groundwater	An important part of the natural water cycle present underground, within strata known as aquifers.
Habitats Regulation Assessment (HRA)	The assessment of the impacts of implementing a plan or policy on a Habitats site. It considers the impacts of a land use plan or project against the conservation objectives of the site and ascertains whether any impacts would adversely affect the integrity of them.
Habitats Site	As per the NPPF, any site which would be included within the definition at regulation 8 of the Conservation of Habitats and Species Regulations 2017 for the purpose of those regulations, including candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation, Special Protection Areas and any relevant Marine Sites.
Landbank	In the context of the Minerals Local Plan (MLP) this is the stock of planning permissions for the winning and working of minerals.
Local Aggregate Assessment (LAA)	Aids in the planning of a steady and adequate supply of minerals by assessing historic sales data and accounting for all potential supply options. The assessment is produced by the Minerals Planning Authority (MPA) and incorporates the advice of the relevant Aggregates Working Party (AWP).
Local Plan	A Development Plan Document prepared by district and other local planning authorities, including minerals and waste planning authorities, to guide development in their administrative area.

Term (abbreviation)	Definition
Local Planning Authority (LPA)	The local authority or council that is empowered by law to exercise planning functions. Often the local borough/ district/ city council. County councils are the authority for waste and minerals matters.
Low Level Restoration	The re-establishment of land following mineral extraction to a lower level with partial or no infilling (filling the hole created by extraction).
Mineral Consultation Area (MCA)	An area designated up to 100m around Mineral Safeguarding Areas (MSAs), identified in order to ensure consultation with the relevant Minerals Planning Authority (MPA), on applications for non-mineral development in that area located in close proximity to safeguarded land that may compromise the potential future working of that land.
Minerals Development	Any development primarily involving the extraction, processing, storage, transportation or manufacture of minerals. It includes associated minerals development such as rail aggregate depots, facilities for aggregate recycling, secondary processing facilities and coastal wharves for mineral transshipment.
Mineral Extraction	Refers to the quarrying of mineral and the ancillary development associated with this such as processing plants, site offices and weighbridges.
Minerals Hierarchy	The minerals hierarchy sets out the different approaches to the supply of minerals, and orders them in terms of their sustainability. The most sustainable option is to reduce the amount of minerals used, followed by sourcing minerals from secondary and recycled materials, and finally through the primary extraction of minerals.
Mineral Infrastructure	Mineral Infrastructure applies to mineral facilities that are involved in the working and distribution of mineral resources.
Mineral Infrastructure Impact Assessments	Minerals Infrastructure Impact Assessments assess both the potential impact of a nonmineral led development on proximal safeguarded mineral infrastructure, and the impact of the latter on the former, to understand what mitigation measures may be required such that the operations of the mineral infrastructure are not compromised. The assessment should be carried out at such a time as to be capable of informing the planning application that it supports.'

Term (abbreviation)	Definition
Mineral Infrastructure Consultation Areas (MICA)	Mineral Infrastructure Consultation Areas cover land up to 250m from safeguarded mineral infrastructure. Where non-mineral development is proposed within Minerals Consultation Areas, the appropriate Planning Authority must consult the Mineral Planning Authority and the application be informed by a Minerals Infrastructure Impact Assessment.
Minerals Local Plan (MLP)	A statutory development plan prepared by a Minerals Planning Authority setting out policies for the control of development constituting of the winning and working of minerals, or the deposit of mineral waste.
Mineral Planning Authority (MPA)	The planning authority responsible for planning control of minerals development. Essex County Council is the MPA for Essex.
Mineral Resource	A potential mineral deposit where the quality and quantity of material present has not been tested.
Mineral Reserves	Mineral deposits which have been tested to establish the quality and quantity of material present and which could be economically and technically exploited.
Mineral Safeguarding Area (MSA)	An area designated by Minerals Planning Authorities which covers known deposits of minerals which are desired to be kept safeguarded from unnecessary sterilisation by non-mineral development.
National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG)	Sets out the Government's planning policies for England and how these are expected to be applied. It provides a framework within which local people and their accountable councils can produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities.
Natural Capital	Natural capital is another term for the stock of renewable and non-renewable resources (e.g. plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits to people.
Natural England (NE)	Body formed by bringing together English Nature, the landscape, access and recreation elements of the Countryside Agency and the environmental land management functions of the Rural Development Service.

Term (abbreviation)	Definition
Permitted Reserves	Mineral deposits with the benefit of planning permission for extraction.
Preferred Site	An area containing mineral resources identified within this Plan where there is a strong presumption in favour of extraction.
Recycled Aggregates	Aggregates comprising waste materials (for example damaged bricks, broken concrete, brickwork, masonry and tarmac) from roads, construction and demolition sites that have been recovered and recycled in the form of manufactured materials such as concrete, brick, plasterboard and ceramic articles.
Restoration (in terms of minerals operations)	The method used to positively enhance a site once mineral extraction has ceased. This could be to restore the site to its original state or another suitable use, by filling the void to former levels, flooding the void or using low level restoration techniques.
Special Area Of Conservation (SAC)	A site designated under the European Community Habitats Directive, to protect internationally important natural habitats and species.
Statutory	Required by law (statute), usually through an Act of Parliament.
Sterilisation	When development or land use changes prevent possible mineral exploitation in the foreseeable future.
Strategic Environmental Assessment (SEA) & Sustainability Appraisal (SA)	SEAs integrate environmental considerations into the preparation and adoption of plans and programmes. They are required by the European Directive 2000/42/EC “on the assessment of the effects of certain plans and programmes on the environment” (the SEA Strategic Environmental Assessment Directive). Government guidance considers that it is possible to satisfy the requirements for Sustainability Appraisal (SA) and SEA through a single approach provided that the requirements of the SEA Directive are met. The environmental, economic and social effects of the plan are presented in the form of an iterative Environmental Report which informs each consultation stage of the Minerals Local Plan’s development.
Traffic Assessment (TA)	The Local Validation Checklist states that a Transport Assessment (TA) is to be required where there is likely to be a significant amount of traffic generated. This is defined as generating in excess of 50pcu (passenger car units (PCU’s)) in the peak hour. PCU’s are a Traffic Assessment calculation of all

Term (abbreviation)	Definition
	<p>types of vehicles as car equivalents: an HGV is 2 car units. Mineral sites generate few car movements, but often significant volumes of Heavy Goods Vehicle (HGV) traffic. This can have major impacts on neighbouring residents and businesses, and is often the cause of most local concern. A TA forms part of an Environmental Statement submitted with most applications requiring Environmental Impact Assessment (EIA). However smaller developments not requiring an EIA do not submit a TA.</p>
<p>Traffic Statement (TS)</p>	<p>A short, straightforward document, dealing with impacts on the transport network accompanying planning applications without providing detailed capacity assessments. A TS is required by the new validation checklists (June 2008) for all development that fall beneath the threshold for a TA but still have some form of material impact on the highway.</p>
<p>Windfall Site</p>	<p>A site not specifically allocated for development in a development plan, but which becomes available for development during the lifetime of a plan.</p>

1. Introduction

1.1 Background

On behalf of Essex County Council (ECC), Place Services has been commissioned to undertake an independent Sustainability Appraisal (SA) for the ECC Minerals Local Plan Review 2020.

1.2 The Minerals Local Plan (MLP) Review / Amended MLP

A Minerals Local Plan Review (referred to hereafter as ‘the Plan review’) is being undertaken by ECC in accordance with and under the provisions of Regulation 10A of the Town and Country Planning (Local Planning) (England) (Amendment) Regulations 2017 which sets out that reviews at least every five years are a legal requirement for all local plans. This is supported by Paragraph 33 of the NPPF (2019), which states (inter-alia) that “Policies in local plans and spatial development strategies should be reviewed to assess whether they need updating at least once every five years and should then be updated as necessary. Reviews should be completed no later than five years from the adoption date of a plan and should take into account changing circumstances affecting the area, or any relevant changes in national policy.”

The Essex Minerals Local Plan (MLP) was adopted in July 2014 and provides planning policies for minerals development in Essex until 2029. It sets a policy framework within which the best possible use of finite resources can be made and allocates sites for future mineral extraction and associated development. The MLP contains policies promoting recycling and secondary processing, the safeguarding of resources and facilities, and high-quality site restoration, all in the pursuit of sustainable development.

The review of the Minerals Local Plan focuses on an assessment to determine whether the policies of the adopted 2014 Local Plan need updating, and subsequently concluding either that the policies do not need updating, or that one or more policies do need updating, (and publishing the reasons for this).

In November 2019, Essex County Council published on its website that following an initial assessment of the adopted Minerals Local Plan 2014, there was scope to further review its policies. This further review will take the form of a report that documents the process as required by planning regulations and will provide a justification for the decision to propose amendments, or not, to each policy and section of the Minerals Local Plan 2014. More specifically, the report will set out:

- Details of the obligations for the review itself and how the MLP Review has been carried out,
- A broad overview of changes to the National Planning Practice Framework (NPPF) and National Guidance since the initial Minerals Local Plan was adopted in 2014,
- The Review itself, mirroring the structure of the adopted Minerals Local Plan 2014.

Consideration will be given to both the continued appropriateness of each policy and its associated supporting text.

1.3 The Requirement for Sustainability Appraisal

1.3.1 Legislative requirements

The legislative requirement for Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA) emanates from a high level national and international commitment to sustainable development. The most commonly used definition of sustainable development is that drawn up by the World Trade Commission on Environment and Development in 1987 which states that sustainable development is:

‘Development that meets the needs of the present without compromising the ability of future generations to meet their own needs’

This definition is consistent with the themes of the NPPF, which draws upon The UK Sustainable Development Strategy Securing the Future’s five ‘guiding principles’ of sustainable development: living within the planet’s environmental limits; ensuring a strong, healthy and just society; achieving a sustainable economy; promoting good governance; and using sound science responsibly.

SEA originates from the European Directive 2001/42/EC “*on the assessment of the effects of certain plans and programmes on the environment*” (the ‘SEA Directive’) which came into force in 2001. It seeks to increase the level of protection for the environment; integrate environmental considerations into the preparation and adoption of plans and programmes; and promote sustainable development. The Directive was transposed into English legislation in 2004 by the Environmental Assessment of Plans and Programmes Regulations (the ‘SEA Regulation’) which requires SEA to be carried out for plans or programmes,

‘subject to preparation and/or adoption by an authority at national, regional or local level or which are prepared by an authority for adoption, through a legislative procedure by Parliament or Government, and required by legislative, regulatory or administrative provisions’.

This includes Local Plans. The aim of the SEA is to identify potentially significant environmental effects created as a result of the implementation of the plan or programme on issues such as:

‘biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors’ as specified in Annex 1(f) of the Directive.’

SA examines the effects of proposed plans and programmes in a wider context, taking into account economic, social and environmental considerations in order to promote sustainable development. It is mandatory for Local Plans to undergo a Sustainability Appraisal in accordance with the Planning and Compulsory Purchase Act 2004 as amended by the

Planning Act 2008, and in accordance with paragraph 165 of the NPPF.

Whilst the requirements to produce a SA and SEA are distinct, Government guidance considers that it is possible to satisfy the two requirements through a single approach providing that the requirements of the SEA Directive are met. This integrated appraisal process will hereafter be referred to as SA.

1.3.2 The Requirement Concerning the Minerals Local Plan Review 2020

The adopted Minerals Local Plan 2014 was subject to SA as required by the above legislation. This consisted of the following documents that were produced throughout the plan-making process:

- Original Scoping Report, 2005
- Revised Scoping Report (Eunomia), June 2008
- Minerals Development Document: Issues and Options. First Stage Environmental Report (Eunomia), January 2009
- Preferred Approach SA/SEA Environmental Report December 2010
- SEA Statement on Additional Sites August 2011
- Replacement Minerals Local Plan: Pre-Submission SA/SEA Environmental Report, November 2012
- Essex County Council Replacement Minerals Local Plan: Main Modifications and Site Assessment Report SA/SEA Addendum, February 2014

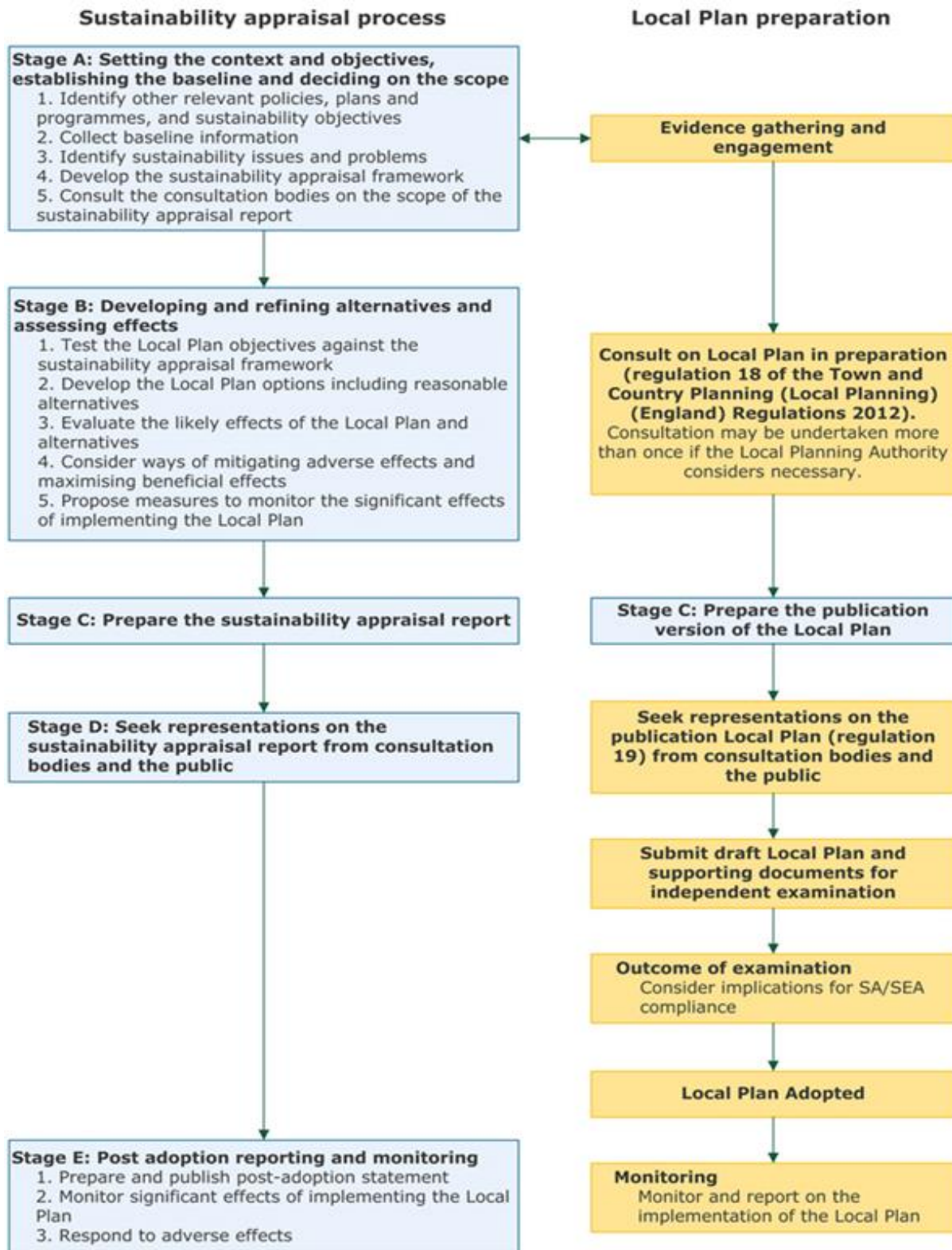
Carrying out SA work throughout the plan preparation was part of an integrated approach and has ensured that the sustainability considerations identified were addressed through subsequent iterations of the Minerals Local Plan from preliminary work to adoption in 2014. This is further required of the Minerals Local Plan Review at this stage, since the initial assessment of the adopted Minerals Local Plan 2014 in November 2019, concluded that there was scope to further review its policies.

The further review, culminating in a formal Minerals Local Plan Review report and including revised policy approaches, will need SA work to inform and justify revisions alongside reasonable alternative approaches if required. In short, the progression of the Minerals Local Plan 2014 was influenced by an assessment of its sustainability implications and effects, and any changes to that document will also need such an assessment.

1.4 The Sustainability Appraisal Process

The methodology adopted for the SA of the Minerals Local Plan Review at this stage follows that of the Sustainability Appraisal process. The following 5 sequential stages are documented below.

Figure 1: Stages in the Sustainability Appraisal Process and Local Plan Preparation



Source: Planning Practice Guidance – Sustainability appraisal requirements for local plans (Paragraph: 013 Reference ID: 11-013-20140306 Revision date: 06 03 2014)

1.5 The Aim and Structure of this Report

The aim of this Report is to respond to Stages B and C of the SA process shown in the previous figure; notably to:

- Test the MLP Review content against the sustainability appraisal framework (Stage B1)
- Develop the MLP options including reasonable alternatives (Stage B2)
- Evaluate the likely effects of the MLP Review content and alternatives (Stage B3)
- Consider ways of mitigating adverse effects and maximising beneficial effects (Stage B4)
- Propose measures to monitor the significant effects of implementing the MLP Review (Stage B5)
- Prepare the Sustainability Appraisal Report (this Report, Stage C)

These tasks are outlined in more detail within the below sub-headings.

1.5.1 Testing the Plan objectives against the SA Objectives

The Plan Review will likely include a number of key objectives. This section of the Plan will represent the key aims that the plan-makers wish to achieve in formulating the Plan Review document.

Although findings will be presented to the plan-makers at an early stage as part of an iterative process, the SA Environmental Report (Stage C below) will present these findings in the form of a matrix that explores whether the objectives are compatible and whether they need to be expanded to ensure that the Plan Review seeks to minimise any possible environmental effects and maximise those that are indicatively positive. A narrative will be provided that will make any such recommendations.

1.5.2 Developing strategic alternatives

A key part of the SA process is the identification of all 'reasonable' alternatives to the Plan Review's content. 'Reasonable' alternatives need to be fully considered by the plan-makers and assessed within the SA Environmental Report. They must be realistic, achievable and sufficiently distinct from the preferred strategy to warrant separate assessment.

1.5.3 Predicting the effects of the draft Plan including alternatives

It is integral that all elements of the Plan Review that may give rise to any environmental, social or economic effects are assessed within the SA against the SA Objectives, as well as the alternative approaches as required of Stage B2. Commonly, this includes all policies and site allocation options.

Plan Review content and alternative approaches must be assessed to the same level of

detail to create a 'level playing field' and against the SA Framework presented within this Scoping Report. This will be done using quantitative information as far as possible. Where there are data gaps in the assessment, assumptions ('qualitative' judgements) will be made consistently and fairly and documented in the SA Environmental Report.

1.5.4 Evaluating the effects of the draft Plan, including alternatives

In addition to the process explained in Stage B3, an evaluation of the effects of the Plan Review and alternatives is required of the SA process. This will be presented in the form of a narrative that explains the various merits and demerits of the Plan Review and alternative approaches and whether mitigation can be implemented or sought to eradicate or minimise any negative effects. It should be noted however, as set out in Paragraph 009 of Planning Practice Guidance for Strategic environmental assessment and sustainability appraisal, that 'the Sustainability Appraisal should only focus on what is needed to assess the likely significant effects of the plan. It should focus on the environmental, economic and social impacts that are likely to be significant. It does not need to be done in any more detail, or using more resources, than is considered to be appropriate for the content and level of detail in the Local Plan.'

1.5.5 Considering ways of mitigating adverse effects

Stage B5 will include the consideration of whether mitigation can be applied to ensure that any of the Plan Review's content can be made acceptable in planning terms. This will be presented in the form of recommendations. Although the iterative nature of SA and plan-making will ensure that recommendations are factored into the final Plan, the SA Environmental Report will chronicle those recommendations made throughout the process, and whether they have been taken on-board. This stage will also include recommendations for maximising positive effects, where possible.

1.5.6 Proposing measures to monitor the environmental effects of Plan implementation

The last step of Stage B is to include a list of possible indicators that can be collected to monitor those effects highlighted within the SA Environmental Report. These will include suggested data sources relevant for all of the SA Objectives and 'key questions / criteria' included within this Scoping Report.

2. What SA work has been done to date?

2.1 The SA of the Minerals Local Plan 2014

The Minerals Local Plan (MLP) was adopted in 2014 following an Examination in Public (EiP). The adopted MLP was accompanied by a SA, as required, which was also subject to examination.

The adopted MLP contained much of the same thematic content as contained within the amended MLP, to which this SA relates. It covered the statutory requirements of a minerals plan, notably:

- Planning policies for minerals development in Essex until 2029;
- The identification of future sites for mineral development (strategic site allocations); and
- Ways to reduce reliance on primary mineral resources in Essex, including through the use of recycled aggregates.

The SA of the adopted MLP assessed all relevant policies and site allocations of the Plan, including 'reasonable' alternatives to these. As the adopted MLP is still valid in so far as we are still within that plan period, the SA work undertaken to assess the adopted MLP is similarly relevant, and forms the basis for the identification of effects in the SA of the MLP Review. Much of the content of the adopted MLP is not proposed for amendment, and as such, those elements of the SA of the adopted MLP can be taken as the baseline position from which new effects are identified within this SA report.

Despite this however, this SA report does update various elements of the SA of the adopted Minerals Local Plan in those instances where best practice has identified new methods in the identification of sustainability effects. Similarly, this SA identifies and updates effects where baseline data allows the better identification of effects, and with more precision.

2.2 The SA Scoping Report for the Minerals Local Plan Review

With the above considered, a SA Scoping Report was produced for the adopted Minerals Local Plan 2014, which included information regarding context, baseline, issues and problems and a Sustainability Framework. These elements were also all refined through that process, culminating in the SA that was submitted for examination in 2014.

Since 2014, much of the context, baseline, and issues and problems would have changed; in part due to the emergence of the revised NPPF and National Planning Practice Guidance, but also through the adoption and use of the 2014 MLP policies to determine planning decisions in Essex.

The Scoping Report 2020 updates the context and baseline relevant to current times, and

also the Sustainability Framework.

2.1.1 Consultation on the Scoping Report with the Statutory Consultees

Following the completion of a draft Scoping Report in 2020, consultation was undertaken with comments requested from the ‘Statutory Consultees’ of the Environment Agency, Natural England and Historic England. Comments were received on the Scoping Report, and changes made to the SA framework as a result.

A summary of the comments received, and actions taken within the SA process in response to these comments, is outlined in the table below.

Table 1: Scoping Report consultation comments

Consultee	Comment	Action
Natural England	<p>We advise that the following types of plans relating to the natural environment should be considered where applicable to your plan area: South Essex Green and Blue Infrastructure Plan; Essex Green Infrastructure Plan, which Natural England recently consulted on; Essex Biodiversity Action plans; Rights of Way Improvement Plans; Shoreline management plans; Coastal access plans; AONB and National Park management plans; Relevant landscape plans and strategies; North Essex Strategic Plan; South Essex Strategic Plan (emerging); and it may be beneficial to refer to Minerals and Waste Plans from adjacent Authorities.</p> <p>Should any new site allocations be scoped in, the SA should consider how they may affect public rights of way and the England Coast Path as well as any potential impacts on protected sites or landscapes. The framework should ensure air quality impacts on environmental features and biodiversity are considered, not just human health. Where relevant, air pollution impacts (including dust impacts) from the movement of minerals (i.e. transport impacts) should be considered as well as the operational impacts of the quarries. The framework needs to assess how coastal erosion will impact on the future management of existing</p>	<p>These types of plans have been incorporated into the contextual review of the SA and informed the appraisal of the MLP at this stage.</p> <p>Whereas site allocations would be scoped into the SA, no new sites or extensions are additionally proposed as part of the MLP review. The Plan’s site allocations remain the same as included within the adopted MLP, a SA of which was completed and examined in 2014.</p>

Consultee	Comment	Action
	<p>waste sites and we recommend that no new sites are proposed where there may be coastal erosion issues. Any new coastal sites should consider the potential impact on the England Coast Path. With regards to Health there is an opportunity to enhance the references to Accessible Natural Greenspace (ANGSt), especially where new sites are and/or where restoration plans are produced. We recommend that you consider how the EMLP meets the needs of the Essex Green Infrastructure Strategy and the South Green and Blue Infrastructure strategy. You may wish to use the South Essex Green Infrastructure Strategy to inform the baseline.</p> <p>SA Objective 1: We support the objective to protect and enhance biodiversity throughout Essex and beyond. Greater emphasis could be given to the potential to improve the character and biodiversity of restoration sites and commit to Net Gain Principles, ecological networks and expanding both the extent and quality of priority habitat. Does this objective provide opportunities for the creation of accessible greenspace where restoration is planned? Does the objective commit to minimising the number of sites where adverse impacts on the natural environment may occur?</p> <p>SA Objective 11: With reference to NPPF 204 - so far as practicable, does this objective 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?</p> <p>SA Objective 12: Does this objective ensure that restoration will be of the highest quality and ensure that worked land is restored at the earliest opportunity?</p>	<p>Additional 'key questions' have been added to the SA Framework as a result of this consultation comment.</p> <p>Additional 'key questions' have been added to the SA Framework as a result of this consultation comment.</p> <p>Additional 'key questions' have been added to the SA Framework as a result of this consultation comment.</p>

Consultee	Comment	Action
<p>Historic England</p>	<p>If the Council intends to supplement its own provision of land-won aggregates with marine dredged aggregates to meet its apportionment, then the Report should also refer to the draft South East Marine Plan, since any extraction would need to comply with the policies set out in that document.</p> <p>While we welcome the identification of historic environment issues in this table (Table 2), we are surprised that there is no reference here to Registered Parks and Gardens, Registered Battlefields, or non-designated heritage assets. These landscape scale heritage assets can be particularly sensitive to changes in their setting, for example through visual intrusion, the introduction of movement and noise, and changes in hydrology / groundwater flows. The text should be amended to include these assets, and it may also be helpful to include a high level summary outlining the ways in which mineral extraction and restoration can impact on the historic environment as set out above.</p> <p>We welcome the reference to the historic environment in this section (landscape), but suggest the text could be extended to refer to the wider role that landscape plays in proving the setting for all heritage assets. Landscape is an important part of the setting of heritage assets and this should be reflected in the text of table 2.</p> <p>We welcome the reference to the effects of long-term pumping on other abstractors and wetland habitats, but suggest this should be broadened out to include the potential impacts of dewatering on the historic environment, for example on archaeology as well as ornamental water features such as lakes and fountains within Registered Parks and Gardens etc. On this point we suggest that it might be beneficial to include a specific standalone theme on groundwater, rather than combining these within a wider flooding</p>	<p>This plan has been incorporated into the contextual review of the SA and informed the appraisal of the MLP at this stage.</p> <p>Additional 'key questions' have been added to the SA Framework as a result of this consultation comment, as well as reference as recommended within Table 2.</p> <p>Additional 'key questions' have been added to the SA Framework as a result of this consultation comment and reference in Table 2.</p> <p>Additional 'key questions' have been added to the SA Framework as a result of this consultation comment and reference in Table 2. Sustainability issues related to groundwater have been incorporated</p>

Consultee	Comment	Action
	<p>theme because the potential issues and therefore the interventions will need to be distinct.</p> <p>Table 3 - The SA Objectives: We recommend that SA Objective number 8 is amended to reflect the NPPF hierarchy of avoidance before mitigation, and to reflect potential negative impacts which could result from changes within the setting of heritage assets. We suggest the following: ‘To avoid, and if this is not possible minimise impacts, both direct, and indirect (e.g. through changes in setting), on the significance of the historic environment, both above and below ground.’</p> <p>Proposed guide questions to meet objective - 8): We recommend amending bullet one to read: ‘Have an adverse impact on designated and non-designated heritage assets, including Listed Buildings, Conservation Areas, Registered Parks and Gardens, Scheduled Monuments, and archaeological deposits.’ We further suggest that this section could be enhanced with the inclusion of a new guide question relating to the condition of heritage assets. This could read: ‘Does the Plan cause a change to the condition of designated heritage assets, and assets identified as being Heritage at Risk?’</p> <p>Regarding SA Objective number 2, to maintain and enhance water quality and resources, we suggest the inclusion of a new indicator to capture any changes to buried archaeology and historic water features. This could read: ‘Condition of historic water features (e.g. ornamental lakes, and fountains etc.) within Registered Parks and Gardens, and buried archaeology.’</p> <p>AI.3 Cultural Heritage: We support the general description of the various classes of heritage assets outline in AI.3, but draw your attention to AI.3.6 Historic Parks and Garden which states “These are designated by</p>	<p>into Sustainability Objective 2 (water quality)</p> <p>The Sustainability Objective has been amended to reflect the recommended text.</p> <p>Additional ‘key questions’ have been added to the SA Framework as a result of this consultation comment.</p> <p>Additional ‘key questions’ have been added to the SA Framework as a result of this consultation comment.</p> <p>The baseline information section has been amended</p>

Consultee	Comment	Action
	English Heritage...”. This should be amended to read “These are designated by Historic England...”	to reflect the recommended text.
Environment Agency	No response received.	No action.

2.1.2 Contextual Review of other relevant Plans and Programmes

Any amendment to the Minerals Local Plan 2014 must have regard to existing policies, plans and programmes at national and regional levels and strengthen and support other plans and strategies. It is therefore important to identify and review those policies, plans and programmes which are likely to influence the Plan at an early stage. The content of these plans and programmes can also assist in the identification of any conflicting content of plans and programmes in accumulation with the Plan Review. Local supporting documents have also been included within this list as they will significantly shape policies and decisions in the area.

It is recognised that no list of plans or programmes can be definitive and as a result this report describes only the key documents which influence the Plan Review. Table 1 outlines the key documents, whilst a comprehensive description of these documents together with their relevance to the Plan is provided within Annex A.

International Plans and Programmes
European Landscape Convention (Florence, 2002)
European Union Water Framework Directive 2000
European Union Nitrates Directive 1991
European Union Noise Directive 2002
European Union Floods Directive 2007
European Union Air Quality Directive 2008 (2008/50/EC) and previous directives (96/62/EC; 99/30/EC; 2000/69/EC & 2002/3/EC)
European Union Directive on the Conservation of Wild Birds 2009
European Union Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora 1992

European Community Biodiversity Strategy to 2020
United Nations Kyoto Protocol
World Commission on Environment and Development 'Our Common Future' 1987
The World Summit on Sustainable Development Johannesburg Summit 2002
Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations)
The Conservation of Habitats and Species Regulations, 2010
The Industrial Emissions Directive 2010
European Convention on the Protection of the Archaeological Heritage (Valletta, 1992)
National Plans and Programmes
The Conservation of Habitats and Species Regulations, 2019
Safeguarding our Soils: A Strategy for England (Defra, 2009)
National Planning Policy for Waste (NPPW, 2014)
National and Regional Guidelines for Aggregates Provision in England 2005 - 2020
The Countryside and Rights of Way (CRoW) Act, 2000
Model Procedures for the Management of Land Contamination – Contaminated Land Report 11 (September 2004)
Water Resources Strategy for England and Wales, 2009
Flood and Water Management Act, 2010
Underground, Under Threat – Groundwater protection: policy and practice (GP3)
Planning (Listed Buildings and Conservation Areas) Act, 1990
Ancient Monuments & Archaeological Areas Act 1979
The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, 2007
(National) Planning Practice Guidance (updated)

National Planning Policy Framework (February 2019)
County / Regional Plans and Programmes
Essex Minerals Local Plan (2014)
Greater Essex Local Aggregate Assessment (2019)
Essex Local Aggregate Assessment (2018)
Mineral Site Restoration for Biodiversity – Supplementary Planning Guidance (2016)
Essex and Southend-on-Sea Waste Local Plan (2017)
Minerals and Waste Authority Monitoring Report 1 April 2017 to 31 March 2018 (2018)
Draft report to determine whether marine aggregate supply can offset the demand for land-won aggregates in Essex (October 2020)
Essex Minerals Local Plan Review 2021 – Report setting out the Rationale behind the Proposed Amendments (2020) (referred to as the ‘The Rationale Document’)
Review of ‘Windfall Sites’ for Mineral Extraction, Essex County Council (September 2019)
A Re-examination of Building Sand Provision in Essex (September 2019)
Suffolk Minerals & Waste Local Plan Submission Draft (June 2018) (emerging)
Local Level Plans and Programmes
Basildon Borough Council Revised Publication Local Plan 2014-2034 (emerging)
Braintree District Council Publication Draft Local Plan (Section Two)
Brentwood Local Plan 2016-2033 (Pre-Submission) & Addendum of Focused Changes (emerging)
Castle Point Local Plan (emerging)
Chelmsford City Council Local Plan (emerging)
Colchester Borough Council Local Plan (Section Two) (emerging)
Epping Forest District Local Plan Submission Version (emerging)

Harlow Local Development Plan Pre-Submission Publication (emerging)
Maldon District Council Local Development Plan (2014-2029) (adopted)
Rochford District Council Local Plan (emerging)
Tendring District Council Local Plan (Section Two) (emerging)
North Essex Authorities (NEAs) Common Strategic Section One Plan (emerging)
South Essex Joint Strategic Plan (emerging)
Uttlesford District Council Regulation 19 Local Plan (emerging)
Southend-on-Sea New Local Plan Issues and Options (emerging)
Thurrock Council Local Plan Issues and Options (Stage 2) (emerging)

2.1.3 Baseline summary of the County relevant to the remit of the Plan Review

The SA Directive requires the production of the following information:

‘The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme;’ Annex 1(b);

The environmental characteristics of areas likely to be significantly affected;’ Annex 1(c); and

Any existing problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance such as areas designated pursuant to Directives 79/409/EEC and 92/43/ECC’ Annex 1(d).’

Annex B to this Report outlines the full baseline information profile for the Plan Review area, and where relevant further afield. The baseline information identifies current sustainability issues and problems in the Plan Review area to be addressed and provides a basis for predicting and monitoring the effects of implementing the document. To ensure the data collected within Annex B was relevant and captured the full range of sustainability issues, it was categorised under 14 thematic topics. They cover all the topics referred to in Annex 1(f) of the SEA Directive and follow the order of:

- Minerals
- Waste
- Economy and employment
- Housing

- Health and wellbeing
- Transport and connectivity
- Cultural heritage
- Biodiversity and nature conservation
- Landscapes
- Water
- Climate and energy
- Air
- Soils

2.1.4 Sustainability Issues & Problems Relevant to the Plan Area

The outcome of the above processes related to the identification of relevant plans and programmes and the baseline information profile of the Plan Review area is the identification of key sustainability and environmental issues. These represent those sustainability and environmental problems facing the Plan Review area which assist in the finalisation of a set of relevant SA Objectives that can be subsequently expanded upon in a SA Framework.

The assessment of the Plan Review will be able to evaluate, in a clear and consistent manner, the nature and degree of impact and whether significant effects are likely to emerge from the Plan Review’s content. The following table outlines the thought process which has led to the formulation of the SA Objectives for the Plan Review.

Table 2: Key Sustainability Issues

General Theme	Focused Theme	Description / Supporting Evidence
Biodiversity	Ecological designations and the effects of minerals activities	Essex contains a range of sites with ecological designations, including Ramsar sites, Special Protection Areas, Special Areas of Conservation, Sites of Special Scientific Interest and National and Local Nature Reserves. In addition, a number of Biodiversity Action Plans and Habitat Action Plans are in place, with the aim of conserving and increasing nationally and locally important habitats and species in the county.
Water quality	Risk of contamination	The quality of water within the County’s rivers is generally fair to good in terms of chemical and biological quality. However, the chemical quality of the rivers is worse than the average quality of rivers in the East of England. There are potential

General Theme	Focused Theme	Description / Supporting Evidence
		<p>issues with removal of part of an aquifer and disrupting groundwater flows.</p> <p>Risk of contamination of surface and groundwater and siltation of watercourses:</p> <ul style="list-style-type: none"> • pollution from the working of previously contaminated land, including the reworking of mineral waste tips for secondary aggregates and post-restoration uses, e.g. use of fertilisers, surface water run-off. • by suspended sediment from mineral working and tipping of mineral waste. • pollution from natural contaminants and fuels, oils and solvents.
Soils	Soil quality and land stability	<p>Mineral operations need to have regard to:</p> <ul style="list-style-type: none"> • Degradation of soil stored during period of mineral working • Risk of land contamination • Fragmentation of agricultural holdings • Land take and permanent loss of soils • Land instability during mining operations and reclamation • Risk of subsidence or instability from sub-surface working, tipped land or hydrological changes
Landscape	Restoration for landscape benefits	<p>Many mineral deposits in Essex lie close or in sensitive landscapes. The Essex landscape and its relationship with historic settlements form an important component of the historic environment contributing to place making and local distinctiveness. Landscape plays an important role in providing the setting for all heritage assets, and as such, landscape is an important part of the setting of heritage assets.</p> <p>The use of quarries as landfill sites can extend the time for restoration and therefore increases landscape impacts. Landscape restoration and management opportunities should be maximised</p>

General Theme	Focused Theme	Description / Supporting Evidence
		<p>in relation to minerals/landfill operations and after-use.</p>
<p>Historic environment</p>	<p>Minimising / avoiding effects on assets</p>	<p>The county includes large numbers of recorded archaeological sites, listed buildings and conservation areas, as well as scheduled monuments. Many of these assets lie in close proximity to mineral deposits. The NPPF requires a positive strategy for the conservation of the historic environment.</p> <p>Landscape scale heritage assets such as Registered Parks and Gardens, Registered Battlefields, or non-designated heritage assets, can be particularly sensitive to changes in their setting, for example through visual intrusion, the introduction of movement and noise, and changes in hydrology / groundwater flows.</p>
<p>Flooding</p>	<p>Drainage and disturbance</p>	<p>Throughout the county there is a greater need for flood and surface water management which has implications regarding the location, longevity and viability of minerals operations.</p> <p>Proposed minerals developments must ensure they do not impede drainage in any way, and that mineral processing plant is not at risk of flood damage. Similarly, any proposed minerals and waste developments should not impact any flood infrastructure. In general, the following risks relate to mineral development:</p> <ul style="list-style-type: none"> • Disturbance or removal of surface features such as watercourses or flood storage. • Increased risk of groundwater flooding from low level restoration. • Effects of long-term pumping on other abstractors and wetland habitats. • Potential impacts of dewatering on the historic environment, for example on archaeology as well as ornamental water features such as lakes and fountains within Registered Parks and Gardens

General Theme	Focused Theme	Description / Supporting Evidence
Transport	Congestion and road safety	<p>Parts of the strategic road network pass through towns and villages creating issues for local communities in terms of air quality, amenity and road safety which can be heavily impacted by increases in HGV trips - particularly in sensitive rural areas and designated Air Quality Management Areas (AQMAs).</p> <p>Minerals and waste development may lead to changes in local travel patterns that may intensify existing issues such as congestion or road safety.</p>
Minerals development	Safeguarding resource	<p>There is a strong need to safeguard mineral resources, including through increased use of secondary and recycled materials.</p> <p>There is a strong need to ensure that mineral resources are both adequately supplied and also viable from an economic viewpoint. This is also the case for wider minerals and waste industries.</p>
Minerals development	Meeting demand / growth needs	<p>At the LPA level, growth requirements are at an unprecedented level, and house building is needed to meet a housing shortage. Similarly, a number of Nationally Significant Infrastructure Projects have been identified within Essex. Without a plan-led system a steady and adequate supply of building materials might not be forthcoming to facilitate forecasted development needs.</p>
Health	Human health and pollution	<p>Potential impacts on health, well-being and quality of life should be taken into account in identifying suitable sites for minerals sites and waste facilities. The potential impact of noise, dust, vibration, lighting and water pollution generated by ongoing operations needs to be considered.</p>

2.1.5 The Sustainability Objectives formulated for the SA

The following table explores whether the identified SA Objectives above fall into the three broad categories of sustainability, namely social, environmental and economic themes.

Table 3: The SA Objectives

SA Objective	Environmental	Social	Economic
1) To protect and enhance biodiversity through Essex and beyond	✓		
2) To maintain and enhance water quality and resources	✓	✓	
3) To minimise the risk of flooding	✓	✓	
4) To encourage the sustainable use of land and protection of soils, including the best and most versatile agricultural land.			✓
5) To promote the minerals supply hierarchy and where mineral waste is produced, to promote the movement of minerals waste up the waste management hierarchy.	✓	✓	✓
6) To safeguard and where possible improve air quality.	✓	✓	
7) To minimise net emissions of greenhouse gases and increase adaptability to climate change.	✓	✓	✓
8) To avoid, and if this is not possible minimise impacts, both direct, and indirect (e.g. through changes in setting), on the significance of the historic environment, both above and below ground.	✓	✓	
9) To protect and enhance the quality and character of landscapes, including the Metropolitan Green Belt	✓	✓	
10) To maximise opportunities for economic development, including		✓	✓

SA Objective	Environmental	Social	Economic
jobs, arising from minerals activities.			
11) To promote improvements in the sustainable use of minerals.	✓	✓	✓
12) To achieve restoration and the aftercare of all mineral sites that offer the best sustainability benefits.	✓	✓	✓
13) To reduce the transportation of minerals, road congestion, and promote the movement of minerals using sustainable transport.	✓	✓	✓
14) To protect and where possible enhance human health and well-being.		✓	
15) To minimise any nuisance and impact on local amenity resulting from minerals activities		✓	

2.1.6 The Compatibility of the Sustainability Objectives

A total of 15 SA Objectives have been derived for the appraisal of the Plan Review. They are based on the scope of the document, policy advice and guidance and to the assessment of the current state of the environment.

It is useful to test the compatibility of SA Objectives against one another in order to highlight any areas where potential conflict or tensions may arise. It is to be expected that some objectives are not compatible with other objectives thereby indicating that tensions could occur. Objectives which are based around environmental issues sometimes conflict with economic and social objectives, and vice versa.

The majority of the SA Objectives relevant to the content of the Plan Review, are broadly compatible or otherwise unrelated. There are however a number of potential incompatibilities identified in the compatibility matrix, and these are discussed below:

- Protecting and enhancing biodiversity (SA Objective 1) and minerals extraction / activities (SA Objective 12): The possibility of effects arising from any change in land use on biodiversity creates an incompatibility between Plan aims and the

need to protect wildlife and habitats, either on-site or where pathways exist. However, after care schemes post-extraction can ensure habitat enhancements, and net gains in biodiversity.

- Protecting landscapes (SA Objective 9) and ensuring biodiversity net gains (SA Objective 1): Although a desire to protect landscape and biodiversity are compatible notionally, in restoring mineral voids there can be a conflict between the merits of restoring landscapes to original levels and the creation of biodiversity net gains through restoration at lower levels.
- Maintaining and enhancing water quality (SA Objective 2) and minerals extraction / activities (SA Objective 12): There is a notional possibility that minerals extraction / activities can lead to adverse impacts on groundwater conditions. Those SA Objectives that seek the protection of water quality for environmental purposes and ensuring minerals extraction for economic needs may therefore be incompatible in some areas of the county.
- The protection of the best and most versatile agricultural land (SA Objective 4) and minerals extraction / activities (SA Objective 12): There is a possibility that minerals extraction / activities can lead to adverse impacts on the capacity of soils for future use. There is no longer a requirement to return land to an agricultural after-use; instead restoration need only allow the possibility. Those SA Objectives that seek the protection of soils and minerals extraction for differing economic purposes respectively may therefore be incompatible in some areas of the county.
- Reducing 'mineral miles' (SA Objective 14) and maximising jobs from minerals activities (SA Objective 11): There is a potential incompatibility through a desire to reduce the transportation of minerals and the jobs that such transportation create.

3. The Approach to Assessing the MLP Review

3.1 Assessing Policies and the types of effects considered

The SA of the Plan Review within the SA Environmental Report will assess the MLP’s content against the SA Objectives and key questions / criteria outlined in the above frameworks. The aim is to assess the sustainability effects of the MLP following implementation. The assessment will look at the secondary, cumulative, synergistic, short, medium and long-term permanent and temporary effects in accordance with Annex 1 of the SA Directive, as well as assess alternatives and suggest mitigation measures where appropriate. The findings will be accompanied by an appraisal matrix which will document the effects over time.

The content to be included within the table responds to those ‘significant effects’ of the policy or element of the Plan Review subject to assessment. Assessments will also look at the following:

- Temporal effects;
- Secondary, Cumulative and Synergistic effects;
- The assessment of Alternatives; and
- Proposed mitigation measures / recommendations.

These, and ‘significant effects’ are further described in the following sub-sections.

3.1.1 Description of ‘Significant Effects’

The strength of impacts can vary dependant on the relevance of the policy content to certain SA Objectives or themes. Where the policies have been appraised against the SA Objectives the basis for making judgements within the assessment is identified within the following key:

Possible impact	Basis for judgement
++	Strong prospect of there being significant positive impacts.
+	Strong prospect of there being minor positive impacts.
?	General uncertainty where there is a lack on current information (to be elaborated in commentary in each instance).
0	No impact.

Possible impact	Basis for judgement
-	Strong prospect of there being minor negative impacts and mitigation would be possible / issues can be rectified.
--	Strong prospect of there being significant negative impacts with mitigation unlikely to be possible (pending further investigation) / further work is needed to explore whether issues can be rectified.
N/A	Not applicable to the scope or context of the assessed content.

Commentary is also included to describe the significant effects of the policy on the sustainability objectives.

A NOTE ON ‘UNCERTAIN IMPACTS / EFFECTS’ IN THE SA:

Within the following SA Framework, a degree of impact is highlighted as ‘uncertain’. It should be acknowledged that within the assessment of options ‘uncertain’ impacts can ‘lean’ towards either positive or negative impacts, and these additional degrees of impact will be highlighted within option assessments where relevant.

Additionally, it should also be acknowledged that ‘uncertain’ impacts will only be highlighted where ‘positive’ or ‘negative’ impacts cannot be predicted with any assurance or where there is a lack of reliable quantitative information that can be used to predict impacts (or when the only available information is considered qualitative / anecdotal).

3.1.2 Description of ‘Temporal Effects’

The assessment of the Plan Review’s content should recognise that impacts may vary over time. The SA Environmental Report will highlight where effects may change over time in those instances where evidence exists to support such judgements. Should no evidence exist, then temporal effects will be based on reasonable assumptions, which will also be highlighted and signposted within the Environmental Report. Effects for each policy appraisal will be highlighted as:

- S/T: Short Term (responding to the early to mid-term period of Plan period)
- M/T: Medium Term (responding to the latter stages of the Plan period)
- L/T: Long Term (responding to restoration / after-care and beyond the Plan period)

3.1.3 Description of ‘Secondary, Cumulative and Synergistic Effects’

In addition to those effects that may arise indirectly (secondary effects), relationships between different elements of the Plan Review will be assessed in order to highlight any

possible strengthening or weakening of impacts from their implementation together. Cumulative effects respond to impacts occurring directly from two different elements together, and synergistic effects are those that offer a strengthening or worsening of more than one element of the Plan that is greater than any individual impact. Additionally, any cumulative impacts with other plans or projects will be highlighted within the assessment.

3.1.4 Description of 'Reasonable Alternatives Considered'

Planning Practice Guidance states that reasonable alternatives are the different realistic options considered by the plan-maker in developing the policies in its plan. They must be sufficiently distinct to highlight the different sustainability implications of each so that meaningful comparisons can be made. The alternatives must be realistic and deliverable.

3.1.5 Description of 'Proposed Mitigation Measures / Recommendations'

Negative or uncertain impacts may be highlighted within assessments. As such, mitigation measures may be needed and these will be highlighted in this section for each policy where relevant. In addition to this, this section will also include any recommendations that may maximise sustainability benefits.

3.2 How are effects identified?

The majority of the effects highlighted within the appraisal use the 2014 MLP SA as a starting point, however it should be acknowledged that the approach taken in that SA highlighted significant effects on the basis of a Policy, or an element of the Policy, being merely successful in either mitigating effects, or responding to national policy requirements. For example, a Policy's successful mitigation of effects on the historic environment would not yield 'significant positive effects' rather 'no effects'. The SA at this point, in responding to best practice, highlights effects as 'significant' only where they will lead to benefits that can be considered so as a result of the Policy. There is also a stronger focus within this SA to use evidence as a starting point, rather than professional opinion or notional planning judgements at the strategic level.

For this reason, the effects of the adopted 2014 MLP's SA and the SA of the Plan as amended post-review, are more difficult to compare due to this methodological change. It should therefore be noted that comparisons can only be made by looking at the commentaries analysing the effects of each Policy, and the Plan as a whole, rather than the use of the symbols included within the appraisal. Where effects have changed for a Policy, or the whole Plan, then these will be signposted and set out within that commentary.

4. The Assessment of the Minerals Local Plan Review

4.1 Introduction to this Section

This section sets out the appraisal of the Minerals Local Plan, as amended. Assessment of the Plan's content has been undertaken against the sustainability objectives and framework devised at the scoping stage.

This section assesses the Plan's (and where relevant reasonable alternative approaches to):

- Spatial Vision;
- Aims and Strategic Objectives;
- Strategic Policies;
- The Minerals Provision Figure;
- Preferred Minerals Sites for Primary Mineral Extraction; and
- Development Management Policies.

4.2 The Proposed Amendments to the MLP

The amendments proposed to the Minerals Local Plan 2014 through the Review represent the focus of assessment within this SA, including the identification and appraisal of alternative approaches to the amendments. Nevertheless, the whole Plan, including both the retained and amended content is considered holistically within this SA.

There are many occasions where no amendments are proposed to the Plan's content as adopted from the Minerals Local Plan 2014. In those instances alternative approaches may be relevant, and are assessed notionally within this section, however no re-assessment of original content has been undertaken, and the Minerals Local Plan 2014 SA determinations are reiterated within this Report. This is particularly relevant for site allocations (preferred minerals sites for primary mineral extraction, as above) as no new allocations are identified as required within the review of the Minerals Local Plan 2014.

4.3 Assessment of the Spatial Vision, Aims and Strategic Objectives

4.3.1 The Spatial Vision

4.3.1.1 What amendments have been proposed?

The Review proposes an amendment that removes named settlements within the Plan area that were considered 'main growth centres'; flexible wording is proposed in replacement that

allows the co-ordination of the supply of minerals to better reflect growth locations as identified within district / borough authorities' Local Plans. Additionally, wording pertaining to the Plan's existing position that proposals for borrow pits and minerals infrastructure (linked to significant (non-mineral) infrastructure projects) will be considered on a case-by-case basis, is included within the Vision. This amendment, covered within Policy S6 as adopted and not proposed for amendment, is included for thoroughness here and is not a new approach introduced through the Plan's review.

The Review lastly introduces amendments to the Spatial Vision in regard to restoration and after-use. An amendment proposes a focus of after-use towards integrating the cross-cutting benefits of green and blue infrastructure and natural capital growth, rather than merely ensuring local environment enhancements. Further, the amendment seeks restoration proposals to reflect local priorities in existing or emerging green and blue infrastructure strategies, where they exist, to better align with the Development Plan.

4.3.1.2 Are there any new alternatives to consider?

The MLP 2014 SA explored alternatives to the Spatial Vision that reflected wording changes and the progression of the Spatial Vision from the Issues and Options stage to the Pre-Submission Draft. No alternatives that sought a distinctly different approach to the Plan than that iterated in the adopted MLP 2014 were explored, with those being more relevant for exploration within the appraisal of the Plan's thematic policies.

The amendments proposed within the Review are similarly not considered distinctly different from the adopted approach, reflecting amendments to policy elsewhere in the MLP and aspirations for a more holistic approach to green and blue infrastructure across the Plan area. It is not considered that the amended Spatial Vision would warrant the exploration of any further alternatives to what is proposed; the amended Spatial Vision reflects the requirements of minerals planning as set out within the NPPF and PPG. No alternatives are therefore identified that can be considered 'reasonable' i.e. realistic, deliverable and sufficiently distinct from the proposed approach.

4.3.1.3 Assessment of the Spatial Vision

Effect	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	0	++	0	0	0	0	+	++	0	0	0	0
M/T	0	0	0	0	++	0	0	0	0	+	++	0	0	0	0
L/T	+	0	0	0	++	0	0	0	0	0	++	++	0	+	0

The Plan's Strategic Vision effectively seeks to maximise benefits, within the remit of the Plan, and to mitigate any negative ancillary effects identified as relevant to the Plan area and minerals planning. In those instances where there is a pledge to ensure mitigation, no effects can be assumed as forthcoming from the Vision alone; much depends on the successful implementation of the Plan's thematic policies. These are explored elsewhere within this SA in the assessment of policies and whole Plan conclusions.

Significant short-long term positive effects are highlighted for the Vision's stance addressing the remit of the Plan and this SA's relevant objectives; on promoting the minerals supply hierarchy and where mineral waste is produced, to promote the movement of minerals waste up the waste management hierarchy. This is also the case regarding ensuring the sustainable use of minerals, as far as this can be influenced by a strategic plan. A long term significant positive effect is also highlighted regarding ensuring the best sustainability benefits from restoration and after-use of mineral extraction sites. This is addressed by the proposed amendment that ensures restoration proposals reflect local priorities in existing or emerging green and blue infrastructure strategies where they exist. This ensures better alignment with the development plans of the Local Planning Authorities (LPAs) within Essex and reflects updated guidance and best practice on the multiple benefits of a holistic, cross-boundary approach to green and blue infrastructure. To this extent minor positive effects are also highlighted for biodiversity and human health / wellbeing.

A minor positive effect is also highlighted regarding employment opportunities relevant to minerals activities, through the Vision's increased (through amendment) support for the minerals industry through flexibility regarding forthcoming proposals.

4.3.1.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan's Vision at this stage of the SA.

4.3.2 Aims and Strategic Objectives

4.3.2.1 What amendments have been proposed?

Aside from typological amendments and those that better reflect the position in terms of sub-regional plan making, a number of amendments are proposed. An amended objective better articulates the 'plan-led' approach to future provision, providing further reassurance for Essex residents, the minerals industry, key stakeholders and future developers that future needs can be met, whilst also providing a degree of certainty as to where minerals development will take place. Further emphasis is also given in regard to ensuring sustainable minerals transportation, through seeking to minimise carbon emissions associated by the transportation of mineral and also promoting the provision of multifunctional green and blue infrastructure and natural capital growth through restoration.

Further, the Aims and Strategic Objectives are expanded to offer more detail on safeguarding. This is now specified as required in order to ensure that the practicality of prior extraction of mineral is appropriately assessed when other necessary non-mineral development might unnecessarily sterilise viable mineral resources. Existing, permitted and allocated mineral infrastructure will also be safeguarded.

In regard to the Plan's aim to provide for a steady and adequate supply of primary minerals, an amendment is proposed that removes the requirement to meet East of England Aggregates Working Party targets, and includes that need to maintain appropriate landbanks (having regard to past levels of sales, likely future demand and the sub-national apportionment requirement, as monitored through the Local Aggregates Assessment and Authority Monitoring Reports). Participating in the relevant Aggregates Working Party and taking its views into account is included as an objective.

4.3.2.2 Are there any new alternatives to consider?

The MLP 2014 SA explored alternatives to the Plan’s Aims and Objectives that reflected wording changes and the progression of the Aims and Objectives from the Issues and Options stage to the Pre-Submission Draft. No alternatives that sought a distinctly different approach to the Plan than that iterated in the adopted MLP 2014 were explored, with those being more relevant for exploration within the appraisal of the Plan’s thematic policies. It is considered that the Aims and Objectives as drafted post-Review are in conformity with the objectives of both the NPPF and the PPG.

Regarding the steady supply of primary minerals, the amendment is more in line with and better accommodates those provisions of the NPPF. This more accurately reflects the approach taken by the MPA with regard to providing a steady and adequate supply of mineral and as such, no alternatives have been identified that could be considered distinctly different from the proposed approach yet still realistic, deliverable and in accordance with national guidance.

4.3.2.3 Assessment of the Aims and Strategic Objectives

Plan Aim (SO*)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. (1-4)	0	0	0	✓	✓	0	0	0	✓	✓	✓	0	✓	0	?
2. (5)	0	0	0	0	0	0	✓	0	?	0	0	✓	✓	0	0
3. (6-7)	0	✓	✓	✓	0	✓	0	0	0	0	0	0	✓	✓	✓
4. (8)	0	0	0	0	✓	0	0	0	✓	0	✓	0	0	0	0
5. (9)	0	0	0	✓	0	0	0	0	0	0	✓	0	0	0	0
6. (10)	?	0	0	0	✓	0	0	?	?	0	✓	0	0	?	?
7. (11-13)	✓	0	0	0	0	0	0	✓	✓	0	0	✓	0	✓	✓
8. (14)	0	0	0	0	0	✓	0	0	0	✓	✓	0	✓	?	?

* SO: Strategic Objective

The MLP Aims and Objectives are elaborated on within the policy framework set out in the MLP and therefore the assessment of the Plan’s Aims and Objectives has been undertaken slightly differently to the rest of the Plan’s policies and Vision. The assessment undertaken in this report acts as a checklist as to whether the Plan effectively addresses the sustainability issues of the Plan area; in other words, are the Plan’s objectives compatible with the sustainability objectives of this SA. A ‘tick’ signifies compatibility, whereas a question mark indicates that a Sustainability Objective theme is not necessarily covered by a Plan objective.

The aims and strategic objectives of the MLP post-review are considered to ensure that all of the Sustainability Objectives are covered by one of the Plan’s objectives. Where uncertain impacts are highlighted, the majority of these will be rectified in other elements of the Plan where site specific characteristics and impacts are more relevant, such as site allocation criteria and assessments and development management policies.

4.3.2.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan’s Aims and Objectives at this stage of the SA.

4.4 Assessment of the Strategic Policies

4.4.1 Policy S1 Presumption in Favour of Sustainable Development

4.4.1.1 What amendments have been proposed?

Aside from a single change that amends a paragraph reference, no significant amendments are proposed for this Policy.

4.4.1.2 Are there any new alternatives to consider?

It is acknowledged that the inclusion of this policy is no longer required, as the Plan incorporates the notion of sustainable development through the thematic policies and their adherence to national requirements. As a result of this the alternative of deleting the Policy is not considered distinctly different, in terms of yielding any direct sustainability effects, than the approach of retaining its inclusion.

4.4.1.3 Assessment of Policy S1

Effect	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M/T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L/T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

There will be no direct impacts on any of the sustainability objectives as a result of Policy S1; the inclusion or omission of the Policy will have little impact in real terms on the process of determining mineral based applications in the Plan area. The Plan's detailed policies seek to underpin the ethos of Policy S1 through addressing separate thematic elements of sustainable development.

4.4.1.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan's Policy S1 at this stage of the SA.

4.4.2 The Strategy and Policy S2 Strategic Priorities for Minerals Development

4.4.2.1 What amendments have been proposed?

No amendments are proposed for the Plan's Strategy. This remains as adopted in the adopted 2014 MLP.

The amendments proposed for Policy S2 are largely designed to offer further clarity, although added emphasis is included within the Policy regarding health and wellbeing, and public safety. A common thread throughout the MLP is the focus on biodiversity net-gains and ensuring a joined-up approach between restoration proposals and district / borough authorities' Green and Blue Infrastructure Strategies where they exist; this is reiterated through Policy S2 amendments. Lastly, an amendment exists to reiterate the approach to safeguard primary and secondary processing facilities, with safeguarding provisions linked to the length of mineral operations at the host site where relevant. This clarifies the approach already set out within the adopted MLP.

4.2.2.2 Are there any new alternatives to consider?

The Strategy of the Plan remains as adopted and reflects the Plan as a whole. As this Strategy was adopted in 2014, underpins the Plan's policies and site allocations, and was subject to a plan-making process that explored other strategic alternatives, it is not considered necessary to identify further alternatives at this stage. The Strategy position does not change as a result of any of the amendments proposed through the Plan Review; there is no identified need for any new sites to be allocated which would alter the geographic dispersal of sites.

It is considered that Policy S2 is in conformity with the objectives of the NPPF and PPG, with no omissions which could result in any noncompliance with national policy. It is acknowledged that the amendments to Policy S2, as Strategic Priorities, will be covered in more depth and detail within other thematic policies within the Plan. With this in mind, no alternatives are identified for Policy S2, with alternatives to other policies explored where necessary and reasonable.

4.2.2.3 Assessment of the Plan's 'Strategy' and Policy S2

Effect	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	0	++	0	0	0	0	+	++	0	0	0	0
M/T	0	0	0	0	++	0	0	0	0	+	++	0	0	0	0
L/T	+	0	0	0	++	0	0	0	0	0	++	++	0	+	0

The Strategy of the Plan remains as adopted. That being:

‘To provide for the best possible geographic dispersal of sand and gravel across the County, accepting that due to geographic factors the majority of sites will be located in the central and north eastern parts of the County, (to support key areas of growth and development and to minimise mineral miles,) with a focus on extending existing extraction sites with primary processing plant, and reducing reliance on restoration by landfill.’

As stated above in the discussion surrounding alternatives, the Plan Review cannot be considered to alter this position through any of its proposed amendments; none allocate new sites for extraction or alter locational criteria. The approach of removing the names of specific settlements in favour of a more flexible approach allows sites to respond to supporting ‘key areas of growth’ should the ‘key areas’ change throughout the Plan period.

Significant effects are highlighted for those sustainability objectives related to promoting the minerals supply hierarchy and the sustainable use of minerals. This is due to the strategic priorities reflecting the remit of the Plan, and through the enhanced safeguarding amendments proposed. Additional minor positive effects are highlighted regarding sustainability objectives related to ensuring and safeguarding those jobs deriving from minerals activities.

The amendments to Policy S2 are considered likely to enhance the long-term positive effects highlighted within the 2014 MLP SA regarding biodiversity within the Plan area, in response to the requirement for restoration to be better aligned with local Green and Blue Infrastructure Strategies, and net-gains being sought. The strength of these effects are unlikely to be significant from the Plan alone however could be significant holistically with and in alignment to those strategies at the LPA level. Effects are predicted to be significant in the long term however through the amendments and the retained priorities related to ensuring the best possible sustainable benefits from restoration proposals. This will also likely offer some long term positive effect regarding human health and wellbeing, where net gains are sought alongside the notional benefits of green infrastructure improvements. At the strategic scale effects are not considered significant however, as much depends on other schemes and proposals across the Plan area.

4.4.2.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan’s Policy S2 at this stage of the SA.

4.4.3 Policy S3 Climate Change

4.4.3.1 What amendments have been proposed?

The proposed amendments to the Policy relate to applications for minerals development (now including extensions to existing sites) to minimise and/or offset greenhouse gas emissions for the lifetime of the development. In minimising / offsetting, proposals will need to have regard to site operation as well as siting, location design and transport arrangements.

Proposals will also need to take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption, including maximising cooling and avoiding solar gain in the summer. Further, regarding restoration and after-use, compatibility with existing Local Plans and Green Infrastructure Strategies is required for flood resilience, countryside enhancements and green and blue infrastructure. The Mineral Planning Authority will support minerals development which increases the resilience of communities and infrastructure to climate change impacts.

4.4.3.2 Are there any new alternatives to consider?

There are not considered to be any omissions within Policy S3 which would result in it being non-compliant with national policy. The amendments proposed to the Policy seek more information to be submitted on a wider range of matters regarding emissions and mitigation. Overall, it is considered that any deviation from the Policy (as amended) that remains realistic, reasonable and in adherence to national policy would not be ‘distinctly different’ to warrant consideration as an alternative within this SA.

4.4.3.3 Assessment of Policy S3

Effect	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	+	0	0	0	0	+	0	0	0	0	+	+	0	0
M/T	0	+	0	0	0	0	+	0	0	0	0	+	+	0	0
L/T	+	+	0	0	0	0	+	0	0	0	0	+	0	0	0

The amendments to the Policy make improvements to the level of detail required of planning applications in regard to greenhouse gas minimisation and / or offsetting. Positive effects are highlighted for those Sustainability Objectives related to biodiversity (in the long term, through restoration ensuring net gains), water resources (indirectly, through flood risk requirements), a flexible approach to restoration ensuring maximum sustainability benefits in alignment to LPA Local Plan aims and strategies, and ensuring vehicle emissions are reduced in the lifetime (short-medium) term of mineral workings.

Minor positive effects are predicted regarding minimising greenhouse gas emissions and adaptability to climate change. Effects are not considered significant due to the maximum possible benefit being offsetting, in regard to the fact that many minerals activities are

temporary in nature, and are unlikely through their nature to ensure any long term and wider benefits regarding renewable energy generation.

4.4.3.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan’s Policy S3 at this stage of the SA.

4.4.4 Policy S4 Reducing the Use of Mineral Resources

4.4.4.1 What amendments have been proposed?

Amendments to Policy S4, regarding reducing the use of mineral resources, seek the removal of wording ‘this is to ensure both a reduction in the need for primary minerals and the amount of construction, demolition, and excavation wastes going to landfill. This will be supported by joint working with strategic partners.’ The deletion of this text does not alter the general ethos of the Policy, which is more considered more appropriately included within supporting text, with all four criteria included within the Policy remaining unchanged. An amendment that seeks applications to ‘demonstrate’ rather than ‘ensure’ the policy criteria will be met, clarifies that evidence is expected to be submitted to confirm compliance with the Policy.

4.4.4.2 Are there any new alternatives to consider?

Overall, it is considered that any deviation from the Policy (as amended) that remains realistic, reasonable and in adherence to national policy would not be ‘distinctly different’ to warrant consideration as an alternative within this SA.

4.4.4.3 Assessment of Policy S4

Effect	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	0	++	0	0	0	0	?	++	0	0	0	0
M/T	0	0	0	0	++	0	0	0	0	?	++	0	0	0	0
L/T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

The amendments to the Policy can be considered to change the context of the approach in a manner that ensures that more information is received by the MLP at the planning application stage. Rather than just ‘ensuring’ that minerals waste is minimised, it is proposed that it must now be ‘demonstrated’ within proposals at the application stage. This allows the MPA to make more informed decisions, which can lead to more positive effects regarding Sustainability Objective 5 in promoting the minerals supply hierarchy in line with the waste hierarchy. Further positive effects will be realised for Sustainability Objective 11 regarding the sustainable use of minerals.

In supporting the minerals supply hierarchy, and in the approach taken within the Policy, jobs within the industry can be seen to be maintained, however there may be a reduction in those associated with primary extraction through a focus on reducing and re-using minerals in the

first instance prior to the need for extraction. Uncertain effects are highlighted as a result, and only identified within the short-medium term in line with extraction periods.

4.4.4.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan's Policy S4 at this stage of the SA.

4.4.5 Policy S5 Creating a Network of Aggregate Recycling Facilities

4.4.5.1 What amendments have been proposed?

The amendments proposed for Policy S5 include the safeguarding of all aggregate recycling sites, as opposed to just existing Strategic Aggregate Recycling Sites, and that facilities will be safeguarded in accordance with the provisions of Policy S9. Another amendment specifies that proposals for new aggregate recycling facilities shall (previously 'should') be located on the main road network in proximity to 'areas of development', rather than the 'key centres of Basildon, Chelmsford, Colchester and Harlow'. Further, a policy criterion within the 2014 MLP included that a preferred location for proposals be 'within major allocated or permitted development areas'. This has since been removed.

4.4.5.2 Are there any new alternatives to consider?

The main amendments outlined above have been made to address a perceived inconsistency between the approach of safeguarding 'strategic' aggregate recycling facilities and NPPF Paragraph 204 e) which states that planning policies should, 'safeguard existing, planned and potential sites for...the handling, processing and distribution of substitute, recycled and secondary aggregate material'. The NPPF does not set out a threshold at which to apply this policy and the MPA therefore consider it appropriate to remove reference to strategic sites such that the approach applies to all recycling facilities. This also brings the approach into conformity with the Essex and Southend-on-Sea Waste Local Plan 2017 which makes no distinction between strategic and non-strategic sites in its safeguarding approach. Due to the intention for modifications to more closely align with the adopted Waste Local Plan (WLP), this reduced the scope for any alternatives that ensure NPPF and WLP conformity.

Where an alternative is considered reasonable at this stage is related to the proposed amendment regarding the intention to replace 'the key centres of Basildon, Chelmsford, Colchester, and Harlow' with 'areas of development' in regard to the preferred location of new aggregate recycling facilities. An alternative approach would be to retain the existing adopted Policy wording, as:

- Alternative S5(1): To retain the adopted Policy wording: 'Proposals for new aggregate recycling facilities, whether non-strategic or in the form of SARS, should be located on the main road network in proximity to the Key Centres of Basildon, Chelmsford, Colchester, and Harlow.'

4.4.5.3 Assessment of Policy S5

Effect: S5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	0	++	0	0	0	0	+	++	0	+	0	0
M/T	0	0	0	0	++	0	0	0	0	+	++	0	+	0	0
L/T	0	0	0	0	0	0	0	0	0	0	0	+	0	0	0
Effect: S5(1)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	0	++	0	0	0	0	+	++	0	?	0	0
M/T	0	0	0	0	++	0	0	0	0	+	++	0	?	0	0
L/T	0	0	0	0	0	0	0	0	0	0	0	+	0	0	0

The Policy is aimed at establishing a network of recycling aggregate sites within the Plan area; necessary for the reuse and recycling of Construction, Demolition and Excavation (CD&E) waste, a key process in the reduction of materials which are disposed to landfill, where such waste is reusable. The Policy can therefore be seen to indirectly reduce the need for mineral extraction, leading to positive outcomes regarding environmental and social tenets of sustainability. Whereas this notional eventuality is explored in more detail within the assessment of other policies and importantly in the ‘whole Plan conclusions’ of this Report, the Policy correspondingly accords well with Sustainability Objective 5 (regarding the minerals supply and waste hierarchies) and also Sustainability Objective 11 (the sustainable use of minerals), leading to significant positive effects in the lifetime of operational mineral activities and reducing the environmental impacts of primary extraction. Other criteria for new recycling facilities, and an amendment to necessitate their location on the main road network in proximity to areas of development, can be considered to have positive effects in regard to reducing mineral miles (Sustainability Objective 13).

Further, the proposed amendment to locate such facilities in ‘areas of development’ rather than the key centres of Basildon, Chelmsford, Colchester and Harlow, responds well to planned and ‘un-planned’ growth in Essex; reflecting a flexible approach to the Policy’s interpretation. The alternative explored, in retaining the adopted policy wording regarding named key settlements in the Plan area, can be seen to have broadly similar effects as the proposed amendment. The amendments to the Policy however can be considered more flexible in response to the direction of growth within the Plan area. Since the adoption of the MLP in 2014, Local Plan settlement hierarchies, as set out within adopted or emerging Local Plans, introduce new settlements that do not necessarily respond to the locations of existing towns or large settlements. Further, as housing growth targets have increased since 2014, key villages within the Plan area are similarly proposed for a larger proportion of growth than previously. As a result, the alternative explored in this Policy assessment has been assessed as having a degree of uncertainty surrounding the transportation of minerals and the notion of reducing mineral miles (Sustainability Objective 13).

Long term positive effects are highlighted for the proposed and alternative approaches regarding restoration (Sustainability Objective 12). Although the focus of recycling and reusing CD&E waste can be seen to limit the possibility of backfilling mineral voids and restoring landscapes to higher (original) levels, positive effects are highlighted due to the Policy's stance for new recycling facilities; preferred locations are highlighted, including on current mineral workings and landfill sites provided the development does not unduly prejudice the agreed restoration timescale for the site and the use ceases prior to the completion of the site.

Effects related to environmental themes, and those Sustainability Objectives included within this SA, are assessed as being neutral in the context of the Policy in isolation. Although the Policy criteria ensure that new aggregate recycling facilities will be located in commercial areas and on previously developed land (where impacts on environmental themes can be expected to be minimised), effects will be more identifiable on a site-by-site basis where these are related to individual proposals, and the level of information required of submissions in conformity with other Policies within the Plan. It should be noted that the Policy's supporting text recognises the possibility of effects at the site level, particularly regarding effects on Habitats Sites, by including that a project level Habitat Regulation Assessment will be required for any new aggregate recycling sites which fall within a relevant Impact Risk Zone (IRZ).

4.4.5.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan's Policy S5 at this stage of the SA.

4.4.6 Policy S6 General Principles for Sand and Gravel Provision

4.4.6.1 What amendments have been proposed?

Within the MLP 2014, the Policy was titled 'Provision for Sand and Gravel Extraction' and set out the amount of mineral that was calculated as being required to equate to the provision of a 'steady and adequate' supply of minerals on an annual basis, and therefore the total amount of mineral required to be provided for over the Plan period. Policy S6 as drafted seeks to maintain a plan-led system with regard to applications for mineral extraction and maintains a seven year sand and gravel landbank, however establishes that those extraction sites that were allocated as 'reserve sites' in 2014, are now considered necessary as 'preferred sites' that will be required to come forward in the Plan period.

4.4.6.2 Are there any new alternatives to consider?

Alternatives regarding the amount of sand and gravel to plan for

The NPPF, at paragraph 207 states that "Mineral Planning Authorities should plan for a steady and adequate supply of aggregates" and then sets out a range of criteria through which such a supply can be quantified. The starting point for this is stated to be an assessment of the last ten years of average sales, before supplementing this with 'other relevant local information', such as household projections, housing completions and major infrastructure projects which are to be located within the Plan area. Further, paragraph 207 d) states that MPAs should take "account of any published National and Sub National Guidelines on future provision which should be used as a guideline when planning for the future demand for and supply of aggregates".

Such guidelines are to be used as “an indication of supply rather than a rigid basis” as per PPG, and the 2014 MLP planned for a need for 4.31mtpa of sand and gravel, an apportionment underpinned by the ‘National and Sub National Guidelines for Aggregates Provision in England 2005 – 2020’ despite calculated needs being 3.62mtpa (based on ten-year rolling sales at the point of the 2014 MLP Examination in Public (EiP)). At present, Minerals Survey data for the year 1st January to 31st December 2018 (representing the most up to date data) indicates that the rolling ten-year sales average is 3.13mtpa.

The Plan review outlines that the figure of 4.31mtpa remains appropriate, and this is assessed within this SA. It is considered that the ten-year rolling figure of 3.13mtpa is assessed as an alternative, including discussion as to whether there would be any different sustainability effects arising from a lower figure, at least notionally. This discussion and appraisal is included within Section 4.5 of this SA Report.

Alternatives regarding the allocation of previously defined ‘reserve sites’ as preferred

The Policy responds to the requirement to maintain the sand and gravel landbank at seven years and ensures that the planning framework for minerals is plan-led, i.e. need is delivered through allocated sites.

The SA of the MLP 2014 assessed the previous ‘reserve sites’ within the main suite of preferred allocation sites, in order to capture the potential effects of sand and gravel being extracted at those locations. To that extent, cumulative and synergistic effects of the preferred and reserve sites combined were identified within the SA at that stage. Therefore the consideration of the ‘reserve sites’ (as they were within the 2014 MLP) alongside the ‘preferred sites’ does not represent an alternative. The MLP review justifies that there is no requirement for new site allocations to be identified, as need is effectively being met. Nevertheless, the notional consideration of whether the ‘reserve’ sites should be ‘preferred’ and whether the alternative of inviting site submissions at this stage is explored within Section 4.6 of this SA Report.

4.4.6.3 Assessment of Policy S6

Effect	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	0	++	0	0	0	0	+	++	0	0	0	0
M/T	0	0	0	0	++	0	0	0	0	+	++	0	0	0	0
L/T	0	0	0	0	+	0	0	0	0	+	+	0	0	0	0

As set out above, the amendment that removes the requirement that proposals will only be supported if the landbank is below seven years, and replaces that statement with reference that preferred sites will meet landbank requirements, is in conformity to national policy and guidance; that is, to maintain a seven year landbank. PPG clearly outlines that there is no ‘maximum landbank’ such that the state of the landbank cannot itself be used to refuse planning permission.

The approach to the allocation of sites is plan-led, and benefits from the volume of evidence required of a Local Plan, including this and previous SA Reports that explore cumulative and strategic effects. This can be considered justification as to the Policy's approach to resist proposals for primary extraction outside these allocations. Nevertheless, some sites may come forward 'off-plan', and the Policy sets a framework for these sites.

A properly maintained landbank secures and maintains mineral supplies and the approach of the MLP allows for flexibility by recognising a set of circumstances by which sites may come forward 'off-plan'. This approach is considered to be in conformity to the overarching goal of ensuring of a steady and adequate supply of minerals through the Plan period, assuring that supply is adequate to respond to any economic changes within the County. The policy will therefore have significant positive impacts on maximising opportunities for economic development, in this instance resembling non-mineral related growth. The Plan ensures that there will be a supply of minerals that surpasses that of the rolling average of ten years sales data; this approach supports economic growth by allowing for and supporting any economic upturn in the County and responds to sales since the MLP was adopted in 2014; these have been consistently over the ten year sales average which existed at the point of adoption.

This SA considers that there will be no direct impacts on any environmental objectives in line with the specific remit of the Policy singularly and without consideration of other Plan policies or the overall conclusions within this SA. It could be perceived that the potential for negative environmental effects (associated with extraction) exists through the Policy approach of allocating more minerals than is needed, however it should be considered that the market will calibrate a position that only that amount which could be sold would be extracted. Further, most of the extracted material in Essex is likely to serve local markets due to the economics of transport, increasing the likelihood of extraction supporting sales.

The Policy will however have significant positive effects on Sustainability Objective 5 (regarding the minerals supply hierarchy) and Sustainability Objective 11 (the sustainable use of minerals). The Policy enables the minerals industry to respond speedily to changes in market demand, and also provide a secure long-term, steady and adequate supply of permitted mineral reserves to justify capital investment in plant, machinery and manufacturing capacity. There will be positive outcomes where the landbank allows for mineral resources to be identified at this stage for a best case economic scenario, which are realised for Sustainability Objective 10, however much depends on growth in Essex and other local considerations such as the timescales of infrastructure projects in the first instance.

4.4.6.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan's Policy S6 at this stage of the SA.

4.4.7 Policy S7 Provision for Industrial Minerals

4.4.7.1 What amendments have been proposed?

The amendments proposed regarding Policy S7 remove references to the provision of industrial minerals of various types being made at specific sites and include that appropriate provision for industrial minerals will be based on a consideration of statutory landbank requirements, existing reserves and subsequently additional allocations as necessary.

Regarding chalk specifically, the adopted Policy approach was that ‘the small-scale extraction of chalk will only be supported for agricultural and pharmaceutical uses at Newport Quarry’ and that extraction for other uses will not be supported. This is proposed for amendment, with the MPA considering that the previous approach is difficult to justify in policy. It is therefore proposed that this statement is removed from Policy S7; instead extractions for chalk will be supported in principle where there is a justification or benefit for the release of the site and the proposal would be in conformity with the wider Development Plan.

4.4.7.2 Are there any new alternatives to consider?

The current draft of the policy references provision of each industrial mineral being made at specific sites such that it could limit production at those sites only. This is now not considered to be appropriate as a commercial advantage was perceivably created under the 2014 MLP Policy wording. Further, the policy may become undeliverable should it place reliance on a commercial activity that then may not come forward. The revised approach to assessing applications for industrial minerals on non-identified sites is considered to be more appropriately flexible.

Regarding chalk extraction, the 2014 MLP specified that the small-scale extraction of chalk will only be supported for agricultural and pharmaceutical uses at Newport Quarry as identified within the Policies Map. The amendment ensures a more flexible approach, and notably does not dismiss the suitability of the extraction of chalk at Newport Quarry should a proposal be acceptable at the development management stage. As such, an alternative that retains the 2014 MLP Policy text could not be considered distinctly different from the amended approach to warrant assessment in this SA; both scenarios allow proposals for chalk extraction to be determined on their own merits and in accordance with the policies of the Plan.

As the existing adopted Policy approach is now not considered to be confidently and demonstrably justifiable, the adopted Policy approach to specifying sites is similarly not considered ‘reasonable’ as an alternative to the amended Policy. No other alternative approaches have been identified to the amended Policy approach that could be considered compliant with national policy and guidance material.

4.4.7.3 Assessment of Policy S7

Effect	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	0	++	0	0	0	0	+	++	0	0	0	0
M/T	0	0	0	0	++	0	0	0	0	+	++	0	0	0	0
L/T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

The Policy is not proposed for significant amendment post-Review; sufficient allocations have been made to satisfy the statutory landbank requirements for silica sand, and further allocations were made at each of the two brick clay extraction sites which increased their

reserves to in excess of 25 years prior to adoption of the MLP in 2014. Any proposals for chalk extraction will need to obtain planning permission to be forthcoming, with any proposals subject to criteria regarding the identification of need and environmental acceptability.

This SA considers that there will be no direct impacts on any environmental objectives in line with the specific remit of the Policy without consideration of other Plan policies or assessments required through those policies. Maintaining adequate landbanks for silica sand and brick clay extraction directly accords with the objectives of promoting the minerals supply hierarchy and improving the sustainable use of minerals (Sustainability Objectives 5 and 11 respectively). A properly maintained landbank secures and maintains mineral supplies. This is in conformity of the overarching goal of the Minerals Supply Hierarchy and ensuring a steady and adequate supply of minerals through the plan period.

The maintenance of the landbanks will ensure that there is an adequate supply of industrial materials to support economic growth in the County, affording positive effects on Sustainability Objective 10. No long term effects have been identified for this policy as this SA considers this period relevant to restoration and after-use, which is covered through other Plan policies. Post-2029, new sites will be needed, or extensions to existing sites, through a new iteration of the Minerals Local Plan. This is considered to be beyond the Plan period.

4.4.7.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan's Policy S7 at this stage of the SA.

4.4.8 Policy S8 Safeguarding Mineral Resources

4.4.8.1 What amendments have been proposed?

Proposed amendments to the Policy focus on enhancing its clarity and ensuring a more uniform approach to the process than previously set out. These increase the level of information regarding prior extraction and how it is to be approached. In the adopted Policy this was to be 'considered' on non-mineral surface development proposals, but is now proposed to be 'required' where this is assessed as being environmentally feasible and practical in the context of the development as a whole.

A Mineral Resource Assessment will set out whether it is viable to extract the minerals within the context of the non-mineral development as a whole. Although the broad concept is an existing consideration, an amendment requiring the explicit consideration of whole development viability is a new inclusion that is proposed to the Policy. Further, development proposals within an MSA and/or within an MCA, which have the potential to sterilise land within an MSA, will be expected to assess the practicality of prior extraction to support the development being applied for, regardless of any threshold. If it is assessed that prior extraction is practical or environmentally feasible, applications are to set out the methodology for the prior extraction proposed. If the assessment concludes otherwise, applications are to provide sufficient justification as to why prior extraction is neither practical or environmentally feasible and justify why the need for the development outweighs the national principles of mineral safeguarding as part of supporting information. The relevant Local Planning Authority should also address this matter as part of its decision.

4.4.8.2 Are there any new alternatives to consider?

As set out above, amendments ensure a higher degree of focus is given to prior extraction, which in the adopted Policy was to be ‘considered’ on non-mineral surface development proposals, and is now proposed to be ‘required’ where this is assessed as being environmentally feasible and practical in the context of the development as a whole. The implications of this, and the other amendments set out for the Policy, is that prior extraction must be undertaken unless it is not practical or environmentally feasible.

This is a change in approach from the adopted MLP 2014 Policy, and the original Policy wording as adopted remains ‘reasonable’ in so far as it is now an alternative approach to that which is amended through the Plan review. To that extent, the following alternative is identified and assessed within this SA:

- Alternative S8(1): To only ‘consider’ prior extraction, rather than specifically ‘require’ it if relevant NPPF tests are met.

The Policy seeks to retain the inclusion of consultation being required for all planning applications for development on a site located within an MSA and/or MCA that would have the potential to sterilise 5ha or more for sand and gravel. It is considered necessary that the use of thresholds (and of varying sizes) are explored within this SA. These are set out for assessment as:

- Alternative S8(2): To remove the threshold of 5ha for sand and gravel.
- Alternative S8(3): To lower the threshold for sand and gravel below 5ha (assessed notionally).
- Alternative S8(4): To raise the threshold for sand and gravel above 5ha (assessed notionally).

4.4.8.3 Assessment of Policy S8 and Alternatives S8(1-4)

Effect: S8	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	++	+	0	0	0	0	0	+	0	0	0	0
M/T	0	0	0	++	+	0	0	0	0	0	+	0	0	0	0
L/T	0	0	0	++	+	0	0	0	0	0	+	0	0	0	0
Effect: S8(1)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	?/+	?/-	0	0	0	0	0	?/+	0	0	0	0
M/T	0	0	0	?/+	?/-	0	0	0	0	0	?/+	0	0	0	0
L/T	0	0	0	?/+	?/-	0	0	0	0	0	?/+	0	0	0	0

Effect: S8(2)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	++	+	0	0	0	0	?	+	0	0	0	0
M/T	0	0	0	++	+	0	0	0	0	?	+	0	0	0	0
L/T	0	0	0	++	+	0	0	0	0	?	+	0	0	0	0
Effect: S8(3)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	++	+	0	0	0	0	?	+	0	0	0	0
M/T	0	0	0	++	+	0	0	0	0	?	+	0	0	0	0
L/T	0	0	0	++	+	0	0	0	0	?	+	0	0	0	0
Effect: S8(4)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	?	+	0	0	0	0	0	?	0	0	0	0
M/T	0	0	0	?	+	0	0	0	0	0	?	0	0	0	0
L/T	0	0	0	?	+	0	0	0	0	0	?	0	0	0	0

NPPF Paragraph 205 states that ‘when determining planning applications, great weight should be given to the benefits of mineral extraction’. The benefits of mineral extraction need to be justified and evidenced through a compliant Minerals Resource Assessment if the development proposal meets a certain threshold and other considerations as stipulated in criteria a) and b) within the Policy. These criteria are not proposed to be amended through the Plan review and are a constant factor within the assessment of all options.

The Policy seeks to retain the inclusion of consultation being required for all planning applications for development on a site located within an MSA and/or MCA that would have the potential to sterilise 5ha or more for sand and gravel. At the examination of the adopted MLP, it was noted by the Inspector that this threshold was arbitrary, and the requirement is not set out in national policy or guidance. Although justified within that examination, and considered justified at this stage, the use of thresholds of varying sizes could lead to some differences in possible effects, at least notionally.

ECC data collected to inform the Plan Review between the five year period of 2014-2019 indicates that within the MSA, the MPA was consulted on 62 planning applications meeting a 5ha threshold. Of these, 30 applications were granted, leading to 671ha of minerals being sterilised. At a 7.5ha threshold, the MPA would have been consulted on 45 applications and the 21 applications granted contributed to a coverage of 624.5ha of mineral. At a 10ha

threshold, the MPA would have been consulted on 40 applications, 19 of which were granted covering a total of 606.5ha of mineral. This demonstrates that were the 5ha threshold set higher at 7.5ha, then a total of 46.5ha would have been sterilised without consultation with the MPA, and at 10ha this would have been 64.5ha. Setting a higher threshold would therefore lead to less MPA consultations and an increased likelihood of more resource being sterilised. This data also supports the Policy amendment that seeks to 'require' prior extraction, rather than the adopted approach of its consideration only, as included in this SA as Alternative S8(1); the amount of minerals being sterilised through non-mineral development is a significant amount, and although this material would be classified as 'windfalls', it can contribute to apportionment to a degree that could notionally limit the requirement for site allocations in the future.

Paragraph 4.225 of the Rationale document states that, 'any application that has the potential to sterilise less than 5ha of sand and gravel would not be sent to the MPA for comment... This means that there is no understanding of the amount of mineral being sterilised by the permitting of smaller non-mineral developments, and whether this is greater or smaller in total than what is being lost through the permitting of larger non-mineral developments.' This statement in the Rationale document allows the notional consideration of Alternative S8(3) to have increased positive implications in regard to both understanding the quantity of minerals being sterilised from smaller scale developments, and the possibility of a higher yield from prior extraction. The amount of mineral resource that could be extracted under this alternative scenario is unknown, however positive effects are highlighted for Sustainability Objectives 4 and 11, that could be more significant than those of the Policy approach. 'Significance' in this instance is not possible to quantify, however. This is similarly the case for Alternative S8(2), which removes any considerations of thresholds and can be assumed to reflect a scenario where all developments within a MSA / MCA would need to consult the MPA.

Any notional support for the approaches specified in Alternatives S8(2) and S8(3) is considered in the Rationale document which states that 'Paragraph 68 of the NPPF notes that local plans should aim for at least 10% of the district's total housing need to be met on small sites less than 1ha in size, and that larger sites should be sub-divided and bought forward in phases.' Should this be reflected in LPA Local Plan allocations, or a matter for development management should such sites not be allocated due to their size, then the sterilisation of minerals could be comparatively more under the adopted Policy approach than the two alternatives. Alternative S8(4), which would require consultation at a larger threshold only can be considered to have uncertain effects on Sustainability Objectives 4 and 11, with a comparatively higher degree of possible mineral sterilisation than the adopted Policy approach.

The MPA, in formulating the adopted Policy approach, informally consulted the mineral industry regarding what constitutes an appropriate threshold for mineral safeguarding purposes. As included within paragraph 4.226 of the Rationale document, this informal consultation 'found that there would need to be a minimum of 3ha of resource for the site to be capable of being worked, and so approximately doubling that minimum threshold is considered a reasonable approach towards ensuring that the requirements of Policy S8 only apply to non-mineral led applications where there is a reasonable prospect of there being a sufficient quantity of mineral present which is practicable to extract.' This statement can be considered to rule out the application of Alternative S8(2) in those instances where developments are

below a size where 3ha of minerals could be sterilised, and can be seen to limit the potential extent of lowering the threshold under Alternative S8(3) to 3ha.

Justification of the 5ha threshold follows the local characteristics of Essex, which has significant sand and gravel coverage. There is no requirement therefore to ensure consultation / prior extraction is a factor for all developments to consider regardless of size (Alternative S8(2)), and a pragmatic approach is adopted. This is supported by the Inspector's Report of the adopted MLP in 2014, which states that, 'the 5ha threshold was subject to public consultation and this approach is justified, given the wide extent of sand and gravel reserves in Essex, where prior extraction need not always be necessary. Where prior extraction is required, its environmental impact and site restoration remain under the control of Policies S10 and S12 as well Development Management Policies DM1-2.' Lowering the threshold to 3ha, or any smaller size (Alternative S8(3)), does not factor in site conditions and the practicalities of extraction. A threshold of 3ha is seen as a minimum size to consider; in reality it can be considered that extraction is only feasible at this size in those instances where site conditions are ideal for extraction. This is rare, and the process requires a larger footprint for the extraction of 3ha of minerals to take place.

In further considering the effectiveness of a lower 3ha threshold and a 'no threshold' scenario, acknowledgement should be given to the Plan's wider amendments in regard to whole-development viability specified in a new Appendix which includes a checklist for a Minerals Resource Assessment (MRA). Although MRAs are not a new notion at this stage, specifying what they must contain is now included within the Plan, with the intention to speed up the process. It can be assumed that whole-development viability could be affected to a higher degree on smaller sites, should prior extraction be a condition of any planning permission.

Effects regarding environmental and social sustainability objectives cannot be identified with any certainty at this stage, and at the strategic scale, as much depends on site specifics and proposals on a case-by-case basis.

The wording amendment proposed regarding 'requiring' prior extraction is in response to the monitoring of the policy approach (here represented by Alternative S8(1)) since the adoption of the MLP in 2014. Between 1st April 2014 and 31st March 2019, monitoring indicated that significant amounts of sand and gravel have been sterilised by non-mineral development, amounting to 671ha. This compares to 0ha of sand and gravel that has been prior extracted to avoid its sterilisation where mineral extraction was not already part of proposals. This baseline position can be seen to support the amended Policy approach in favour of the alternative (existing) Policy approach (Alternative S8(1)), leading to more positive effects in regard to a number of Sustainability Objectives due to a potentially higher amount of extraction coming forward as 'windfalls'. Effects are highlighted as 'positive' in the long term (reflecting the post-Plan period) as such windfalls can be expected to positively contribute to the landbank into the future. In contrast, 'uncertain with negative leaning' effects are highlighted for Sustainability Objective 5 regarding the adopted Plan approach (Alternative S8(1)) due to the monitoring of prior extraction post-2014 and also the consideration of such resources possibly being sterilised.

The amended policy approach leads to positive effects in regard to minerals supply (Sustainability Objective 5), as well as further positive effects regarding the sustainable use of minerals (Sustainability Objective 11). Effects are not considered significant due to the fact that such resources would only come forward as windfalls, which carry a degree of uncertainty and

cannot be relied upon, and plan-level need can be met through allocations; however the loss of resource is significant in a strategic sense. Should the policy be successful in ensuring prior extraction, then this could have significantly positive effects in future plan periods regarding minimising the need for site allocations for extraction. Effects for the Policy approach and for Alternatives S8(2) and S8(3) are considered similar in light of a lack of strong evidence to support lowering or removing the 5ha threshold, although it could be assumed that a lower threshold would lead to less mineral resource being sterilised than the adopted Policy approach, which is proposed for retention. Regarding the sustainable use of land (Sustainability Objective 4) the Policy approach and those that require prior extraction can be considered to ensure significant positive effects, particularly should such approaches ensure that fewer site allocations for primary extraction are required in the future.

The impacts on whole-development viability through both requiring prior extraction and removing or lowering the threshold for consultation, however, can be assumed to be uncertain (and potentially negative) at this stage for small sites, as previously mentioned. Uncertain effects are therefore highlighted for Alternatives S8(2) and S8(3) in regard to supporting the development industry, raised in this instance against Sustainability Objective 10.

4.4.8.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan's Policy S8 at this stage of the SA.

4.4.9 Policy S9 Safeguarding Mineral Extraction Sites and Other Mineral Infrastructure

4.4.9.1 What amendments have been proposed?

The amendments proposed for Policy S9 represent a re-write of the Policy, partly through incorporating elements of Policy S8 (as adopted) into Policy S9. This reflects removing the approach of listing safeguarded transshipment sites and coated stone plants, and including the safeguarding of all existing and allocated mineral extraction sites and other minerals infrastructure set out within the Plan's Policy Map. 'Mineral Infrastructure Consultation Areas' (MICAs) are introduced to differentiate between MCAs (for mineral resources) and minerals infrastructure. There is a clear requirement in the NPPF to ensure that associated mineral infrastructure and not just the sites of extraction are to be safeguarded. MICAs will be designated up to 250m around existing, planned and potential sites (taking the place of MCAs) and MCAs will be redesignated 100m around the Minerals Safeguarding Area (MSA). LPA consultation requirements remain similar to those set out in the adopted Policy for both non-mineral applications and Local Plan proposals / allocations.

New policy requirements are proposed however that require non-mineral led applications within Mineral Infrastructure Consultation Areas to include a 'Minerals Infrastructure Impact Assessment' unless they are defined as 'excluded' of this requirement. Excluded proposals include minor infilling developments within development boundaries, minor householder applications, agricultural buildings next to an existing farmstead, temporary buildings and applications related to existing permissions. Proposals which are considered to have the potential to adversely impact the effective operation of a safeguarded mineral site or infrastructure, will be acceptable should it include suitable mitigation or the permission for the mineral use will expire before the non-mineral development would be operation or occupied.

Further, proposals would be acceptable if the mineral use has ceased and there are no subsequent minerals related use for the site, the benefits of the scheme outweigh the minerals use (and it can be displaced) and if a suitable replacement site or infrastructure has otherwise been identified and permitted.

4.4.9.2 Are there any new alternatives to consider?

The amendments introduce new elements to the Policy in regard to the requirements for a Minerals Infrastructure Impact Assessment (MIIA) of relevant / qualifying non-minerals proposals. The detail and structure of an MIIA is included within the Plan’s proposed amendments to the Appendices, in this case a new Appendix 2.

Otherwise, amendments and other Policy inclusions are introduced to offer clarity to developers and LPAs of what is acceptable to the MPA regarding non-minerals development in MICAs. To this extent, the Policy does not include ‘Policy criteria’ as much as a guideline of the level of information required of such applications. There is a clear requirement in the NPPF to ensure that all associated mineral infrastructure and not just the sites of extraction are to be safeguarded, with the PPG making clear that Local Planning Authorities have an important role in this regard and that Mineral Consultation Areas are the appropriate mechanism through which to ensure the safeguarding of these facilities. The review proposes amendments to safeguard all such infrastructure, rather than retaining the adopted MLP approach of safeguarding existing facilities only. In line with the NPPF requirement, no alternatives are deemed reasonable, including retaining the existing Policy approach.

Many of the Policy’s other amendments seek to effectively update the MLP in alignment to the adopted Waste Local Plan (WLP), which is important for a coordinated approach; ECC is both the Minerals Planning Authority (MPA) and the Waste Planning Authority (WPA) for Essex and many other such authorities develop joint Minerals and Waste Local Plans. As such, no alternatives are deemed reasonable; the Waste Local Plan is an adopted plan and any deviation from the newly proposed Policy approach could jeopardise the opportunity for coordination between relevant minerals and waste planning functions.

4.4.9.3 Assessment of Policy S9

Effect	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	+	+	0	0	0	0	+	+	0	0	+	+
M/T	0	0	0	+	+	0	0	0	0	+	+	0	0	+	+
L/T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

The Policy seeks to safeguard minerals infrastructure, as opposed to ‘resources’ set out in Policy S8. Minerals infrastructure is defined as extraction sites and associated facilities, preferred sites allocated within the Plan for future extraction, transshipment sites, aggregate recycling facilities, and standalone or co-located secondary processing facilities. The Policy approach safeguards all of these through designating a buffer of 250m around each as a

Mineral Infrastructure Consultation Area (MICA). This approach ensures positive effects regarding Sustainability Objective 5 (minerals supply), and also Sustainability Objective 11.

As the supporting text to the Policy includes, safeguarding mineral infrastructure is not just about safeguarding against the loss of the facility itself. Mineral development may create impacts on their immediate surroundings and local communities through, for example, dust or noise emissions and vehicle movements. Development that is sensitive to such impacts, and therefore potentially incompatible in close proximity to minerals development, can include facilities such as hospitals and clinics, retirement homes, residential areas and schools. Incompatible / sensitive development should not be located in such close proximity that it puts constraints or limits upon current or future uses for mineral development where these are already allocated. Similarly, and where the MLP forms part of each local authority's Development Plan alongside LPA Local Plans, the Policy criteria indirectly ensures that sensitive developments are not forthcoming within the MICAs, to the benefit of health and minimising nuisance. Indirect positive effects are also realised therefore, for Sustainability Objectives 14 and 15.

The Policy is not however inflexible in regard to non-minerals related development within MICAs. The Policy is proposed to be amended to include five qualifying criteria in which it may be possible for non-mineral development to be permitted within MICAs, including where mitigation can be demonstrated, development is phased to when temporary minerals permissions have ceased, and where the benefits of the development outweigh the need for the minerals infrastructure and it can be replaced. This ensures that positive short-medium term effects can be expected in regard to Sustainability Objective 4, regarding the sustainable use of land, as well as economic development (Sustainability Objective 10) in not creating an insurmountable barrier to other forms of development.

4.4.9.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan's Policy S9 at this stage of the SA.

4.4.10 Policy S10 Protecting and Enhancing the Environment and Local Amenity

4.4.10.1 What amendments have been proposed?

The proposed amendments for the Policy include the inclusion of appropriate consideration to a proposals effects on 'wellbeing' alongside public health and safety, and also the inclusion of a requirement for the delivery of a net gain in biodiversity, as an outcome of final restoration.

4.4.10.2 Are there any new alternatives to consider?

It is not considered that the amendments to the Policy lead to a significantly different approach to the adopted Policy. It is further considered that any deviations from the Policy wording as proposed that would be realistic and reasonable, would not be distinctly different from the proposed approach to warrant separate assessment as an alternative within this SA.

4.4.10.3 Assessment of Policy S10

Effect	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M/T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L/T	+	0	0	0	0	0	0	0	0	0	0	+	0	+	0

The Policy sets the strategic approach of the Plan in ensuring that environmental and social effects of a proposal are understood at the planning application stage. It should be acknowledged that the Plan's development management policies, in particular Policy DM1, offer more detail to developers / landowners and what evidence based assessments should be submitted alongside a planning application.

The Policy effectively covers those themes of the Sustainability Objectives, which have been derived relevant to the context of the Plan area and the key issues and problems of the County. In terms of outcomes and sustainability benefits, positive long-term effects are highlighted regarding biodiversity and human health, where the Policy, as amended, requires applications to demonstrate that opportunities have been taken to improve and enhance the environment and amenity, and to deliver a net gain in biodiversity, as an outcome of final restoration. Positive long-term effects are also highlighted regarding Sustainability Objective 12, regarding restoration that offers the best sustainability benefits, be it habitat creation, open space and / or for recreational opportunities.

4.4.10.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan's Policy S10 at this stage of the SA.

4.4.11 Policy S11 Access and Transport

4.4.11.1 What amendments have been proposed?

The amendments to the Policy move the requirement to demonstrate that the development would not have unacceptable impacts on the efficiency and effective operation of the road network, including safety and capacity, local amenity and the environment, to the end of the Policy.

An amendment introduces the need for any proposal's mineral related HGV movements to not generate unacceptable impacts on air quality and further ensures that proposals shall be in accordance with published highway design guidance. Additionally, a new policy element introduces the need for planning applications for new minerals development proposals or proposals that generate traffic impact and/or an increase in traffic movements, to be accompanied by a Transport Assessment (TA) or Transport Statement (TS). The Policy also includes what TAs or TSs must include, covering a range of evidence including sustainable transport methods for workers, sustainable highways access, and mitigation; this includes any physical effects on the highway network, safety, and highway capacity / efficiency.

4.4.11.2 Are there any new alternatives to consider?

The amendments cover a wider range of effects and potential transport related effects than the adopted Policy included. It is considered that the Policy is more broadly in conformity with the NPPF, and also more in line with the requirements of National Air Quality Objectives regarding air quality and the ancillary effects of transportation and HGV movements. As a result, no distinctly different alternative approaches have been identified that warrant assessment within this SA.

4.4.11.3 Assessment of Policy S11

Effect	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	0	0	?	+	0	0	0	0	0	+	0	+
M/T	0	0	0	0	0	?	+	0	0	0	0	0	+	0	+
L/T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

The Policy as amended can be seen to ensure positive outcomes in regard to those Sustainability Objectives that seek to minimise the transportation of mineral / mineral waste, particularly by road, and by virtue also public nuisance. Additionally, positive effects are highlighted for minimising greenhouse gas emissions.

The Policy has been amended to offer a stronger stance on air quality, stating that ‘where the movement of minerals are by road, HGV movements shall not generate unacceptable impacts on highways safety, highways capacity and air quality (particularly in relation to any potential breaches of National Air Quality Objectives and impacts on any Air Quality Management Areas).’ How this is sought to be achieved is reflected through the Plan’s new criteria pertaining to Transport Statements or Transport Assessments. These ensure that for applications for proposals reliant on road transportation, that the road network is appropriate to accommodate that use and that vehicle traffic use appropriate routes, amongst other considerations. The stance of the Policy seeks to neutralise effects, also acknowledging the correlation between traffic movement and air quality.

The relationship between air quality and biodiversity, most notably at Epping Forest SAC and identified as an ‘in-combination effect’ between planned growth in Essex, the Lower Thames Crossing NSIP and HGV movements associated with minerals, is raised within the HRA/AA accompanying the MLP for consultation at this stage. The HRA indicates that effects can not be ruled out in combination with other plans and projects in the broad area. Whilst it is noted that the anticipated uplift in vehicle movements is primarily linked to the Lower Thames Crossing NSIP, the MLP may also act to increase vehicle movements, meaning it will contribute to (or be ‘in-combination’ with) this impact. The Policy, relevant to access and sustainable transportation, sets out a road hierarchy that seeks a preference for access to the main road network as soon as possible, and the MLP cannot influence traffic movements through Policy, and neither can conditions be imposed on permissions that direct HGV movements away from any areas of notably poor air quality. As such, the potential for Likely Significant Effects on the Epping Forest SAC due to emissions derived from HGV movements

associated with minerals activities on the M25 cannot yet be ruled out in combination with other plans and projects.

It is assumed that there would be an increase in transport movements (and therefore emissions) from any and all development, and planning authorities are required to monitor the success of Plan policies against indicators in the Development Plan as set out in their Authority Monitoring Report (AMR). Regarding air quality, it is possible that an air quality monitoring indicator would be required of the MLP, in consideration of the HRA/AA findings. Monitoring air quality has not been undertaken of the adopted MLP, as negative effects were not identified of that Plan or its evidence base. It is therefore difficult at this stage to substantiate any direct transport related air quality effects occurring from the Plan or subsequent minerals activities, especially in consideration of the fact that many minerals activities are temporary. Available evidence regarding air quality, such as diffusion tube monitoring at key locations, does not and cannot isolate emissions by vehicle type or destination. As such, 'uncertain' effects are cautiously highlighted for Sustainability Objective 6 in the short-medium term, reflecting the lifetime of permissions. The effect of a proposal regarding air quality is likely to be better understood at the site level and at the planning application stage, through the requirements of the Policy and subsequent Transport Assessments / Transport Statements. This would include consideration of proposed mitigation. The HRA/AA also considers this position, and at the time of writing, further advice is being sought from Natural England. The SA will subsequently be updated on this matter at the Regulation 19 stage.

4.4.11.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan's Policy S11 at this stage of the SA.

4.4.12 Policy S12 Mineral Site Restoration and After Use

4.4.12.1 What amendments have been proposed?

The proposed amendments to the Policy include the requirement that restoration schemes shall reflect strategies across Essex, including Local Plan objectives for growing natural capital and Green and Blue Infrastructure Strategies where relevant. There is also a marked change of approach regarding restoration, specifically regarding the levels to which voids should be restored.

The adopted 2014 MLP Policy S12 included a preference that voids be restored to a low level with no landfill in the first instance and if that is not possible, then at a low level with no more landfill than is essential and necessary. A final case scenario was included that landfill would be acceptable subject to the requirements of the Waste Local Plan (WLP) if the site is 'preferred' within the WLP. Text pertaining to this is proposed for removal through the Plan review, with a new position of mineral extraction sites to be 'infilled with imported materials only at a scale necessary to achieve a beneficial restoration that outweighs any harm caused.'

4.4.12.2 Are there any new alternatives to consider?

4.3.1.3 Assessment of Policy S12

Effect	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M/T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L/T	++	0	+	+	0	0	0	0	+	+	0	++	?/+	+	0

The recent Defra publication 'A Green Future: Our 25 Year Plan to improve the Environment' states that enhancing natural capital is an essential basis for economic growth and productivity over the long term. The Policy requires applicants and the MPA to consider the range of benefits that mineral restoration and after-use proposals might deliver, with reference to Green and Blue Infrastructure Studies at the LPA level and LPA Local Plan objectives when proposing restoration and after-uses. The Plan also specifies that the MPA will facilitate the management and enhancement of populations of protected species and creation of priority habitats, with the overall aim to achieve a net gain in biodiversity.

The amendments to the Policy ensure that restoration is now outcome led, through the proposed omission of the hierarchical approach as adopted. The focus can now be seen as less on restoration to low levels and more about after use to ensure net gains in both biodiversity, and also health and well-being improvements. It is proposed that all mineral site restoration should provide a net-gain in biodiversity and the final restoration level of sites will now generally be decided on a case-by-case basis, but must be sympathetic to the surrounding landscape with infilling only at a scale considered necessary to achieve beneficial restoration. Significant positive effects could be forthcoming through such a joined-up approach regarding restoration and biodiversity related Sustainability Objectives (12 and 1 respectively) through minerals planning promoting natural capital and reflecting targeted strategies that can more effectively promote natural capital gains. Restoration to higher levels, if forthcoming, could also see landscapes restored closer to original pre-extraction levels, offering positive effects on Sustainability Objective 9. Further, the Policy's supporting text allows the possibility for restoration to include built development, such as housing or employment uses, if consistent with District / Borough Local Plan objectives. This broadly affords some positive long term effects associated with non-mineral related development, identified here as an economic benefit under Sustainability Objective 10.

The amended approach will allow the MPA to consider the relative benefits that would be realised through a specified degree of importation, which in turn may lead to increased transportation of minerals. As such, and although reducing such transportation is a Plan objective, a degree of long-term uncertainty is highlighted for transport related effects (Sustainability Objective 12). This uncertainty reflects an element of negative effect associated with importation to sites, however it is acknowledged that imports are likely to be focused within the Plan area, allowing a potential wider benefit in minimising waste (landfill) miles.

The Policy's previous approach, as adopted and unamended, had a focus on agricultural after uses alongside habitat creation. Such schemes may still come forward, where not already proposed and forming part of permissions, however it should be noted that agriculture and biodiversity enhancement / habitat creation need not be incompatible land uses. The Policy and supporting text acknowledges that a balance should be achieved between current and

future agricultural need and site-specific biodiversity value. The Policy is amended to state that ‘land of the best and most agricultural value should be capable of being restored back to the best and most versatile agricultural land, though the proposed after-use need not always be for agriculture’. This is compliant with the requirements of PPG and ensures minor positive effects on Sustainability Objective 4, regarding the sustainable use of land. Effects are not significant for Sustainability Objective 4 however in line with a possible reduction in the number of sites that may otherwise have been restored to agriculture in the Plan area without the Policy amendment.

The potential for positive effects regarding health and well-being are also highlighted within this assessment. Improvements in human health and wellbeing associated with restoration can be ensured through a number of factors, including specifically to the Policy the provision of open spaces and natural environments to encourage people to be physically active as well as habitat creation.

4.4.12.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan’s Policy S12 at this stage of the SA.

4.5 Assessment of the Minerals Provision Figure

4.5.1 The Requirement

As set out previously in the assessment of Policy S6, the NPPF at paragraph 207 states that “Mineral Planning Authorities should plan for a steady and adequate supply of aggregates” and then sets out a range of criteria through which such a supply can be quantified. The starting point for this is stated to be an assessment of the last ten years of average sales, before supplementing this with ‘other relevant local information’, such as household projections, housing completions and major infrastructure projects which are to be located within the Plan area. Further, paragraph 207 d) states that MPAs should take “account of any published National and Sub National Guidelines on future provision which should be used as a guideline when planning for the future demand for and supply of aggregates”. Such guidelines are to be used as “an indication of supply rather than a rigid basis” as per Planning Practice Guidance.

The minerals provision figure, expressed in ‘million tonnes per annum’ (mtpa), underpins all of the Plan’s focused content. Paragraphs 3.91 and 3.92 outline Plan provision for future sand and gravel extraction.

4.5.1.1 What amendments have been proposed?

The MLP Review process has not identified any need to amend the ‘mtpa’ sand and gravel extraction figure. As such, the figure of 4.31mtpa that was included as required within the adopted 2014 MLP remains that which is intended to continue to be extracted post-review.

4.5.1.2 Are there any new alternatives to consider?

The 2014 MLP planned for a need for 4.31mtpa of sand and gravel, an apportionment underpinned by the ‘National and Sub National Guidelines for Aggregates Provision in

England 2005 – 2020’ despite calculated needs being 3.62mtpa (based on ten-year rolling sales at the point of the 2014 MLP Examination in Public (EiP)). At present, Minerals Survey data for the year 1st January to 31st December 2018 (representing the most up to date data) indicates that the rolling ten-year sales average is 3.13mtpa.

The Plan review outlines that the figure of 4.31mtpa remains appropriate, and this is assessed within this SA. It is considered that the ten-year rolling figure of 3.13mtpa is assessed as an alternative, including discussion as to whether there would be any different sustainability effects arising from a lower figure, at least notionally. This discussion and appraisal is included within this section. In summary, the alternative approach to the Plan’s Minerals Provision Figure (MPF) of 4.31mtpa is:

- Alternative MPF(1): To plan for the rolling ten-years sales average of 3.13mtpa, with no other considerations taken into account.

The PPG also requires that MPAs ‘look at average sales over the last three years in particular to identify the general trend of demand as part of the consideration of whether it might be appropriate to increase supply’. The three-year sales average typically more closely mirrors ‘actual sales of sand and gravel’ as exists at any one moment, than the ten-year sales average, however it is difficult to justify that any particular three-year sales average is sufficiently representative of actual sales across the ten year period to merit its inclusion as the basis for mineral provision in a strategic plan. For that reason, any alternatives that base provision on any three-years sales average are not considered reasonable within this SA.

4.5.1.3 Assessment of the Minerals Provision Figure

Effect: MPF	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	0	++	0	0	0	0	+	0	0	0	0	0
M/T	0	0	0	0	++	0	0	0	0	+	0	0	0	0	0
L/T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Effect: MPF (1)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	0	+	0	0	0	0	?	0	0	0	0	0
M/T	0	0	0	0	+	0	0	0	0	?	0	0	0	0	0
L/T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

In the assessment of the minerals provision figure as set out within the Plan, and that proposed within the alternative figure identified, the environmental and social themed sustainability objectives are identified as not being affected. This is due to other policies

within the Plan seeking to improve conditions or mitigate / offset effects, which are often only relevant at the site specific level. Any attempt to differentiate between the environmental and social effects of the figure and the alternative would not be quantitative, and entirely assumption led. The effects of the Policies in combination with the implications of the minerals provision figure, are considered in the conclusions section of this Report, which explores 'whole plan effects.'

Monitoring of the ten-year rolling sales data shows a reduction in the ten-year sales average, however a general upward trend in sand and gravel sales since 2010-2013, to the extent that an annual Plan provision of mineral made on the basis of an average of the last ten-years of sales, would have failed to amount to a 'steady and adequate' supply of minerals, with the highest sales in 2014 at 4.23mt. This justifies the current apportionment-based approach of the Policy, which is not proposed for amendment. Nevertheless, both the three and ten-year averages have been consistently below that of the actual Plan apportionment; the current mineral apportionment of 4.31mtpa is 20.6% above assumed sales, 22.3% above the current three-year sales average and 27.5% above the current ten-year rolling sales average.

It is outlined in the Rationale document that the current apportionment figure maintains a buffer between Plan provision and actual sales, such that the Plan can respond to any sudden uplift in sales. In consideration of the monitoring position and baseline presented within the Rationale document, the Policy approach can be seen to better respond to a steady and adequate supply of minerals than the alternative figure. This sees significant positive effects regarding Sustainability Objective 5 in contrast to minor positive effects for the alternative approach, which would have failed to meet demand since 2013. Further, current apportionment responds to paragraph 11a of the NPPF which states that 'plans should positively seek opportunities to meet the development needs of their area and be sufficiently flexible to adapt to rapid change'. With regard to the MLP, the 'development needs' that the plan is to service relates to the provision of sufficient aggregate to support growth and development.

The Rational report further outlines that during the EiP Hearings in 2013 it was noted that 80% of aggregates produced in the County are consumed within the County, and the Inspector noted that any economic recovery is likely to be related to increased activity in house building to which the mineral industry, and therefore the MLP, would need to respond. It goes on to highlight that a total of 40,433 homes have been delivered over the past ten years in Essex. With reference to the 'current local assessment of housing need, based on the most recent publicly available document' dataset published by Central Government in September 2017, the next ten years of housing provision sets a target to deliver 60,739 homes in Essex. In consideration of housing completions and the local infrastructure to support these developments, the adopted apportionment figure responds well to future demand over the Plan period, in contrast to that of the alternative approach to which effects are uncertain. This is reflected in the potential effects highlighted for Sustainability Objective 10.

Important in the assessment of different provision figures (adopted and proposed for retention, and the alternative figure) is the consideration of what other factors or Policy approaches would ultimately be affected by a change in provision figure at this point. It could be perceived that the Plan, if it proposed a reduction in the minerals provision figure as per

the alternative explored here, might not seek the classification of the previous ‘reserve’ sites as preferred at this stage in response. It should be acknowledged that although included as ‘reserve’ sites within the adopted 2014 MLP, the status of these sites was that of ‘allocations’ within the scope of that document, with the only differentiation between them and those that were ‘preferred’ being the requirement for their release only if the landbank falling below seven years.

Amendments to Policy S6 however remove this requirement. This is justified in part through a consideration that the 2014 LP Policy approach is contrary to PPG, which states that ‘there is no maximum landbank level and each application for minerals extraction must be considered on its own merits regardless of the length of the landbank’. It is further worthy of acknowledgement here that the site allocations of the Plan with planning permission, cannot be ‘unallocated’ or any permissions retracted. To that extent, the Plan approach having been established for the past five years represents the baseline position, rather than one that can be significantly altered to the extent reflected by the ten-year rolling sales provision. Alternative MPF(1) is therefore arguably not realistic, as the adopted and amended Plans can do little under the provisions of the NPPF and PPG, notably the presumption in favour of sustainable development; if an application for extraction is suitable in planning terms and policy-compliant, there is no basis for its refusal.

4.5.1.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan’s Minerals Provision Figure at this stage of the SA.

4.6 Assessment of the Preferred Minerals Sites for Primary Mineral Extraction

4.6.1 Consideration of the MLP’s Site Allocations within this SA

It is important to note that no new site allocations are introduced within the MLP as amended. It is considered that the SA at this stage therefore does not need to assess, or re-assess, the site allocations previously considered within the adopted MLP, and its SA, in 2014. The adopted MLP selected sites in part based on the findings of the SA process in 2014, and took on board necessary recommendations made within the SA as to key issues that need to be addressed in forthcoming planning applications. These are set out within Appendix One of the MLP. Any effects raised and arising from the site allocations of the MLP that are yet to benefit from an approved planning application, as identified in the SA of the adopted MLP and any new evidence, are included within this SA Environmental Report within the conclusion section.

Annex C accompanying this SA Environmental Report also serves to set out in more detail the way SA has influenced the site allocations of the MLP, and the implications that the amended MLP policies would have on those site allocations that do not have planning permission at the present time.

4.6.2 Policy P1 Preferred Sites for Primary Sand and Gravel Extraction

4.6.2.1 What amendments have been proposed?

Amendments to Policy S6 as drafted seek to maintain a plan-led system with regard to applications for mineral extraction and maintains a seven year sand and gravel landbank, however establish that those extraction sites that were allocated as ‘reserve sites’ in 2014, are now considered necessary as ‘preferred sites’ that will be required to come forward in the Plan period.

This position is also reflected in Policy P1, and Table 5 supporting the Policy, which sets out that planning permission will be granted in principle to the Plan’s preferred sites, or allocations. This now includes, as set out above, the consideration of the previous identified ‘reserve’ sites as ‘preferred’, with no requirement of the landbank position needing to fall below seven years for the previous ‘reserve’ sites to be required. These sites are:

Site Number (within Plan)	Location	Proposer	Area (hectares)	Approximate tonnage	Comments
A6	Bradwell Quarry, Rivenhall	Blackwater Aggregates	37.5	2.5	Extension to existing quarry. Working and restoration to be integrated with wider Bradwell Quarry scheme.
A7	Bradwell Quarry, Rivenhall	Blackwater Aggregates	95	6.5	Extension to existing quarry. Working and restoration to be integrated with wider Bradwell Quarry scheme.

4.6.2.2 Are there any new alternatives to consider?

The Policy responds to the statutory requirement to maintain the sand and gravel landbank at seven years and ensures that the planning framework for minerals is plan-led, i.e. need is delivered through allocated sites.

The SA of the MLP 2014 assessed the principle of extraction at the two previous ‘reserve sites’ at Bradwell Quarry within the main suite of preferred allocation sites, in order to capture the potential effects of sand and gravel being extracted at those locations. To that extent, cumulative and synergistic effects of the preferred and reserve sites combined were identified within the SA at that stage. The ‘reserve sites’ as they were within the 2014 MLP alongside the ‘preferred sites’ were previously explored within the 2014 MLP SA; all were

considered allocations at that stage. The MLP review justifies that new site allocations are not required as the current allocations (Preferred and Reserve) ensure that need can effectively be met. The effects of the suite of site allocations within the 2014 MLP SA therefore remain unchanged from that document. For reference, Appendix 4 of this SA reiterates the findings of the site allocation assessments that were contained with the adopted 2014 MLP SA. Relevant to the content of the Plan, this SA does not re-visit or re-appraise the site allocations (or options) contained within the 2014 MLP SA, many of which referred to sites that have since been granted planning permission or have applications in the process of determination. In addition, all of the sites contained within the 2014 MLP, which remain without an application post-Review, are allocated (in light of all reasonable alternatives) in an adopted plan that establishes the principle of extraction.

Nevertheless, the notional consideration of whether the ‘reserve’ sites should be ‘preferred’ and whether the alternative of inviting site submissions at this stage is explored within this section. An alternative to the re-allocation of previously ‘reserve’ sites as ‘preferred’ at this stage is:

- Alternative P1(1): To not allocate the ‘reserve’ sites as ‘preferred’ at this stage and undertake a call-for-sites exercise as part of the Plan Review, inviting new site submissions.

In addition, as part of the review process for Policy S6 – General Principles for Sand and Gravel Provision, another notional alternative exists for discussion at this stage. At the EiP of the 2014 MLP, the Inspector outlined a need for this Plan Review to investigate or consider the potential for increasing the proportion of marine-won sand and gravel that would contribute to the overall County requirement for sand and gravel. This scenario would then reduce the need to allocate sites for aggregate extraction on land, or more specifically to the amendments to the Plan post-review, mean that the ‘reserve’ sites need not be re-designated as ‘preferred’ allocations. As such, another alternative exists as:

- Alternative P1(2): To increase the proportion of marine-won sand and gravel that would contribute to the overall County requirement for sand and gravel, and reduce the need for land-won aggregates through the re-designation of the ‘reserve’ sites as ‘preferred.’

4.6.2.3 Assessment of Policy P1

Effect: P1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	?	?	?	?	+	?	?	?	?	?	+	?	?	?	?
M/T	?	?	?	?	+	?	?	?	?	?	+	?	?	?	?
L/T	0	0	0	0	0	0	0	0	0	0	0	?	0	0	0
Effect: P1(1)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

S/T	?	?	?	?	+/?	?	?	?	?	?	+/?	?	?	?	?
M/T	?	?	?	?	+/?	?	?	?	?	?	+/?	?	?	?	?
L/T	0	0	0	0	0	0	0	0	0	0	0	?	0	0	0
Effect: P1(2)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	?	?	?	?	?/-	?	?	?	?	?	?/-	?	?	?	?
M/T	?	?	?	?	?/-	?	?	?	?	?	?/-	?	?	?	?
L/T	0	0	0	0	0	0	0	0	0	0	0	?	0	0	0

Important to the assessment of this Policy and its notional alternatives, is acknowledging the position that the principle of extraction has been accepted and the need for the release of mineral proven, as is included within the Policy. Similarly, although included as ‘reserve’ sites within the adopted 2014 MLP, their status was that of ‘allocations’ within the scope of that document, with the only differentiation between them and those that were ‘preferred’ being the requirement for their release only if the landbank falling below seven years. The adopted MLP stance allows the reserve sites at Bradwell to come forward if the landbank falls below seven years. Should the reserve sites be needed earlier, to meet demand or for the purposes of flexibility, then under the adopted policy, the MPA would have to allow the landbank to fall below seven years to even consider extraction at these sites.

Amendments to the Policy remove this requirement. This is justified in part through a consideration that the 2014 LP Policy approach is contrary to PPG, which states that ‘there is no maximum landbank level and each application for minerals extraction must be considered on its own merits regardless of the length of the landbank’. In assessing the Policy as amended and the alternative approaches, this is considered a constant in so far as no different option would affect the landbank. The Rationale document touches on four scenarios, which broadly consider the planning status of sites alongside permitted reserves. This data shows that when only including permitted reserves, pending allocations and all preferred site allocations (as within the adopted MLP) this would see the landbank fall below seven years in 2022. With the addition of the ‘reserve sites’, the landbank would fall below seven years in 2024. This would be ten years after the adoption of the MLP in 2014, and a matter for the second statutory 5-year review period of the Plan. Nevertheless, and worthy of reiteration, should the landbank fall below seven years in 2022 as predicted, then the ‘reserve sites’ would be allowed to come forward in that year without any Plan amendments within this review. There is therefore very little difference between the retention of the Plan Policy and the amendment proposed.

Alternative P1(1) is therefore reasonable to explore at this stage. This Alternative would require the MPA to undertake a new call-for-sites exercise, within which it is feasible that more or less suitable sites than the two extensions at Bradwell Quarry could come forward. To this extent, the preferred Policy approach as amended reflects the plan-led system to

date and a continuation of allocating sites against the 2014 site selection methodology. Nevertheless, the Plan as a whole is not discriminate to the notion of un-allocated sites coming forward, should they demonstrate a need and suitability through adherence to Plan policy. The two extension sites at Bradwell Quarry do benefit from other policy considerations, such as safeguarding measures, however this does not make any alternative site less sustainable. It is likely that a call-for-sites process would see the Bradwell Quarry extensions re-submitted. It is further possible that undertaking a call-for-sites exercise as part of the Plan Review would not comply with the measures of the adopted MLP, in so far as the Bradwell Quarry allocations are allocated, with the relevant proposed amendment being that regarding the removal of the 'uncompliant' landbank criterion. A matter not related to the identification of effects in this SA, but worthy of note nonetheless, is the time it would take to undertake a call-for-sites exercise as part of a Plan review at this stage, in which time it is possible that the landbank would fall below seven years.

The above commentary considered, the environmental, social and economic effects of the Policy and the Alternative P1(1) are similar, although with acknowledgment that some degree of uncertainty surrounds the alternative approach. Positive effects are highlighted for effects on Sustainability Objectives 5 and 11, regarding minerals supply and their sustainable use, to that extent that the Bradwell Quarry extensions and alternative options to them contribute to need over the Plan period. Environmental effects are highlighted as largely uncertain at this stage, due to the fact that effects are likely to be localised or cumulative in the assessment of sites and subject to the specific details of their applications, including mitigation measures. For the purposes of a fair and consistent appraisal of the Policy and the alternatives, all environmental and social objectives are highlighted as uncertain. This is also true of marine won aggregates under Alternative P1(2), however it should be acknowledged that some social and environmental effects would be concentrated to wharves and further, none exist in Essex / the Plan area. Very little distinction can be made in this regard however, as effects would not be removed from those allocated sites with permission for land-won aggregate working in the Plan period; effects would be limited to those expected of the extensions at Bradwell Quarry.

Alternative P1(2) can be considered to have further uncertainty in regard to minerals supply. In order to identify a reliable source of marine-won aggregates, as initiated by the Inspector of the 2014 MLP's EiP, this has been investigated as part of the MLP Monitoring Framework since that Plan was adopted. The monitoring indicator in that framework states that if marine imports are within 90% of wharf capacity in Greater Essex, then a review is to be undertaken to determine whether capacity is constraining the landing of marine dredged aggregate. This review has been undertaken as part of the MLP Review and involved engagement with the minerals industry, as well as adjoining port and district authorities where landings occur to understand the relationship between aggregate landings and processing capacity. The review concluded that there is no single source of publicly available data providing both the annual amount of marine won material landed at wharf facilities and the total available capacity at wharves to allow for a comparison to be made. In the absence of sufficiently robust data, it has not been possible to operate the monitoring indicator which sought to understand whether the cumulative annual throughput at aggregate wharves is 90% or above the total capacity. It is also the case that the MPA is not able to directly facilitate an increase in wharf capacity or marine aggregate provision. The decision to develop a facility in Essex is a commercial decision and can only be influenced through the MLP and its

policies.

In light of these factors, and the absence of any such proposals, it could only be considered that marine-won aggregates could replace any reliance on land-won provision through limiting the amount that is land-won as a means to encourage the diversion of marine aggregate into Essex. It is further considered however that in order to maintain a landbank of sand and gravel, and ensure that the supply is plan-led, there would be a risk in adopting this notional approach and there would be difficult in justifying it as deliverable and achievable. For this reason, uncertain to negative effects are highlighted for Sustainability Objectives 5 and 11 in the appraisal of Alternative P1(2).

4.6.2.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan’s Policy P1 at this stage of the SA.

4.6.3 Policy P2 Preferred Sites for Silica Sand Extraction

4.6.3.1 What amendments have been proposed?

Beyond minor non-material amendments, no other amendments are proposed to be made to the Policy as a result of the review process.

4.6.3.2 Are there any new alternatives to consider?

Policy P2 is considered to remain compliant with national policy. The allocated site of the adopted Policy has been confirmed as remaining viable to come forward as a planning application during the MLP plan period. It is not considered necessary to identify any alternative approaches within this SA.

4.6.3.3 Assessment of Policy P2

Effect	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	0	+	0	0	0	0	0	+	0	0	0	0
M/T	0	0	0	0	+	0	0	0	0	0	+	0	0	0	0
L/T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

The MLP review justifies that there is no requirement for new site allocations for silica sand extraction to be identified, as the allocation ensures that need can effectively be met, should a policy compliant application be forthcoming.

The site was assessed within the SA of the adopted 2014 MLP. Within the context of the Plan Review, this SA does not re-visit or re-appraise the site allocation within the 2014 MLP SA. All of the sites contained within the 2014 MLP, which remain post-Review, are allocated (in light of all reasonable alternatives) in an adopted plan that establishes the principle of extraction. For reference, Appendix 4 of this SA reiterates the findings of the site allocation assessment that was contained with the adopted 2014 MLP SA.

The Policy has been identified as having a positive effect in regard to Sustainability Objectives 5 and 11, regarding minerals supply and their sustainable use, to that extent that the allocation contributes to need over the Plan period. Environmental and social effects are highlighted as largely uncertain at this stage, relevant to the context of the Policy, and due to the fact that effects are likely to be localised and subject to the specific details of any forthcoming application, including mitigation measures.

4.6.3.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan’s Policy P2 at this stage of the SA.

4.7 Assessment of the Development Management Policies

4.7.1 Policy DM1 Development Management Criteria

4.7.1.1 What amendments have been proposed?

The amendments proposed to the Policy at this stage are minimal, focusing on a single criterion. It is proposed that where the adopted MLP Policy sought no unacceptable impacts on the health of local residents, this will be expanded to cover health and wellbeing of local residents as well as the wider community who could be impacted by the operation of the development.

4.7.1.2 Are there any new alternatives to consider?

Although the amendments proposed can be considered to offer better security against negative social effects, it is not considered that any alternative approach (including reassessment the 2014 MLP Policy approach) is necessary for identification; none that are distinctly different from the proposed approach could be considered compliant with National policy and therefore reasonable.

4.7.1.3 Assessment of Policy DM1

Effect	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	+	+	+	+	0	+	0	+	+	0	0	0	+	+	+
M/T	+	+	+	+	0	+	0	+	+	0	0	0	+	+	+
L/T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

It should be acknowledged that significant positive effects are not predicted for any of the Sustainability Objectives as the Policy’s site criteria seek to mitigate or offset the direct and indirect effects of minerals related development. It should be acknowledged that there are considered to be no omissions from the Policy criteria in terms of seeking to address any of the Sustainability Objectives, which have been derived specifically for the Plan area and relevant to a minerals plan, and have been worded to ensure that significant positive effects

will only come forward where there are real outcomes or gains.

Positive effects have been highlighted where the Sustainability Objectives can be positively met through protection or mitigation. This is true of biodiversity (addressed in DM1 criterion 12), water quality (DM1 criterion 3), flood risk minimisation (DM1 criterion 4), the best and most versatile agricultural land (DM1 criterion 5), air quality (DM1 criterion 1), the historic environment (DM1 criterion 13), landscapes (DM1 criterion 10), road safety (DM1 criterion 8), human health and well-being (DM1 criterion 2), and nuisance and impact on local amenity (DM1 criterion 1). The coverage of these themes, and an explanation of their relevance to minerals planning and operations, is further elaborated on within the Policy's supporting text / reasoned justification. This includes that it must be ensured that there will be no adverse effect on integrity to these sites either alone or in combination with other plans and projects. A project-level Habitats Regulations Assessment will be needed for any sites not allocated in the MLP and this is ensured through the Policy and supporting text.

Regarding flood risk, the supporting text outlines that there is the potential to provide additional flood storage areas when carrying out prior mineral extraction, in advance of built development, to create topographies to provide flood storage areas as well as offer sustainable drainage benefits. This 'potential' is however not embedded within any Policy and is therefore not considered strongly within this SA, however the approach would further ensure a joined-up approach to restoration and after-uses to built development.

The Policy criteria can be perceived to not address the minimisation of greenhouse gas emissions, which is included within the Plan's strategic aims as relevant to the winning, working and handling of minerals. The Plan also includes as a strategic priority the need to ensure minerals development makes a contribution towards reducing greenhouse gas emissions, is resilient and can demonstrate adaptation to the impacts of climatic change. The Plan addresses greenhouse gas emissions in a positive way, including through its proposed amendments and as a strategic issue (rather than a development management one); the approach of Policy S3 of the Plan is considered an appropriate mechanism to address such concerns and applies to all proposals regardless of scale. It is considered that there would be no difference in whole-plan effects regarding climate change objectives should Policy DM1 reiterate any of Policy S3's criteria.

4.7.1.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan's Policy DM1 at this stage of the SA.

4.7.2 Policy DM2 Planning Conditions and Legal Agreements

4.7.2.1 What amendments have been proposed?

No amendments are proposed for this Policy.

4.7.2.2 Are there any new alternatives to consider?

It is not considered necessary to assess alternative approaches for this Policy; none that are distinctly different from the proposed approach could be considered compliant with National policy and therefore reasonable.

4.7.2.3 Assessment of Policy DM2

Effect	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M/T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L/T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

It is considered that there will be no direct, or additional impacts on any of the Sustainability Objectives, where the policy is essentially raising awareness of the use of conditions and obligations required for minimising impacts from proposals and ensuring adherence to a number of the other policies.

4.7.2.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan’s Policy DM2 at this stage of the SA.

4.7.3 Policy DM3 Mineral Development Incorporating Primary Processing Plant

4.7.3.1 What amendments have been proposed?

Policy DM3, entitled ‘Primary Processing Plant’ in the adopted MLP, is proposed for amendment to cover both primary processing plant and the wider development to which it relates. A further amendment seeks to add the requirement that restoration of the mineral site should not be compromised in addition to the existing need to not delay restoration through operation of primary processing plant.

4.7.3.2 Are there any new alternatives to consider?

It is considered that the Policy is compliant with the NPPF and PPG and therefore no alternatives have been identified for exploration for assessment; any deviation from the approach proposed that is distinctly different (to warrant assessment in this SA), would likely not be compliant and therefore not ‘reasonable’.

4.7.3.3 Assessment of Policy DM3

Effect	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	+	+	0	0	0	0	0	+	0	0	0	0
M/T	0	0	0	+	+	0	0	0	0	0	+	0	0	0	0
L/T	0	0	0	0	0	0	0	0	0	0	0	+	0	0	0

There will be positive impacts on promoting the minerals hierarchy (Sustainability Objective

5) through a non-restrictive policy on the extraction and processing of primary minerals and the extension of existing sites. This will also ensure positive effects in regard to the sustainable use of minerals (Sustainability Objective 11). There will be positive impacts where the policy encourages the sustainable use of land (Sustainability Objective 4) by stating that minerals shall only be imported to a minerals site, from non-indigenous sources, when it is demonstrated that there are exceptional circumstances or overriding benefits for doing so. This effectively sets a precedent that stops industrial uses in inappropriate rural areas.

Extending the use of primary processing plant may preclude certain aspects of final restoration so positive effects are highlighted for that proposed amendment that ensures final restoration meets the same standards of quality as previously agreed through the planning process. The Policy will have minor positive effects on restoration, striking a good balance between after use and the benefits of sustainable mineral operations; setting a precedent linking processing to the primary extraction on-site and within the timescales of that permission and also ensuring no compromise of the quality of restoration.

There will be no additional impacts on reducing transportation distances of minerals where the policy outlines that minerals shall only be imported to a minerals site, from non-indigenous sources, when it is demonstrated that there are exceptional circumstances or overriding benefits for doing so. This is a positive approach as it effectively sets a precedent that comparatively reduces mineral miles by linking processing to the primary extraction on-site and within the timescales of that permission.

There are no highlighted effects on biodiversity, water quality, flood risk, air quality, greenhouse gas emissions, the historic environment, landscapes, human health and well-being, through requirements that the plant would not have any unacceptable impact on local amenity and / or the surrounding environment. This approach is consistent with other strategic and development management policies.

4.7.3.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan's Policy DM3 at this stage of the SA.

4.7.4 Policy DM4 Mineral Development Incorporating Secondary Processing Plant

4.7.4.1 What amendments have been proposed?

Policy DM4, entitled 'Secondary Processing Plant' in the adopted MLP, is proposed for amendment to cover both secondary processing plant and the wider development to which it relates. A further amendment seeks to add the requirement that restoration of the mineral site should not be compromised in addition to the existing need to not delay restoration through operation of primary processing plant.

4.7.4.2 Are there any new alternatives to consider?

It is considered that the Policy is compliant with the NPPF and PPG and therefore no alternatives have been identified for exploration for assessment; any deviation from the

approach proposed that is distinctly different (to warrant assessment in this SA), would likely not be compliant and therefore not 'reasonable'.

4.7.4.3 Assessment of Policy DM4

Effect	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
S/T	0	0	0	+	+	0	0	0	0	0	+	0	0	0	0
M/T	0	0	0	+	+	0	0	0	0	0	+	0	0	0	0
L/T	0	0	0	0	0	0	0	0	0	0	0	+	0	0	0

There will be positive impacts on promoting the minerals hierarchy (Sustainability Objective 5) through a non-restrictive policy on the extraction and secondary processing of minerals. This will also ensure positive effects in regard to the sustainable use of minerals (Sustainability Objective 11). There will be positive impacts where the policy encourages the sustainable use of land (Sustainability Objective 4) by outlining that minerals shall only be imported to a minerals site, from non-indigenous sources, when it is demonstrated that there are exceptional circumstances or overriding benefits for doing so.

Extending the use of secondary processing plant may preclude certain aspects of final restoration so positive effects are highlighted for that proposed amendment that ensures final restoration meets the same standards of quality as previously agreed through the planning process. The Policy will have minor positive effects on restoration, striking a good balance between after use and the benefits of sustainable mineral operations; setting a precedent linking processing to a temporary duration.

There will be no additional impacts on reducing transportation distances of minerals where the policy outlines that minerals shall only be imported to a minerals site, from non-indigenous sources, when it is demonstrated that there are exceptional circumstances or overriding benefits for doing so. This is a positive approach as it effectively sets a precedent that comparatively reduces mineral miles by linking processing to the extraction on-site and within the timescales of that permission. Should this element of the Policy not be included, facilities could become established and require minerals to be imported to remain operational.

There are no highlighted effects on biodiversity, water quality, flood risk, air quality, greenhouse gas emissions, the historic environment, landscapes, human health and well-being, through requirements that the plant would not have any unacceptable impact on local amenity and / or the surrounding environment. This approach is consistent with other strategic and development management policies.

4.7.4.4 Mitigation measures proposed to minimise identified effects

No mitigation measures are proposed to the Plan’s Policy DM4 at this stage of the SA.

5. Cumulative, Synergistic, Temporal and Transboundary Effects

5.1 Introduction

As set out earlier in this Report, relationships between different elements of the Plan Review are assessed in order to highlight any possible strengthening or weakening of impacts from their implementation together. Cumulative effects respond to impacts occurring directly from two different elements together, and synergistic effects are those that offer a strengthening or worsening of more than one element of the Plan that is greater than any individual impact. Additionally, any cumulative impacts with other plans or projects are highlighted within this assessment.

5.2 Cumulative, Synergistic & Temporal Effects at the Plan Level

5.2.1 Policy Appraisals - Environmental Effects

The effects of the individual Policy appraisals are assessed as positive in consideration of the context and remit of a minerals plan, in so far as the Plan seeks sustainable minerals development in the first instance, alongside the mitigation or offsetting of any resulting environmental or social impacts that might otherwise occur.

Despite this, positive cumulative outcomes have been identified regarding landscapes and biodiversity, due to the enhancements that are encouraged through such activities in the long term associated with aspirations regarding restoration. Positive cumulative impacts have also been identified regarding the best and most sustainable use of resources and aggregate recycling, associated with a focus on recycling and re-use and moving the treatment of waste up the waste hierarchy. Impacts are positive but not significantly so, regarding the Plan's waste management policies, due to the inherent need to backfill mineral voids to restore landscapes.

5.2.2 Policy Appraisals - Social Effects

There will be no cumulative effects regarding the social objectives in line with a desire to minimise impacts in the first instance, and the nature of effects at the individual site level.

5.2.3 Policy Appraisals - Economic Effects

There will be no cumulative effects on the economic objectives in line with the 'single-issue' nature of minerals local plans. The Plan enables economic growth throughout the plan area in terms of built development, however has no other remit. Please see sub-section 5.4.1 below for more information on the MLP's relationship with LPA Local Plans.

5.2.4 Policy Appraisals - Regarding Plan Objectives

Not allocating new sites at this stage can be seen to ensure that the landbank would remain above seven years until 2024, which it should be noted is the year that the next five year review of the MLP is statutorily required. Cumulatively, the new 'requirement' for prior extraction within MCAs / MSAs, reflected in an amendment to the Plan and opposed to the adopted MLP approach that it would be 'considered', may have further positive effects regarding the landbank through an increase in windfalls. This ensures further positive effects regarding the sustainable use of land, such that the best use can be made of a finite resource.

5.3 Transboundary Effects

Transboundary effects are those that can be felt outside the Plan area and off-site from individual operations. In undertaking the SA, and in consideration of all available evidence, the principal area where transboundary effects are identified as possible, is the findings of the Habitats Regulations Assessment / Appropriate Assessment (HRA/AA). The HRA work has identified that 'in-combination' or cumulative effects can not be ruled out on Habitats Sites as a result of mineral operations, specifically on the Epping Forest SAC associated with HGV movements, and other plan and projects that can be expected to increase transport movements through this SAC. These include multiple LPA Local Plan allocations within the SAC's Zone of Influence (Zol), and infrastructure projects such as the Lower Thames Crossing NSIP.

The potential for negative effects associated with biodiversity are therefore considered to arise from the MLP, although it should be noted that none specifically are identified, nor is there anticipated to be any worsening of these effects, as a result of the proposed amendments to the MLP as a result of the review process. Most of the preferred sites in the MLP are already consented and there are no new sites identified as a result of the MLP review. This acknowledged, the MLP's AA at this stage is primarily focused on ensuring that appropriate mitigation is sought, where considered necessary, from non-consented and future proposals.

It should be considered however that the MLP is both a strategic undertaking and also strategic in scope. It should further be acknowledged that the MLP is adopted and no site allocations that have received planning permission can have that decision overturned retrospectively in line with any new evidence. The Plan is considered to ensure that the direct and in-combination effects of any planning permission that could give rise to HGV movements will be understood at the time of planning applications being submitted, due to the requirement for project-level HRA/AA to accompany relevant and qualifying proposals. These will also identify proposed mitigation, that will then form part of the proposal seeking permission.

5.4 Relationship with Other Plans / Projects

5.4.1 District Level Local Plans

It should be noted that the adopted Minerals Local Plan, in 2014, was adopted prior to any Local Plans in Essex under the NPPF. Therefore, there is an ongoing need for authorities to engage in constructive dialogue. Duty to cooperate discussions have been undertaken and are ongoing between ECC as the MPA and those LPAs within the MLP area. These discussions have informed the MLP Review at this stage and are reflected within the proposed amendments.

As set out in the appraisal of Policy S6 and in the assessment of the 'minerals provision figure', the effects of the Plan as amended will have positive implications in responding to future growth, both planned and unplanned. The apportionment figure and overall minerals provision figure for the plan-period surpasses that of ten-year rolling sales, and instead factors in other local conditions, such as high housing growth targets at the district level. The Plan's strategy spatially responds to areas of growth in a way that is flexible to each district, rather than the most populous settlements as was previously adopted. Similarly the Plan responds well to ensuring that mineral resources exist for infrastructure projects (see sub-section 5.4.5 below).

In further support for growth, mineral site after-uses have moved away from habitat creation, as preferred within the adopted MLP, with amendments supporting a wider range of uses on a case by case basis. This now includes restoration to support built development on such sites to support LPA Local Plan growth objectives. Another key amendment proposed to the MLP at this stage responds to better correlation with Green and Blue Infrastructure Strategies and requirements at the District level. The amendments proposed to Policy S12 require restoration schemes to reflect strategies across Essex, including Local Plan objectives for growing natural capital and Green and Blue Infrastructure Strategies where relevant. This position is aligned and supports outcomes regarding restoration to potentially higher levels, supporting a wider range of after-uses, which is proposed for amendment. For more analysis on this and related minerals / waste plan alignment, see sub-section 5.4.2 below.

5.4.2 The Adopted Waste Local Plan

The correlation between some elements of minerals and waste planning are vital in meeting Plan objectives, evidenced by the dual role of ECC as the minerals and waste planning authority and the number of joint minerals and waste local plans produced by other county councils. This is particularly important in regard to reducing the use of mineral resources and promoting the waste hierarchy through the re-use and recycling of aggregates produced as a waste product. This can similarly reduce the need to extract minerals, and the associated environmental and social effects that can result from this process.

The Essex & Southend-on-Sea Waste Local Plan (WLP) was adopted in 2017, and actively promotes the waste hierarchy; to reduce, re-use, recycle, compost, and recover energy from

waste with waste disposal representing the last and least desirable step. As set out in the MLP, Policy S4: Reducing the Use of Mineral Resources applies to all development across Essex and seeks on-site recycling and the re-use of construction, demolition and excavation wastes on redevelopment sites, where this is environmentally acceptable. Crucially also, the MLP seeks to enable and encourage the construction and minerals industries to provide enough investment in creating and maintaining an effective network of aggregate recycling facilities/ sites across the County to meet demand. This is covered within the MLP in Policy S5 – Creating a network of aggregate recycling facilities, which safeguards existing aggregate recycling sites for the life of their permission.

Where inert landfilling is unavoidable, and needed for mineral void restoration projects, the WLP allocates a number of sites for this purpose¹. The WLP identifies that an insufficient number of suitable sites are available within the Plan area to address waste arising forecasts, and a locational criteria Policy (Policy 9 in the WLP) exists with a preference towards allocated (preferred and reserve) sites within the MLP. The WLP states that, ‘with regard to inert landfills specifically, these facilities are typically required both as a way of disposing of inert waste and as a means to ensure the satisfactory restoration of existing mineral voids. The inert landfill allocations have been identified on the basis of both geographic distribution, to reflect that inert waste is normally uneconomic to transport long distances, and their restoration requirements.’

The relationship between the amendments to the MLP at this stage and the WLP regarding inert landfilling focus on the amendments proposed in regard to Policy S12 and the fact that no new mineral extraction sites are included post-review. Amendments to Policy S12, regarding ‘Mineral Site Restoration and After Use’ propose a change of approach regarding restoration, specifically regarding the levels to which voids should be restored. The adopted 2014 MLP Policy S12 included a preference that voids be restored to a low level with no landfill in the first instance and if that is not possible, then at a low level with no more landfill than is essential and necessary. A final case scenario was included that landfill would be acceptable subject to the requirements of the Waste Local Plan (WLP) if the site is ‘preferred’ within the WLP. Text pertaining to this is proposed for removal through the Plan review, with a new position of mineral extraction sites to be ‘infilled with imported materials only at a scale necessary to achieve a beneficial restoration that outweighs any harm caused.’ The final restoration level of sites will now generally be decided on a case-by-case basis, but must be sympathetic to the surrounding landscape with infilling only at a scale considered necessary to achieve beneficial restoration.

In response to the WLP’s concession that landfilling of inert waste is necessary to some degree, and that within that plan not enough capacity was identified at suitable (allocated or safeguarded) sites, the amendments to the MLP ensure that existing site restoration can be more flexible in regard to ensuring new sites for landfill are required. This ensures compatibility between the two local plans, and can be seen to ensure a reduction in the transportation of waste or ‘waste miles’ as compared to a scenario where inert landfill

¹ These are: Blackley Quarry, Gt Leighs, Chelmsford (L(i)10R); Bellhouse Landfill Site, Colchester (L(n)5); Little Bullocks Farm, Gt and Lt Canfield, Uttlesford (L(n)7R); Dollymans Farm, Basildon/Rochford (L(i)16); Fingringhoe Quarry, Colchester (L(i)15); Newport Quarry, Uttlesford (L(i)17R); Sandon, Chelmsford (L(i)6); Slough Farm, Ardleigh, Tendring (L(n)1R); and Sunnymead, Elmstead & Heath Farms, Tendring (L(i)5).

capacity was not available in Essex due to low level restoration preferences.

5.4.3 The Draft South East Inshore Marine Plan

Over half of all aggregates used in construction in London are derived from marine sources. Therefore, protecting landing facilities, and identifying the difference in safeguarding is a key objective of this emerging plan, which seeks to expand terrestrial legislation to the marine environment and encourages the use and development of these vital landing facilities. Policy safeguards marine aggregate licence areas from other activities, unless it is demonstrated that the other activities are compatible with marine aggregate extraction. The emerging plan states that, 'while there are currently no active licensed marine aggregate dredging sites in the south east marine plan area, growing pressures on traditional land-based aggregates means that this may change with time. It is therefore important to safeguard potential future aggregates resources. There are also areas of high potential aggregate resource which would support this future extraction.' Further, the emerging plan safeguards marine aggregate 'Exploration and Option Agreement' areas to enable the aggregate industry to explore defined areas to identify commercially viable aggregate resource.

With the co-operation of the MMO there is the theoretical possibility that the proportion of marine-won aggregates used in Essex could be increased in order to reduce the land-won requirement. This could be perceived as mitigating the environmental impact of mineral working. Such scope for an increase exists within the MMO Draft East Inshore and East Offshore marine Plans.

The Inspector's Report for the examination of the MLP in 2014, stated at that stage, 'correspondence between ECC and the MMO demonstrates that, although there are licensed marine aggregate extraction sites close to the Essex coast, there is no guarantee that these will be worked. The reasons given for this are high operational costs and environmental and regulatory constraints. This correspondence also indicates that there is no guarantee that the output of these marine sites would be directed to the Essex market or even landed in the UK at all... It is thus evident that it would be impractical to quantify a potential increase in the proportion of marine aggregate use in Essex within the timescale of the first review of the Plan.'

The MLP Review explores, and does not make any amendments regarding, marine won aggregates to contribute to apportionment within the MLP. Related to Policy S6 and assessed within this SA Report under Policy P1 (Alternative (P1(1))), the possibility was explored, as evidenced by the 'Draft report to determine whether marine aggregate supply can offset the demand for land-won aggregates in Essex (October 2020).' The notion of marine aggregates contributing to overall apportionment was ruled out, due to insufficiently robust data.

In regard to the emerging Draft South East Inshore Marine Plan's objective of protecting and safeguarding landing facilities, the MLP identifies one such site, Parkeston Quay in Harwich, noting that it is a potential site for an aggregate wharf. The MLP as proposed for amendment at this stage safeguards this site in line with the requirement contained in the Draft South East Inshore Marine Plan, stating that 'The previously adopted Essex Minerals Local Plan (1996) identified the potential for a marine wharf facility at Parkeston Quay East, Harwich

Port Authority. To date, a proposal has not materialised. However, in this Plan it is proposed to continue to safeguard this area for this purpose during the plan-period to ensure that this potential remains available as it is understood that this is currently being actively explored.’ Further, and in regard to other potential wharf opportunities, the Plan adds that, ‘there are other small wharves which tranship a range of products including minerals, or which have the potential to tranship minerals, which will need to be considered and safeguarded by the respective LPAs’ and concludes that, ‘existing rail depots and marine wharves contain mineral infrastructure that is of vital strategic importance for the future supply of aggregates needed in Essex. As such, their safeguarding needs to be continued to prevent their redevelopment for other land-uses.’

In line with this, no cumulative negative effects or conflicts are identified at this stage of the SA process between the MLP proposed for amendment and the emerging South East Inshore Marine Plan. The scope for positive future effects associated with marine won aggregates being landed in Essex and contributing to the apportionment for aggregates is uncertain at this stage in response to a lack of suitable sites, however Policy ensures that the potential for cumulative positive effects exists.

5.4.4 Infrastructure Projects / Schemes

The support for growth, including specifically the minerals required for infrastructure projects, is included within the Plan as a strategic priority. The Plan sets out a number of major infrastructure schemes, aggregates for which are consumes ‘above that required for local development from host and proximate MPA areas.’ Although the emergence of numerous Nationally Significant Infrastructure Projects and major infrastructure schemes in Essex is apparent, the Inspector of the MLP in 2014 indicated that there is no direct / quantitative evidence at this stage to suggest that this will generate extra demand for aggregates within and from Essex. Nevertheless, the MLP review does not seek to amend the Plan’s apportionment figure, which at 4.31mtpa, is higher than the ten year rolling sales average. This figure was justified in 2014 with amongst other reasons the consideration that infrastructure projects will require a higher apportionment. This justification remains.

In a procedural sense, the Plan contains policy regarding borrow pits to also meet the need for aggregates for infrastructure projects / schemes. Borrow pits are where extraction takes place over a limited period for the exclusive use of a specific construction project. The MLP, as proposed for amendment, sets out the position that proposals for borrow pits, linked to significant infrastructure projects, will be assessed on a case-by-case basis. The Plan can therefore be seen to support infrastructure projects within the Plan area.

6. Conclusions

6.1 'Whole Plan' Effects by Sustainability Theme

The conclusions of this SA are outlined within the following sub-headings, each of which corresponds to a thematic Sustainability Objective. The conclusions are drawn from an analysis of the individual policy appraisals within this Report, as well as the cumulative, synergistic, and temporal assessment work undertaken in Section 5.

The Plan review does not allocate any new sites. The amendments proposed within the Plan review will apply only to future applications for mineral development, including those allocations for which planning permission has not yet been granted. This responds to two sites at Little Bullocks Farm, Little Canfield (allocations A22 and A23), Maldon Road Birch (A31), Shellows Cross, Roxwell (A40), Slough Farm, Ardleigh (B1), and the two previous reserve sites at Bradwell Quarry (A6 and A7).

The Minerals Local Plan review does not amend any of the site allocations' 'specific issues to address' within Appendix One and all relevant Plan policies will apply to these allocations. It is therefore appropriate to focus the conclusions of this SA on the Policy content that exists and is proposed for amendment. There is no reiteration of the appraisal of site allocations as this was undertaken for the adopted MLP and no changes are proposed.

6.1.1 Biodiversity

Uncertain / Positive Effects

The Plan's effects on biodiversity, incorporating both the unamended Plan content with the proposed amendments as a result of the review process, have been assessed as cautiously uncertain with a strong possibility of positive outcomes. This uncertainty is derived from the findings of the HRA/AA work accompanying the MLP, which raises the potential for effects on Epping Forest SAC (a 'Habitats Site') associated with nitrogen deposition from lorry transportation to and from quarries 'in-combination' with other Plans and programmes. Further advice is being sought from Natural England regarding such effects. It should be noted however that other effects regarding Habitats Sites have been ruled out in the HRA/AA, as suitable mitigation has been embedded into MLP policy. Separate to this, some positive effects on biodiversity could be realised in the long term and possibly after the plan period in many cases, associated with restoration and after-uses.

As stated above, the majority of the Plan's allocations are either consented or in operation, and have been given planning permission on the premise that they adhere to the MLP policies as adopted. The adopted MLP sought restoration for the benefit of habitat creation in the first instance, with an overall 'target' of 200ha of habitat creation to be created through the restoration of mineral extraction sites. Although monitoring suggests that commitments exist to realise the bulk of this target, the Plan's amendments consider that other opportunities (i.e. not solely habitat creation) may be more appropriate for other sites,

covering a wider range of possible after-uses including the potential for built development in some instances. The Rationale document however notes that ‘where sites have been explicitly detailed as being intended to be restored to priority habitat, that this commitment remain.’ Amendments that seek greater alignment to District-level Green and Blue Infrastructure studies in restoration schemes is likely to ensure some biodiversity benefits, however also a greater focus on human health and well-being through possible recreational land, which is not necessarily compatible with biodiverse habitats due to disturbance. This explains the level of uncertainty towards biodiversity at the whole Plan level, with the potential for positive effects through net gains. It is assumed that any restoration scheme that is not for a built development after-use, will result in the creation of land with a biodiversity interest that is equitable at least to that of pre-extraction agriculture.

The HRA/ AA work undertaken for the Plan review indicates that effects on the integrity of Habitats Sites can not be ruled out at this stage. This is due to the possibility of effects from mineral related HGV movements in and around the Epping Forest SAC, which has existing protection objectives related to air quality, combining with other plans and projects that would lead to increased traffic in and around the SAC. Policy S11 (Access and Transportation), as the relevant Policy within the MLP, seeks a preference for access to the main road network, and HGV movements associated with minerals activities on the M25 cannot be ruled out. The HRA/AA considers this position, and notes that further information is required from Natural England in order to be able to progress this issue.

It should be noted however that the Policy approach to air quality, and any subsequent monitoring, is only relevant to planning applications that are yet to come forward once or if the amended MLP is adopted, and not applicable to site allocations that already have permission. It may be possible to monitor the success of Policy S11 in relation to air quality, through the parameters of the amended Policy and the requirements that a Transport Assessment or Transport Statement (which address air quality) be submitted where relevant.

Regarding isolated site specific effects, the HRA/AA work also identified the potential for likely significant effects on the integrity of Habitats Sites related to disturbance (allocation A31 – Maldon Road Birch, and the safeguarded transshipment site at Parkeston Quay East, Harwich) and water quality (A31 – Maldon Road Birch). The potential for these effects are considered neutralised through mitigation that is embedded into the Plan in regard to both disturbance and water quality. This mitigation is newly proposed of the MLP as amended following the recommendations of the AA. It is worthy of note that the two sites included as having the potential for negative effects have not yet been subject to a planning application for their allocated / safeguarded use, and as such there can be confidence that the MLP as amended will ensure that no such effects are forthcoming.

6.1.2 Water quality and resources

No Effects

As stated in Section 2.1.6 of this Report, there is the theoretical possibility that minerals extraction / activities can lead to adverse impacts on groundwater conditions. Nevertheless, the assessment of Policy DM1 – Development Management Criteria indicates positive effects where Sustainability Objectives 2, regarding water quality, can be positively met

through protection or mitigation. Positive effects are highlighted through an approach to assessment that acknowledges that minerals activities can not ensure that existing water quality is improved, and that the best possible effect is to seek a neutral outcome from the baseline position. With that considered, the whole plan effects of the Plan's policy criteria are considered to be 'no effect.'

6.1.3 Flood risk

No Effects

As the Plan indicates, sand and gravel working is considered 'water compatible development' and mineral working and processing is 'less vulnerable' to flood risk. Additionally, a Strategic Flood Risk Assessment (SFRA) was undertaken for the adopted MLP to inform site selection. At the planning application stage, the Plan's DM1 covers the requirements of proposals. An amendment proposed to the MLP includes that proposals for minerals development will be permitted subject to it being demonstrated that the development would not have an unacceptable impact, including cumulative impact with other developments, upon flood risk. Further, supporting text outlines that applications need to demonstrate that any dewatering processes will not affect flood risk, and evidence should be included within a surface water drainage strategy that accompanies any application.

Within this SA, positive effects are highlighted through an approach to assessment that acknowledges that minerals activities can only mitigate impacts, which in the case of flood risk includes those at the individual proposal level and cumulatively with other development. It is considered that the best possible effect is again to seek a neutral outcome from the baseline position. With that considered, the whole plan effects of the Plan's policy criteria are considered to be 'no effect.'

It should be noted however that the Plan's approach, in consideration of wider amendments that seek to adopt a more flexible approach to build development after-uses, adds that the potential to provide additional flood storage areas could be particularly advantageous when carrying out prior mineral extraction, in advance of built development, to create topographies to provide flood storage areas as well as offer sustainable drainage benefits.

6.1.4 Soils / agricultural land preservation

Uncertain Effects

Policy S12 outlines the Plan's amendments concerning restoration to agricultural land. The Policy's previous approach, as adopted and unamended, had a focus on agricultural after-uses alongside habitat creation. Such schemes may still come forward, where not already proposed and forming part of permissions, however it should be noted that agriculture and biodiversity enhancement / habitat creation need not be incompatible land uses.

The Policy and supporting text acknowledges that a balance should be achieved between current and future agricultural need and site-specific biodiversity value. The Policy is

amended to state that 'land of the best and most agricultural value should be capable of being restored back to the best and most versatile agricultural land, though the proposed after-use need not always be for agriculture'. This is compliant with the requirements of the PPG and considered in isolation ensures minor positive effects on Sustainability Objective 4, regarding the sustainable use of land. Effects are not significant for Sustainability Objective 4 however in line with a possible reduction in the number of sites that may otherwise have been restored to agriculture in the Plan area without the Policy amendment. This leads to overall uncertain effects on soils and agricultural land preservation, where it is not possible to determine the specific after-uses of forthcoming planning applications at this stage.

6.1.5 Minerals supply

Significant Positive Effects

The Plan seeks to ensure a 'steady and adequate' supply of minerals throughout the Plan period, through a plan-led approach of retaining existing allocations (the previously classified 'preferred' and 'reserve' sites). Plan provision is above the required ten-year average of rolling sales. Monitoring of the ten-year rolling sales data since the MLP was adopted in 2014 indicates that Plan provision of mineral on the basis of the last ten-years of sales, would have failed to amount to a 'steady and adequate' supply of minerals.

The current apportionment figure maintains a buffer between Plan provision and actual sales, such that the Plan can respond to any sudden uplift in sales. Further, current apportionment responds to paragraph 11a of the NPPF which states that 'plans should positively seek opportunities to meet the development needs of their area and be sufficiently flexible to adapt to rapid change'. With regard to the MLP, the 'development needs' that the plan is to service relates to the provision of sufficient aggregate to support growth and development. In support for this 'higher' apportionment figure, the Rational document makes an important point. This document states that, 'it should also be clarified that the plan apportionment rate of 4.31mtpa is not a 'target', nor has it created a situation in Essex where sales have increased to match this figure. Sales of sand and gravel are market-led, and the proposed continuation of the proposed provision of 4.31mtpa imbues the plan with the ability to accommodate increases in provision without the need for emergency review. Should sales not match the annual apportionment, which they should not if the provision is to be considered 'adequate' to support development needs, it translates to the reserve permitted in the Plan lasting for longer than forecasted, rather than the reserve being used up quicker.'

This SA also makes the assessment that the Plan's amended position on prior extraction in MSAs / MCAs for non-mineral developments (now amended as 'required' as opposed to 'considered' under the adopted MLP), will likely increase the potential for minerals to be extracted as windfalls, i.e. resource that is in addition to that planned at site allocations and existing operating sites. There will therefore be significant positive effects in regard to mineral supply, at least until the next Plan review period.

6.1.6 Air quality

Uncertain Effects

A Health Impact Assessment (HIA) at the Plan level has been undertaken for the MLP as amended. This 'strategic' HIA concludes that the extent of health impacts arising from mineral activities are more suitably identified at the application stage. The Plan includes that where relevant a Health Impact Assessment (HIA) will be required to accompany any planning application. HIAs will need to address issues of nuisance and amenity, where they correlate to health impacts, such as routeing, dust, air quality, noise, and safety. The Plan is therefore assessed as ensuring the impacts of minerals development as they may impact on health are a strong and understood consideration of individual applications. Policy DM1 of the Plan further ensures that health related impacts are understood at the application stage, with the added consideration of cumulative effects with other developments.

Associated with highways and transportation, an amendment to Policy S11 has been proposed to offer a stronger stance on air quality, stating that 'where the movement of minerals are by road, HGV movements shall not generate unacceptable impacts on highways safety, highways capacity and air quality (particularly in relation to any potential breaches of National Air Quality Objectives and impacts on any Air Quality Management Areas).' How this is sought to be achieved is reflected through the Plan's new criteria pertaining to Transport Statements or Transport Assessments. These ensure that for applications for proposals reliant on road transportation, that the road network is appropriate to accommodate that use and that vehicle traffic use appropriate routes, amongst other considerations. The stance of the Policy seeks to ensure 'no effect', acknowledging also the correlation between traffic movement and air quality.

Nevertheless, it is assumed that there would be an increase in transport movements (and therefore emissions) from any and all development. It is difficult at this stage to substantiate any direct transport related air quality effects occurring from the Plan or subsequent minerals activities, especially in consideration of the fact that many minerals activities are temporary. Available evidence regarding air quality, such as diffusion tube monitoring at key locations, does not and cannot isolate emissions by vehicle type or destination. As such, 'uncertain' effects are cautiously highlighted for air quality in the short-medium term, reflecting the lifetime of permissions. The effect of a proposal regarding air quality is likely to be better understood at the site level and at the planning application stage, through the requirements of the Policy and subsequent Transport Assessments / Transport Statements. This would include consideration of proposed mitigation.

6.1.7 Climate change

No Effects / Positive Effects

The Plan seeks to ensure that 'all minerals development is located, operated and managed whilst having regard to climate change mitigation and adaptation, so the County plays its part in reducing greenhouse gas emissions and is resilient to potentially more extreme future

weather conditions’ as included in the Plan’s Vision. Further, the Plan’s Strategic Objectives seeks to ensure ‘the integration of features which promote climate change mitigation and adaptation into the design of minerals restoration and after-care proposals.’

In terms of Plan Policy, Policy S3 set the framework for climate change. Amendments to this Policy touch on how development proposals can meet Plan objectives, which extend to minimising and/or offsetting emissions and resilience for the lifetime of the development (including restoration and after-care). As minerals operations are temporary, the effects of wider positive outcomes are therefore limited. Minimisation and offsetting any negative effects of proposals would therefore lead to positive outcomes in the short-medium term, reflective of the lifetime of operations.

Nevertheless, the potential for minor long-term positive effects exists in the form of Plan amendments to ensure a joined-up approach to restoration and after-uses associated with Green and Blue Infrastructure Strategies at the LPA level. Further, Policy S3 sets out that ‘The Mineral Planning Authority will support minerals development which increases the resilience of communities and infrastructure to climate change impacts.’ This considered, positive long-term effects have been highlighted in this assessment.

6.1.8 The historic environment

No Effects

It can be considered that the majority of the effects on the historic environment were considered at the stage of the adopted MLP in 2014, through the Plan’s site selection methodology. The majority of the Plan’s allocations are either operational or have planning permission, with the remainder yet to submit or have applications determined subject to the Plan’s policy framework. The Plan effects as concluded here, focus on the Plan’s suite of policies and coverage of the historic environment.

Policy S10 of the Plan (Protecting and enhancing the environment and local amenity) states that, ‘applications for minerals development shall demonstrate that appropriate consideration has been given to public health, wellbeing and safety, amenity, quality of life of nearby communities, and the natural, built, and historic environment. Appropriate mitigation measures shall be included in the proposed scheme of development to ensure that no unacceptable adverse impacts would arise.’ This position ensures that mitigation is forthcoming in the first instance, with an additional requirement for enhancements to be sought.

Further, Policy DM1 of the Plan as amended states that, ‘proposals for minerals development will be permitted subject to it being demonstrated that the development would not have an unacceptable impact, including cumulative impact with other developments, upon the historic environment including heritage and archaeological assets.’ This is a similar approach to that of Policy S10, however the supporting text to Policy DM1 offers further elaboration in what this means to a developer. Paragraph 5.33 of the amended MLP states that, ‘applicants preparing proposals for mineral development should refer to Historic Environment and Historic Landscape Character Assessments, Local Plan/ LDF evidence

base studies, English Heritage records and information held on the Scheduled Ancient Monument Record before submitting an application.’ Regarding below-ground assets, Paragraph 5.34 states that, ‘to safeguard presently unknown remains, an archaeological assessment should be carried out by the developer if an area is likely to be of high archaeological potential (as implied by the Historic Environment Record). The assessment must be carried out before a planning application is submitted.’

The two relevant policies, notwithstanding those links between landscape and the historic environment, offer neutral outcomes in response to a need to understand the scope of any harm at the planning application stage with the outcome of mitigating effects. There is considered little scope for long-term enhancements from the Policy framework, in so far as this is not covered with any preferred direction, it is unlikely that mineral operations would be permitted in the first instance should any harm be significant.

6.1.9 Landscape

Positive / Uncertain Effects

The principle of extracting minerals inevitably leads to concerns surrounding landscapes, in the short-medium term at least. In the long term however, restoration schemes can ensure that landscapes are at best restored, or returned to a similar land use to those pre-extraction.

The SA considers, in regard to the minerals provision figure, that there could be the perceived potential for negative environmental effects (associated with extraction) through not basing need calculations on ten year rolling sales average. This in turn could have a similarly perceived landscape impact. However it could be considered that the market will calibrate a position that only that amount which could be sold would be extracted, or alternatively the minerals extracted would contribute to the reserve permitted in the Plan lasting for longer than forecasted, rather than the reserve being used up quicker, as is discussed in the Rationale document.

Of further consideration is the correlation between aggregate recycling as a mineral operation and its relationship to, and as part of, the waste hierarchy ensures the sustainable use of land and resources. This approach is intended to minimise the number of extraction sites needed. Similarly the Plan’s approach to ‘requiring’ prior extraction on non-mineral development sites within the MSA / MCA, rather than merely ‘considering’ it (as included within the adopted MLP) increases the likelihood of resource being extracted as or through windfalls. This again seeks to minimise the need for extraction sites which would limit the negative effects on landscapes.

Amendments to the Plan are proposed regarding restoration and after-uses. The amendments to Policy S12 ensure that restoration is now outcome led, through the proposed omission of the hierarchical approach as adopted. The focus can now be seen as less on restoration to low levels and more about after-use to ensure net gains in both biodiversity, and also health and well-being improvements. It is proposed that the final restoration level of sites will now generally be decided on a case-by-case basis, but must be sympathetic to the surrounding landscape with infilling only at a scale considered necessary to achieve

beneficial restoration. Restoration to higher levels, if forthcoming, could also see landscapes restored closer to original pre-extraction levels, offering positive effects in the context of the Policy assessment, yet uncertainty at the whole Plan level in the absence of any commitment to such schemes in specific areas. Further uncertainty is assessed in conclusion, where the Policy's supporting text allows the possibility for restoration to facilitate built development, such as housing or employment uses, if consistent with District / Borough Local Plan objectives. Although it is not anticipated that this would necessarily be frequently forthcoming, this would see some irreparable loss to landscapes. This considered and on balance, positive to uncertain effects are assessed of the Plan as whole.

6.1.10 Economic development, including jobs arising from minerals activities

Positive Effects

In concluding the economic effects of the Plan, the possible effects on the mineral industry are considered, alongside the economic benefits that can be assumed from the Plan's apportionment figure.

It is considered that the effects on increasing jobs in the mineral industry will be marginal to neutral, in line with less transportation of mineral in response to the Plan's locational preference for minerals infrastructure and the objective of reducing mineral miles, and also the possibility of restoration proposals now being permitted for a wider range of after-uses. Where employment through transportation can be seen to be minimised, jobs within restoration proposals may increase.

The mineral provision figure can be seen to offer flexibility should any uplift associated with housing and employment growth be forthcoming, as is indicated through LPA housing requirements, which are significantly higher now than were being provided in 2014. Similarly, various and multiple infrastructure schemes are identified within the Plan, including National Significant Infrastructure Projects (NSIPS) which are likely to require additional aggregates in the Plan period that would not be captured or calculated in past analysis of sales data. To this extent, positive effects are highlighted at the Plan level regarding economic growth. Effects are not however predicted as significant in consideration of a level of uncertainty surrounding the industry; as sales of sand and gravel are market-led and there is no evidence to support any determination that the availability of minerals stimulates growth in the first instance.

6.1.11 The sustainable use of minerals

Significant Positive Effects

The Plan, and this SA, consider the mineral provision figure to be necessary in ensuring a steady and adequate supply of minerals. Evidence to support the Plan indicates that provision indicative of a ten-year rolling sales average would fail to ensure such a supply.

It is important to consider that ‘overprovision’ does not necessarily mean that mineral resources are extracted at a quicker rate than needed, and are then lost or necessarily exported from the County. Extraction rates are governed by market forces. Instead, should local mineral need be at a lower rate than the MLP makes provision for, this results in the reserve permitted in the Plan lasting for longer than forecasted, rather than the reserve being used up quicker, as is discussed in the Rationale document. The MLP seeks to ensure a supply of minerals that can respond to any uplifts in sales, through a plan-led system. By allocating sites, this ensures that primary extraction can occur on sites that have been selected through a robust selection process and can be considered the most sustainable available at the time.

Of further consideration within this assessment is, as previously discussed, the relationship between aggregate recycling as a mineral operation and the waste hierarchy. The Plan’s approach to aggregate recycling facilities, as aligned to that of the Waste Local Plan (2017), ensures the sustainable use of land and resources. This intends to minimise the number of extraction sites needed in the future and ensure the sustainable use of minerals. Similarly the Plan’s amended approach to ‘requiring’ prior extraction on non-mineral development sites within the MSA / MCA, rather than merely ‘considering’ it (as included within the adopted MLP) increases the likelihood of resource being extracted as or through windfalls. Evidence suggests that the adopted approach of ‘consideration only’ to prior extraction has led to the potential of prior extraction not being appropriately assessed. The amended Plan approach is considered more prescriptive in this regard, and should it result in a higher amount of mineral coming forward through windfalls, this could lead to comparatively less environmental effects in the future than primary extraction sites. This considered, significant positive effects are highlighted in regard to the Plan’s amended approach to ensuring the sustainable use of minerals, in so far as this can be influenced by a strategic Plan.

6.1.12 Restoration and aftercare of mineral sites

Significant Positive Effects

The Plan’s amendments are assessed at this stage as having significant positive effects in line with a more flexible approach that can ensure a wider range of after-uses. The changes ensure that restoration and after-uses can benefit not only environmental tenets of sustainability, but also those related to social and economic themes.

Policy S12 regards restoration and after-use of mineral extraction sites. As previously set out, the amendments to Policy S12 ensure that restoration is now outcome led, through the proposed omission of the hierarchical approach as adopted. The focus can now be seen as less on restoration to low levels and more about after-use to ensure net gains in biodiversity, health and well-being improvements and also alignment to Green and Blue Infrastructure Strategies at the District-level. It is proposed that the final restoration level of sites will now generally be decided on a case-by-case basis, but must be sympathetic to the surrounding landscape with infilling only at a scale considered necessary to achieve beneficial restoration. This not only seeks gains in regard to environmental and social objectives, but is also aligned to the Waste Local Plan (WLP) (2017).

The WLP identifies that an insufficient number of suitable sites are available within the Plan area to address waste arising forecasts, and a locational criteria Policy (Policy 9 in the WLP) exists with a preference towards allocated (preferred and reserve) sites within the MLP. The WLP states that, 'with regard to inert landfills specifically, these facilities are typically required both as a way of disposing of inert waste and as a means to ensure the satisfactory restoration of existing mineral voids. The inert landfill allocations have been identified on the basis of both geographic distribution, to reflect that inert waste is normally uneconomic to transport long distances, and their restoration requirements.' The amended MLP's approach of considering higher levels of restoration corresponds to this waste capacity gap for inert material i.e. more inert material can be landfilled to ensure restoration to higher levels, again on the proviso that it is the minimum amount necessary for beneficial restoration. This will be determined on a case-by-case basis.

As touched upon in sub-section 6.1.9 above, amendments to the Plan also consider built development after-uses, such as housing or employment uses, if consistent with District / Borough Local Plan objectives, offering scope for economic benefits. This, alongside the previously mentioned potential for environmental and social gains, allows for significant positive effects to be highlighted of the Plan.

6.1.13 The sustainable transportation of minerals

Positive Effects

Associated with highways and transportation, an amendment to Policy S11 pertains to the need for Transport Statements or Transport Assessments. These ensure that for applications for proposals reliant on road transportation, that the road network is appropriate to accommodate that use and that vehicle traffic use appropriate routes, amongst other considerations. The stance of the Policy seeks to ensure 'no effect', acknowledging also the importance of traffic movement.

Nevertheless, the Plan acknowledges that due to the pattern of infrastructure in the county, there is a necessary reliance on the road network for mineral movements. Similarly, the market ensures that it is not economic to transport minerals significant distances. This is considered a constant that is beyond the remit of the Plan to influence at this stage.

The Plan does respond positively however in ensuring that mineral miles are reduced, and that the location of any new mineral infrastructure is located in close proximity to the strategic road network. Similarly, the Strategy of the MLP is to 'provide for the best possible geographic dispersal of sand and gravel across the County', taking into consideration where the resource is located. The Plan's amendment to remove a focus of infrastructure in the 'key centres of Basildon, Chelmsford, Colchester and Harlow' to 'areas of development' ensures flexibility in ensuring that aggregate recycling facilities, amongst other minerals infrastructure, is located where development may occur in the Plan area, reducing mineral miles and ensuring sustainable movement of minerals. This is in response to high growth targets at the LPA level, which could see future growth locations not following traditional patterns where growth has previously taken place. The Plan is therefore assessed as having minor positive effects on the sustainable transportation of minerals, in so far as the Plan can

influence the location of proposals in coordination with growth. Effects are limited and not significant due to the existing transport infrastructure of the County and nature of the industry, which is market led. This is, as previously mentioned, is beyond the remit of the Plan.

6.1.14 Human health and well-being

No Effects / Positive Effects

A Health Impact Assessment (HIA) at the Plan level has been undertaken for the MLP as amended. This 'strategic' HIA concludes that the extent of health impacts arising from mineral activities are more suitably identified at the application stage. The Plan includes that where relevant a Health Impact Assessment (HIA) will be required to accompany any planning application. HIAs will need to address issues of nuisance and amenity, where they correlate to health impacts, such as routeing, dust, air quality, noise, and safety. The Plan is therefore assessed as having no effect on human health in the short-medium term.

Policy S10 sets the strategic approach of the Plan in ensuring that environmental and social effects of a proposal are understood at the planning application stage. In terms of outcomes and sustainability benefits, positive long-term effects are highlighted regarding human health, where the Policy, as amended, requires applications to demonstrate that opportunities have been taken to improve and enhance the environment and amenity, and to deliver a net gain in biodiversity, as an outcome of final restoration. Positive long-term effects are also highlighted regarding Sustainability Objective 12, regarding restoration that offers the best sustainability benefits, be it habitat creation, open space and / or for recreational opportunities. This is further elaborated on in the amended Policy S12, regarding restoration, with scope for wider after-uses than habitat creation (as per the adopted MLP), including the potential for recreation.

6.1.15 Nuisance and impact on local amenity

No Effects

A strategic priority for minerals development, as outlined in Policy S2 of the Plan, is ensuring there are no significant adverse impacts arising from proposed minerals development for public health and wellbeing, public safety, amenity, the quality of life of nearby communities, and the environment. Minerals development can cause concern to residents and local communities because of noise, dust, fumes, vibration, illumination and debris on the highway from vehicle movements. The Plan acknowledges that when considering planning applications, the MPA must be satisfied that those potential adverse impacts have all been satisfactorily investigated and addressed. This is elaborated on in Policy S10 which sets the strategic approach of the Plan in ensuring that environmental and social effects of a proposal are understood at the planning application stage. Further, this Policy outlines that, 'appropriate mitigation measures shall be included in the proposed scheme of development to ensure that no unacceptable adverse impacts would arise. Applications shall also demonstrate that opportunities have been taken to improve and enhance the environment

and amenity.’ The Plan also ensures that where relevant a Health Impact Assessment (HIA) will be required to accompany any planning application. HIAs will need to address issues of nuisance and amenity, where they correlate to health impacts, such as routeing, dust, noise and safety.

It should be further acknowledged that the Plan’s development management policies, in particular Policy DM1, offer more detail to developers / landowners on what evidence based assessments should be submitted alongside a planning application. Positive implications have been highlighted for Policy DM1 in ensuring neutral effects, where social Sustainability Objectives can be positively met through protection or mitigation. This is true of nuisance and impact on local amenity (DM1 criterion 1) both at the development level and cumulatively on issues such as noise, dust, light pollution, and vibration. The coverage of this theme, and an explanation of its relevance to minerals planning and operations, is further elaborated on within the Policy’s supporting text / reasoned justification.

In conclusion, it is assessed that there will be no effects regarding the social objectives of the SA in line with a desire to minimise impacts in the first instance and ensure mitigation where effects can not be entirely ruled out.

6.2 Recommendations / Mitigation Measures

The MLP as amended is not considered to give rise to any additional effects that were not assessed in the adopted MLP of 2014, and as such no recommendations have been made to the amendments proposed within the MLP proposed for amendment at this stage.

It should be noted that the MLP as amended benefits from a starting point of an adopted Plan, which was subject to SA and examined in 2014. For the adopted MLP, in 2014, the SA made numerous recommendations as part of the iterative process, which were outlined in the SA at that stage and reiterated fully in an Adoption Statement that same year.

It is considered appropriate to reiterate those elements of the Adoption Statement here in order to demonstrate how the plan-making process has taken SA considerations and recommendations into account.

Table 4: How past SA Environmental Reports have influenced the plan-making process

Chapter / Policy	SA Recommendation (pre-2014)	How taken into account (Adopted MLP)
The Vision	Where ‘climate change adaptation’ is referenced in (H) Restoration and After-Use, it would be useful to offer a definition of what this means and how it is different from (E) Climate	This was clarified as a reference to those measures included in the specific climate change policy (S3) in the MLP.

Chapter / Policy	SA Recommendation (pre-2014)	How taken into account (Adopted MLP)
	Change.	
Aims and Strategic Objectives	Clarification is needed regarding the deliverability and mechanisms of controlling 'pollution' as to have no impacts on social receptors.	This was amended for the final Pre-Submission Draft MLP to remove this element.
The Strategy and Policy S2 Strategic Priorities for Minerals Development	It was recommended that sites should only be extended where it can be shown that the value of minerals to be extracted outweighs any potential negative effects on the natural and built environments, human health and local amenity.	All relevant impacts were included within the MPA's site selection criteria.
Policy S3 Climate Change	It was recommended that the policy be rewritten to be more specific about how climate change mitigation or adaption could occur.	Through Policy S3, applications for minerals development shall have regard to 6 criteria related to possible climate change mitigation or adaption.
Policy S4 Reducing the Use of Mineral Resource	Sustainable construction could be more clearly defined to eliminate uncertainty surrounding the impacts on environmental based indicators.	Recommendations about sustainable construction definitions are satisfied with references to a number of national and local standards and policies to inform applicants.
Policy S6 Provision for Sand and Gravel Extraction	It was recommended that positive impacts on sustainable transport could be realised by ensuring that landbanked material is distributed around the County.	The policy has progressed to promote a flexible approach in terms of new site proposals as well as the scale/landbank to respond to future development, particularly in line with the spatial strategy and centres for growth in the plan area.
Policy S8	It was recommended that sufficient	Developed to include clearer

Chapter / Policy	SA Recommendation (pre-2014)	How taken into account (Adopted MLP)
Safeguarding Mineral Resources and Mineral Reserves	information is released in an inclusive fashion to alert local residents to the possibility of mineral extraction occurring before a site is developed.	circumstances what stance the MPA will take during consultation with LPAs including any planning application within an MCA and any land-use policy or allocation within a proposed Local Plan.
Policy S11 Access and Transport	It was recommended that the access implications of potential post-working restoration details of proposals be included within the policy; the transport implications of post-restoration proposals may be more disruptive and have greater impacts on the highway network than movements to and from the site whilst working.	This recommendation was more relevant to individual proposals rather than strategic policy and as such has been included within Policy DM1.
Policy S12 Mineral Site Restoration and After Use	It was recommended that potential confusion surrounding what is 'feasible,' 'essential' and 'necessary' is clarified within the hierarchy (regarding different levels of landfill), and under what circumstances low level restoration regarding landfill would not be as feasible as restoration by landfill.	<p>The recommendation was not taken into account. It was viewed that a hierarchy of restoration with inert landfill as the least desirable was important to specify in the policy. The circumstance under which low level restoration regarding landfill would not be as feasible as restoration by landfill is where the site is a preferred inert landfill site in the emerging Waste Local Plan.</p> <p>(Please note – the 'hierarchy' is proposed for amendment and removal within the MLP at this stage).</p>

7. Next Steps

7.1 Consultation

The Regulation 18 MLP and this SA Environmental Report will be subject to consultation. There are three statutory consultees that are required to be consulted for all Sustainability Appraisal and Strategic Environmental Assessment documents. These are:

- The Environment Agency;
- Natural England; and
- Historic England.

In addition to these, consultation will seek to engage the wider community in order to encompass comprehensive public engagement. Essex County Council, as the Minerals Planning Authority, are additionally required to invite comments from focussed groups, relevant stakeholders and interested parties.

7.2 The Regulation 19 MLP

Once the Regulation 18 MLP and SA Environmental Report have been consulted upon, work will begin on formalising a Regulation 19 Plan for further consultation taking into account those comments received during the Regulation 18 consultation. The Regulation 19 Plan will be accompanied by a new iteration of the SA Environmental Report.

7.3 Future Monitoring

The significant sustainability effects of implementing a Local Plan must be monitored in order to identify unforeseen adverse effects and to be able to undertake appropriate remedial action. The Sustainability Framework contained in Appendix 1 of this Report includes suggested indicators in order to monitor each of the Sustainability Objectives, however these may not all be collected due to limited resources and difficulty in data availability or collection.

Guidance stipulates that it is not necessary to monitor everything included within the Sustainability Framework, but that monitoring should focus on significant sustainability effects, e.g. those that indicate a likely breach of international, national or local legislation, that may give rise to irreversible damage or where there is uncertainty and monitoring would enable preventative or mitigation measures to be taken.

Upon adoption Local Plans will be accompanied by an Adoption Statement which will outline those monitoring indicators most appropriate for future monitoring of the Plan in line with Regulation 16 of the Environmental Assessment of Plans and Programmes Regulations 2004

Appendix 1: The Sustainability Framework

The Approach to Assessing the MLP

The following SA Framework forms the basis of the methods used to evaluate the effects of the Plan Review’s policy amendments and any ‘reasonable alternative’ options where relevant.

Table 5: The Sustainability Framework

SA Objectives	Proposed guide questions to meet objective (Does the MLP...)	Potential Indicators for monitoring effect
<p>1) To protect and enhance biodiversity through Essex and beyond</p>	<p>Avoid damage to sites, protected species and habitats, especially where there is a designation of international, national, regional or local importance?</p> <p>Maintain and improve biodiversity/geodiversity, avoiding irreversible losses?</p> <p>Restore full range of characteristic habitats and species to viable levels?</p> <p>Avoid direct or indirect impacts on internationally or nationally or locally designated or recognised sites or habitats?</p> <p>Conserve or enhance species diversity and avoid harm to internationally and nationally protected, scarce and rare species?</p> <p>Provide for positive management of existing habitats?</p> <p>Assist species to adapt to the</p>	<p>Change in number and area of designated ecological sites.</p> <p>Development proposals affecting protected species outside protected areas.</p> <p>Achievement of Habitat Action Plan targets.</p> <p>Achievement of Species Action Plan targets.</p> <p>Development proposals affecting habitats outside protected areas.</p> <p>Bird survey results. Reported condition of ecological SSSIs.</p> <p>Number of planning approvals that generated any adverse impacts on sites of acknowledged biodiversity importance.</p> <p>Percentage of major developments generating overall biodiversity enhancement.</p> <p>Hectares of biodiversity habitat</p>

SA Objectives	Proposed guide questions to meet objective (Does the MLP...)	Potential Indicators for monitoring effect
	<p>anticipated effects of climate change? (i.e. through connecting habitats and/or providing greenspace)?</p> <p>Expand the spatial extent of priority habitat within Essex?</p> <p>Contribute to an adverse cumulative impact of development on biodiversity?</p> <p>Conserve or enhance geological SSSIs?</p> <p>Provide opportunities for the creation of accessible greenspace where restoration is planned?</p> <p>Commit to minimising the number of sites where adverse impacts on the natural environment may occur?</p>	<p>delivered through strategic site allocations.</p>
<p>2) To maintain and enhance water quality and resources</p>	<p>Seek to sustain the highest water quality?</p> <p>Take into account the Water Framework Directive and proposed development impacts?</p> <p>Seek to prevent pollution from field run off or other sources?</p> <p>Likely to change the general quality assessment grades of surface and ground water quality?</p>	<p>Water quality in rivers</p> <p>Groundwater quality</p> <p>Potential effect on groundwater source protection zones</p> <p>Condition of water bodies (Water Framework Directive)</p> <p>Water use figures from Anglian Water/Essex & Suffolk Water</p> <p>Resource availability status for units of groundwater in Catchment abstraction</p> <p>Condition of historic water</p>

SA Objectives	Proposed guide questions to meet objective (Does the MLP...)	Potential Indicators for monitoring effect
	<p>Avoid adverse effects on existing patterns of groundwater flow and/or surface water flow?</p> <p>Protect or enhance the quantity and quality of ground and surface waters?</p> <p>Does the Plan seek to address the potential issues with the removal of part of an aquifer and disrupting groundwater flows?</p> <p>Change potable and/or non-potable abstraction resources or disrupt aquifer continuity?</p> <p>Maintain water availability for water dependant habitats?</p> <p>Affect rates of abstraction/water use?</p> <p>Consider the potential impacts of dewatering on other tenets of sustainability such as the historic environment and landscapes?</p>	<p>features (e.g. ornamental lakes, and fountains etc.) within Registered Parks and Gardens, and buried archaeology.</p>
<p>3) To minimise the risk of flooding</p>	<p>Ensure minerals developments not at risk of flooding?</p> <p>Ensure no increased risk of flooding elsewhere?</p> <p>Mitigate the potential effects of fluvial flooding and reduce overall flood risk?</p>	<p>Flood Risk – Planning applications approved against Environment Agency advice.</p> <p>Properties at risk of flooding from rivers.</p> <p>Incidence of fluvial flooding (properties affected).</p> <p>Incidences of surface water</p>

SA Objectives	Proposed guide questions to meet objective (Does the MLP...)	Potential Indicators for monitoring effect
	<p>Mitigate the potential of surface water flooding and reduce overall flood risk?</p> <p>Mitigate the potential for coastal flooding and reduce overall risk?</p> <p>Mitigate the potential for groundwater flooding and reduce overall risk?</p> <p>Minimise the risks and impacts of flooding having taken into account climate change?</p>	<p>flooding</p> <p>Incidences of coastal flooding</p> <p>Incidences of groundwater flooding</p>
<p>4) To encourage the sustainable use of land and protection of soils, including the best and most versatile agricultural land.</p>	<p>Minimise risk of soil contamination?</p> <p>Safeguard soil and protect quality and quantity?</p> <p>Encourage the de-contamination and/or re-use of soils?</p> <p>Reduce the capacity of the soil to hold carbon?</p> <p>Minimise the loss of greenfield land to development?</p> <p>Minimise loss of the best and most versatile agricultural?</p> <p>Affect the amount of contaminated land?</p> <p>Lead to remediation of contaminated land?</p>	<p>Map/data showing soil quality</p> <p>Area (hectares) of contaminated land returned to beneficial use</p> <p>Number and percentage of new development completed on greenfield land.</p>

SA Objectives	Proposed guide questions to meet objective (Does the MLP...)	Potential Indicators for monitoring effect
<p>5) To promote the minerals supply hierarchy and where mineral waste is produced, to promote the movement of minerals waste up the waste management hierarchy.</p>	<p>Minimise minerals use in accordance with the minerals supply hierarchy?</p> <p>Promote the use of recycled and secondary aggregates in accordance with the minerals supply hierarchy?</p> <p>Increase waste arisings within the county?</p> <p>Encourage prevention, re-use and recycling of waste?</p> <p>Enable an adequate supply of mineral products to meet the needs of the local and regional economy</p> <p>Help to safeguard key mineral resources & infrastructure?</p> <p>Allow for a steady and adequate supply of minerals to meet the needs of the society in accordance with national policy?</p>	<p>Supply of minerals</p> <p>Waste recycling figures for CD&E</p>
<p>6) To safeguard and where possible improve air quality.</p>	<p>Take into account proposed development impacts within any AQMAs and their relevant Action Plans</p> <p>Account for locations where air pollution levels are approaching the National Objectives thresholds</p> <p>Improve air quality?</p> <p>Affect levels of the 7 National</p>	<p>Achievement of emission limit values</p> <p>Number of AQMAs and dwelling affected</p> <p>Number of days of air pollution</p> <p>Operational impact on air quality</p>

SA Objectives	Proposed guide questions to meet objective (Does the MLP...)	Potential Indicators for monitoring effect
	Objective pollutants for local air quality (SO ₂ , NO ₂ , PM ₁₀ , benzene, 1,3-butadiene, CO, Pb).	
7) To minimise net emissions of greenhouse gases and increase adaptability to climate change.	<p>Increase emissions (both direct and indirect) of greenhouse gases?</p> <p>Encourage the use of renewable energy sources for minerals activity?</p> <p>Have any impact upon the county's vulnerability to the impacts of climate change?</p>	<p>Consumption of electricity - Domestic use per consumer and total commercial and industrial use.</p> <p>Consumption of energy.</p> <p>Use of low carbon technologies.</p> <p>Location to maximize tonnes per miles.</p> <p>Opportunities for utilizing renewable or low-carbon energy supply systems.</p>
8) To avoid, and if this is not possible minimise impacts, both direct, and indirect (e.g. through changes in setting), on the significance of the historic environment, both above and below ground	<p>Have an adverse impact on designated and non-designated heritage assets, including Listed Buildings, Conservation Areas, Registered Parks and Gardens, Scheduled Monuments, and archaeological deposits?</p> <p>Cause a change to the condition of designated heritage assets, and assets identified as being Heritage at Risk?</p> <p>Change the condition of known or potential archaeological monuments and/or the ability to record</p>	<p>Number of listed buildings at risk</p> <p>Size, condition and number of Conservation Areas</p> <p>Buried archaeology as listed in HER</p> <p>Areas of significant archaeological and paleo-environmental potential</p> <p>Number of conservation area appraisals completed and enhancement schemes implemented</p> <p>Buried archaeology as listed in the HER or considered to be</p>

SA Objectives	Proposed guide questions to meet objective (Does the MLP...)	Potential Indicators for monitoring effect
	<p>unknown buried archaeology?</p> <p>Protect designated areas-nationally, regionally and locally</p> <p>Protect areas of high archaeological potential</p> <p>Cause a loss of, or harm to, the character and/or setting of historic assets?</p> <p>Suggest the measures conserve and enhance the local character and distinctiveness of historic townscapes and landscapes?</p> <p>Identify and protect the relationship between historic settlements and the wider landscape</p> <p>Does the Plan cause a loss of, or harm to, the character and/or setting of heritage assets (including Registered Parks and Gardens, Registered Battlefields, or non-designated heritage assets)?</p>	<p>likely within a particular site.</p> <p>Minerals applications submitted and refused due to adverse impact to the Historic Environment</p> <p>Minerals applications submitted and allowed with conditions relating to the Historic Environment</p> <p>Site allocations supported or opposed by Historic England</p>
<p>9) To protect and enhance the quality and character of landscapes, including the Metropolitan Green Belt</p>	<p>Protect and enhance the landscape everywhere and particularly in designated areas?</p> <p>Improve landscape and townscape character of the county and help to minimise adverse impacts to local</p>	<p>Changes in landscape (Landscape Character Assessment) Area of designated landscape</p> <p>Number of TPOs affected</p> <p>Number of field boundaries</p>

SA Objectives	Proposed guide questions to meet objective (Does the MLP...)	Potential Indicators for monitoring effect
	<p>amenity and overall landscape character?</p> <p>Conserve and enhance landscape character, quality and distinctiveness, paying particular regard to AONB and other designated areas of high landscape and/or historic sensitivity or value?</p> <p>Contribute to an adverse cumulative impact of development on protected landscapes?</p> <p>Provide for the restoration of land to an appropriate after-use and landscape character?</p> <p>Reduce the amount of derelict, degraded and underused land?</p> <p>Provide opportunities for the creation of accessible greenspace where restoration is planned?</p>	<p>affected</p> <p>Number of planning applications refused for reasons due to poor design</p> <p>Amount of new development in AONB/National Park/Heritage Coast with commentary on likely impact.</p> <p>Access and green infrastructure:</p> <p>Percentage of the city's population having access to a natural greenspace within 400 metres of their home.</p> <p>Length of greenways constructed.</p> <p>Hectares of accessible open space per 1000 population.</p>
<p>10) To maximise opportunities for economic development, including jobs, arising from minerals activities.</p>	<p>Facilitate an increase in employment?</p> <p>Facilitate wider economic development?</p> <p>Promote growth in key sectors?</p> <p>Encourage rural diversification?</p> <p>Encourage innovation and</p>	<p>Number and percentage of businesses by industry type in key sectors.</p> <p>Value of minerals and waste development industry within the county</p> <p>Investment in innovation technologies within the minerals industry</p>

SA Objectives	Proposed guide questions to meet objective (Does the MLP...)	Potential Indicators for monitoring effect
	<p>competitiveness within minerals industry?</p> <p>Ensure no conflict with other investment opportunities?</p>	
<p>11) To promote improvements in the sustainable use of minerals.</p>	<p>Promote the use of sustainable construction techniques?</p> <p>Maximise the quality of primary mineral resources extracted?</p> <p>Maximise the quality of secondary mineral resources produced?</p> <p>Provide appropriate land-use planning mechanisms to avoid sterilisation of mineral resources?</p> <p>Encourage the use of recycled goods/aggregates?</p> <p>Minimise the use of virgin materials and allow for the use of local, reused or recycled materials?</p> <p>Change the ability to extract and distribute minerals?</p> <p>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?</p>	<p>Minerals resources within the county and extend of sterilisation</p> <p>Minerals resources consumption</p>

SA Objectives	Proposed guide questions to meet objective (Does the MLP...)	Potential Indicators for monitoring effect
<p>12) To achieve restoration and the aftercare of all mineral sites that offer the best sustainability benefits.</p>	<p>Promote beneficial site restoration?</p> <p>Promote beneficial aftercare of sites?</p> <p>Ensure that restoration will be of the highest quality and ensure that worked land is restored at the earliest opportunity?</p> <p>Ensure a range of after-uses to offer maximum sustainable benefits?</p>	<p>Restoration and after uses of minerals sites</p>
<p>13) To reduce the transportation of minerals, road congestion, and promote the movement of minerals using sustainable transport.</p>	<p>Minimise traffic volumes?</p> <p>Reduce the impact of road traffic, in particular HGV trips, on local communities?</p> <p>Reduce the vehicle kilometres travelled for the transportation of minerals and waste?</p> <p>Support and encourage the use of sustainable modes of transport?</p> <p>Support and encourage the use of low emission vehicles for the transportation of waste and minerals?</p>	<p>Location to maximize tonnes per miles</p> <p>Location of Strategic Lorry Routes</p>
<p>14) To protect and where possible enhance human health and well-being.</p>	<p>Have an adverse impact on human health?</p> <p>Improve access to facilities and services including recreational facilities and</p>	<p>Access to recreation facilities and opportunities</p> <p>Restoration and after-use of sites that contributes towards</p>

SA Objectives	Proposed guide questions to meet objective (Does the MLP...)	Potential Indicators for monitoring effect
	<p>opportunities?</p> <p>Maximise the benefits of appropriate restoration and after-use of sites for the community?</p>	<p>recreational opportunities</p> <p>Percentage of residents who are happy with their neighbourhood as a place to live</p>
<p>15) To minimise any nuisance and impact on local amenity resulting from minerals activities</p>	<p>Increase the level of nuisance (including dust, particulate emissions, noise, vibration, odour, visual impact, vermin, light, litter)?</p> <p>Ensure that a Statutory nuisance is not caused under the Environmental protection Act 1990 by reference to BS4142 "Method for Rating industrial noise affecting mixed residential and industrial sources"?</p> <p>Ensure odour levels compliance?</p> <p>Provide mitigation measures?</p> <p>Does the MLPR encourage operators to establish good environmental management practices?</p> <p>Does the MLPR adversely impact upon access to land for recreation?</p>	<p>Noise levels</p> <p>Dust levels</p> <p>Complaints relating to noise, dust and odour</p> <p>Light pollution maps</p>

Appendix 2: The Selection and Rejection of the Options Identified

The Reasonable Alternatives Identified for Assessment

The SA of the MLP, as can be viewed in the main body of this Report, identifies various alternative approaches to the Plan’s amendments that are considered reasonable and realistic for exploration and assessment. Alternative examples were identified and assessed regarding the following Policies, or Plan approaches:

- Policy S5 Creating a Network of Aggregate Recycling Facilities
- Policy S8 Safeguarding Mineral Resources
- The Minerals Provision Figure
- Policy P1 Preferred Sites for Primary Sand and Gravel Extraction

The following table of this Appendix set out the reason for selecting the Plan’s proposed approach, in each instance, alongside the reason for rejecting each of the alternatives identified. Please note that these ‘reasons’ are valid at the time of writing (the Regulation 18 stage) and it is possible that these might change in response to any consultation comments or new evidence base that may be commissioned.

Table 6: Reasons for selecting the Plan’s approach

Policy	Reasonable Alternatives	Reason for the selection and rejection of options
Policy S5 Creating a Network of Aggregate Recycling Facilities	Alternative S5(1): To retain the adopted Policy wording: ‘Proposals for new aggregate recycling facilities, whether non-strategic or in the form of SARS, should be located on the main road network in proximity to the Key Centres of Basildon, Chelmsford, Colchester, and Harlow.’	The Rationale document explains the selection of the proposed amendment in favour of the adopted MLP Policy wording, stating that, ‘Part 3 (of the Policy) is proposed to be amended to remove references to any specific Key Centre where development may take place. As previously stated in this review, with the move towards joint working at the district level, future growth locations in the County may not match the traditional areas where growth has previously taken place. As joint plans are at various stages of production, it is considered appropriate to state that the MLP will support aggregate facilities at areas of growth and development rather than attempt to specify where these might be... Through Duty to Cooperate engagement, it

Policy	Reasonable Alternatives	Reason for the selection and rejection of options
		<p>was recommended that Clause f of the policy be removed. It was held that major development sites that come forward may not always be within an adopted Local Plan.'</p>
<p>Policy S8 Safeguarding Mineral Resources</p>	<p>Alternative S8(1): To only 'consider' prior extraction, rather than specifically 'require' it if relevant NPPF tests are met.</p> <p>Alternative S8(2): To remove the threshold of 5ha for sand and gravel.</p> <p>Alternative S8(3): To lower the threshold for sand and gravel below 5ha (assessed notionally).</p> <p>Alternative S8(4): To raise the threshold for sand and gravel above 5ha (assessed notionally).</p>	<p>Regarding a requirement for prior extraction, rather than it's mere consideration (Alternative S8(1)), the Rationale document states, 'it is noted that for the policy to have material weight, one must do more than just 'consider' prior extraction before a non-mineral development takes place on mineral bearing land. On that basis, it is concluded that Policy S8 be revised to remove the need to have 'consideration' of the need for prior extraction, and instead that this needs to be 'assessed''. It is also worthy of note that a significant resource has been lost through not requiring prior extraction since 2014, and the possibilities of windfalls coming forward through the remainder of the Plan period could significantly contribute to the landbank.</p> <p>Regarding the use of a 5ha threshold, and alternative approaches S8(2), S8(3) and S8(4), the Rationale document states that, 'it is considered appropriate to retain a 5ha threshold for applications in sand and gravel MSAs as the trigger point for the engagement of Policy S8... Informal consultation carried out with the minerals industry as part of initial evidence gathering for the production of the MLP in2007 found that there would need to be a minimum of 3ha of resource for the site to be capable of being worked, and so approximately doubling that minimum threshold is considered a reasonable approach towards ensuring that the requirements of Policy S8 only apply to non-mineral led applications where there is a reasonable prospect of their being a sufficient quantity of mineral present which is practicable to... Within the Inspectors Report</p>

Policy	Reasonable Alternatives	Reason for the selection and rejection of options
		<p>into the Examination of the MLP, the Inspector passes judgement on this threshold in Paragraph 151. It was noted that ‘Although arbitrary, the 5ha threshold was subject to public consultation and this approach is justified, given the wide extent of sand and gravel reserves in Essex, where prior extraction need not always be necessary.’ The MPA continue to support the threshold of 5ha as being an appropriate trigger point for the application of mineral resource safeguarding policy.</p>
<p>The Minerals Provision Figure</p>	<p>Alternative MPF(1): To plan for the rolling ten-years sales average of 3.13mtpa, with no other considerations taken into account.</p>	<p>The Rational document states that, ‘PPG qualifies that “The basis for the provision of the supply of aggregates is through the Local Aggregate Assessment. Mineral planning authorities may decide, collectively, to plan for more or less than set out in the Guidelines based on their Local Aggregate Assessment.”... the Government’s continued support for the current Guidelines implied by their continued inclusion in the NPPF, even though they will soon expire, and the intention to review the approach to guidelines and provision forecasts in the future, it would seem inappropriate to revise the current apportionment set out in the MLP when the forecasting methodology set out in the NPPF has already been acknowledged as being under consideration for revision. This conclusion is further supported by the fact that a recalculation of mineral supply on the basis of ten-year rolling sales, as currently advocated by the NPPF would not support recent annual sales, which is considered to amount to ‘other relevant local information’ which allows for a deviation from this methodology as set out in NPPF Paragraph 207 Clause a.’</p>
<p>Policy P1</p>	<p>Alternative P1(1): To</p>	<p>Regarding Alternative P1(1), it should be</p>

Policy	Reasonable Alternatives	Reason for the selection and rejection of options
<p>Preferred Sites for Primary Sand and Gravel Extraction</p>	<p>not allocate the 'reserve' sites as 'preferred' at this stage and undertake a call-for-sites exercise as part of the Plan Review, inviting new site submissions.</p> <p>Alternative P1(2): To increase the proportion of marine-won sand and gravel that would contribute to the overall County requirement for sand and gravel, and reduce the need for land-won aggregates through the re-designation of the 'reserve' sites as 'preferred.'</p>	<p>noted that the 'reserve' sites at Bradwell Quarry represent extensions to existing permissions and there is confirmation that these will come forward within the Plan period. They also benefit from being identified through the adopted MLP site selection process and are therefore plan-led allocations. The Rationale document states that, 'when Reserve Sites are added to the assumed total of Permitted Reserves, and assuming all sites come forward as envisaged, statutory compliance (with ensuring a seven year landbank) would cease to be achievable in 2025. This equates to the end of the second review period and as such, it is not considered necessary to embark on a Call for Sites exercise as part of this plan review.'</p> <p>A 'report to determine whether marine aggregate supply can offset the demand for land-won aggregates in Essex' has been undertaken for the MLP review. The feasibility of adopting Alternative P1(2) is discussed in this report. The Rationale document states that this work, 'found that there is no single source of publicly available data providing both the annual amount of marine won material landed at wharf facilities and the total available capacity at wharves to allow for a comparison to be made...It is also the case that the MPA is not able to directly facilitate an increase in wharf capacity or marine aggregate provision...On this basis, it is currently considered that there are no means through which to justify a reduction in the allocation of land-won aggregate through a reliance on an increase in marine-won aggregate landings.'</p>

Appendix 3: Quality Assurance Checklist

Quality Assurance Checklist

The Quality Assurance Checklist shows where in this Environment Report the requirements as set out in the SEA Directive (annex 1) and the Quality Assurance Checklist from the Department of Communities and Local Government document: 'A Practical Guide to the Strategic Environmental Assessment Directive (figure 25) (2006)' are covered. It shows compliance with legislation and best practice and directs to where in this Report the requirements are met. Please note however that at the Regulation 18 stage, some of the Directive requirements are not yet possible, and are relevant to the Regulation 19 stage SA or post-Adoption Statement.

Table 7: Quality Assurance Checklist

SEA Directive Requirement	Where covered in this SA Environmental Report...
a) an outline of the contents, main objectives of the plan, and relationship with other relevant plans and programmes;	Section 1 of the SA Environmental Report and Annex B.
b) the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan;	Section 2 of the SA Environmental Report and Annex A
c) the environmental characteristics of areas likely to be significantly affected;	Section 2 of the SA Environmental Report and Annex A
d) any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC;	Section 2 of the SA Environmental Report and Annex A
e) the environmental protection objectives, established at international, Community or national level, which are	Section 2 of the SA Environmental Report and Annex B

SEA Directive Requirement	Where covered in this SA Environmental Report...
<p>relevant to the plan and the way those objectives and any environmental considerations have been taken into account during its preparation;</p>	
<p>f) the likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors (these effects should include secondary, cumulative, synergistic, short, medium and long-term, permanent and temporary, positive and negative impacts);</p>	<p>Sections 4, 5 and 6 of the SA Environmental Report.</p>
<p>g) the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan;</p>	<p>Sections 4, 5 and 6 of the SA Environmental Report.</p>
<p>h) an outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information;</p>	<p>Appendix 2 of the SA Environmental Report.</p>
<p>i) a description of the measures envisaged concerning monitoring;</p>	<p>Appendix 1 of the SA Environmental Report.</p>
<p>j) a non-technical summary of the information provided under the above headings.</p>	<p>A separate Non-Technical Summary has been included.</p>

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